Devereux Student Strengths Assessment High School Edition

Student Self-Report Manual

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A measure of social and emotional competencies of youths in grades 9–12

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ACKNOWLEDGMENTS

Aperture Education's goal is to create resources, such as the Devereux Student Strengths Assessment High School Edition Student Self-Report (DESSA-HSE SSR), that are both scientifically sound and easy to use. To achieve this goal takes the time and talent of many individuals. The authors of the DESSA-HSE SSR would like to acknowledge the contributions of our Aperture colleagues and customers who have made this assessment tool possible.

First, we would like to thank the scores of schools and out-of-school time programs and the hundreds of high school students who contributed the ratings that were used in the development of the DESSA-HSE SSR. Without their participation in the pilot study, national standardization study, and psychometric studies the development of the DESSA-HSE SSR would not have been possible. A list of participating data collection sites is provided in Appendix C.

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— Paul, Valerie, Jennifer, and Jack

ABOUT THE AUTHORS

Paul A. LeBuffe, M.A. is a senior research consultant for Aperture Education. He is a graduate of St. Mary's College of Maryland and received his master's degree in experimental psychology from Bryn Mawr College. For the past 30 years, Paul's career has focused on strength-based approaches to promoting social and emotional competence and resilience in children, youths, and the adults who care for them. Believing that such approaches should be data-driven, Paul has authored many widely used, strength-based assessments of behaviors related to children and adolescents' social and emotional strengths and needs, including the Devereux Early Childhood Assessment for Infants (DECA-I), Toddlers (DECA-T), Preschoolers (DECA-P2), and most recently, the Devereux Student Strengths Assessment (DESSA) for grades K–12. These assessments have been adopted by school districts, out-of-school-time programs, Head Start, and other early care and education programs both in the United States and internationally and the results have been used by professionals and parents to promote their students' social and emotional competence, foster their resilience, and build the skills they will need for school and life success. In addition to the assessments mentioned above, Paul has authored numerous research articles and chapters on social and emotional competence assessment, resilience, and related topics. Paul has presented to varied audiences, including psychologists, teachers, school administrators, out-of-school-time professionals, and parents throughout the United States and internationally on promoting resilience in children, youths, and adults.

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of the Coalition for the Promotion of Behavioral Health that produced the National Academy of Medicine Discussion Paper entitled "Unleashing the Power of Prevention" as part of the Grand Challenges for Social Work and Society Initiative and sits on the board of the National Prevention Science Coalition. Dr. Shapiro was the sole recipient of the 2014 Prytanean Faculty Prize, became a Fellow of the Society of Social Work & Research in 2017, and has co-authored several practice tools, such as the DESSA, used to promote the well-being of children nationally. She serves on the California Department of Education State SEL Advisory Group and recently co-authored UNESCO guidance for the assessment, monitoring, and evaluation of social and emotional learning worldwide. She earned her B.A. in psychology from Colgate University, her M.S.S. from the Bryn Mawr Graduate School of Social Work & Social Research, and her Ph.D. from the University of Washington School of Social Work. She is a licensed social worker and a Department of Education-certified school social worker.

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Jack A. Naglieri, Ph.D. is a research professor at the University of Virginia and senior research scientist consultant at Aperture Education. He started his career as a school psychologist in 1975, earned a Ph.D. in 1979, and held university positions at Northern Arizona University, The Ohio State University, and George Mason University. Throughout these years, he focused on applied educational and psychological research and the development of psychological and educational measurement tools. He has published 23 books, 293 scholarly papers, and 51 tests and rating scales. Dr. Naglieri is the author of *Naglieri Nonverbal Ability Test* and the *Naglieri General Ability Tests: Verbal, Nonverbal and Quantitative.* He is also well known for his PASS neurocognitive theory of intelligence as measured by the *Cognitive Assessment System*, 2nd Edition and the intervention handouts book entitled *Helping Children Learn*, 2nd Edition. He also authored *The Autism Spectrum Rating Scales*, *Comprehensive Executive Function Inventory: Child*, *Comprehensive Executive Function Inventory: Adult*, *The Devereux Student Strengths Assessment (DESSA)*, and the *DESSA-mini*. Dr. Naglieri has consistently emphasized the role tests play in accurate diagnosis, educational interventions, and especially equitable assessment based on sound theory and test construction.

FOREWORD

With the publication of the Devereux Student Strengths Assessment High School Edition (DESSA-HSE) and Student Self-Report (DESSA-HSE SSR), Aperture Education now offers a continuum of strength-based rating scales for the assessment of students' social and emotional competencies from kindergarten through the 12th grade. In addition to the educator report form for K–12 and the parent report form for K–8, the DESSA-HSE SSR now provides a means to collect grades 9–12 students' self-reported social and emotional competence ratings, enabling school and out-of-school professionals to incorporate student voice in the social and emotional learning (SEL) process. The importance of student voice is increasingly being recognized as a core part of SEL efforts (Cipriano et al., 2020; Soutter, 2019).

Together, the DESSA suite of measures and the related social and emotional growth strategies reflect Aperture Education's commitment to *data-driven social and emotional learning*, which has three key elements.

First, just like academic achievement, the social and emotional competence of each student should be assessed and, when indicated, differentiated and individualized social and emotional instruction should be provided. Although contextual factors including school culture and climate play an important role in facilitating or inhibiting both the acquisition and demonstration of social and emotional competencies, individual assessment is critically important. Only by assessing and addressing each individual student's social and emotional competencies, reinforcing their existing strengths, and remediating any skill deficits can we ensure that each student has the skills that they need to be successful in school and in life. Given that educational equity has been defined as, "mean(ing) that ***every student*** has access to the resources and educational rigor they need" (Jagers, Rivas-Drake, & Borowski, 2018 emphasis added) and as, "achieved when ***all students*** receive the resources they need so they graduate prepared for success" (Center for Public Education, 2016, emphasis added), the assessment of social and emotional competencies accompanied by differentiated instruction is essential to promoting educational equity.

A second, key element of *data-driven social and emotional learning* is supporting educators in exploring and understanding DESSA data. The reporting features of the Aperture System — the web-based platform that delivers the DESSA — encourage the aggregation of

DESSA data at various levels (e.g., classroom, grade, site, program/district) and the disaggregation of data by important student and program characteristics. These powerful data analytic tools enable educators to generate and explore hypotheses about program impact on diverse groups of students, deepening understanding and further supporting effective practice and educational equity efforts.

The third core element of *data-driven social and emotional learning* is the use of assessment data in both formative (student progress) and summative (program efficacy) evaluations to continuously improve practice and optimize outcomes. The DESSA-HSE SSR provides advanced interpretation techniques to support these important activities.

Since the publication of the DESSA for grades K–8 in 2009, the science of social and emotional learning has expanded dramatically, as has educational policy and public interest in this area. The authors of the DESSA-HSE SSR hope that the publication of this measure will support and extend current efforts by communities to recognize the importance of social and emotional competence in ensuring the well-being and success of all students. The authors as well as the staff of Aperture Education welcome opportunities to collaborate with students, educators, parents, and organizations that share this goal. We can be reached through the Aperture Education website, **www.ApertureEd.com**.

Chapter 1

INTRODUCTION

CHAPTER 1

Introduction

Social and Emotional Learning (SEL) is defined by the Collaborative for Academic, Social, and Emotional Learning (CASEL) as, "the process through which all young people and adults acquire the knowledge, skills, and attitudes to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions" (Niemi, 2020). It is not only an integral part of education and human development but is broadly considered a path to personal well-being and global citizenship (Chatterjee Singh & Duraiappah, 2020). Decades of research have demonstrated that SEL initiatives in schools and out-of-school-time (OST) programs can (1) improve student social and emotional skills and relationships, perceptions of school climate, and academic performance and (2) reduce student anxiety and undesirable behavior (Mahoney et al., 2018). In addition, SEL initiatives can contribute to continuous improvement in education and youth development systems, when implemented well and systemically, with a favorable cost-benefit ratio (i.e., they can save more than they cost; Payton et al., 2008; Gullotta, 2015; Belfield et al., 2015).

A strength-based approach to self-reflection and assessment can encourage student engagement and awareness of SEL, as well as provide actionable information to continuously improve SEL initiatives. Information about individual student social and emotional competencies has the potential to inform instruction in ways that give each young person what they need to thrive, prevent problems before they occur, and invite multiple stakeholders into collaborative conversations. Aggregating information about students' self-reported social and emotional competencies to the classroom, site, program, or district level can help inform local decision-making and planning in ways that lead to greater coherence and thoughtful resource allocation and opens useful feedback loops for understanding the extent to which all young people are achieving SEL goals. The *DESSA High School Edition Student Self-Report (DESSA-HSE SSR)* is an assessment tool that provides these essential functions in the implementation of SEL initiatives for high school-age youths.

Background

The Devereux Student Strengths Assessment (DESSA; LeBuffe et al., 2009/2014), now referred to as the DESSA K–8, is the precursor to the DESSA-HSE SSR. The DESSA K–8 was developed to meet the burgeoning need for a practical, norm-referenced measure of social and emotional competence in school and OST settings. Upon publication, the DESSA K–8 received favorable reviews by experts in the field (e.g., Atlas, 2010; Denham et al., 2010; Haggerty et al., 2011; Malcomb, 2010; Merrell & Gueldner, 2010; Tsang et al., 2012). The DESSA K–8 has been widely adopted to assess social and emotional competence in children in the United States. Studies have shown that children who receive typical or high scores on the DESSA K–8 are less likely to have behavior problems (Shapiro & LeBuffe, 2006; Shapiro, Kim, et al., 2017) and more likely to have academic success (Chain et al., 2017). With the publication of the DESSA-HSE (for educators) and the DESSA-HSE SSR, the benefits of the DESSA have been extended to youths in grades 9–12. The DESSA-HSE SSR adds to a collection of tools that together (with the DESSA-HSE, the DESSA K–8 and the Devereux Early Childhood Assessment (DECA) for Infants, Toddlers, and Preschoolers; LeBuffe & Naglieri, 2012; Mackrain et al., 2007) provides a continuous and consistent approach for promoting the well-being of young people from cradle to career (i.e., 1 month through high school graduation).

In addition to SEL, the DESSA tools have origins in the strand of applied developmental psychology known as *resilience theory*, which explores how individuals attain "good outcomes in spite of serious threats to adaptation or development" (Masten, 2001, p. 228). Studies of resilient individuals have identified a consistent set of attributes and assets that contribute to resilient outcomes (Masten, 2014). These *protective factors* have been defined (Masten & Garmezy, 1985) as characteristics that moderate or buffer the negative effects of risk factors. Garmezy (1985) suggested that protective factors could be divided into three categories: (1) community systems, such as high-quality schools, (2) a supportive family, and (3) individual attributes (e.g., physical health, intelligence, problem-solving skills). The DESSA-HSE SSR is used to self-evaluate behaviors related to social and emotional competencies, a subset of malleable individual attributes that act as protective factors in the face of adversity. Since all young people can experience adverse events and stressors, building social and emotional competence can help to promote resilience and the healthy development of all youths (Shapiro, 2015). To be clear, the DESSA-HSE SSR is intended for use in systems in which adults both provide meaningful opportunities for young people to build social and emotional competence, and simultaneously take responsibility for addressing and alleviating adversities that create an excessive or disparate need for resilience. The DESSA-HSE SSR also encourages students to develop the lifelong habit of self-reflecting on their social and emotional competence.

We use the term *social and emotional competence* to refer to an individual's ability to develop healthy identities, manage emotions and achieve personal and collective goals, feel and show empathy for others, establish and maintain supportive relationships, and make responsible and caring decisions (CASEL, 2020). We conceptualize a competence continuum ranging from a complete lack of proficiency to full proficiency in the execution of prosocial behavior. Our goal is to help identify and nurture the social and emotional strengths of youths, while simultaneously improving the relationships and environments that provide the contexts

for their development (Shapiro, 2015). As consistent with CASEL's revised definition of SEL (**https://casel.org/fundamentals-of-sel/**), this involves addressing various forms of inequities and empowering young people and adults to co-create thriving schools and contribute to safe, healthy, and just communities (Ozer et al., 2021). The DESSA-HSE SSR is intended to support whole child education, the creation of trauma-informed schools, the growing emphasis of schools and OST providers on SEL to help promote equity and excellence (e.g., Jagers et al., 2019), and the related need for the assessment of social and emotional competence in routine educational practice.

