Linking Social and Emotional Learning Standards to the Social-Emotional Competency Assessment (SECA)
A Research Brief

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School districts across the United States are developing systemic, district-wide approaches to support students' social and emotional learning (SEL), due to the increasingly recognized role that students' social-emotional competencies (SECs) play in their academic success (Domitrovich et al., 2017; Kendziora & Osher, 2016; Mahoney et al., 2017). Such initiatives have increased the need for cost-effective measures of students' SECs that are feasible for large-scale use, embedded in scholarly literature, and aligned to local needs (Stecher & Hamilton, 2014). This brief describes evidence for one such measure, the Social-Emotional Competency Assessment (SECA), which is a self-report assessment of students' SECs that can be used from late elementary to high school (Crowder et al., 2018; Davidson et al., 2018; Schamberg et al., 2017). The measure was developed in the context of a researcher-practitioner partnership that provided the opportunity to align the measure not only with theory and literature about core SECs – and the widely-used Collaborative for Academic Social and Emotional Learning five broad domains (CASEL 5; Weissberg et al., 2015) – but also the school district's SEL standards. This brief shows how such alignment informs us about how well the measure operates and also offers insights into the standards and underlying theory and practice (see Crowder et al., 2018 for the full paper on which this brief is based).

Table 1	
Numbers of Students by Focal Characterisics	
Non-Hispanic White Female	1,557
Non-Hispanic White Male	1,671
Hispanic White Female	1,435
Hispanic White Male	1,470
Fifth Grade	2,140
Sixth Grade	1,842
Eighth Grade	1,829
Eleventh Grade	1,433

The results we feature in the brief are based on the 40-item version of the SECA administered in the 2016 school year in Nevada's Washoe County School District (WCSD). (See notes below for a 17-item short form and a 138-item bank). Students in the 5th, 6th, 8th and 11th grades completed the survey. The students were gender balanced, and primarily from non-Hispanic White or Hispanic ethnicities (see Table 1). We analyzed the data with an item response theory approach explained at the end of the brief.

The development of the SECA elaborated on the CASEL 5 by separating two domains into further sub-domains, motivated by psychological and educational

Table 2

Dimensions of Social-Emotional Competence

Self-Awareness of	
Strengths/Weaknesses	capacities for accurately recognizing own abilities
Emotions	abilities to recognize own feelings and how those feelings impact behaviors
Self-Management of	
Emotion	ability to manage negative emotions and control impulsive behaviors
Goals	ability to set and work toward personal and academic objectives
Schoolwork	abilities to focus on assignments and stay on track in classes
Social Awareness	taking others' perspectives, understanding behavioral norms, utilizing social support
Relationship Skills	creating and maintaining positive relationships, communicating effectively
Responsible Decision-Making	making sound decisions in the context of internal (i.e., moods and feelings) and external (i.e., group norms and setting) demands

Source: Adapted from the CASEL 5 (CASEL 2018a; Weissberg et al., 2015)

research regarding emotion regulation, problem solving, and self-regulated learning (Gestsdottir & Lerner, 2007; Duckworth, Quinn, & Tsukayama, 2012; Zimmerman & Kitsantas, 2014). As a result, the SECA captures students' awareness of their own strengths/weaknesses and emotions and their management of their emotions, goals, and schoolwork, as well as their social awareness, relationship skills, and responsible decision making (see Table 2).

Two graphs illustrate the insights we gained into the items, and related standards, through our analyses. Each graph shows the estimated difficulty of the items, with harder items at the top and easier items at the bottom. In the SECA context, easier items reflect social and emotional skills, knowledge, and behaviors for which the student already perceives herself to have the greatest competency. Harder items are those for which she does not perceive herself to have as much competency. We had hypothesized which items would be hardest and easiest using the WCSD SEL standards, which reflect the competencies expected of children at different grade levels. We anticipated that higher-grade standards would correspond with items estimated to be harder, and lower-grade standards with items estimated to be easier. To test these expectations, we compared them with the actual estimated ordering of the items (see again brief Method description at the end of the brief).

Figure 1 shows these results from the Self-Awareness of Emotion domain. Here, the actual item

Figure 1: Self-Awareness of Emotion

Hard

Knowing ways to make myself feel better when I'm sad

Knowing when my feelings are making it hard for me to focus

Knowing ways to calm myself down

Knowing when my mood affects how I treat others

Noticing what my body does when I'm nervous

Knowing the emotions I feel

Easy

order matched our expectations, as the three easiest items aligned with elementary-school-level standards and the three hardest items aligned with middle-school-level standards. The item content likewise reflects a theoretically-sensible hierarchy of skills, with the easiest items reflecting

basic knowledge of emotions and how emotions affect interpersonal relationships whereas the hardest items reflect knowing when emotions interfere with cognition and how to calm down or cheer up.

