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The Development and Validation of the Student Engagement in Social Emotional Learning Skills (SE-SELS) Survey

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Abstract

This study developed and validated the Student Engagement in Social Emotional Learning Skills survey to assess adolescents' engagement in social-emotional practices, guided by the Collaborative for Academic, Social, and Emotional Learning (CASEL) framework. Data from 748 students in grades 6–9 across two diverse schools were randomly split for exploratory and confirmatory factor analyses. Exploratory factor analysis (EFA) revealed a four-factor structure - emotion regulation, empathy/perspective-taking, self-awareness, and coping strategies - explaining 44% of variance. Confirmatory factor analysis (CFA) confirmed this model, demonstrating acceptable fit and internal consistency. The survey provides educators with a practical, psychometrically sound tool to measure student engagement in social-emotional learning, supporting data-driven counseling and program planning. Ongoing refinement and broader validation are recommended to strengthen its applicability across diverse student populations.

Keywords: instrument development, social emotional learning, CASEL framework, confirmatory factor analysis

Social and emotional learning (SEL) is a research-based, developmental framework that supports academic achievement, behavior, career readiness, and long-term success (Barna & Brott, 2011; Bergin et al., 2024; Collaborative for Academic, Social, and Emotional Learning [CASEL], 2020, 2022b; Gresham et al., 2020; Lemberger et al., 2018; Schwartz et al., 2022; Stringer, 2019). Defined as a lifelong process that begins at birth, SEL emphasizes the development of individual

strengths and the acquisition of skills that foster healthy relationships and personal well-being (Weissberg et al., 2016). SEL engagement is defined as students' active behavioral, emotional, and cognitive involvement in social–emotional learning practices, distinct from their knowledge of SEL concepts or self-perceived competence (Fredricks et al., 2004; CASEL, 2020). Children, adolescents, and adults alike benefit from targeted SEL instruction, which has been linked to improved life skills, positive attitudes about self and school, enhanced social behavior, reduced emotional distress, and gains in academic performance (Bergin et al., 2024; CASEL, 2022a; Durlak et al., 2011; Grazzani et al., 2022; Sklad et al., 2012). As such, SEL has been widely recognized as a foundational element of student development (Durlak et al., 2011; Weissberg et al., 2016).

Assessing SEL engagement in early adolescence (grades 6–9) is particularly important, as this is a critical period for social, emotional, cognitive, and identity development that strongly influences long-term well-being and academic outcomes. During early adolescence, individuals experience heightened neurobiological plasticity in brain regions associated with emotional regulation, social cognition, and executive functioning (Casey, 2015; Crone & Dahl, 2012). This plasticity coincides with major contextual shifts, including transitions to middle and high school, the expansion of peer networks, and increased autonomy, all of which make social-emotional engagement both more challenging and more consequential. Furthermore, early adolescence is marked by a heightened risk for disengagement, social stress, and mental health challenges (Blakemore & Mills, 2014; Roeser et al., 2000). Thus, understanding SEL engagement during this pivotal developmental period provides essential insight for prevention and intervention.

Developmental Systems Theory (DST) provides a robust framework for understanding why students in grades 6–9 (early adolescence) require intentional support for social and emotional learning engagement. DST (Lerner, 2006; Overton, 2015) emphasizes that human development arises from dynamic, bidirectional interactions among biological, psychological, and contextual

systems. In other words, adolescents' development is not shaped solely by internal traits or external influences, but through the ongoing interplay between individuals and their environments, which includes peers, schools, families, and communities. According to DST, these transitions amplify the need for adaptive self-regulation, social awareness, and relationship skills, which are several competencies targeted through SEL. Engaging students in SEL practices at this stage allows adolescents to actively shape and be shaped by their school environments in positive ways (Lerner & Castellino, 2002).

From a DST perspective, students' active engagement in SEL becomes a developmental process rather than a static trait. Therefore, when schools provide consistent, relationally supportive environments that encourage reflection, empathy, and collaboration, they strengthen the feedback loops between students' personal competencies and contextual affordances, ultimately helping students thrive. Conversely, low SEL engagement during early adolescence can disrupt these adaptive systems, leading to increased vulnerability to disengagement, academic decline, and socioemotional difficulties during the transition to middle school. DST supports understanding SEL as an emergent, relational process that evolves through active engagement in developmentally attuned learning environments. Therefore, measuring and fostering SEL engagement in grades 6–9 aligns directly with DST's premise that positive development depends on dynamic person–context interactions (Osher et al., 2021).

At the heart of SEL are five core competencies outlined by the Collaborative for Academic, Social, and Emotional Learning (CASEL): Self-Awareness, Self-Management, Social Awareness, Relationship Skills, and Responsible Decision-Making (CASEL, 2022c). These competencies, known as the CASEL Five, equip individuals with the knowledge, skills, and attitudes necessary to engage in behaviors such as understanding and managing emotions, establishing positive identities, demonstrating empathy, building healthy relationships, and making ethical, constructive choices. For

example, self-awareness involves recognizing one's emotions and their impact on behavior, while self-management focuses on regulating those emotions across various situations. Social awareness emphasizes empathy and perspective-taking, particularly across diverse backgrounds, and relationship skills involve maintaining meaningful connections with others. Responsible decision-making requires evaluating the consequences of actions while considering ethical standards, safety, and the well-being of both self and others. Together, these competencies form a foundation for personal growth, interpersonal effectiveness, and long-term success.

Although the CASEL (2020) framework is widely used in SEL research and practice, it is not synonymous with SEL as a whole. Many other SEL frameworks exist, such as the Social-Emotional and Character Development (SECD) Framework (Elias et al., 2015), the Big Five Personality–Based SEL Models (McCrae & Costa, 2008; Organization for Economic Co-operation and Development [OECD], 2018), Harvard's Explore SEL Framework (Jones, McGarrah, & Kahn, 2021), and the Social and Emotional Skills Framework (OECD, 2018), to name a few.

Jagers et al. (2019) reported concerns around the limited cultural generalizability of dominant SEL frameworks, such as the CASEL model, which were developed mainly from Eurocentric, middle-class conceptions of emotional regulation, social behavior, and "appropriate" interpersonal skills. Therefore, these models may not entirely align with the collectivist, interdependent, or contextually adaptive social-emotional norms of students from diverse racial, ethnic, and cultural backgrounds. Thus, mainstream SEL models require contextual adaptation to ensure cultural responsiveness and to prevent the reinforcement of inequitable power structures. Culturally grounded SEL emphasizes that competencies should be co-constructed with communities rather than imposed (Meland & Brion-Meisels, 2024). Student engagement should include opportunities to express their identity, exercise agency, and engage in critical reflection within diverse cultural frameworks. However, for this study, the five competencies of CASEL's (2020) SEL framework

were incorporated into the SE-SELS because, unlike many competing frameworks rooted in psychology or personality theory, CASEL was explicitly designed for K–12 educational contexts, aligning with academic standards, equity initiatives, and whole-school implementation models.

Unfortunately, the implementation of SEL in public schools has faced increasing resistance in recent years. Several state education departments have distanced themselves from using the term "social emotional learning," citing concerns from legislators and community members who view it as ideologically driven or politically charged (Corbin, 2020; Edge, 2021; Zhao, 2020). Critics have argued that SEL may inadvertently influence students' political views under the guise of emotional and interpersonal skill development (Kaspar & Massey, 2023; Stringer, 2019). This backlash has resulted in a growing misperception of SEL's purpose, contributing to legislative debates and policy shifts. However, public opinion data suggest a more nuanced reality: a national poll indicated that most parents support teaching life skills aligned with SEL principles as part of a comprehensive education (Benenson Strategy Group, 2022). This discrepancy underscores a pressing need to clarify the intent and value of SEL for both policymakers and the public.