The rapid growth of SEL research, curricula, and programs, accompanied by the adoption of SEL learning standards for K–12 education by more than 20 states (CASEL, 2021), creates an ongoing need for an aligned assessment system. Some school districts seek an assessment system as a means of determining whether all students have met standards or otherwise acquired the requisite "non-cognitive" skills for school and life success. Some districts and OST programs desire a formative assessment that students can use to identify their own social and emotional strengths and needs, and that can inform instruction and programming, and gauge progress over time (Shapiro, Accomazzo, et al., 2017). Others have wanted an assessment tool that will promote student engagement and voice in SEL initiatives (Mitra, 2018). Finally, schools and OST programs that have invested heavily in developing and/or implementing SEL programs have a need for summative assessment to evaluate and continuously improve impact. The DESSA-HSE SSR was developed in response to these various needs.

Description of the DESSA-HSE SSR

The DESSA-HSE SSR is a 55-item standardized, norm-referenced, self-report behavior rating scale used to assess the social and emotional competence of youths in grades 9–12. We chose this method for several reasons. First, behavior rating scales are the most prevalent method used to assess behavior in schools (Elliott et al., 2015); they are well suited to evaluate the frequency of behaviors across several areas; and they can be "cheap, quick, reliable, and in many cases, remarkably predictive of objectively measured outcomes" (Duckworth & Yeager, 2015, p. 239). Self-report measures can be used to assess the affective, cognitive, and behavioral processes that are part of social and emotional learning (Pekruna, 2020). The DESSA-HSE SSR can be completed by high school-age youths at schools and youth-serving agencies, including OST, social service, and mental health programs. The DESSA-HSE SSR is entirely strength-based, meaning that the items query positive behaviors (e.g., contribute to group efforts) rather than maladaptive ones (e.g., annoy others).

The DESSA-HSE SSR is organized into conceptually derived scales that provide information about seven CASEL-aligned social and emotional competencies. Standard scores can be used to calibrate each student's competence in each of the seven dimensions and guide school or program-wide, class-wide, and individual strategies to promote those competencies. For each question, the student is asked to indicate on a five-point scale how often they engaged in each behavior over the past four weeks. The scale names, scale definitions, and sample scale items are as follows:

- ***Self-Awareness/Optimistic Thinking*** (9 items): A youth's realistic understanding of their strengths and limitations and consistent desire for self-improvement. A youth's attitude of confidence, hopefulness, and positive thinking regarding themself and their life situations in the past, present, and future.
  - think about positive things?
  - look forward to classes or activities at school?
  - recognize your personal strengths?
- ***Social-Awareness*** (6 items): A youth's capacity to interact with others in a way that shows respect for their ideas and behaviors, recognizes their impact on them and uses cooperation and tolerance in social situations.
  - get along with different types of people?
  - show respect for others in a game or competition?
  - contribute to group efforts?
- ***Self-Management*** (7 items): A youth's success in controlling their emotions and behaviors, to complete a task or to succeed in a new or challenging situation.
  - think before you acted?
  - stay focused despite a problem or distraction?
  - cope well when going from one setting to another?
- ***Goal-Directed Behavior*** (6 items): A youth's initiation of, and persistence in completing, tasks of varying difficulty.
  - keep trying when unsuccessful?
  - seek out more information when wanted or needed?
  - take an active role in learning?
- ***Relationship Skills*** (5 items): A youth's consistent performance of socially acceptable actions that promote and maintain positive connections with others.
  - show appreciation of others?
  - offer to help somebody?
  - share credit when appropriate?
- ***Personal Responsibility*** (6 items): A youth's tendency to be careful and reliable in their actions and in contributing to group efforts.
  - get things done in a timely fashion?
  - serve an important role at home or school?
  - prepare for school, activities, or upcoming events?
- ***Decision Making*** (6 items): A youth's approach to problem solving that involves learning from others and from their own previous experiences, using values to guide action, and accepting responsibility for their decisions.
  - follow the example of a positive role model?
  - do the right thing in a difficult situation?
  - learn from experience?

As of the publication date, the DESSA-HSE SSR includes 10 additional items designed to test expanded content coverage. These 10 items do not contribute to scoring.

Each of the seven DESSA-HSE SSR scale scores is derived from the ratings of the items assigned to that scale. A Social-Emotional Composite (SEC) score is also included, which is based on a combination of the scores received on the seven scales. This composite score provides an overall indication of the strength of the youth's self-reported social and emotional competence. The separate scores on the seven DESSA-HSE SSR scales are used to create individual student rating reports as well as classroom and group reports, to convey the strengths and needs of the student and/or groups of students as compared to national norms (please see Chapter 2 for a further explanation of the importance of norms). The DESSA-HSE SSR yields information that can also be used to monitor progress and evaluate outcomes. More information about these interpretation strategies will be presented in Chapter 5.

Uses of the DESSA-HSE SSR

The DESSA-HSE SSR has been developed to provide a measure of student self-reported social and emotional competence, which can be used to implement strategies to promote positive youth development. Specifically, the DESSA-HSE SSR has been designed to:

- Provide a psychometrically sound, strength-based measure of self-reported social and emotional competence in youths.
- Prioritize areas for social and emotional growth, including enabling youths to identify personal growth goals, as well as enabling adults to identify social and emotional competencies to prioritize for individuals or groups.
- Facilitate progress monitoring for individual youths by evaluating change over time at the individual scale level.
- Identify social and emotional disparities between socio-demographic groups that can be subjected to a root cause analysis and addressed.
- Provide a common language and approach to those involved in promoting positive youth development, including educators, administrators, policymakers, community members, mental health and social service professionals, social scientists, parents, and young people.
- Facilitate collaboration between youths, parents, and professionals by providing a means of comparing ratings of the same youths using the DESSA-HSE SSR and the DESSA-HSE to identify similarities and meaningful differences.
- Identify youths with the greatest self-reported need for social and emotional instruction, prevent problems before they emerge, and promote positive developmental outcomes.
- Identify the self-reported strengths and needs of individual youths who have already been identified as having social, emotional, and behavioral concerns.
- Provide meaningful information on self-reported strengths for inclusion in individual education and service plans, as required by federal, state, and funder regulations.
- Enable the evaluation and continuous improvement of SEL and positive youth development programs by encouraging student voice and rigorously evaluating outcomes at the individual, classroom/group, school, district/program, and community levels.
- Serve as a sound research tool to advance science and support public policy development.

Values Guiding the Development and Use of the DESSA-HSE SSR

The overarching goal of the DESSA-HSE SSR is to inform the promotion of social and emotional competence and resilience of youths. Five characteristics shape our approach to achieving this goal. First, the measure is strength-based. This orientation is important to the dual goals of mental health promotion and challenging behavior prevention in that it enables the proactive identification of strengths and weaknesses in social and emotional development before the occurrence of significant social and emotional challenges emerge (LeBuffe & Shapiro, 2004). If practitioners wait until undesirable behaviors emerge before offering social and emotional instruction, they may have missed the opportunity to prevent the enormous costs of mental, emotional, and behavioral problems, and their remediation to students, their families, schools, and society (O'Connell et al., 2009). Strength-based student self-report approaches also clearly list positive skills that students can work to develop as needed to achieve their own personal goals.

The second key characteristic of the DESSA-HSE SSR is to be justice-promoting. In this commitment, we intend to affirm the diversity of young people, include their voices in decision-making through the accompanying set of growth strategies included as part of the Aperture Student Portal, and contribute to equity for all. To fulfill this commitment, the DESSA-HSE SSR was standardized on a sample of young people who reflect the regional, gender, and racial/ethnic diversity of the United States. Analyses were conducted prior to publication to examine how the tool detects and/or presents differences between socio-demographic subgroups, which are transparently reported in Chapter 3. Our strength-based approach, described in this chapter, aims to prevent the stigmatization and pathologization of young people as a result of the assessment process. Similarly, our preventative orientation advances the call for a reorganization of community resources to promote population health rather than waiting for a meaningful subsection of young people to experience hardship and rationing cost-intensive interventions. Furthermore, Chapters 4 and 5 describe our approach to scoring and interpretation, which centers on educational institutions taking responsibility for social and emotional instruction and building students' capacity to develop their social and emotional competency (e.g., providing high-quality, evidence-based SEL instruction), rather than presuming that low DESSA-HSE SSR scores are the fault or responsibility of the young person themself. Chapter 5 stresses the importance of including the voice of young people in the process of interpreting DESSA-HSE SSR scores, setting goals, making decisions, and setting the expectation that the DESSA-HSE SSR be used in conjunction with climate surveys and other approaches to risk assessment, such that basic needs and threats to developmental outcomes are not missed and the promise of structural and environmental strategies are not overlooked.

The third defining characteristic is the use of an assessment process that merges all we know about a student with norm-referenced data to help understand the individual, and ultimately guide intervention decisions. In common with the positions of other professional organizations, we believe that measures of social and emotional competence have maximum value when they lead to improved outcomes for young people (National Association for the Education of Young Children, 1987). As a result, the DESSA-HSE SSR was designed to yield *actionable*

insights to inform the selection and implementation of evidence-based SEL programs or strategies intended to be integrated into routine practice in schools, OST programs, and at home.

The fourth foundational characteristic of the DESSA-HSE SSR is a commitment to strong psychometric qualities. The assessment tool meets or exceeds the standards promulgated by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (AERA, 2014), including large, diverse standardization samples that approximate the population of school-age youths with respect to important demographic characteristics, good to excellent reliability, and sufficient validity data to support the intended uses of the scales. These are important attributes for defensible decision making with and on behalf of young people. Detailed information on the psychometric characteristics of the DESSA-HSE SSR is provided in Chapter 3.

The fifth foundational characteristic of the DESSA-HSE SSR is the focus on students as not only the raters (i.e., the person providing the ratings) but also as the user of that information (i.e., the person who uses their results to engage in related growth strategies). This focus on empowering students to respond to their own results in ways that have personal meaning is meant to increase students' motivation to engage with the DESSA-HSE SSR, and to continue to develop their ability to self-reflect, set goals, and work towards achieving them. In addition to students, educators can also use students' self-reported results to inform their SEL programming.

The strengths-based orientation of the DESSA-HSE SSR makes its use by non-mental health professionals appropriate in that the scales do not yield scores with pejorative labels (e.g., "extreme risk") or diagnoses (e.g., anxious/depressed). Appropriate usage is encouraged through simple directions, on-demand training (including recorded webinars), and a best practice model that positions the assessment as part of routine educational practice.

Qualifications of DESSA-HSE SSR Users and Raters

Qualifications of DESSA-HSE SSR Users

For the purposes of this manual, DESSA-HSE SSR *users* are those who interpret its scores. Students are one user group, and typically, educators, administrators, coaches, program directors, and evaluators are another user group. The guidelines presented here should be considered a general description, rather than an exhaustive list, of those who may use the DESSA-HSE SSR. In presenting these descriptions, we assume that the titles used by professionals in different settings vary, as do their levels of training and the regulations that govern professional practice in their states. In every case, however, the DESSA-HSE SSR user has responsibility for the proper use and interpretation of DESSA-HSE SSR results.

Because DESSA-HSE SSR results can be used to make decisions that shape the experiences of young people, DESSA-HSE SSR users should have training in the proper administration, interpretation, and utilization of the DESSA-HSE SSR.

For students, this means that students should receive instruction on the importance of social and emotional competence generally, as well as on the seven competencies included on the DESSA-HSE SSR. Training materials are included in the Student Portal, but in general,

the student should be provided with the opportunity to understand why completing the DESSA-HSE SSR is important, how to interpret the student-facing results, and how to engage in the growth strategies included in the Student Portal to further develop their social and emotional competence.

Educators and others who may use DESSA-HSE SSR results to inform social and emotional learning programs should have knowledge of the interpretation of standardized scores such as *T*-scores and percentile ranks, the interpretation of scale content and profiles, and how to communicate the results to families, allied professionals, and young people themselves. Typically, DESSA-HSE SSR users will include educators, administrators, coaches, program directors, and evaluators. The DESSA-HSE SSR can also be used by counselors, social workers, psychologists, and other professionals in education, behavioral health, child welfare, and juvenile justice settings to gain a better understanding of a youth's self-reported social and emotional strengths and needs.

Qualifications of DESSA-HSE SSR Raters

Because the DESSA-HSE SSR is a self-report measure, the student acts as the *rater*, or the person who completes the items on the DESSA-HSE SSR. The student should be able to read English at the fifth-grade level. (Recommendations for using the DESSA-HSE SSR with students who have difficulty reading English are presented in Chapter 4.) As of the publication date, the DESSA-HSE SSR can also be completed by students in the following languages: Spanish, Arabic, Chinese, Bengali, French, Haitian Creole, Korean, Russian, and Urdu. For more detailed and updated information about translations, please contact Aperture Education by visiting our website at **www.ApertureEd.com**. Students should receive some instruction prior to completing the DESSA-HSE SSR on the importance of social and emotional competence and on how to complete their self-assessment.