Figure 2 depicts items from the Relationship Skills domain. Here the item positioning differed somewhat from our expectations.

Figure 2: Relationship Skills

Hard

Sharing what I am feeling with others

Talking to an adult when I have problems in school

Being welcoming to someone I usually don't eat lunch with

Respecting a classmate's opinions during a disagreement

Getting along with my classmates

Getting along with my teachers

Easy

The two easiest items – getting along with classmates and teachers – were expected, being aligned with elementary-grade-level standards. But the two hardest items – talking to adults about problems at school and sharing feelings with others – had also been sourced from elementary-level standards. In contrast, the two middle-positioned items – respecting classmates' opinions during disagreements, and welcoming someone new at lunch – had reflected high-school-level standards.

To help understand these results, we discussed them with 60 middle and high school students who participated in a data-focused breakout session at a Student Voice Conference, and 130 staff (teachers, principals, counselors) at a quarterly SEL professional development conference. Attendees noted that students might think of the hardest-positioned items as addressing a willingness to expose vulnerabilities, a task that may be difficult even for adults. These kinds of insights can be used to modify the standards and items, and to circle back to informing theories about how relationship skills develop.

Figure 3 illustrates how we can put the insights about items together with what the measure tells us about student competencies. In this case, we illustrate the results for the Responsible Decision-Making domain. Here, a bar chart shows the distribution of student SECs, and a line graph shows the test information. The specific numbers are arbitrary, but their relative positions are meaningful. Within the student distribution, those positioned to the right have higher competency and those to the left lower competency. The test information tells us how well the
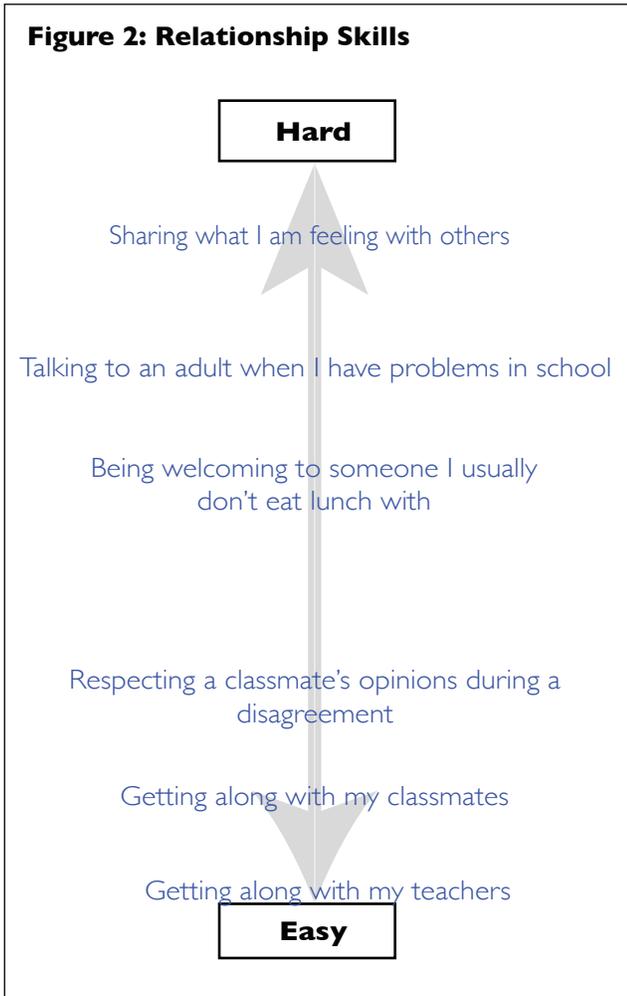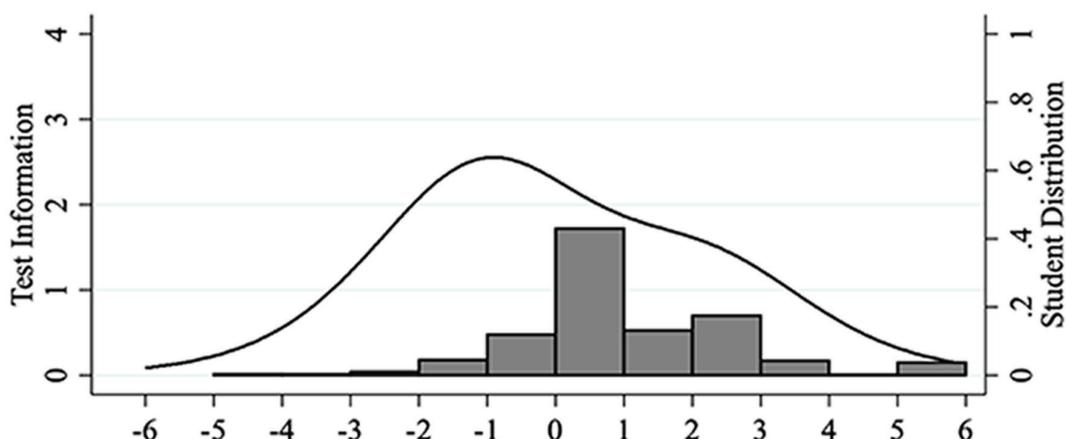
Figure 3: Student Distribution and Test Information