Despite growing controversy surrounding SEL, its importance in supporting students' lifelong success remains clear. Concerns were amplified in 2015 when the National Assessment of Educational Progress (NAEP) announced plans to begin collecting data on noncognitive skills, prompting critiques that additional testing might distract from the implementation of meaningful, research-based SEL instruction (Walker, 2016). Some critics argue that measuring SEL contradicts its core purpose, while others caution against using SEL data for high-stakes accountability (Minnesota Department of Education, 2023; Walker, 2016). Still, the need to demonstrate the effectiveness of SEL interventions remains critical. Educators must be able to assess students' SEL engagement levels to guide program selection, ensure responsiveness to student needs, and support continuous improvement efforts (Gueldner et al., 2020; Kaspar & Massey, 2023; Stillman et al.,

2018). However, a key challenge lies in the lack of valid, SEL-specific instruments capable of reliably measuring students' level of engagement (Cox et al., 2019; Thomas et al., 2021). Developing a robust, practical tool for assessing SEL engagement is essential, not for punitive evaluation, but as a means of advancing equitable, data-informed practices that reinforce the enduring value of SEL in today's educational landscape.

The Significance of Psychometrically Sound Instruments

When reliable instruments are utilized, students receive better intervention planning, targeted delivery, and evaluation. Continued teaching and practice in SEL competencies allows students the opportunity to increase their engagement by strengthening their inner abilities while slowly diminishing unhealthy responses to stressors that can often deter their academic achievement and social, emotional well-being (Davidson et al., 2018; Greenberg et al., 2003; Gresham et al., 2020; Lawson et al., 2019). Sound data gathering practices also assist educators in identifying and intervening with high-need students, including those with mental health issues, and decrease the likelihood that these students fall through the cracks (Thomas et al., 2021).

SEL assessment tools should be reliable and valid, focusing on agreed-upon constructs. This way, gaps in students' SEL knowledge and, therefore, their levels of engagement can be quickly and accurately identified (Thomas et al., 2021). Knekta et al. (2019) suggested using survey measurements only if they have been proven valid for their specific context. Thus, SEL instruments should be continuously evaluated for their fit, usefulness, and applicability across diverse settings, populations, and intervention types (McKown, 2017). In a *Measuring SEL Research Brief*, Jagers et al. (2018) discussed whether guiding SEL frameworks, widely used programs, and related assessments adequately reflect, promote, and address the well-being of all students. More research is needed to determine if and how modifications to existing SEL programs can be made to ensure they are more effective across different populations and cross-cultural settings (CASEL, 2019).

Furthermore, the development of some of these instruments has been fragmented, as specific organizations have created their own instruments and tools that only measure the domains relevant to their work, potentially introducing bias (Schweig et al., 2018). This may be problematic, particularly if an organization and a school/district have different visions or goals (Schweig et al., 2018).

Gaps in SEL Assessments

The continued importance of SEL in education underscores the need for a parallel emphasis on understanding and improving its measurement. SEL supports students' academic and personal development. However, its effectiveness is often overshadowed by traditional measures of school success, such as standardized test scores and graduation rates, which fail to capture critical noncognitive outcomes, including emotional well-being and social competence (Govorova et al., 2020; Sun & Shek, 2010). To more accurately evaluate the impact of SEL, educators are encouraged to use both outcome and process measures. Outcome measures assess changes in students' competencies, attitudes, and behaviors, while process measures evaluate the effectiveness of implementing SEL programs (Minnesota Department of Education, 2023). Layering these data sources provides a more holistic understanding of both student growth and program fidelity (Zyromski & Mariani, 2016).

Despite a strong foundation of research supporting SEL, particularly for younger children, significant gaps remain in SEL assessment, especially for early adolescents. Long-term follow-up studies are also less common for this age group, limiting insights into the sustained effectiveness of SEL interventions over time (Kautz et al., 2014). Additionally, few published studies offer comprehensive evaluations of SEL measurement tools, and existing assessments often lack clarity in how specific SEL competencies translate into active engagement (Durlak et al., 2022; Haggerty et al., 2011; Ross & Tolan, 2018). Without consistent, developmentally appropriate, and validated tools, it becomes challenging for educators and policymakers to make informed decisions or

demonstrate accountability. To strengthen SEL implementation and credibility, there is a pressing need to develop and refine assessments that are both practical and aligned with students' developmental stages, especially in middle and high school.

In a comparative synthesis of prominent measures, several assessments were reviewed: the Social Emotional Assets and Resilience Scales (SEARS; Merrell, 2011), the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004), and the Social Emotional Learning Survey (Haggerty et al., 2011). The SEARS includes versions for children (ages 8–12), adolescents (ages 13–18), parents, and teachers, allowing for multi-informant assessment across upper elementary, middle, and high school levels. The SEARS is grounded in positive psychology and the social–emotional competence framework, emphasizing strengths-based assessment rather than deficit-oriented approaches. It conceptualizes SEL through domains such as self-regulation, social competence, empathy, and responsibility, aligning with CASEL's (2020) core SEL competencies but focusing explicitly on protective factors and resilience.

Validation studies for the SEARS have reported strong internal consistency (α = .80–.95 across subscales) and test–retest reliability over short intervals (Merrell, 2011). Confirmatory factor analyses support a four-factor structure, and convergent validity has been demonstrated through associations with teacher ratings, adaptive behavior measures, and lower problem behavior scores. The measure has been normed on diverse U.S. samples, supporting its generalizability to school contexts. However, while psychometrically sound, the SEARS primarily captures trait-like social-emotional strengths rather than dynamic engagement in SEL practices. Its focus on dispositional resilience and perceived competence limits its sensitivity to short-term program effects or contextual variability in students' engagement in SEL activities.

The BASC-2 covers a broad developmental range, assessing children and adolescents ages 2 through 21 through multiple forms, including self-report, teacher, and parent ratings. Developed

within a multidimensional behavioral assessment framework, the BASC-2 evaluates adaptive and maladaptive behaviors, including aspects related to emotional regulation, social functioning, and self-perception. Although not an SEL-specific instrument, it encompasses constructs that overlap with SEL domains, such as interpersonal relations, self-esteem, and sense of inadequacy (Merrell & Gueldner, 2010). In addition, the BASC-2 demonstrates excellent psychometric rigor, with internal consistency coefficients ranging from .80 to .90 across most scales and well-established construct validity supported through confirmatory factor analyses and convergent correlations with other behavior rating scales (Reynolds & Kamphaus, 2004).

The BASC-2's broad behavioral scope, however, makes it less sensitive to specific SEL engagement processes. Because the instrument was designed for behavioral and emotional screening, it does not directly assess students' engagement in SEL programs or their application of SEL skills in classroom contexts. Furthermore, the emphasis on problem identification can obscure strengths-based or developmental perspectives central to SEL frameworks.

The SELS was developed for middle school students (grades 6–8) as part of the Raising Healthy Children project at the University of Washington's Social Development Research Group. It is explicitly informed by the Social Development Model (Catalano & Hawkins, 1996), which posits that prosocial bonding, clear standards, and social competence promote positive youth development and reduce risk behaviors. It operationalizes SEL as a set of cognitive, emotional, and behavioral skills that facilitate healthy relationships and responsible decision-making in early adolescence.

The SELS has demonstrated acceptable reliability ($\alpha = .70–.85$) across its subscales, which assess empathy, emotion regulation, problem-solving, and prosocial behavior (Haggerty et al., 2011). Factor analyses support a coherent multidimensional structure, and predictive validity has been established through associations with academic performance, school connectedness, and reduced risk behaviors. It is essential to note, however, that while valuable for middle school populations, the

SELS has limited validation evidence beyond early adolescence and is less frequently used in contemporary research, which limits its comparability to other instruments. Moreover, the measure focuses primarily on competency outcomes rather than active engagement with SEL instruction or school-based SEL activities, limiting its applicability for evaluating ongoing SEL implementation or student participation levels.

Collectively, these instruments make a meaningful contribution to the assessment of adolescents' social-emotional functioning, but they also highlight a key measurement gap. Many existing SEL instruments, such as the SEARS or the BASC-2, tend to assess static competencies or dispositional traits and relatively enduring attributes. In contrast, the SE-SELS was designed to determine what students do: their current engagement, motivation, and self-reflective participation in SEL processes. This distinction aligns with support for data-driven practice and continuous improvement in SEL implementation, where responsiveness to context and developmental stage is essential.

Purpose and Research Questions

This validation study aimed to create an instrument to measure changes in the five CASEL competencies. The main research questions for this study included:

1. What is the underlying factor structure of the Student Engagement in Social-Emotional Learning Skills (SE-SELS) as determined by exploratory and confirmatory factor analysis?
2. To what extent do the factors identified in the SE-SELS survey align with the CASEL five core social-emotional competencies?