Reasonable concerns exist as to whether a student can accurately self-assess their own social and emotional competence. However, as detailed in Chapter 3, the results of our psychometric studies indicate that the DESSA-HSE SSR provides a reliable and valid measure of students' self-reported social and emotional competence.

Restrictions for Use

DESSA-HSE SSR users should follow both the instructions included in this manual and all commonly accepted guidelines for test use and interpretation, such as the Standards for Educational and Psychological Testing (AERA, 2014). It is the DESSA-HSE SSR user's responsibility to ensure that completed DESSA-HSE SSR protocols and reports remain secure and are released with consent only to professionals who will safeguard their proper use. Copyright law does not permit the DESSA-HSE SSR user to photocopy or otherwise duplicate test items or record forms in any form, even for the purpose of sharing results. The completed DESSA-HSE SSR Individual Student Rating Report may be copied and provided to youths,

parents, and multi-disciplinary teams after it has been reviewed with them. Because all DESSA-HSE SSR items, norms, and other materials are copyrighted, no DESSA-HSE SSR materials may be reproduced or transmitted in any form or by any means without written permission from Aperture Education.

Chapter 2

DEVELOPMENT AND STANDARDIZATION

CHAPTER 2

Development and Standardization

Development of the DESSA-HSE SSR Items

A variety of approaches were used to develop the initial set of DESSA-HSE SSR items. First, we reviewed the existing 72 items on the DESSA for kindergarten through eighth grade (K–8) children and youths (LeBuffe et al., 2009/2014). These items were originally developed through a thorough review of the literature on resilience (e.g., Werner & Smith, 1982, 1992), social and emotional learning (e.g., Payton et al., 2000), and positive youth development (e.g., Catalano et al., 2002). Items were carefully considered for developmental appropriateness for older youths, resulting in items that were deleted (e.g., "wait for their turn") or revised (e.g., the item "show the ability to decide between right and wrong" was reworded to "do the right thing in a difficult situation"). New items were also written to include social and emotional skills that emerge with older youths, such as "expressing values" and "sharing credit when appropriate." Second, we consulted the definitions of the social and emotional competencies and related skills described in the CASEL Framework, which has undergone revisions since the publication of the DESSA K–8 in 2009, to ensure continued and adequate coverage. Third, some items were reworded to enhance clarity based on feedback received from DESSA K–8 raters (e.g., the item "pass up something they wanted, or do something they did not like, to get something better in the future" was split into two items). Lastly, we considered the items from the perspective of three rater types: (1) high school educators (including staff at youth-serving organizations), (2) parents/guardians of high school-age youths, and (3) high school-age youths. Although this manual focuses on the development of the student self-report form, we simultaneously developed items for educator and parent report forms, with the goal of maintaining consistency in the behaviors assessed across the three forms to facilitate dialogue, planning, and collaboration in practice.

The item-development phase resulted in a pool of 76 items. Items were written to measure both observable behaviors (e.g., "say good things about your classmates") and internal states

(e.g., "feel confident in yourself"). This enables direct comparison to similarly worded observable items on the adult rating forms while also allowing the collection of unique information that is only possible through self-reporting. We carefully considered the reading level of the items so that the overall readability level of the DESSA-HSE SSR would be as low as possible.

To investigate the usefulness of these initial items and their interrelationships, we conducted a national pilot study using a convenience sample of ratings completed by high school educators and youths. High school educators (i.e., teachers and out-of-school time [OST] program staff) completed ratings on 121 students in ninth through 12th grade. Of these students, 17 (14%) had already been identified as having significant emotional or behavioral disorders. High school youths provided an additional 121 self-report ratings, of which 39 (32%) were identified as having significant emotional or behavioral disorders. We reduced the initial pool by examining item performance across both rating forms by eliminating items that showed less-than-satisfactory reliability (item-total correlations of < .60), did not differentiate between students with known emotional or behavioral disorders and those without by at least half a standard deviation, or were rated by 20% or more of the raters as unclear or not applicable. In some instances, acceptable items on the educator form were eliminated due to poor performance on the student form. Likewise, some items that performed well on the student form were retained for standardization despite poorer performance on the educator form. This process resulted in a set of 65 items that we incorporated into the standardization edition of the DESSA-HSE SSR.

National Standardization

In accordance with standards promulgated by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (AERA, 2014), we normed the DESSA-HSE SSR through a carefully prescribed method to ensure the data collection procedures resulted in a large, diverse standardization sample that closely approximated the United States population of high school-age youths with respect to important demographic characteristics. This ensured a wide variety of youths were included for the generation of norms. A discussion of the psychometric characteristics of the DESSA-HSE SSR is provided in Chapter 3.

We collected data using both paper and online rating forms. Both samples were collected simultaneously from February 2016 through May 2018. Ratings were obtained from high school students from school districts and OST programs across the United States. Schools and programs were recruited through a variety of methods, including invitations to Aperture Education clients and contacts (e.g., inviting elementary and middle school DESSA users to invite their high school colleagues to participate), advertising through national organizations such as the National Association of School Psychologists (NASP) and the American Educational Research Association (AERA), and posting the study opportunity on websites and social media. No personally identifying information was included in the standardization protocols, which were reviewed and approved by Devereux Advanced Behavioral Health's Institutional Review Board.

Selection of the DESSA-HSE SSR Standardization Sample

Self-report ratings by high school-age youths in grades 9–12 were eligible for inclusion in the DESSA-HSE SSR standardization sample. Youths receiving special education services were eligible for inclusion in the sample, unless the youths self-reported that they receive services for the following reasons:

- Developmental delays or intellectual disabilities
- Autism or an autism spectrum disorder
- Traumatic brain injuries
- Emotional or behavioral disorders (e.g., depression, anxiety, attention-deficit/hyperactivity disorder (ADHD), substance abuse, etc.), including youths who may not be served by special education, but who otherwise met our criteria for having a "serious emotional disturbance" (e.g., the youth currently takes medication for an emotional or behavioral disorder that was prescribed by a mental health professional or a medical doctor).

As these disabilities and disorders are commonly associated with reduced social and emotional functioning, we excluded these ratings to increase the sensitivity of the DESSA-HSE SSR as a measure of social and emotional competence for high school-age youths.

In addition to criteria related to the youths, we eliminated ratings with too much missing data (defined as not answering 10 or more of the 65 items) and ratings with the same item response across all 65 items (e.g., youth answered "Almost Always" for all items). Prior to finalizing, the sample was trimmed to achieve representativeness to U.S. Census data regarding age, sex, race, Hispanic/Latinx ethnicity, geographic region of residence, and socioeconomic status.

Representativeness of the DESSA-HSE SSR Standardization Sample

A total of 700 youths in grades 9–12 (ages 14–19) comprised the DESSA-HSE SSR standardization sample. Of these ratings, 243 were completed on paper and 457 were completed online. To determine if these two administration formats could be combined, we examined the mean *T*-score difference between these formats on the DESSA-HSE SSR Social-Emotional Composite (SEC). To evaluate the practical significance of this mean *T*-score difference, we also calculated a *d*-ratio, a measure of effect size. This statistic is computed by subtracting one mean from the other and dividing that difference by the average standard deviation for the two groups being contrasted. According to Cohen (1988), *d*-ratio values of less than 0.2 are negligible. Those between 0.2 and 0.5 reflect a small effect size. Those between 0.5 and 0.8 indicate a medium effect size, and *d*-ratios greater than 0.8 indicate a large effect size. Negligible differences (*d*-ratio of 0.10) were found between responses obtained through paper ratings (mean *T*-score = 49.3; SD = 9.4) and online ratings (mean *T*-score = 50.3; SD = 10.1). Therefore, in all subsequent analyses we combined data obtained from both administration formats.

The sample closely approximated the population of 15- to 19-year-olds in the United States with respect to age, sex, geographic region of residence, race, Hispanic/Latinx ethnicity, and

socioeconomic status. We based the desired characteristics of the standardization sample on the most current national estimates (2014–2018) from the American Community Survey (ACS) completed by the U.S. Census Bureau. In the tables that follow, the total numbers of youths included may not sum to 700 due to missing data.

Grade and Sex

Table 2.1 presents the numbers and percentages of males and females in the DESSA-HSE SSR standardization sample in each grade from 9 through 12, presented relative to the composition of the U.S. population. The number of youths in each grade ranged from 152 in 10th grade to 197 in 12th grade. The overall mean number of youths per grade was 175. These results show that each grade was well sampled. The data also show that the percentages of males and females in the standardization sample, as well as in each grade, closely approximated the proportions of the U.S. population.

In addition to asking youths to report their biological sex for the sake of making comparisons to the U.S. Census Bureau data, we also asked youths to report on how they describe themselves, with the option to choose all that apply. Based on this question, the standardization sample included 338 youths who identify as male; 351 youths who identify as female; 5 youths who identify as transgender; and 6 youths who do not identify as male, female, or transgender.

Geographic Region

We collected data from students attending 111 schools and OST programs across 25 U.S. states and the District of Columbia. Table 2.2 shows the numbers and percentages of students by grade level and location, according to the four geographic regions designated by the U.S. Census Bureau: Northeast, Midwest, South, and West. These data show that the DESSA-HSE SSR standardization sample closely approximated the regional distribution of the U.S. population.

TABLE 2.1
DESSA-HSE SSR Standardization Sample Characteristics by Grade and Sex

	Males		Females		Total	
	n	%	*n*	%	*n*	%
Grade 9	102	53.1	90	46.9	192	27.4
Grade 10	82	53.9	70	46.1	152	21.7
Grade 11	62	39.0	97	61.0	159	22.7
Grade 12	102	51.8	95	48.2	197	28.1
Total Sample	348	49.7	352	50.3	700	
U.S. %		51.2		48.8		100

Note: The U.S. population data are based on the 2014–2018 estimates for 15- through 19-year-olds only in "Table S0101: Age and Sex, 2018 American Community Survey 5-Year Estimates," U.S. Census Bureau, 2020. Generated using **https://data.census.gov/cedsci/**.

TABLE 2.2
DESSA-HSE SSR Standardization Sample Characteristics by Geographic Region and Grade

	Northeast		Midwest		South		West		Total	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Grade 9	32	16.7	81	42.2	30	15.6	49	25.5	192	27.4
Grade 10	19	12.5	54	35.5	41	27.0	38	25.0	152	21.7
Grade 11	40	25.2	45	28.3	39	24.5	35	22.0	159	22.7
Grade 12	19	9.6	49	24.9	67	34.0	62	31.5	197	28.1
Total Sample	110	15.7	229	32.7	177	25.3	184	26.3	700	
U.S. %		17.0		21.4		38.0		23.6		100.0

Note: The U.S. population data are based on the 2014–2018 estimates for 15- through 19-year-olds only in "Table S0101: Age and Sex, 2018 American Community Survey 5-Year Estimates," U.S. Census Bureau, 2020. Generated using **https://data.census.gov/cedsci/**.

Race

Table 2.3 provides the DESSA-HSE SSR standardization sample composition by race within each geographic region. Based on information provided by students on the rating forms, we classified the students according to the six major race categories used by the U.S. Census Bureau: American Indian or Alaska Native, Asian, Black or African American, Native Hawaiian or Other Pacific Islander, White, and Two or More Races. The data in Table 2.3 indicate that the racial composition of the total standardization sample closely approximated that of the U.S. population.

Hispanic/Latinx Ethnicity

The proportions of students of Hispanic/Latinx ethnicity included in the DESSA-HSE SSR standardization sample by geographic region are presented in Table 2.4. Students were asked whether they were of Hispanic/Latinx ethnicity. Data show that the Hispanic/Latinx composition of the standardization sample closely approximated that of the U.S. population.

Socioeconomic Status

To assess the socioeconomic status of the DESSA-HSE SSR standardization sample, we determined the number of students eligible to receive either free or reduced-price lunches. Based on the information provided by students on the rating forms, eligibility data was available for 661 of the 700 students in the standardization sample. Of this sample of 661 students, 304 (46.0%) were eligible to receive free or reduced-price lunches. This closely approximated the 52.3% of K–12 students in the U.S. eligible to receive free or reduced-price lunches in the 2016–2017 academic year (U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2020).