set of items measure student competency at various levels. What is most important is that we see the test information peak to the left of the region where most students are located. This pattern tells us that many of the items are relatively easy for the students, i.e., they are skills, knowledge, and behaviors for which many students already see themselves as competent.

These results are informative for ensuring that standards, items, and theories cover well not only the more basic and foundational aspects of SECs but also their highest-level expression. In working on continuous measure improvement, one strategy we used to try to iteratively improve the items with another SECA domain (Relationship Skills) was to engage a group of high school students selected for higher competency levels in activities that helped us draft such harder items (see Davidson et al., 2018 for more information about the approach we used).

Discussion

The SECA is a self-report assessment of students' SECs that can be used from late elementary to high school. The results reported here focus on a 40-item version of the SECA, although a broader 138-item bank is also available (see How to Learn More at the end of this brief). By making the items fully and freely available, we encourage other districts and scholars to replicate and extend our work with the SECA. In doing so, they can tailor the items to align with local standards and with theoretical perspectives, using similar approaches as we used to test the anticipated item orderings. These strategies can inform further measure development and refinement of the standards and theories. Continuous improvement of the SECA in these ways can also extend our efforts to include items that well target students across schools and districts. We found that relatively fewer items targeted the students with the highest SECs, and thus efforts to write and test such items would be particularly valuable. As part of such activities, we encourage scholars and practitioners to adopt strategies that can improve the precision of measurement (such as linked test forms for different competency levels and computerized adaptive testing) which are discussed in the full paper on which this brief is based (see Crowder et al., 2018). Also presented in the full paper is the way we used the analytic approach to test whether items performed similarly by important subgroups, including student gender/race-ethnicity, grade level, and English learner status. Although the majority of items did not show differential item functioning, some did (especially emotion-focused items by gender) and thus continued efforts to understand such differential functioning and revise items and analytic strategies accordingly will also be important as other schools, districts, and scholars use the SECA.

Details on the Method. We used the Rasch model, a type of item response theory approach, as the primary analytic strategy to provide information about the psychometric properties of the SECA. The Rasch model was ideal for our purposes because it provides information regarding the level along each SEC dimension (high or low) that each item assesses (what Rasch scholars refer to as *item ordering*), how well items target the local student population (meaning that there are sufficient items assessing a particular range of student competency levels), and any differences in item performance across important subgroups (like gender, race-ethnicity and grade level; Gordon, 2015; Wolfe & Smith, 2007). The model was easy for our practice partners to understand and readily connected to district SEL standards, which detail how and at what age students are expected to express different SECs. We used the standards to develop expectations for the empirical ordering of the items, thus demonstrating a powerful new way in which the Rasch model can be used to inform practice. In contrast, classical test theory approaches primarily focus on the correlations among items to establish construct validity, and therefore do not as clearly feature where the items are positioned on the latent construct and how those positions relate to students' latent competencies.

Acknowledgments

How to Learn More

The 40-item version of the SECA featured here, as well as the 138-item bank and a shorter 17-item version are available on the WCSD website. See Crowder et al. (2018) for details about the analyses presented here, as well as Davidson et al. (2018) and Schamberg et al. (2017) for more about our continuous measure improvement and researchers-practitioner partnership approaches.

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