3. Does the SE-SELS demonstrate acceptable internal consistency (reliability) across its subscales?
4. Do the items within each SE-SELS subscale exhibit sufficient shared variance to support convergent validity?

Method

This study aimed to develop and validate the SE-SELS. The study employed a mixed psychometric approach, including exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and reliability testing using a large sample of school-aged youth from two diverse school sites. At the K-8 school, at the time of this study, the adopted SEL curriculum for middle school (grades 6-8) was Lions Quest, which was facilitated alongside community circles to reinforce SEL practices. Lions Quest integrates social–emotional skill development, character education, drug and violence prevention, and service learning into a unified curriculum framework. The program aims to strengthen students' social and emotional competencies, promote responsible citizenship, and foster healthy, prosocial behavior. It aligns with the CASEL Five core competencies and is divided into three core curricula: 1) Skills for Growing (grades K–5), Skills for Adolescence (grades 6–8), and Skills for Action (grades 9–12). Lion's Quest was delivered as a Tier 1 intervention during a dedicated SEL block. The program's effectiveness, however, heavily depends on teacher training and consistency of delivery (Greenberg et al., 2003). Additionally, research on long-term outcomes and diverse student populations remains limited. Furthermore, while the program is adaptable, it may require contextual modification to reflect cultural responsiveness in diverse districts.

At the second school, which included students in grades 6-9, counselors utilized the Student Success Skills (SSS) curriculum (Brigman & Webb, 2010) at the time this study was conducted. SSS is an evidence-based, counselor-delivered curriculum designed to enhance students' cognitive, social, and self-management competencies (Brigman & Webb, 2010). The program is grounded in self-

regulation and resilience theory, emphasizing the interdependence of academic success and social–emotional development. Lessons target three primary skill domains: (a) cognitive and meta-cognitive strategies such as goal setting, progress monitoring, and memory techniques; (b) social skills, including cooperation, empathy, and effective communication; and (c) self-management skills such as emotional regulation and stress reduction (Webb et al., 2005).

Certified school counselors delivered SSS lessons through structured classroom sessions, which occurred approximately once a week over a 10- to 12-week period. Instructional delivery followed a standardized lesson sequence provided in the *Student Success Skills: Classroom Manual* (Brigman & Webb, 2010). Counselors received professional development in evidence-based SEL facilitation and data-informed counseling practices before implementation. The SE-SELS could align with the SSS program's objectives by embedding the survey in a cycle of assessment, analysis, and adaptation. This approach enables schools to transform raw engagement data into actionable insights, improving curriculum delivery, increasing student participation, and strengthening evidence of the impact of SEL engagement.

Instrument Development

The SE-SELS was developed to assess students' level of SEL engagement around the CASEL Five. This study sought to establish preliminary validation of this new SEL-related measure intended for use with students in grades six (11-12 years old) through nine (14-15 years old).

Mariani et al. (2022) employed a first draft of the SE-SELS in an action research study with seventh-grade students to investigate the impact of the Student Success Skills Social Emotional Learning (SSS-SEL) classroom program (Brigman & Mariani, 2019) on student engagement in SEL skills. The SSS-SEL classroom program is a structured, counselor-led SEL intervention designed to enhance students' academic achievement and well-being through the systematic teaching of cognitive, social, and self-management skills. The program explicitly integrates the five CASEL

competencies into a skills-based, developmental curriculum suitable for elementary through high school students.

Participants completed the original version of the SE-SELS and the SSS-SEL Pre/Post Survey (Mariani, 2019) before the implementation of the SSS-SEL classroom program and again after completing the five lessons. In the action research study, 70 students (85%) from the original sample (N = 82) participated in the program in its entirety (Mariani et al., 2022) and contributed both pre- and post-intervention data. Although students did not exhibit improvements across all five SEL competencies, they did report new knowledge and skills in some key areas, including (a) knowing their strengths and confidently sharing them (22.2% often and 17.8% always), (b) recognizing their own struggles (26.1% sometimes and 34.8% often), (c) taking time to think about and weigh options (40% sometimes and 22.2% often), and (d) noticing and trying the strategies of classmates (35.6% sometimes, 17.8% often, and 8.9% always; Mariani et al., 2022). However, the original version of the survey had not undergone psychometric stability testing before being completed by students. The school counselor who administered the survey reported that students struggled to understand some of the items, and the counselor suggested further clarification of the language used. The original version of the SE-SELS was tested for readability using two different readability scales: the Flesch-Kincaid Reading Ease test and the Flesch-Kincaid Grade Level test. The Flesch Kincaid Reading Ease test rates text on a 100-point scale. The higher the score, the easier the text is to understand. A Flesch Reading Ease Score of 66.4 was generated from this original version, easily understood by 13 to 15-year-old students. Additionally, the Flesch-Kincaid Grade Level for the measure was 8.1, which is appropriate for an 8th-grade student (Flesch, 1948; Solnyshkina et al., 2017).

After Mariani et al.'s (2022) action research study, Mariani and Farmanara Kneidel (2021) modified the SSS-SEL Pre/Post Survey (Mariani, 2019) to create the SE-SELS. Initially, reverse-scored items were included to control for response bias; however, they were removed after students

revealed comprehension challenges and inconsistent response patterns, a finding consistent with prior literature noting difficulties with reverse-scored items in adolescent populations (Weijters & Baumgartner, 2012). The construct of student engagement in SEL was conceptually defined as the cognitive, behavioral, and emotional participation of students in school-based SEL activities facilitated by counselors and teachers. Using this theoretical foundation, a pool of 15 items was expanded to 20 items, representing the three engagement dimensions, to ensure coverage across the five CASEL competencies. The construction of the actual item pool involved an extensive review of the literature on factors associated with SEL engagement and a content analysis of existing measures of similar concepts.

Members of a preliminary three-member professional expert panel consisting of counselor educators were invited to provide suggestions and feedback on the final item pool for the pre-analysis of the SE-SELS. Utilizing experts in the field can help alleviate any issues surrounding the formatting of questions and the answer key (Boateng et al., 2018). To join the initial expert panel, a person needed a minimum of 10 years of experience in the counseling field, a doctoral-level degree in counseling, experience in creating, implementing, and assessing evidence-based SEL practices, and expertise in instrument development, refinement, and evaluation. Panel members were consulted individually and asked to review the survey's directions, items, and wording and to offer suggestions and feedback for improvement. One expert panel member recommended listing the measured constructs along with the items to make sure the items aligned appropriately. This member also suggested establishing cutoff criterion scores for retaining items.

Based on the expert panel's recommendations, some changes were made to the SE-SELS. Double-barreled items were removed; for example, "I can tell when I am having a good or a bad day" was changed to "I know when I am feeling down/in a bad mood." Many survey items were adjusted to include more explicit wording. For example, the original survey included this item: "In

times of stress, I know how to use strategies/techniques to calm myself down and feel back in control." One member of the expert panel suggested this was not clear enough because it was not apparent whether these techniques were positive or healthy. This item was changed to "When I am stressed, I use healthy coping strategies/techniques to stay calm and in control." The term "effectively" was also removed from the sentence "I keep my emotions under control and manage them effectively" based on expert panel feedback in recognition of the fact that everyone defines the term differently. For example, a counselor may work with a student who believes self-harm, such as cutting, is an effective way to manage their emotions because it allows them to feel in control.

Feedback and comments provided by each expert panel member were incorporated into a single version of the SE-SELS to determine the necessary changes for the final version, which would be disseminated to participants. Items that received endorsement by consensus from all panel members were retained. Additional survey items were created to balance the number of items for each of the five constructs. Four items were required for each construct, totaling 20 items. The original SE-SELS had only two items related to relationship skills, but seven related to self-awareness, making the survey unbalanced. In the revision, two items were added for relationship skills, and three were removed for self-awareness. The other three constructs, social awareness, self-management, and responsible decision-making, each had four items, which was acceptable. As mentioned above, the wording of certain items has been changed to avoid confusion. For example, Item 18 was originally as follows: "I listen to music because it helps me relieve stress and improve my mood." This was changed to "I use positive coping strategies/techniques to help me relieve stress/improve my mood." The construct for this item (self-management) does not require the use of music, in particular, to relieve stress or improve mood, so altering the language improved the likelihood that participants would answer it as intended. The directions for the instrument were also amended to make clear the broadness of its applicability, because it is suitable for use with many

evidence-based SEL programs, such as Ripple Effects (Ripple Effects Inc., 2022), the SSS programs (Brigman & Webb, 2010), and the Social Skills Improvement System Classroom Intervention Program (Elliott & Gresham, 2009), all of which target SEL skills and attitudes.