TABLE 2.3
DESSA-HSE SSR Standardization Sample Characteristics by Race and Geographic Region

	American Indian/ Alaska Native		Asian		Black/ African American		Native Hawaiian/ Pacific Islander		White		Two or More Races		Total
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*
Northeast	2	2.1	6	6.4	20	21.3	0	0	59	62.8	7	7.4	94
Midwest	2	0.9	2	0.9	40	18.9	0	0	157	74.1	11	5.2	212
South	4	2.7	6	4.1	58	39.7	3	2.1	62	42.5	13	8.9	146
West	6	4.3	7	5.1	9	6.5	4	2.9	93	67.4	19	13.8	138
Total Sample	14	2.4	21	3.6	127	21.5	7	1.2	371	62.9	50	8.5	590
U.S. %		1.1		5.3		15.4		0.2		72.7		5.3	

Note: The U.S. population data are based on the 2014–2018 estimates for 15- through 19-year-olds only in "Tables B01001A, B, C, D, E, G: Sex by Age (Race), 2018 American Community Survey 5-Year Estimates," U.S. Census Bureau, 2020. Generated using **https://data.census.gov/cedsci/**.

TABLE 2.4
DESSA-HSE SSR Standardization Sample Characteristics by Hispanic/Latinx Ethnicity and Geographic Region

	Hispanic/Latinx		Non-Hispanic/Latinx		Total
	n	%	*n*	%	*n*
Northeast	21	19.1	89	80.9	110
Midwest	22	9.6	207	90.4	229
South	39	22.0	138	78.0	177
West	53	28.8	131	71.2	184
Total Sample	135	19.3	565	80.7	700
U.S. %		24.2		75.8	

Note: The U.S. population data are based on the 2014–2018 estimates for 15- through 19-year-olds only in "Tables B01001I: Sex by Age (Hispanic or Latino), 2018 American Community Survey 5-Year Estimates," U.S. Census Bureau, 2020. Generated using **https://data.census.gov/cedsci/**.

Organization of the DESSA-HSE SSR Items into Scales

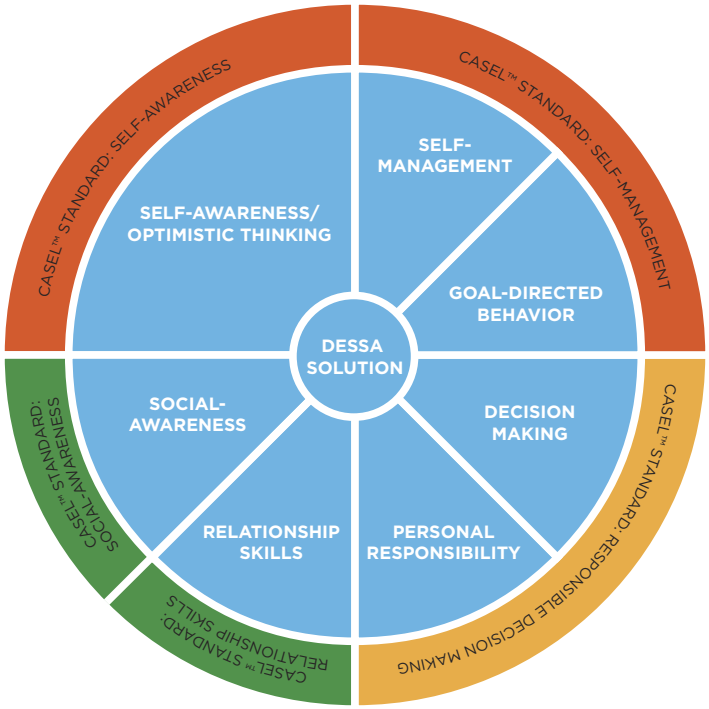
The primary purpose of the DESSA-HSE SSR is to provide educators, parents, OST staff, and other professionals concerned with the social and emotional competence of students, as well as the students themselves, with a useful and meaningful set of scales that both (1) reflect current social and emotional functioning and (2) lead to strategies and interventions to promote social

and emotional competencies. Beginning with the DESSA K–8 and continuing with the DESSA-HSE and DESSA-HSE SSR, we aligned our items with the descriptions of core social and emotional competencies provided by the Collaborative for Academic, Social, and Emotional Learning (CASEL; **www.casel.org**). This framework is widely reflected in state and school district educational standards as well as social and emotional learning curricula, and it is, therefore, familiar to many educators and administrators.

We organized DESSA-HSE SSR items into logically derived and defined scales based on the CASEL Framework. As with the DESSA K–8, we subdivided three of the five core social and emotional competencies suggested by CASEL (Self-Awareness, Self-Management, and Responsible Decision Making), as presented in Figure 2.1. We refined the CASEL Framework for two reasons: First, to yield more specific social and emotional competencies that simplified understanding and intervention (e.g., "Personal Responsibility" and "Decision Making" vs. "Responsible Decision Making"), and second, to highlight the importance of optimistic thinking as an important social and emotional competency (Ciarrochi et al., 2015). This process yielded eight preliminary first-order scales.

We then used a series of statistical analyses to further refine and simplify the scales based on the following goals: (1) To identify the best scale solution, from both psychometric and interpretability perspectives; (2) to shorten the DESSA-HSE SSR as much as possible without compromising breadth of coverage; (3) to simplify the administration, scoring, and interpretation of the DESSA-HSE SSR; and (4) to ensure that the constructs were measured reliably by the scales.

FIGURE 2.1
Alignment of the DESSA-HSE SSR Scales to the CASEL Framework



In conducting these statistical analyses, it became clear that two of the logically derived and defined scales (Self-Awareness and Optimistic Thinking) did not meet our scale reliability standards as separate scales. Therefore, we made the decision to create a combined Self-Awareness/Optimistic Thinking scale. This combination has a theoretical basis, as the CASEL Framework defines Self-Awareness as "The abilities to understand one's own emotions, thoughts, and values and how they influence behavior across contexts. This includes capacities to recognize one's strengths and limitations with a well-grounded sense of confidence and purpose" (**www.CASEL.org**). With the updated seven preliminary first-order scales, statistical analysis continued.

To achieve the goals outlined above, we dropped any item that failed to meet the following criteria: First, we examined the corrected item-total correlations to ensure that each item correlated highly with the scale to which it was assigned. To avoid potential ceiling effects on any scale, which would impact the ability of the measure to detect change, we examined each item's mean raw score for evidence of potential ceiling effects (defined as an item mean raw score of greater than 3.0; possible range = 0–4). To simplify the scales and avoid the necessity of age norms, we examined each item for evidence of age trends. Finally, we examined each item's ability to differentiate between students with and without known social and emotional disorders. Twenty items were eliminated because of these steps, resulting in a final set of 45 items comprising the seven scales. Based upon the sum of the standard scores of all seven scales, we also created a composite score referred to as the SEC, which provides an overall estimate of the student's social and emotional competencies.

Additional Experimental Items

It is ultimately our goal to separate the combined Self-Awareness/Optimistic Thinking scale into two separate scales. This will provide better consistency across DESSA K–12 forms to enable direct comparison, yield more specific social and emotional competencies for simplified understanding and intervention, and highlight the importance of optimistic thinking as an important social and emotional competency. Therefore, 10 new items have been written that measure aspects of our definitions of Self-Awareness and Optimistic Thinking. These experimental items are integrated into the DESSA-HSE SSR rating form and are completed by students in practice. They do not factor into scoring; only item-level response data is collected. It is the intention of the authors to examine performance of these items once sufficient data has been collected and to determine whether the items strengthen the Self-Awareness and Optimistic Thinking scale reliabilities to update the DESSA-HSE SSR to an eight-scale solution.

Item Response Theory

In addition to the previously described methods of item evaluation and scale assignment, we assessed each item and scale's performance through Item Response Theory (IRT) techniques.

Our primary interest in carrying out these analyses were to either (1) confirm the item- and scale-level conclusions drawn from the techniques described in the previous section (i.e., Classical Test Theory techniques), or (2) to refine our conclusions using the additional information gained from the IRT analyses. Analyses were completed in R using the *ltm* package

(Rizopoulos, 2006). Graded Response Modeling (GRM) models were fit for each iteration of the seven DESSA-HSE SSR scales. The primary information reviewed to evaluate the items and scales were:

- Each scale's Test Information Curve (TIC), which indicated how precisely the scale measured the social and emotional construct (e.g., Self-Management) across different levels of the construct.
- Each item's Item Information Curve (IIC), which indicated how much information each item contributed to the scale across different levels of the construct, compared to the other items on the scale.
- The model summary statistics, which estimated item difficulty and how well each item discriminated among students exhibiting similar levels of the construct (e.g., how well a Self-Management item discriminated between two students with similar competence in Self-Management).

With the techniques described above, we were able to confirm the item- and scale-level decisions. The Flesch-Kincaid Grade Level of the final set of 55 items reflects a fifth-grade reading level.

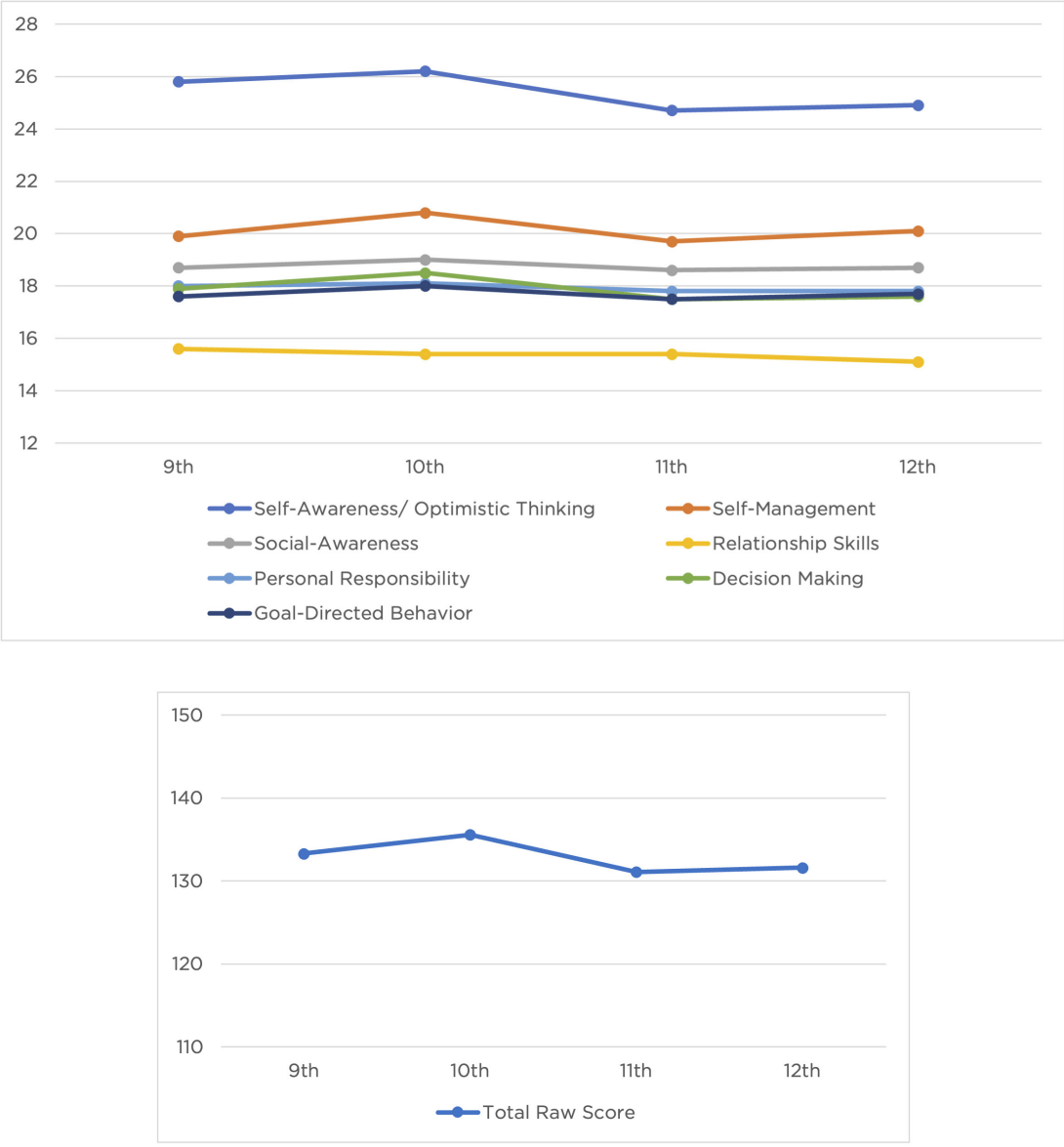
Norming Procedures

The initial step in preparation of the norms was to determine if any trends existed in the data. We first examined the DESSA-HSE SSR scale and total raw scores for potential age differences. Table 2.5 presents the raw score means and standard deviations for the seven DESSA-HSE SSR scales and total raw score by grade. These data are also presented graphically in Figure 2.2. Minor variations in mean raw scores were observed across the four grade levels. To evaluate the practical significance of these mean raw score differences, we calculated *d*-ratios. Across all grade level and scale comparisons (a total of 42 comparisons), 37 were categorized

TABLE 2.5
DESSA-HSE SSR Raw Score Means and Standard Deviations by Grade

Scales	Grade 9		Grade 10		Grade 11		Grade 12	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Self-Awareness/ Optimistic Thinking	25.8	5.5	26.2	5.1	24.7	5.9	24.9	5.1
Self-Management	19.9	4.8	20.8	4.0	19.7	4.3	20.1	3.8
Social-Awareness	18.7	3.7	19.0	3.5	18.6	3.7	18.7	3.3
Relationship Skills	15.6	3.3	15.4	3.4	15.4	3.3	15.1	3.2
Personal Responsibility	18.0	3.9	18.1	3.6	17.8	3.9	17.8	3.7
Decision Making	17.9	3.9	18.5	3.3	17.5	3.6	17.6	3.3
Goal-Directed Behavior	17.6	3.9	18.0	3.8	17.5	3.9	17.7	3.7
Total Raw Score	133.3	25.6	135.6	22.8	131.1	25.1	131.6	22.1

FIGURE 2.2
DESSA-HSE SSR Raw Score Means by Grade



as negligible, five were categorized as small, and no medium or large effect sizes were observed. Effect sizes ranged from 0.01 to 0.27, with scale raw score means differing by less than two raw score points for all comparisons. Similarly on the total raw scale, effect sizes ranged from 0.02 (11th-grade vs. 12th-grade comparison; mean raw score difference = 0.5) to 0.19 (10th-grade vs. 11th-grade comparison; mean raw score difference = 4.5). Given that the mean scale and total raw score differences observed across grades were all negligible to small, we constructed the norms for all grades combined.

We also examined mean score differences across the DESSA-HSE SSR scales and SEC by sex. There were significant differences between the ratings for male and female students, which is consistent with research examining social and emotional skills of children and youths in practice (Kim et al., 2015). Table 2.6 presents the *T*-score means, standard deviations, and

TABLE 2.6
DESSA-HSE SSR Standard Score Sex Differences by Scale

Scales	Males			Male Female *d*-ratio	Females		
	Mean	SD	*n*		Mean	SD	*n*
Self-Awareness/ Optimistic Thinking	49.7	9.8	345	–0.08	50.5	10.4	348
Self-Management	49.5	9.5	341	–0.10	50.5	10.3	349
Social-Awareness	47.8	9.9	343	–0.42	51.9	9.9	351
Relationship Skills	48.2	10.1	346	–0.35	51.8	10.1	351
Personal Responsibility	47.9	9.6	346	–0.43	52.1	9.9	349
Decision Making	49.0	9.5	345	–0.19	50.9	10.1	349
Goal-Directed Behavior	48.8	9.7	347	–0.27	51.5	9.9	351
Social-Emotional Composite	48.3	9.5	327	–0.32	51.5	10.0	337

sample size by scale for males and females using norms based on both sexes combined. The mean-scale *T*-scores for females are consistently 1 to 4 points higher than those for males. To evaluate the practical significance of these mean-scale *T*-score differences, we calculated *d*-ratios, which are presented in Table 2.6. We observed the *d*-ratios to be negligible (between 0.08–0.19) or small (0.27–0.43). The data in this table indicate that, as a group, females self-report more behaviors related to social and emotional competence than males, but the magnitude of this difference is small.

Females in the DESSA-HSE SSR standardization sample generally earned higher scores than males. In order to preserve these noteworthy differences in social and emotional competencies, we constructed the raw-score-to-*T*-score norms-conversion tables based on both sexes. Consequently, it can be expected that females will, on average, earn slightly higher scores on the DESSA-HSE SSR than males. This reflects natural differences commonly observed between the sexes and establishes a single set of social and emotional competency expectations that applies equally to all students.

We next examined the distributions of raw scores for normality. The cumulative frequency distributions for the scales all approached normality, but they were slightly positively skewed. For this reason, we decided to compute norms using normalization procedures. This was accomplished by fitting the obtained frequency distribution for each scale to normal probability standard scores, via the obtained percentile ranks. We eliminated minor irregularities in raw score-to-standard-score progressions by smoothing, and we followed these procedures for all the scales. For the seven scales and the SEC, we computed standard scores (*T*-scores with a mean of 50 and a standard deviation of 10) based on percentile score distributions. We based the SEC *T*-score on the percentile distribution of the sum of the seven *T*-scores corresponding to the DESSA-HSE SSR scales for each case. This approach provides equal weighting to each of the seven competencies in computing the SEC score. We selected the *T*-score metric because of its familiarity to professionals and because it facilitates interpretation of the results and comparison to scores obtained from other, similar scales.

Chapter 3

PSYCHOMETRIC PROPERTIES

CHAPTER 3

Psychometric Properties

As described in Chapter 1, a foundational characteristic of the DESSA-HSE SSR is a commitment to strong psychometric qualities. This rating scale was developed to meet or exceed the standards promulgated by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education (AERA, 2014). Chapter 2 of this manual describes the large, diverse standardization sample that approximates the population of high school-age youths in the United States. This chapter will focus on evidence of reliability and validity to support the intended uses of the scale. Together, these important attributes allow for defensible decision making based on youths' perceptions of their social and emotional competence.

Reliability

The reliability of an assessment tool like the DESSA-HSE SSR is defined as, "the consistency of scores obtained by the same person when reexamined with the same test on different occasions, or with different sets of equivalent items, or under other variable examining conditions" (Anastasi, 1988, p. 102). Evidence for the reliability of the DESSA-HSE SSR was explored using several methods. First, we computed the internal reliability coefficients and the standard errors of measurement for each scale. Second, we assessed the test–retest reliability and stability of each scale.

Internal Reliability

Internal reliability (or internal consistency) refers to the extent to which the items on the same scale or instrument are correlated and can be considered to measure the same underlying construct. We determined internal consistency using Cronbach's alpha (Cronbach, 1951). The internal reliability coefficients were based on the youths included in the DESSA-HSE SSR standardization sample ($N = 700$).

TABLE 3.1
Internal Reliability (Alpha) Coefficients for the DESSA-HSE SSR Scales (Student Raters)

Scales	Alpha Coefficient
Social-Emotional Composite	.96
Self-Awareness/Optimistic Thinking	.81
Self-Management	.83
Social-Awareness	.79
Relationship Skills	.82
Personal Responsibility	.78
Decision Making	.77
Goal-Directed Behavior	.81

Table 3.1 presents the internal consistency estimates for each of the seven scales and the Social-Emotional Composite (SEC) score. The SEC reliability was computed using the formula provided by Nunnally and Bernstein (1994) for the reliability of a linear composite. This coefficient for student raters (.96) well exceeds the .90 value for a total score suggested by Bracken (1987) and also meets the "desirable standard" described by Nunnally (1978, p. 246).

The internal reliability coefficients for the seven DESSA-HSE SSR scales range from .77 (Decision Making) to .83 (Self-Management). Four of the scales met or exceeded the .80 desirable standard suggested by Bracken (1987), and the remaining three scales approached this standard. The median reliability coefficient across the seven scales was .81. Taken together, these results indicate that the DESSA-HSE SSR scales have acceptable internal reliability.

Standard Error of Measurement

The standard error of measurement (SE_M) is an estimate of the amount of error in observed scores, expressed in standard score units (i.e., *T*-scores). As such, the SE_M provides an estimate of the amount of fluctuation in DESSA-HSE SSR scores that can be expected by chance; the larger the SE_M, the greater the amount of chance fluctuation. We obtained the SE_M for each of the DESSA-HSE SSR scale *T*-scores directly from the internal reliability coefficients using the formula,

$$SE_M = SD\sqrt{1 - reliability}$$

where *SD* is the theoretical standard deviation of the *T*-score (i.e., 10) and the appropriate reliability coefficient is used. The SE_M values for each DESSA-HSE SSR scale are presented in Table 3.2. Note that the values of the SE_M vary with the size of the reliability coefficient — the higher the reliability, the smaller the standard error of measurement.

TABLE 3.2
Standard Errors of Measurement for the DESSA-HSE SSR Scale *T*-Scores (Student Raters)

Scales	SE_M
Social-Emotional Composite	2.02
Self-Awareness/Optimistic Thinking	4.32
Self-Management	4.14
Social-Awareness	4.58
Relationship Skills	4.29
Personal Responsibility	4.66
Decision Making	4.84
Goal-Directed Behavior	4.36

Test–Retest Reliability

The correlation between scores obtained for the same youth on two separate occasions is another indicator of the reliability of an instrument. The correlation of this pair of scores is the test–retest reliability coefficient (*r*), and the magnitude of the obtained value informs us about the degree to which random changes influence the scores (Anastasi, 1988).

To investigate the test–retest reliability of the DESSA-HSE SSR, a group of high school students ($n = 85$) rated themselves on two different occasions separated by an interval of 4 to 8 days. Demographic information on this sample is provided in Table 3.3.

The results of this study are shown in Table 3.4. All of the correlations are significant ($p < .01$) and high in magnitude, ranging from $r = .69$ (Relationship Skills) to $r = .82$ (Self-Awareness/Optimistic Thinking). The coefficient for the SEC score was .88, while the median test–retest reliability coefficients across the DESSA-HSE SSR scales was .78. These findings indicate that the DESSA-HSE SSR scales have acceptable test–retest reliability.

Stability of DESSA-HSE SSR Ratings

The correlation coefficients reported above for the test–retest reliability study indicate that youths ranked themselves similarly across the two DESSA-HSE SSR ratings completed about 1 week apart. However, the coefficients do not describe the actual similarity in the scores. To examine score stability across 1 week, the second rating *T*-score for each youth on each scale was subtracted from the corresponding first rating *T*-score. Using this approach, identical scores on the two ratings would result in a value of 0. Table 3.5 provides the test–retest mean scale scores, standard deviations, and mean *T*-score differences received by the youths in the test–retest study. The mean score difference on the SEC was slightly more than one *T*-score point (1.3). On average, the mean value of the test–retest difference on the seven social and emotional competence scales was equal to one *T*-score point. Paired samples *t*-tests conducted

for each mean score comparison yielded significant differences between the first and second ratings on the SEC ($p = .03$, $d = 0.24$) and the Decision Making scale ($p = .02$; $d = 0.26$), with effect size estimates considered to be small according to Cohen's (1988) guidelines. All other comparisons yielded no significant differences between the two ratings.

TABLE 3.3
Sample Characteristics for the DESSA-HSE SSR Test–Retest Reliability Study (Student Raters)

	Student Sample (*N* = 85)	
	n	%
Grade		
9	14	16.7
10	15	17.9
11	25	29.8
12	30	35.7
Gender		
Males	42	49.4
Females	40	47.1
Prefer not to Answer	3	3.5
Race		
American Indian/Alaskan Native	1	1.8
Asian	0	0
Black/African American	34	61.8
Native Hawaiian/Pacific Islander	0	0
White	13	23.6
Two or More	7	12.7
Ethnicity		
Hispanic/Latinx	21	24.7
Region of Residence		
Northeast	11	13.1
Midwest	44	52.4
South	20	23.8
West	9	10.7
Free or Reduced-Price Lunch Eligibility		
Yes	70	82.4
No	6	7.1
Don't Know	9	10.6

TABLE 3.4
Test–Retest Reliability Coefficients for Two DESSA-HSE SSR Ratings by the Same Student over a Four- to Eight-Day Interval

Scales	*r*
Social-Emotional Composite	.88
Self-Awareness/Optimistic Thinking	.82
Self-Management	.80
Social-Awareness	.72
Relationship Skills	.69
Personal Responsibility	.77
Decision Making	.78
Goal-Directed Behavior	.79

Note: All correlations are significant at $p < .01$.

TABLE 3.5
Test–Retest *T*-Score Stability for Two DESSA-HSE SSR Ratings by the Same Student over a Four- to Eight-Day Interval

	First Rating		Second Rating		
Scales	Mean	SD	Mean	SD	*T*-Score Difference
Social-Emotional Composite	48.9	11.0	47.5	11.5	1.3
Self-Awareness/Optimistic Thinking	49.5	10.7	49.1	11.6	0.5
Self-Management	48.4	11.1	47.7	10.8	0.7
Social-Awareness	47.1	11.3	45.8	11.8	1.3
Relationship Skills	49.5	10.3	48.1	10.7	1.4
Personal Responsibility	49.1	10.9	48.5	10.6	0.7
Decision Making	49.8	11.0	47.8	12.0	2.0
Goal-Directed Behavior	50.0	10.2	49.5	10.0	0.5

Reliability Study Summary

The results of the reliability studies of the DESSA-HSE SSR provide evidence of scale reliability for assessing high school youths' self-reported social and emotional competencies. The results of the internal consistency data demonstrate that the DESSA-HSE SSR meets standards suggested by Bracken (1987). The test–retest study shows that youths rank their scores on the DESSA-HSE SSR similarly over relatively brief periods of time. The stability study further indicates that the rankings and the mean scale scores received by the youths at different points in time over a relatively brief interval are quite similar.