Items on the SE-SELS were assessed using a Likert scale ranging from "never" to "always," allowing students to indicate how frequently they engaged in the use of SEL skills. Likert scales are appropriate for studies in social and behavioral sciences aimed at understanding individuals' "perceptions, attitudes, emotions, opinions, personalities, and descriptions of people's environment" (Adeniran, 2019, p. 1).

Sampling and Participant Demographics

Convenience sampling was initially used to recruit participants from two university-affiliated research schools located in South Florida from school districts with comparable demographic profiles: one site was a K-8 school (grades 6-8 were included in this study), the other site houses both a K-8 school and high school, grades 9-12 (grades 6-9 were included in this study). The inclusion criteria required that participants were currently in grades 6–9 and had obtained parental consent. As the SE-SELS was developed for grades 6–9, a split sampling method was used, combining both data sets into a single large sample (n = 748) and then randomly dividing them evenly into two subsamples (each n = 374) to alleviate the risk of having non-comparable samples (Lorenzo-Seva, 2022). The descriptive statistics for participants' gender, grade, age, and ethnicity are presented in Table 1 below. An a priori power analysis using the G*Power software (Faul et al., 2007) was conducted to determine the minimum number of participants required for this analysis, which was determined to be 200. The sample size, however, far exceeded this minimum.

Procedures

After obtaining all required approvals to conduct the study through the university's Institutional Review Board, the lead researcher emailed the principals requesting that students in

grades 6–9 participate in the study. The nature of the project, time requirements, process and procedures involved, and advantages and potential risks were also described. Once the principals agreed to open participation to all students in grades 6-9, the primary researcher connected with the school counseling department heads to further discuss the study and provide details on disseminating the instrument using district-owned electronic devices (e.g., computers, laptops, or tablets) in classrooms. Parents received email and written communication about the study. Participation was voluntary, and parents and students could choose to withdraw from participation at any time without penalty.

Table 1

Combined Demographic Breakdown of EFA and CFA Subsamples

Variable	Category	EFA (*n* = 374)	CFA (*n* = 374)	Total (*N* = 748)
Gender	Boy	154 (41.2%)	164 (43.9%)	318 (42.5%)
	Girl	190 (50.8%)	187 (50.0%)	377 (50.4%)
	Non-binary	13 (3.5%)	13 (3.5%)	26 (3.5%)
	I'd rather not say	17 (4.5%)	10 (2.7%)	27 (3.6%)
Grade	6th	109 (29.1%)	106 (28.3%)	215 (28.7%)
	7th	113 (30.2%)	111 (29.7%)	224 (30.0%)
	8th	97 (25.9%)	91 (24.3%)	188 (25.1%)
	9th	52 (13.9%)	65 (17.4%)	117 (15.6%)
	Missing	3 (0.8%)	1 (0.3%)	4 (0.5%)
Age	10	-	2 (0.5%)	2 (0.3%)
	11	87 (23.3%)	73 (19.5%)	160 (21.4%)
	12	108 (28.9%)	100 (26.7%)	208 (27.8%)
	13	105 (28.1%)	100 (26.7%)	205 (27.4%)
	14	60 (16.0%)	81 (21.7%)	141 (18.9%)
	15	14 (3.7%)	16 (4.3%)	30 (4.0%)
	Missing	-	2 (0.5%)	2 (0.3%)
Ethnicity	White	130 (34.8%)	141 (37.7%)	271 (36.2%)
	Hispanic	85 (22.7%)	86 (23.0%)	171 (22.9%)
	African American	55 (14.7%)	46 (12.3%)	101 (13.5%)
	Asian	42 (11.2%)	41 (11.0%)	83 (11.1%)
	Multi-racial	38 (10.2%)	35 (9.4%)	73 (9.8%)
	Other	10 (2.7%)	13 (3.5%)	23 (3.1%)

I'd rather not say	10 (2.7%)	8 (2.1%)	18 (2.4%)
American Indian/Alaska Native	2 (0.5%)	2 (0.5%)	4 (0.5%)
Native Hawaiian/Pacific Islander	2 (0.5%)	2 (0.5%)	4 (0.5%)

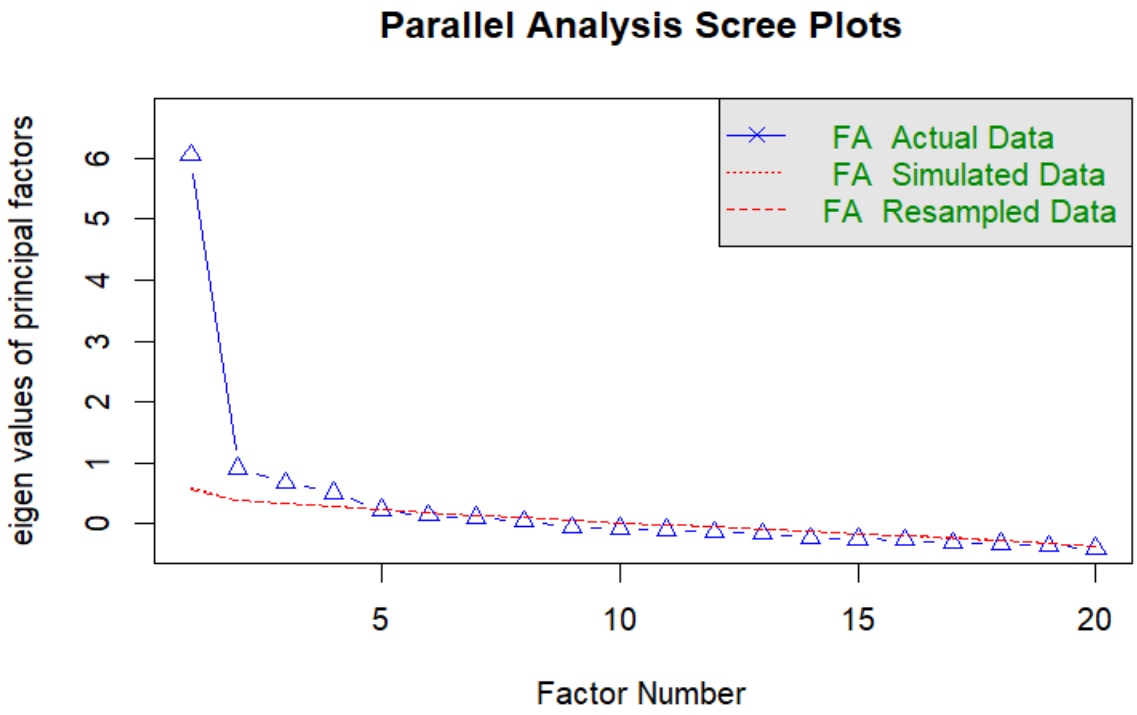
Note. CFA = confirmatory factor analysis; EFA = exploratory factor analysis; *n*/N = number. Percentages reflect subgroup distribution within each sample. Totals rounded for simplicity.Students spent approximately five minutes completing the electronic version of the instrument, which was collected using SurveyMonkey, a secure, password-protected online data collection tool. Upon beginning the survey, students were prompted to click "yes" providing their assent; students who did not agree were exited from the instrument. Absent students were asked to complete the study instrument upon their return to school.