Once final note about reliability of the DESSA-HSE SSR. The interrater reliability of behavior rating scales is typically examined when two different raters observe the student in

the same environment (e.g., a teacher and a teacher aide). Because the DESSA-HSE SSR is completed as a self-report, it was not possible or appropriate to investigate interrater agreement. Future research will explore the similarities between DESSA-HSE SSR ratings (completed by students) and DESSA-HSE ratings (completed by educators).

Validity

The validity of a test "concerns what the test measures and how well it does so" (Anastasi, 1988, p. 139). More specifically, validity "is the degree to which evidence and theory support the interpretations of test scores for proposed uses of tests" (AERA, 2014, p. 11). According to the *Standards for Educational and Psychological Testing* (AERA, 2014), the sources of validity evidence can be conceptualized in various ways. We investigated the validity of the DESSA-HSE SSR in regard to *test content* (content validity), *internal structure and relations to other variables* (construct validity), and *test bias*.

Content-Related Validity

This type of validity assesses the degree to which the domain measured by the test is represented by the test items. With respect to the DESSA-HSE SSR, content-related validity addresses how well the 55 items represent the domain of behavioral characteristics related to social and emotional competence in high school youths.

As detailed in Chapter 2, we based the items comprising the DESSA-HSE SSR on a thorough review of the literature on social and emotional competence, positive youth development, and resilience in high school-age youths. We also based the items, in part, on our earlier publication, the DESSA for children and youths in kindergarten through eighth grades (LeBuffe et al., 2009/2014), which has its own research base (for a review, see LeBuffe et al., 2018) and was developed to align to the CASEL Framework.

Construct-Related Validity

This type of validity examines the degree to which the assessment instrument measures the theoretical construct of interest. In the case of the DESSA-HSE SSR, two types of construct validity were investigated. The first pertains to the DESSA-HSE SSR's internal scale structure, examined using confirmatory factor analysis. This study is discussed below in the Internal Structure section. The second concerns the relationships between DESSA-HSE SSR scale scores and scores on other widely used measures of social and emotional behavioral strengths in youths. This study is discussed in the section entitled Convergent Validity.

Internal Structure

One approach to establishing construct validity is to examine the internal structure of an assessment to determine the degree to which relationships among the items conform to the construct(s) on which score interpretations are based. Chapter 2 of this manual described the

item- and scale-level analyses completed to guide the organization of the DESSA-HSE SSR items into statistically and logically derived scales. We examined this scale structure of the DESSA-HSE SSR using confirmatory factor analysis. It should be noted that because our intent was to align the DESSA-HSE SSR to the CASEL Framework and the existing suite of DESSA measures, we did not conduct an exploratory factor analysis before proceeding to the confirmatory factor analysis.

Confirmatory Factor Analysis. To better explore the validity of the DESSA-HSE SSR's scale structure through factor analysis, confirmatory factor analysis was completed among the standardization sample excluding cases missing one or more item response(s) ($N = 664$). We fit a seven-factor model in which each item was assigned to one factor in alignment with its earlier assignment to one of the seven DESSA-HSE SSR scales (Self-Management, Relationship Skills, etc.). Chapter 2 of this manual provides a discussion of assignment of items to the seven scales.

Confirmatory factor analysis was completed in R using the lavaan package (Rosseel, 2012). Weighted Least Square Mean and Variance Adjusted Estimators (WLSMV) were used, given the ordinal nature of the data (Li, 2016). The seven-scale solution exhibited a good model fit as described by Hu and Bentler (1999), indicated by a Tucker-Lewis Index (TLI) value of .995 and a Root Mean Square Error of Approximation (RMSEA) value of .023.

This evidence suggests that the seven-factor DESSA-HSE SSR model fits the standardization data well. For the purposes of comparison, three alternative models were explored, representing other popular conceptualizations of social and emotional competencies:

1. A five-factor model that assigned items to factors in alignment with the CASEL Framework (CASEL, 2020): Self-Awareness (comprised of the DESSA-HSE SSR scale of Self-Awareness/Optimistic Thinking), Self-Management (comprised of the DESSA-HSE SSR scales of Self-Management and Goal-Directed Behavior), Social-Awareness (comprised of the DESSA-HSE SSR scale of Social-Awareness), Relationship Skills (comprised of the DESSA-HSE SSR scale of Relationship Skills), and Responsible Decision Making (comprised of the DESSA-HSE SSR scales of Personal Responsibility and Decision Making).
2. A three-factor model that assigned items to three factors: Intra-Personal (comprised of the DESSA-HSE SSR scales of Self-Awareness/Optimistic Thinking, Self-Management, and Goal-Directed Behavior); Inter-Personal (comprised of the DESSA-HSE SSR scales of Social-Awareness and Relationship Skills), and Decision Making (comprised of the DESSA-HSE SSR scales of Personal Responsibility and Decision Making).
3. A one-factor model that assigned all items to a single factor.

Fit indices for the seven-scale model and the three additional models are presented in Table 3.6. Each model tested exhibits a high TLI value (ranging from .990 for the one-scale model to .995 for the seven-scale model) and a low RMSEA value (ranging from .023 for the seven-scale model to .031 for the one-scale model), indicating a good fit to the data.

The model fit indices suggest that all tested models fit the data well. To evaluate the fit of the proposed DESSA-HSE SSR model relative to the alternative models, the proposed DESSA-HSE SSR model was compared to the five-scale model, three-scale model, and one-scale model, pairwise, via a series of scaled chi-square difference tests. Results of the pairwise comparisons are included in Table 3.7.

TABLE 3.6
Fit Indices for the DESSA-HSE SSR Seven-Scale Model and Three Alternative Models (Student Raters)

Model	Test Statistic (Standard) // *p*-Value (Chi-Square)	Test Statistic (Robust) // *p*-Value (Chi-Square)	Degrees of Freedom	Tucker-Lewis Index (TLI)	Root Mean Square Error of Approximation (RMSEA)
Seven-Scale Model	1254.71 // $p < .001$	1708.51 // $p < .001$	924	.995	.023
Five-Scale Model	1450.61 // $p < .001$	1872.98 // $p < .001$	935	.992	.029
Three-Scale Model	1475.31 // $p < .001$	1889.87 // $p < .001$	942	.992	.029
One-Scale Model	1562.52 // $p < .001$	1963.54 // $p < .001$	945	.990	.031

TABLE 3.7
Comparisons between the DESSA-HSE SSR Seven-Scale Model and Three Alternative Models (Student Raters)

Comparison	Chi-Square of Seven-Scale Model	Chi-Square of Comparison Model	Chi-Square Difference	df Difference	*p*
Seven-Scale Model vs. Five-Scale Model	1254.71	1450.61	187.05	11	$p < .001$
Seven-Scale Model vs. Three-Scale Model	1254.71	1475.31	202.43	18	$p < .001$
Seven-Scale Model vs. One-Scale Model	1254.71	1562.52	272.54	21	$p < .001$

These results indicate that the proposed DESSA-HSE SSR seven-scale model fit the data significantly better than the tested five-scale model, the three-scale model, and the one-scale model. Marginal improvements in TLI and RMSEA values suggest that the model that assigns DESSA-HSE SSR items to scales as described in Chapter 2 fits the data *as well as*, if not *slightly better than*, the alternatives tested.

Variability of DESSA-HSE SSR Scale Scores. Evidence for the construct validity of DESSA-HSE SSR scales was also explored through an examination of the variability of scale scores. For each youth in the standardization sample, the youth's highest scale *T*-score and lowest scale *T*-score was identified. We calculated the difference between the maximum and minimum *T*-score and expressed these results as a frequency distribution and descriptive statistics of the *T*-score difference. These results are presented in Table 3.8.

There are several important points to consider when examining the variability of DESSA-HSE SSR scale scores. First, the mean difference between all youths' highest and lowest *T*-scores

TABLE 3.8

Cumulative Frequencies of the *T*-Score Difference between the Highest and Lowest DESSA-HSE SSR Scale Scores (Student Raters)

Scale Difference	Cumulative Percent
0	0.1
1	0.4
2	0.6
3	0.7
4	2.1
5	5.3
6	7.9
7	12.3
8	16.4
9	23.6
10	29.0
11	37.3
12	44.3
13	50.1
14	56.3
15	63.1
16	68.0
17	75.0
18	78.7
19	82.1
20	85.6
21	88.9
22	90.6
23	92.4
24	93.4
25	95.4
26	96.1
27	97.0
28	98.0
29	98.0
30	98.7
31	99.3
32	99.6
33	99.7
34	100.0
Mean	14.14
SD	5.99

is 14.1 (SD = 5.6). This means that the typical high school youth will show a difference of about 14 *T*-score points between the highest and lowest of the seven DESSA-HSE SSR scales. Second, the cumulative percentages of DESSA-HSE SSR scale *T*-score differences reported in Table 3.8 tell us that few youths (5.3%) rated themselves with minimal or no variation (defined as five or fewer points) between their highest and lowest DESSA-HSE SSR scale *T*-score. Similarly, a few youths (9.4%) had a difference of 22 points or more. This, along with the mean difference reported at the bottom of Table 3.8, indicates that typically, the seven DESSA-HSE SSR scales do differ from one another and are measuring differing social and emotional domains.

As Chapter 5 of this manual will explain, using the numerical scale score provides important information about the degree to which the youth is similar to, or not similar to, the normative group. However, scale scores can also be examined within a youth to consider whether the youth is showing an expected or unusual amount of intra-scale variability on the DESSA-HSE SSR and to identify their relative strengths or needs for instruction as an individual.

Convergent Validity

One common approach to establishing the construct validity of an assessment tool is to demonstrate that scores on the measure in question correlate positively with scores of similar constructs on other well-developed measures. This is referred to as convergent validity. To provide evidence of convergent validity, we correlated *T*-scores on the DESSA-HSE SSR with standard scores from the Social Emotional Assets and Resilience Scales (SEARS, Merrell, 2011), a behavior rating scale that assesses positive social and emotional attributes of children and adolescents. High school students (N = 127) completed the DESSA-HSE SSR and the SEARS in one session.

The demographic characteristics of the students involved in this study are presented in Table 3.9. These data indicate that this sample was diverse in terms of demographics.

The results of this study, which are presented in Table 3.10, indicate that the DESSA-HSE SSR has strong convergent validity with the SEARS instrument. The DESSA-HSE SSR SEC correlated significantly (r = .85, p < .01) with the SEARS Total Score and its four scale scores, including Self-Regulation (r = .74, p < .01), Social Competence (r = .76, p < .01), Empathy (r = .77, p < .01), and Responsibility (r = .71, p < .01). Comparisons at the scale level were not made due to differences in how the specific domains were operationally defined on the two instruments. For example, the SEARS Social Competence scale included content covered in both the Social Awareness and Relationship Skills scales of the DESSA-HSE SSR.

Examination of Potential Bias and Equity Issues

Minimizing bias and promoting equity are important goals in Aperture Education's development of assessment tools and strategies. We acknowledge that there is no simple, comprehensive, or definitive way to declare a tool to be *unbiased* or *equity-promoting*. We also recognize that efforts to avoid bias and promote equity appear not only as psychometric analyses but also as guidelines for use (see Chapter 5). To consider these issues with the complexity that they deserve, we have compiled a monograph that describes what we mean by assessment tool bias, why it is important, and how Aperture Education works to reduce it (Mahoney et al., 2022). In this chapter, we aim to provide critical information that DESSA-HSE SSR users will expect and

TABLE 3.9
Demographic Characteristics of the DESSA-HSE SSR Construct Validity Sample (Student Raters)

	Students (*N* = 127)	
	n	%
Grade		
9	18	14.2
10	25	19.7
11	28	22.0
12	47	37.0
Gender		
Male	58	48.7
Female	57	47.9
Prefer not to Answer	4	3.4
Race		
American Indian/Alaskan Native	1	0.8
Asian	0	0
Black/African American	41	32.3
Native Hawaiian/Other Pacific Islander	0	0
White	17	13.4
Two or More	9	7.1
Missing	59	46.5
Ethnicity		
Hispanic/Latinx	25	19.7
Region of Residence		
Northeast	12	10.2
Midwest	61	51.7
South	25	21.2
West	20	16.9
Free or Reduced-Price Lunch Eligibility		
Yes	94	79.0
No	11	9.2
Don't Know	14	11.8

TABLE 3.10

Results of the DESSA-HSE SSR Construct Validity Study (*N* = 127) Correlation of the DESSA-HSE SSR Social-Emotional Composite with SEARS Scales (Student Raters)

	DESSA-HSE SSR Social-Emotional Composite	—	—
	r	*M*	*SD*
SEARS			
Self-Regulation	.74*	52.1	11.0
Social Competence	.76*	47.8	11.5
Empathy	.77*	50.2	10.6
Responsibility	.71*	51.0	10.1
Total Score	.85*	50.2	11.8
DESSA-HSE SSR Social-Emotional Composite		47.3	11.1

*$p < .01$

require, and we welcome opportunities to collaborate with educators, student support personnel, advocates, families, and youths to continue to collect information, scrutinize the DESSA tools, and evolve our use guidelines to promote equitable SEL assessment, supports, and outcomes.