Analysis Plan

The raw data were screened for incomplete responses (i.e., more than 10% missingness) (Newman, 2014), and validity checks were conducted. All items showed less than 3% and 2% missing values for exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), respectively. In addition, results of Little's (1988) missing completely at random (MCAR) test indicated that missingness was random and nonsystematic ($p > .05$). Because the proportion of missing data was minimal and met the MCAR assumption, mean imputation was applied to numeric variables to maintain the full analytic sample and stable covariance structures. The EFA was first conducted on one half of the sample ($n = 374$) using principal axis factoring with oblimin rotation. For EFA, both the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity were examined to determine the adequacy of factor analysis. Following standard guidelines for factor analysis, items with factor loadings below .40 were considered for removal (Brown, 2015; Stevens, 2009). This threshold ensures that retained items make a meaningful contribution to their respective factors. Each decision to remove an item was made after verifying that its exclusion was conceptually and theoretically coherent with the intended CASEL. Additionally, a scree plot was used to determine the number of factors (see Figure 1).

Figure 1

Scree Plot Result for the SE-SELS Survey



After identifying the factorial structure of the scale, a CFA was conducted on the other half (n = 374) using maximum likelihood estimation. Reliability was assessed using Cronbach's alpha and composite reliability (CR), as well as convergent validity through Average Variance Extracted (AVE) and standardized factor loadings. According to Hair et al. (2019), a standardized factor loading of 0.50 or higher is considered acceptable, as it shows that the item is a good indicator of the underlying factor. AVE values of .50 or above are also regarded as acceptable to explain at least half of the variance in its items (Hair et al., 2019). Additionally, CR values should be greater than 0.70 to indicate that the items consistently measure the same construct (Hair et al., 2019). Model fit of both EFA and CFA was assessed using the cutoff criteria as follows: (1) chi-square test statistics (retaining H_0); (2) the Comparative Fit Index (CFI) > .90 (Bentler, 1990); (3) the Tucker-Lewis Index (TLI) >

.90 (Kline, 2016); (4) the Root Mean Square Error of Approximation (RMSEA) < .06 (Hu & Bentler, 1999); and (5) the Standardized Root Mean Residual (SRMR) ≤ .08 (Hu & Bentler, 1999).

Results

Exploratory Factor Analysis

The exploratory factor analysis (EFA) was initially conducted using all 20 items. After removing items with loadings below 0.40, the final model was re-estimated with 14 items, which produced the most stable and interpretable four-factor solution. Specifically, Factor 1 = 4/5 items; Factor 2 = 4/5 items; Factor 3 = 3/5 items; and Factor 4 = 3/5 items, resulting in a final of 14 items. The four extracted factors were interpreted as: (1) Factor 1 = *emotion regulation* (ER; managing feelings and staying calm under pressure), (2) Factor 2 = *empathy and perspective taking* (EP; understanding and caring about others), (3) Factor 3 = *coping strategies* (CS; using healthy ways to deal with stress), and (4) Factor 4 = *self-awareness* (SA; recognizing personal emotions and struggles).

Factorability Assessment

The KMO measure of sampling adequacy (MSA) was .89, supporting an appropriate sample. Individual item MSAs ranged from 0.79 to 0.94, all exceeding the recommended threshold of 0.60. Bartlett's test of sphericity was significant, $\chi^2(190) = 2334.50$, $p < 0.001$, suggesting that the correlation matrix was factorable.

Model Fit and Variance Explained

A four-factor solution appeared to be the best fit upon inspection of the scree plot (see Figure 1) and accounted for 44% of the total variance (Cattell, 1966). This four-factor solution was specified and produced an acceptable model fit. The TLI was 0.913, exceeding the recommended cutoff of 0.90. The RMSEA was 0.055, with a 90% confidence interval of [0.044, 0.065], indicating a close model fit. The SRMR was .04. Both RMSEA and SRMR indicated a close fit between the

model and the data. Whereas RMSEA assesses approximate model fit by penalizing complexity, SRMR evaluates the standardized difference between observed and predicted correlations. The combination of a low SRMR value and acceptable RMSEA supports a strong and parsimonious model fit, consistent with the criteria (Hu & Bentler, 1999). Although the chi-square test of model fit was significant, $\chi^2(116) = 228.62$, $p < .001$, significance is expected with large samples; thus, alternative fit indices suggest a good-fitting model. The model explained 44% of the total variance. In educational and psychological research, an explained variance of 40% or higher is considered satisfactory for multidimensional constructs that reflect complex human behaviors (Smedslund et al., 2022). Prior SEL-related instruments (Haggerty et al., 2011; Martinez-Yarza et al., 2023; Merrell, 2011) similarly reported explained variance between 40% and 50%, reflecting the complex nature of social–behavioral constructs among adolescent populations. The eigenvalues for each factor were as follows: Factor 1 (ER) = 2.45; Factor 2 (EP) = 2.18; Factor 3 (CS) = 2.41; and Factor 4 (SA) = 1.73. These corresponded to proportions of explained variance of 12%, 11%, 12%, and 9%, respectively (Table 2). The factor loadings, communality, means, and standard deviations of all items are reported in Table 3.

Table 2

Rotated factor structure and total variance explained for the SE-SELS survey

	Extraction Sum of Squared Loadings		
Factor	Eigenvalue	% Variance	Cumulative %
1. Emotion Regulation	2.45	0.12	0.12
2. Empathy and Perspective Taking	2.18	0.12	0.24
3. Coping Strategies	2.41	0.11	0.35
4. Self-Awareness	1.73	0.09	0.44

Table 3

EFA Rotated Factor Structure, Communalities, Item Means, and Standard Deviations

Factor/Item	1	2	3	4	h^2	*M*	*SD*
Factor 1: Emotion Regulation (4 items)							
1. I know how to manage my emotions in a healthy way.	**.62**				.64	2.35	1.07

2. I do a good job at keeping my emotions under control.	**.71**		.64	2.44	1.05
3. I can keep calm when feeling pressured by others.	**.60**		.46	2.31	1.05
4. I know how to deal with conflicts/arguments in a respectful way.	**.46**		.46	2.50	.97
Factor 2: Empathy and Perspective Taking (4 items)					
5. I respect others who are different from me.	**.54**		.29	3.57	.66
6. When I notice a friend is struggling in school, I do something to let them know I care.	**.59**		.49	2.98	.96
7. I try to listen to what others say so I can understand their feelings.	**.67**		.59	2.99	.90
8. I try to look at situations from another person's point of view rather than just seeing things from my side.	**.50**		.37	2.57	.95
Factor 3: Coping Strategies (3 items)					
9. I use positive coping strategies/techniques to help me relieve stress/improve my mood.		**.76**	.67	2.22	1.09
10. When I am stressed, I use healthy coping strategies/techniques to stay calm and in control.		**.79**	.68	2.11	1.12
11. When I see a classmate/peer use a helpful strategy to do better/improve, I try it myself.		**.63**	.51	2.15	1.07
Factor 4: Self-Awareness (3 items)					
12. I am aware of the things I'm not good at or struggle with.		**.42**	.28	2.98	.87
13. I know when I am feeling down/in a bad mood.		**.65**	.44	3.14	.86
14. I can easily recognize my different moods/feelings.		**.53**	.56	2.76	1.00

Note. Boldfaced values indicate items that belong to that factor. h^2 = communalities.

Factor Correlations, Factor Score Adequacy, and Reliability

The extracted factors demonstrated moderate intercorrelations, supporting the use of an oblique rotation. Correlation coefficients between factors were as follows: Factor 1 (ER) and Factor 3 (CS) = .59; Factor 1 (ER) and Factor 2 (EP) = .32; Factor 1 (ER) and Factor 4 (SA) = .39; Factor 3 (CS) and Factor 2 (EP) = .38, Factor 3 (CS) and Factor 4 (SA) = .35; and Factor 2 (EP) and Factor 4 (SA) = .26. Factor score estimates demonstrated strong reliability and appropriateness for further analyses. In other words, the correlations between the factor scores and their corresponding latent

factors ranged from 0.85 to 0.92. The multiple R^2 values ranged from 0.72 to 0.85, indicating that the factor scores adequately represent the underlying constructs.

The 14-item SE-SEL's internal consistency coefficients for reliability were reported as follows: total score ($\alpha = .87$); Factor 1 (ER) = $\alpha = .80$; Factor 2 (EP) = .71; Factor 3 (CS) = .80; and Factor 4 (SA) = $\alpha = .64$, indicating acceptable to good reliability.