Examination of Group Differences

The principle of fairness in testing (see AERA, 2014) requires scrutiny across a wide variety of youth characteristics, such as age, gender identity, race, ethnicity, socioeconomic status, language use, sexual orientation, and disability. Key findings related to age and sex at birth have been presented previously in this manual. This section focuses on analyses related to race and ethnicity.

We examined race and ethnicity differences in the DESSA-HSE SSR standardization sample using a series of regression models to predict the DESSA-HSE SSR SEC *T*-score and the seven DESSA-HSE SSR scale *T*-scores from youths' race/ethnicity, statistically controlling for factors that may obscure the analysis of differences in social and emotional competence by race/ethnicity. These factors included youths' sex and socioeconomic status as measured by free and reduced-price lunch eligibility. Youths were excluded from analysis if there were missing data across these factors. We used these procedures to compare: (1) Black/African American youths ($n = 134$) and *all other* youths ($n = 520$); and (2) Hispanic/Latinx youths ($n = 131$) and *all other* youths ($n = 530$).[1] A significance level of $\alpha = .05$ was used for the SEC. For comparisons made across the seven DESSA-HSE SSR scales, a Bonferroni correction was made to account for the multiple comparisons, yielding a corrected pairwise significance level of $\alpha = .006$.

Black/African American Youths vs. All Other Youths

The results obtained when examining the effect of race on DESSA-HSE SSR scores, while controlling for birth sex (male vs. female) and free or reduced-price lunch eligibility (eligible

[1] We intentionally chose "all other youths" as the comparison group for these analyses so as not to infer that only White youths should be the standard or reference group to which youths of color are compared.

TABLE 3.11

Regression Results for Black/African American Youths (*n* = 134) vs. All Other Youths (*n* = 520) (Student Raters)

DESSA-HSE SSR Scale	Unstandardized Coefficient of Race Variable	Adjusted Mean for Black/ African American Youths	Adjusted Mean for All Other Youths	Test Statistic (*t*) of Race Variable	*p*-Value of Race Variable	Significant at the $\alpha = .05$ Significance Level?	Significant after Bonferroni Correction? Pairwise $\alpha = .006$
Social-Emotional Composite	0.366	49.1	48.7	0.359	.719	No	NA
Self-Awareness/ Optimistic Thinking	2.145	51.4	49.2	2.130	.034	Yes	No
Self-Management	0.228	50.1	49.8	0.225	.822	No	No
Social-Awareness	–1.087	47.5	48.6	–1.102	.271	No	No
Relationship Skill	–1.663	47.3	49.0	–1.666	.096	No	No
Personal Responsibility	0.622	48.2	48.8	–0.637	.524	No	No
Decision Making	0.364	49.3	49.7	–0.369	.712	No	No
Goal-Directed Behavior	0.491	49.5	49.0	0.503	.615	No	No

wwww

vs. ineligible, as an indicator of socioeconomic status), are shown in Table 3.11. The variable Black/African American was not found to be a significant predictor of the DESSA-HSE SEC *T*-score at the α = .05 significance level. In addition, none of the seven scales showed a significant difference between Black/African American and all other youths (α = .006).

Hispanic/Latinx Youths vs. All Other Youths

The results obtained when examining the effect of ethnicity on DESSA-HSE SSR scores, while controlling for birth sex (male vs. female), and free or reduced-price lunch eligibility (eligible vs. ineligible), are shown in Table 3.12. Hispanic/Latinx ethnicity was found to be a significant predictor of the DESSA-HSE SSR SEC *T*-score at the α = .05 significance level. After controlling for birth sex and free or reduced-price lunch eligibility, the Hispanic/Latinx youths in the sample received SEC *T*-scores that were, on average, 2.76 *T*-score points lower than the non-Hispanic youths in the sample. Two of the seven scales (Social-Awareness and Personal Responsibility) showed a significant difference between Hispanic/Latinx and all other youths (α = .006).

Summary

When controlling for birth sex and free or reduced-price lunch eligibility status, there were no differences on the seven DESSA-HSE SSR scale scores between Black/African American and all other youths, and significant differences on two of the seven DESSA-HSE SSR scale scores between Hispanic/Latinx and all other youths. These differences of 2.87 and 3.23 *T*-score points on the Social-Awareness and Personal Responsibility scales, respectively, were statistically significant but small differences and not explained by birth sex or free or reduced-price lunch eligibility. When examining differences obtained on the SEC, Hispanic/Latinx youths received lower scores than non-Hispanic youths. The small difference of 2.76 *T*-score points was statistically significant and not explained by birth sex or free or reduced-price lunch eligibility.

Validity Study Summary

The content-related validity evidence provided in this chapter associated the DESSA-HSE SSR items with both the research and practice literature on social and emotional competence in youths. The construct-related validity studies provide evidence in support of the seven-scale model structure of the DESSA-HSE SSR and demonstrate that the DESSA-HSE SSR scales show convergent validity with a similar strength-based measure. Lastly, the race/ethnicity group analyses indicated no differences on the seven DESSA-HSE SSR scales between Black/African American and all other youths, but small differences on two of the seven scales between Hispanic/Latinx and all other youths after controlling for birth sex and free or reduced-price lunch eligibility. A small difference of 2.76 *T*-score points was also observed between Hispanic/Latinx youths and all other youths on the DESSA-HSE SSR SEC.

The authors of the DESSA-HSE SSR welcome any opportunities to assist other researchers in further exploring the validity and utility of the DESSA-HSE SSR in assessing and ultimately helping to promote the social and emotional competence of youths. The authors can be reached through Aperture Education at **www.ApertureEd.com**.

TABLE 3.12

Regression Results for Hispanic/Latinx Youths (*n* = 131) vs. All Other Youths (*n* = 530) (Student Raters)

DESSA-HSE SSR Scale	Unstandardized Coefficient of Race Variable	Adjusted Mean for Hispanic/ Latinx Youths	Adjusted Mean for All Other Youths	Test Statistic (t) of Hispanic/ Latinx Variable	*p*-Value Hispanic/ Latinx Variable	Significant at the α = .05 Significance Level?	Significant after Bonferroni Correction? Pairwise α = .006
Social-Emotional Composite	–2.758	46.3	49.1	–2.761	.006	Yes	NA
Self-Awareness/ Optimistic Thinking	–2.570	47.3	49.9	–2.541	.011	Yes	No
Self-Management	–1.940	48.1	50.0	–1.943	.052	No	No
Social-Awareness	–2.871	45.9	48.7	–2.916	.004	Yes	Yes
Relationship Skills	–2.713	46.3	49.0	–2.706	.007	Yes	No
Personal Responsibility	–3.230	45.8	49.0	–3.329	<.001	Yes	Yes
Decision Making	–1.784	48.0	49.8	–1.795	.073	No	No
Goal-Directed Behavior	–1.378	47.8	49.1	–1.406	.160	No	No

Chapter 4

ADMINISTRATION AND SCORING

CHAPTER 4

Administration and Scoring

General Administration Guidelines

The DESSA-HSE SSR can be completed by a high school-age youths. This will typically include youths in the ninth through the 12th grades. For simplicity, these raters are referred to as "students" on DESSA-HSE SSR and associated materials. The person who completes the DESSA-HSE SSR and provides the ratings is referred to as the "rater." The person who interprets and uses the DESSA-HSE SSR ratings is referred to as the "user" and is often the same person as the rater. The qualifications of raters and users of the DESSA-HSE SSR were described in Chapter 1.

To implement the DESSA-HSE SSR effectively, students need to be prepared to complete their ratings and a plan is needed for teachers, SEL coaches, and building leaders to review and respond to the data. This plan should also include ongoing support to students as they review their data, create a growth plan, and implement student-directed SEL strategies, as well as the logistical and technological aspects of implementation. It is imperative that high school or SEL team leaders plan for and communicate information about these broader implementation activities prior to the beginning of the school year. A detailed description of these activities is beyond the scope of this chapter; however, we recommend users of the DESSA-HSE SSR review recommendations provided within the guide titled *The Aperture Education Guide to Data-Driven SEL: High School Edition*. This resource is available for download in the Aperture System Support Portal.

The following general guidelines for completing the DESSA-HSE SSR are recommended:

- First, training should be provided to student raters on the importance of social and emotional skills for school and post-school success. It should be clearly communicated why it is important for them to complete the DESSA-HSE SSR and how the information will be used. Furthermore, student raters should understand that they will be receiving immediate feedback on their social and emotional skills that can be used to create a personalized

growth plan. An editable PowerPoint slide deck with key information is available to assist educators and SEL leaders as they introduce the DESSA-HSE SSR to students.

- Second, time should be scheduled for student raters to complete their ratings. Ratings should be completed during a quiet time when there are few distractions.
- Third, student raters should be instructed to consider only those behaviors that have occurred in the past 4 weeks.
- Fourth, student raters should be told that they need to provide an answer to every item. If a rater has difficulty completing the items, they should be instructed to tell their teacher or staff member that they need assistance. The Student Portal does not allow items to be left blank (see "Treatment of Missing Items or Blank Items" on page 57).

Specific Directions for Completing the DESSA-HSE SSR

The DESSA-HSE SSR is available only through the online Student Portal; there is no hand-scorable paper record form available. A PDF of the DESSA-HSE SSR items can be generated through the Aperture System Support Portal as needed to collect pencil and paper responses for entry into the online system. There is only one form, which is used for all youths in the ninth through the 12th grade. In nongraded programs, the DESSA-HSE SSR can be used with youths ages 14 through 19, inclusive. The DESSA-HSE SSR may also be used with students up to 21 years of age who are receiving special education services in a K–12 setting. Specific directions for completing the online ratings are provided below. This information can also be found in Aperture Education professional learning sessions and other documents in the Aperture System Support Portal.

Completing the Ratings

When students first log in to the Student Portal to complete a DESSA-HSE SSR rating, they are presented with a brief letter that introduces social and emotional skills and why they are important, the DESSA-HSE SSR and the feedback they will receive on their social and emotional skills, and how they can use this feedback to select and use SEL strategies (referred to as "Challenges") and set goals for themselves to improve their skills. A short video is also provided that reinforces the written information and provides a deeper introduction to the Student Portal, how to set goals, and how to choose SEL strategies.

Students are instructed to click "Begin" when they are ready to complete the DESSA-HSE SSR rating. The online DESSA-HSE SSR record form contains the following directions to the rater:

> This form describes a number of behaviors seen in some youth. Read the statements that follow the phrase: **During the past 4 weeks, how often did you . . .** and click on the button underneath the word that tells how often you did, said, or thought about things. Please answer each question carefully. There are no right or wrong answers. If you wish to change your answer, just click on the button for your new choice.