The review of the six removed items revealed conceptual redundancy with the retained items, rather than the elimination of theoretically distinct content. All five CASEL competencies remained represented in the final 14-item version, although some domains (e.g., social awareness) were captured through relational engagement indicators embedded in other factors. The final four-factor structure was therefore interpreted as an empirically supported representation of how early adolescents experience engagement in SEL contexts rather than as evidence of inadequate initial item construction.

Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was then conducted on the 14-item version of the SE-SELS emerging from the EFA, using maximum likelihood (ML) estimation on a sample of 374 participants. This confirmatory step sought to validate the four-factor model identified during the exploratory phase rather than retesting the original 20-item pool. Model fit indices, standardized factor loadings, inter-factor correlations, and convergent validity indices were assessed.

Model Fit and Convergent Validity

The model yielded a significant chi-square statistic, χ^2 (71) = 216.48, $p < .001$. While significant, the chi-square is known to be sensitive to sample size. Other fit indices showed acceptable model fit as follows: (1) the CFI = .907; (2) the TLI = .880; (3) the RMSEA = .074, with a 90% confidence interval of [.063, .085]; and (4) the SRMR = .062. These indices indicate a moderately acceptable fit of the model to the data.

In addition to the model fit indices, AVE, CR, and standardized factor loadings were calculated for each factor to assess convergent validity. Factor1 (ER) had AVE = .427 and CR = .746, Factor 2 (EP) had AVE = .387 and CR = .712, Factor 3 (CS) had AVE = .505 and CR = .747, and Factor 4 (SA) had AVE = .458 and CR = .716. While all factors demonstrated acceptable reliability (CR > .70), only Factor 3 exceeded the recommended AVE threshold of .50. All measured items per factor demonstrated standardized factor loadings above .50 (see Table 3). Although three of the four factors yielded AVE values below .50, convergent validity was considered acceptable because all items demonstrated substantial standardized factor loadings and composite reliability. According to Fornell and Larcker (1981) and Hair et al. (2019), high factor loadings and CR can compensate for slightly low AVE values, indicating that the constructs are adequately represented by their indicators.

Inter-factor Correlations and Reliability

All inter-factor correlations were statistically significant ($p < .001$) and were moderate to strong, indicating related yet distinct constructs consistent with the CASEL framework. Factor 1 (ER) correlated with Factor 2 (EP; $r = .451$), Factor 3 (CS; $r = .772$), and Factor 4 (SA; $r = .604$). Factor 2 (EP) was also correlated with Factor 3 (CS; $r = .466$) and Factor 4 (SA; $r = .576$). Factor 3 (CS) and Factor 4 (SA) showed a correlation of $r = .584$. Finally, the 14-item SE-SEL's internal consistency coefficients for reliability were reported as follows: total score ($\alpha = .85$); Factor 1 (ER; $\alpha = .74$); Factor 2 (EP; $\alpha = .71$); Factor 3 (SC; $\alpha = .74$); and Factor 4 (SA; $\alpha = .72$), indicating acceptable to good reliability.

Discussion

The current study provides strong support for a four-factor model underlying the SE-SELS, encompassing emotion regulation, empathy and perspective taking, coping strategies, and self-awareness. Although these domains are not perfect matches to the five CASEL competencies, they are a developmentally nested and theoretically coherent framework that reflects the ways early

adolescents engage in social-emotional skills. The results of this study determined that when designing an SEL instrument for early adolescents, developers should choose domains that resonate with adolescents' lived experiences, even if they diverge slightly from CASEL's categories. For example, identity development or peer influence might be more salient than abstract self-awareness. Regarding the wording and context of the questions, they should reflect the language and scenarios commonly used by adolescents. Instead of asking about "self-management," an item might ask how a student handles peer pressure or navigates conflicts on social media.

Additionally, instruments should account for the cognitive and emotional variability that occurs during early adolescence. This might mean using simpler language, for example. Additionally, since the framework is not a direct replication of CASEL, validation must focus on whether the instrument accurately captures how adolescents engage in SEL, rather than simply verifying that it aligns neatly with adult-defined competencies. Overall, this approach encourages instrument developers to prioritize developmental relevance and theoretical integrity over rigid adherence to existing models. It is about meeting adolescents where they are, not where theory says they should be.

This finding is consistent with previous literature, which notes the common overlap of SEL domains in practice, particularly at the middle and high school levels (Jones, et al., 2021). The coping strategies (CS) construct, though not a distinct CASEL competency, is particularly concerned with aspects of self-management and responsible decision-making. Likewise, empathy and perspective-taking (EP) correspond to the CASEL construct of social awareness. Relationship skills and responsible decision-making did not emerge as separate factors. However, they are embedded across the four factors, suggesting the interrelatedness of SEL engagement in actual student performance (Panayiotou et al., 2019). Self-awareness demonstrated slightly lower loadings compared to the other factors. This may reflect developmental variations in adolescents' ability to

accurately assess their own emotions and limitations, as self-awareness is still in the process of developing. During early and middle adolescence, self-concept becomes increasingly complex and differentiated, often leading to fluctuating or inconsistent self-perception (Harter, 2012; Sebastian et al., 2008).

The SE-SELS demonstrated good psychometric properties when analyzed using EFA and CFA, with appropriate reliability, factor loadings, and model fit identified. Specifically, although both EFA and CFA supported a four-factor solution, the CFA yielded slightly lower fit indices compared to the EFA model. These differences are common when moving from exploratory to confirmatory analyses, as CFA imposes more stringent model constraints (Kline, 2016). The consistent emergence of the same four factors across both analyses suggests the robustness of the SE-SELS structure. Inter-factor correlations revealed moderate to strong relationships between the factors, suggesting that while each element is unique, they support each other in developing students' holistic SEL. These findings extend the call of SEL scholars for measurements that are both theoretically grounded and responsive to developmental and practical needs (Durlak et al., 2022; Humphrey et al., 2009; McKown, 2017). By focusing on foundational engagement in SEL in a concise, reader-friendly format, the SE-SELS offers an instrument that enables educators to understand and address the evolving needs of students in grades 6–9.

The fourth factor, self-awareness, exhibited weaker internal consistency ($\alpha = .64$) relative to the other three factors. This finding is not unexpected given the factor's limited item count (three items), as Cronbach's alpha is sensitive to the number of items (Cortina, 1993). The content of this subscale reflects self-reflection and emotional identification processes that may be less differentiated during early adolescence. Developmental research suggests that self-awareness, particularly in relation to emotion recognition and regulation, continues to consolidate across middle school years (Denham, 2018; Mertens et al., 2022). This overlap may account for the observed cross-factor

associations with the self-management and relationship-skill domains. Consequently, while psychometrically weaker, the self-awareness factor may represent a developmentally nascent but meaningful dimension of SEL engagement during this stage. Future refinement of the SE-SELS will aim to expand and strengthen this subscale to capture the full complexity of self-awareness in adolescent populations.

The four-factor model identified in this study accounted for 44% of the total variance, a proportion consistent with other multidimensional SEL and school engagement measures (Haggerty et al., 2011; Martinez-Yarza et al., 2023; Merrell, 2011). While this percentage may appear modest, constructs such as engagement and social–emotional functioning are inherently complex and diffuse, reflecting multiple interrelated processes that vary across school and developmental contexts. In this sense, a moderate level of explained variance is expected and still represents meaningful construct differentiation within adolescent populations. To clarify, the percentage of variance explained should be understood as an indicator of the model's parsimony rather than a deficiency in psychometric adequacy.

The initial item pool for the SE-SELS was developed to assess students' behavioral, cognitive, and emotional engagement in school-based SEL instruction. Item generation was guided by the CASEL framework, which identifies five interrelated competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, 2020). Consistent with the engagement literature (Fredricks et al., 2004), items were written to reflect the degree to which students actively engaged in SEL-related content rather than their self-perceived competence or knowledge.

Furthermore, the factors identified in the SE-SELS reflect interrelated dimensions of how students engage in SEL within the evolving social, cognitive, and emotional landscape of early adolescence. This interpretation is grounded in engagement theory (Fredricks et al., 2004) and

developmental frameworks that emphasize the reciprocal interaction between individual competencies and contextual supports (Eccles & Roeser, 2011a). From this perspective, behavioral, cognitive, and emotional engagement are not discrete entities, but rather mutually reinforcing processes that evolve alongside the acquisition of social–emotional competencies. Thus, the emergent four-factor model reflects a theoretically coherent representation of engagement as a multidimensional, developmentally embedded construct within school counseling contexts. Additionally, while the four-factor model only partially aligns with the five competency domains outlined by CASEL, this pattern may reflect both developmental and measurement-related dynamics. One interpretation is that the factors capture how early adolescents naturally organize and experience social–emotional engagement within school contexts, rather than mirroring the conceptual distinctions articulated by adults or frameworks developed initially for broader age ranges. Developmental research suggests that social-emotional engagement often manifests in overlapping, context-dependent ways during early adolescence, as students continue to integrate emotional regulation, social perspective-taking, and self-management skills into cohesive behavioral patterns (Denham, 2018; Mertens et al., 2022). From this perspective, the four-factor structure may represent an authentic, developmentally grounded pattern of engagement in SEL activities.

At the same time, alternative explanations must be acknowledged. The partial misalignment with the CASEL framework may also reflect limitations in the initial item pool, including uneven coverage of specific domains (e.g., social awareness) or item phrasing that emphasized engagement behaviors more than particular competencies. This interpretation suggests that future revisions should incorporate additional items designed to capture underrepresented constructs and test for factorial stability across developmental stages. Accordingly, the SE-SELS should be viewed as an initial, exploratory model that contributes to understanding how adolescents engage with SEL instruction rather than as a definitive validation of a CASEL-aligned instrument. This iterative

approach is consistent with best practices in instrument development (Boateng et al., 2018). It provides a foundation for future refinement and confirmatory analysis across diverse samples and SEL program contexts.

Additionally, the modest discrepancies observed between the exploratory and confirmatory factor analyses should be discussed. They suggest that the SE-SELS captures an internally consistent but still-evolving representation of social–emotional engagement among early adolescents. While the four-factor model demonstrated theoretical coherence and acceptable reliability, the confirmatory analyses yielded only marginal model fit, indicating the need for continued refinement and cross-validation in larger and more diverse samples. Notably, the instrument assesses four correlated but distinct dimensions of engagement, rather than direct measures of the five CASEL competencies. It should therefore be interpreted as a measure of students' behavioral and affective engagement in SEL-related activities, rather than as an index of overall social–emotional competence.

When situated within the broader landscape of adolescent SEL measurement, the SE-SELS findings align with prior evidence suggesting that social–emotional constructs often display overlapping domains and moderate reliability during early adolescence. Similar to the multidimensional but correlated factor structures reported for the Social Emotional Assets and Resilience Scales (SEARS; Merrell, 2011), the Social Emotional Learning Survey (Haggerty et al., 2011), and the Behavior Assessment System for Children, Second Edition (BASC-2; Reynolds & Kamphaus, 2004), the SE-SELS yielded a four-factor model that captures distinct yet interrelated components of social–emotional engagement. This convergence supports growing recognition, reflected in Jones, McGarrah, and Kahn (2021) and related work, that SEL domains may not function as entirely discrete constructs in adolescence; instead, they represent interdependent skills that develop dynamically in relation to contextual and developmental factors. In this sense, the SE-

SELS contributes to an emerging empirical pattern suggesting that SEL constructs may be more fluid and contextually expressed in early adolescence than traditional five-domain frameworks assume.

Additionally, compared with these established adolescent SEL measures, the SE-SELS currently exhibits a distinct psychometric profile consistent with its focus on engagement rather than stable competencies. Instruments such as SEARS and BASC-2 typically report higher internal consistencies (αs commonly ≥ .80) and larger proportions of explained variance, reflecting larger item pools, multi-informant designs, and trait-oriented content. The SELS (Haggerty et al., 2011) reports acceptable αs (~.70–.85) for middle school samples and provides more precise mapping to CASEL competencies. By contrast, the SE-SELS's four-factor solution (44% variance explained) and the lower reliability of the Self-Awareness subscale (α = .64) likely reflect the instrument's situational, process-oriented focus, the relatively small number of items per factor, and developmental overlap in early adolescence. These differences underscore that SE-SELS is best construed at this stage as a formative, engagement-focused tool. It complements competency-oriented measures but requires further item refinement, convergent validation with established instruments, multi-informant replication, and cross-sample testing to achieve comparable psychometric robustness.

Although recent public discourse has questioned or resisted the terminology of SEL (Jochim et al., 2023; Prothero, 2023), the term was intentionally retained in this study to maintain alignment with established empirical frameworks and ensure conceptual clarity. The SEL construct, as articulated by organizations such as CASEL (2020), continues to provide a widely recognized and research-supported foundation for understanding students' social–emotional development (Jones, Brush, et al., 2021; Weissberg et al., 2016). Using the term allows the current findings to be situated within ongoing scholarly and applied conversations about SEL measurement and implementation in schools. Moreover, the decision to focus on student engagement in SEL rather than the broader

construct of SEL "competencies" reflects an effort to capture how students actively participate in and apply social–emotional skills within school contexts, regardless of the terminology used by local educational systems. Thus, retaining SEL in the title and framework underscores both theoretical consistency and practical relevance for educators and school counselors.

Implications for Practice

The SE-SELS offers immediate utility for school counselors seeking concise and practical tools to assess students' SEL engagement and inform tiered support. The four correlated factors are the building blocks for student well-being, educational success, and positive learning environments (Gimbert et al., 2021; Melnick et al., 2017). When administered as part of a comprehensive school counseling program, the SE-SELS can facilitate data-driven decision-making, intervention planning, and program evaluation.

Assessing student progress in SEL is necessary to document the impact of school-based interventions. Evidence-based SEL implementation has been found to promote improvement for students in their ER, social behavior, and academic outcomes (Durlak et al., 2011; Grant et al., 2023). The SE-SELS aligns well with monitoring student and program improvements, offering a low-burden option for routine use in schools.

While CASEL does not currently endorse a single measure for use nationwide as an accountability tool, the organization supports schools and districts in using tools that are aligned with their specific implementation purposes (CASEL, 2025). The authors of the SE-SELS respond to this call by providing a brief, psychometrically sound, and skill-based measure grounded in a popular SEL framework. It also addresses a significant void in middle-level assessment since few validated instruments are available that target younger adolescents.

The focus on SEL assessment in grades 6–9 carries meaningful implications for educational practice and youth development programming. Adolescence is a period marked by profound

cognitive, emotional, and social changes, during which students navigate increasing academic demands, shifting peer dynamics, and the development of personal identity and autonomy (Crone & Dahl, 2012; Lerner et al., 2015). As such, educators and school systems are uniquely positioned to support students' growth in self-regulation, empathy, and responsible decision-making during this transitional stage. Implementing developmentally responsive SEL assessment tools can help practitioners identify evolving strengths and needs, tailor interventions to adolescents' social contexts, and reinforce competencies that contribute to academic engagement and long-term well-being. Moreover, integrating SEL assessments within secondary education can promote a more holistic understanding of student success, complementing academic indicators with measures that capture social and emotional readiness for postsecondary life. Additionally, while the initial sample was drawn from grades 6–9, the study design intentionally focused on this age group based on theory, rather than solely based on convenience.

From a practical perspective, the implementation of SEL remains essential, even in the face of political controversy, because it directly informs effective educational practice and student well-being. SEL engagement contributes to both academic and behavioral success (CASEL, 2020). Empirical research consistently demonstrates that engagement in SEL programs improves academic achievement, classroom behavior, and emotional regulation, while reducing conduct problems and emotional distress (Durlak et al., 2011; Taylor et al., 2017). For practitioners, these findings emphasize that SEL is not an ancillary initiative but a central element of high-quality, evidence-based instruction.

Political pushback has often arisen from misconceptions that SEL promotes ideological or value-based agendas rather than focusing on universal developmental competencies (Jones et al., 2019). For educators and administrators, this highlights the importance of transparent communication and the use of empirically grounded frameworks that emphasize the alignment of

SEL with cognitive, behavioral, and emotional skill development. By framing SEL as a professional practice rooted in research rather than a political position, practitioners can maintain credibility and community trust while continuing to promote student growth.

In practice, this means embedding SEL into daily instruction and school culture through modeling, explicit teaching, and relationship-centered pedagogy. When implemented consistently, SEL engagement contributes to equitable learning environments, fosters resilience, and enhances students' capacity to engage meaningfully with peers and academic content (Darling-Hammond et al., 2019). Therefore, despite political resistance, the implications for practice affirm SEL as a necessary and empirically supported approach to holistic education.

Importantly, this perspective explicitly links to the rationale for measuring student engagement in SEL rather than SEL competencies per se. Measuring engagement captures students' active participation in SEL practices, including the degree to which they apply, internalize, and interact with SEL content, rather than relying solely on self-assessments of perceived competence or knowledge (Duckworth & Yeager, 2015; Jagers et al., 2019). This approach provides a more behaviorally anchored and context-sensitive indicator of how SEL is functioning within the learning environment. By focusing on engagement, educators can assess how effectively SEL practices are being integrated into students' lived experiences, which offers a more actionable framework for improving implementation fidelity, instructional design, and student outcomes. In this way, the measurement of engagement serves as both a practical and conceptual bridge between SEL theory and classroom application.

Limitations and Future Research

As with all research, several limitations should be acknowledged. First, although the SE-SELS supported a four-factor model, only three factors emerged as most salient, specifically self-awareness, self-management, and social awareness. The model did not distinguish responsible

decision making or relationship skills as independent constructs. This may reflect conceptual overlap among SEL competencies, limitations in item coverage, or the developmental tendency for these skills to manifest in more integrated ways during early adolescence. The four-factor model accounted for 44 percent of the total variance. Although this proportion is modest, it is consistent with previous studies examining multidimensional frameworks such as social emotional learning and school engagement (for example, Haggerty et al., 2011; Martinez Yarza et al., 2023; Merrell, 2011). Given the complexity and interdependence of SEL processes, particularly for early adolescents, moderate variance explained is expected and does not necessarily indicate model weakness.

Second, the *Self Awareness* subscale demonstrated lower internal consistency ($\alpha = .64$). This is likely due to the limited number of items and the developmental overlap between self-awareness and related competencies (Denham, 2018). Although this suggests the need for refinement or expansion of items, it also reflects the fluid and evolving nature of SEL engagement during early adolescence, a period when boundaries between competencies are less distinct. Future research should employ confirmatory factor analysis with larger and more diverse samples, examine measurement stability over time, and continue refining and expanding items to strengthen reliability and enhance content representation across domains.

Third, the cross-sectional design of the SE-SELS prevents an examination of the stability of responses over time and limits the ability to evaluate the predictive value of the scale. Fourth, the use of self-report introduces the possibility of bias, including social desirability, as well as the potential for item misinterpretation, particularly among younger respondents. Fifth, the present investigation focused solely on the internal structure of the instrument. Additional research is needed to evaluate external validity by correlating SE-SELS scores with related indicators such as academic performance, behavioral records, or teacher ratings. Continued refinement of the item pool and longitudinal validation studies will further strengthen the SE-SELS as a practical and informative

tool for school counselors. Future research could also examine the utility of the SE-SELS as a pre- and post- assessment to measure changes in students' social emotional engagement following participation in specific programs or interventions.

Next, this study was limited in its focus on students in grades 6-9. Although this focus is theoretically justified, it constrains the generalizability of the findings to other developmental periods. Adolescence is a critical window for social and emotional development and is characterized by rapid neurobiological change, heightened sensitivity to social contexts, and increasing demands for autonomy and self-regulation (Casey, 2015; Crone & Dahl, 2012). These developmental shifts make this period especially important for assessing and supporting engagement in social and emotional learning. However, because engagement in SEL develops across early childhood, middle childhood, adolescence, and emerging adulthood, the findings presented here may not fully capture how SEL engagement manifests in younger children or older youth. Future research would benefit from longitudinal or cross cohort designs that examine SEL across the full kindergarten through grade twelve continuum to provide a clearer understanding of developmental continuity and change.

Another limitation concerns the reading level of the instrument. Although the sample included students as young as grade six, the reading level of the SE-SELS was approximately eighth grade. Some sixth and seventh grade students may have experienced difficulty interpreting certain items, which could have influenced response patterns and overall measurement accuracy.

A further limitation is that the sampling was conducted within a single geographic region. This restricts generalizability because the findings may reflect regional cultural norms, educational practices, or community level influences that do not extend to more diverse populations. Replication of the study across varied geographic and demographic contexts is necessary to strengthen the validity and applicability of the SE-SELS. Broader sampling would support a more comprehensive

understanding of how SEL engagement presents across different environments and help ensure that the instrument is sensitive to diverse adolescent experiences.

It is also important to note that, although participants represented grades six through nine, the analyses did not compare responses across grade levels. The aim of this study was to establish the factor structure and reliability of the SE-SELS as part of an early-stage validation effort. Because structural stability must be confirmed before exploring developmental or subgroup differences (Boateng et al., 2018; Byrne, 2016), all cases were analyzed as a single sample representing early adolescence. This approach aligns with the theoretical view that grades six through nine represent a shared developmental period characterized by similar social emotional demands and common school transition experiences (Eccles & Roeser, 2011b). Once the structural model has been confirmed, future studies should examine measurement invariance and potential grade level differences.

In interpreting the findings, the psychometric properties of the SE-SELS showed acceptable internal consistency and emerging evidence of construct validity. These results suggest that the four-factor framework reflects meaningful aspects of students' engagement in SEL. However, additional validation work is needed to establish a broader evidentiary foundation for the instrument. Future research should examine criterion validity by exploring associations between SE-SELS scores and relevant behavioral indicators, such as observed classroom engagement, participation in SEL related activities, and perceptions of school climate. Discriminant validity should also be evaluated to ensure that SE-SELS scores are distinct from related constructs such as academic self-efficacy or general social competence. Establishing these forms of validity will enhance confidence in the SE-SELS as a developmentally appropriate tool for both research and applied use in school counseling contexts (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014; Boateng et al., 2018).

Because the present validation was conducted in two schools within a single region and did not include longitudinal data, further work is needed to examine generalizability, measurement invariance, and sensitivity to change. Future studies should also test invariance across demographic variables such as gender, ethnicity, and socioeconomic status to ensure that the instrument functions equivalently for different groups of students. These steps are essential for determining the SE-SELS's utility as an equitable and psychometrically sound measure of SEL engagement. Continued validation efforts should include confirmatory analyses across grade levels and program types to determine whether the four-factor structure remains stable and whether future iterations can better capture the multidimensional nature of SEL.

Future research should replicate the SE-SELS in larger and more diverse samples and test its responsiveness in pre and post intervention models. Although further validation is needed, the results of this study indicate that the SE-SELS may serve as a formative tool for school counselors and educators. It can help identify general patterns of SEL engagement within student populations, support reflection on student needs, and inform program development, rather than serving as a summative assessment or evaluative measure.

Conclusion

The development and validation of the SE-SELS is particularly timely given the growing need for psychometrically sound and practical tools to assess students' social–emotional engagement. Grounded in the CASEL framework and supported through exploratory factor analysis, the SE-SELS demonstrated strong reliability and content validity across three core areas of engagement: self-management, social awareness, and self-awareness. Although responsible decision-making and relationship skills did not emerge as distinct, stand-alone constructs, the data indicate that these competencies coherently cluster within the broader, more abstract domains captured by the instrument. This streamlined structure enhances interpretability and ease of use, offering a

developmentally appropriate assessment approach that aligns well with the time constraints and data-driven responsibilities of school counselors.

Given the increased national emphasis on SEL implementation and accountability, measures such as the SE-SELS hold significant promise for demonstrating student growth, identifying areas of need, and informing continuous improvement within comprehensive school counseling programs. The instrument's clarity and efficiency may support school counselors in progress monitoring, designing targeted interventions, and advocating for systemic SEL initiatives grounded in empirical data. As the field of SEL continues to evolve, future research should prioritize further validation of the SE-SELS across diverse educational settings, cultural contexts, and developmental stages, while also examining its sensitivity to change and its utility in evaluating the effectiveness of specific SEL curricula and interventions.

Overall, the SE-SELS emerges as a viable and valuable tool for assessing SEL engagement and for supporting more efficient, strategic, and equitable practices within school counseling and broader educational systems.

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