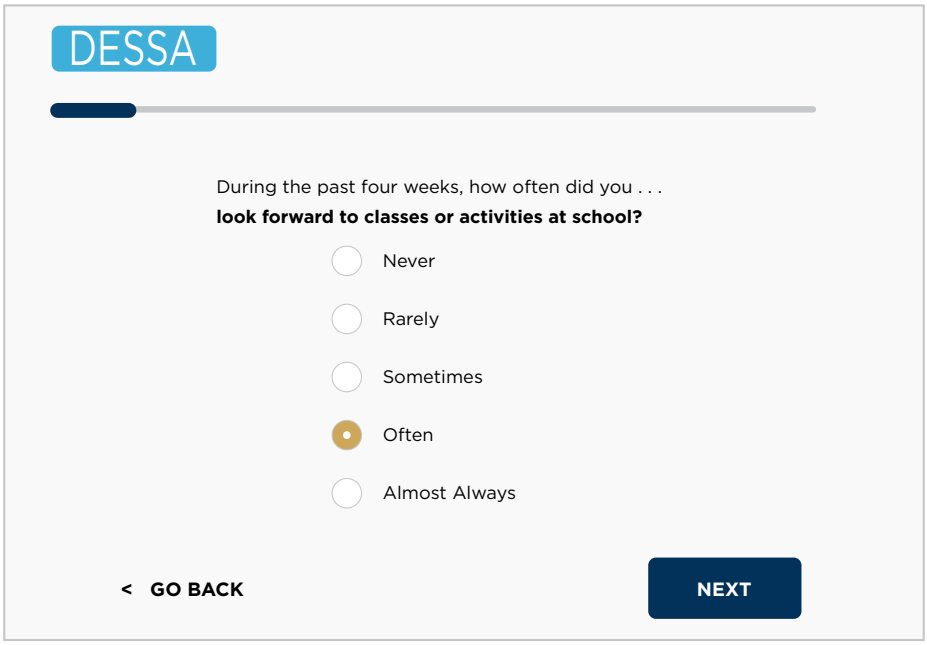
The 55 items that comprise the DESSA-HSE SSR are presented one item at a time (see Figure 4.1). The rater responds to each item by clicking on the appropriate "radio button" (circle) next to the words Never, Rarely, Sometimes, Often, or Almost Always. As soon as a choice is selected for an item, the system automatically takes the rater to the next item. A "Go Back" button is available if a rater wishes to return to a previous item and change their response. When all items have been completed, the rater clicks on the "Submit" button to save and score the DESSA-HSE SSR. To ensure security of the Student Portal and to protect sensitive student information, ratings must be completed in one session. The system will not store partially completed ratings.

Use of the DESSA-HSE SSR With Raters Who Have Difficulty Reading English

If the rater has difficulty reading and completing the DESSA-HSE SSR, the items may be read to them. The person reading the DESSA-HSE SSR for the rater should try not to influence the ratings. The items should be read in an even, neutral tone of voice and explanations of the items or examples should not be given. The person reading the DESSA-HSE SSR should also not provide any feedback or react in any way to the rater's responses.

As of the date of publication, the DESSA-HSE SSR is available in 11 languages including English, Spanish, Chinese Simplified and Traditional, Arabic, Bengali, French, Haitian Creole, Korean, Russian, and Urdu. Students can choose their preferred language during setup of the Student Portal and if desired, toggle between English and their preferred language throughout the Student Portal using the "Language" button in the bottom right-hand corner. For more detailed and updated information about these translations and cultural adaptations, please visit **www.ApertureEd.com**.

FIGURE 4.1
DESSA-HSE SSR Record Form Presented in the Student Portal



Treatment of Missing or Blank Items

The Student Portal does not allow DESSA-HSE SSR items to be left blank. A response to each item must be selected or the system will not proceed to the next item to complete and submit the rating. Raters should be instructed to tell their teacher or other staff member if they have difficulty completing DESSA-HSE SSR items.

Scoring the DESSA-HSE SSR

The Student Portal automatically saves the DESSA-HSE SSR administration as soon as the "Submit" button is clicked. DESSA-HSE SSR scores are computed in the following way:

Calculating the DESSA-HSE SSR Scale Raw Scores

Scale raw scores for the seven scales (Self-Awareness/Optimistic Thinking, Self-Management, Social-Awareness, Relationship Skills, Personal Responsibility, Decision Making, and Goal-Directed Behavior) are obtained by adding the raw scores for all of the items that comprise each scale using the following item raw score values: Never = 0, Rarely = 1, Sometimes = 2, Often = 3, and Almost Always = 4.

Determining DESSA-HSE SSR T*-Scores and Percentile Ranks*

The scale raw scores are converted to *T*-scores and percentile ranks for each scale using a norms table based on the national standardization sample. (See Chapter 2 for details on the standardization sample and norms creation.) There is one DESSA-HSE SSR norms table for student raters; the same norms are used for grade 9 through 12 and all genders. There are no subgroup norms based on student demographics or special education status although the interactive reporting features of the Aperture System may be used to disaggregate DESSA-HSE SSR results by student demographics and other features.

Determining the T*-Score and Percentile Rank for the Social-Emotional Composite*

The *T*-score and percentile rank for the Social-Emotional Composite (SEC) are based on the sum of the *T*-scores of the seven DESSA-HSE SSR scales. That is, the sum of the scale *T*-scores is treated as a raw score for calculating the corresponding *T*-score and percentile rank based on the national norms. This method is used to determine the standard scores for the SEC because it gives equal weight to each of the seven DESSA-HSE SSR scales.

Determining the Descriptive Range for Each Scale

For each scale, high scores (*T*-scores of 60 and above) are referred to as *strengths*. *T*-scores that fall between 41 and 59 inclusive are described as *typical*. For student-facing DESSA-HSE SSR results in the Student Portal, the typical range has been further split into three ranges: *emerging typical* (*T*-scores of 41–45), *typical* (*T*-scores of 46–54), and *emerging strength* (*T*-scores of 55–59). These more discrete categories have been used to help students better understand their results. Low scores (*T*-scores of 40 and below) are described as a *need for instruction* (on student-facing reporting, the term *growth opportunity* is used). Table 4.1

TABLE 4.1
Descriptive Categories and Interpretations of the DESSA-HSE SSR *T*-Scores

T-Score Range	Descriptive Ranges for Adult Users	Descriptive Ranges for Student Users
60 and above	Strength	Strength
41–59	Typical	Emerging Strength (55–59) Typical (46–54) Emerging Typical (41–45)
40 and below	Need for Instruction	Growth Opportunity

provides the descriptive categories for the *T*-score ranges for both student-facing and adult-facing reporting. The presentation, interpretation, and use of these scores in providing data-driven social and emotional learning, monitoring progress, and evaluating program outcomes are described in the next chapter.

Note for Researchers: Aperture Education encourages the use of the DESSA suite of assessments, including the DESSA-HSE SSR, in research. Please contact our team at Aperture Education regarding research policies, licensing agreements, and availability of syntax for scoring DESSA research protocols.

Chapter 5

INTERPRETATION

CHAPTER 5

Interpretation

Effective interpretation of any rating scale demands that the user be familiar with what is being measured, the scores that are provided, and how these scores should be interpreted and used to improve outcomes for children and youths. There are two user groups of the DESSA-HSE SSR: (1) high school students, and (2) adults, which typically include educators, administrators, coaches, program directors, and evaluators. Each user group receives and uses DESSA-HSE SSR results, but they do so in different ways (e.g., adults have access to aggregated reports whereas students only access their own results). To facilitate interpretation and ease of use, the language used to describe the results varies to reflect the user's point of view. Therefore, throughout this chapter we will present information separately, first for student users and second for adult users, where necessary.

General Interpretation Guidelines

When interpreting DESSA-HSE SSR scores, the DESSA-HSE SSR user should always consider the following general guidelines. We will first consider guidelines for student users. We will then consider guidelines for adult users.

Guidelines for Student Users

For student users of the DESSA-HSE SSR, students should receive instruction on the importance of social and emotional competence generally, as well as on the seven competencies included on the DESSA-HSE SSR. Training materials are included in the Student Portal, but in general, the student should be provided with the opportunity to understand why completing the DESSA-HSE SSR is important, how to interpret their results, and how to set goals and engage in the social and emotional learning (SEL) strategies (referred to as "SEL Challenges") included in the Student Portal to further develop their social and emotional competence.

Guidelines for Adult Users

First, the DESSA-HSE SSR user should have a thorough understanding of the meanings and appropriate uses of the various standard scores and descriptive ranges. Although the DESSA-HSE SSR meets or exceeds accepted professional standards for reliability, the user needs to realize that all rating scales contain some degree of measurement error that should always be considered in interpreting results and making data-based decisions.

Second, always consider the youth and family's cultural heritage and family background when interpreting DESSA-HSE SSR findings. Although we took many steps during the development of the DESSA-HSE SSR to avoid items that might elicit different responses from various racial and ethnic groups, cultural differences in the prevalence and meaning of specific DESSA-HSE SSR items might exist, as they would with any assessment. Therefore, the DESSA-HSE SSR user should be sensitive to cultural differences when interpreting the DESSA-HSE SSR results.

The Center for Mental Health Services of the federal Substance Abuse and Mental Health Services Administration (SAMHSA) has published Cultural Competence Standards (2000). Although these standards are more than 20 years old, they remain pertinent and useful. Among the provider competencies, the following are particularly relevant to DESSA-HSE SSR users:

- An understanding of psychosocial stressors and traumas such as the COVID-19 pandemic, war, immigration, socioeconomic status, racism, and discrimination for various groups
- Differences in the meaning of specific behaviors across different groups
- Nuances of language and the meaning of items
- Differences between "culturally acceptable" behaviors and behavioral concerns across different groups
- Who constitutes the family in various groups

Knowledge of the youth and family's culture will result in more sensitive interpretations of DESSA-HSE SSR findings, and more useful recommendations to youths, parents, and educators.

Third, users should appreciate that the DESSA-HSE SSR is one source of information about the social and emotional competence of youths. Each set of DESSA-HSE SSR scores is based on a student's self-reported perception of their social and emotional skills likely reflecting all aspects of their lives (home, school, extracurricular or community activities, etc.). An educator who completes a DESSA-HSE educator rating in a particular context, often the classroom, may well provide somewhat different ratings. Therefore, we recommend the DESSA-HSE SSR adult users interpret scores in light of other information (e.g., observations, discussions with the student, developmental and social histories, and results from other assessment instruments) related to the youth. We also strongly recommend the evaluation of the consistency of the youth's behavior across environments, using multiple raters, both to enhance understanding and to facilitate conversation with youths.

Considerations Regarding the Use of the DESSA-HSE SSR with Students with Special Needs

Although the DESSA-HSE SSR is not intended to be used as part of a special education eligibility determination, knowledge of a youth's social and emotional strengths and needs can be helpful in informing an individual education plan (IEP) or other support plans. The DESSA-HSE SSR can provide critical information about how the youth's disability is impacting their social and emotional functioning. By identifying specific social and emotional skills that were rated in the strength range, the DESSA-HSE SSR assists IEP teams in meeting the requirements of section 300.324 of the Individuals with Disabilities Education Act (IDEA), which requires educators to consider the strengths of the student when creating the IEP. Similarly, items that were rated in the need for instruction range can be incorporated into the IEP as functional goals. Used in this way, the DESSA-HSE SSR can inform the IEP, resulting in student-specific, empirically grounded, data-driven strength and goal statements.

More specific issues regarding the interpretation of the DESSA-HSE SSR are provided in the remainder of this chapter. This will include a summary of the types of scores the scale yields, the mechanics of how these scores should be examined, and methods for their interpretation.

Types of Scores Given

Note Regarding Raw Scores

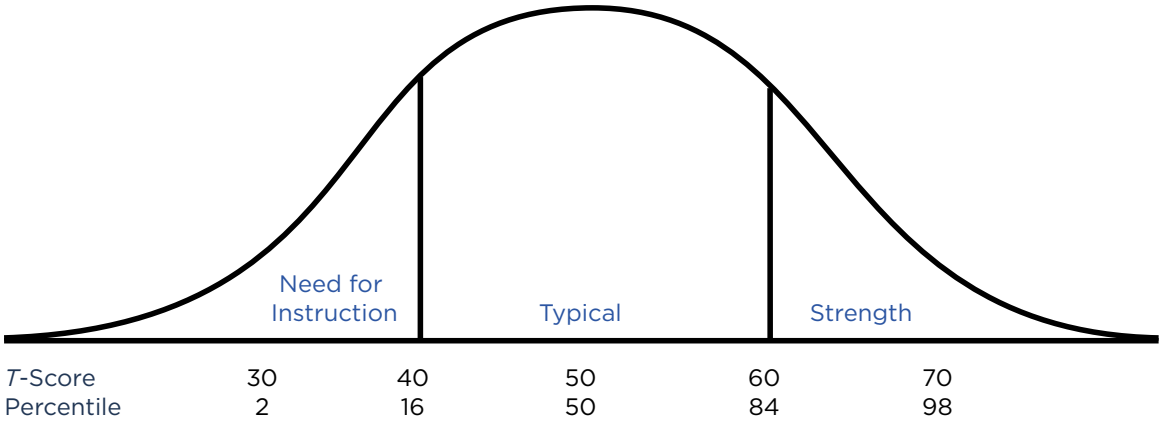
Although the Student Portal (the web-based platform that supports the DESSA-HSE SSR for students) and the Aperture System (the web-based platform that supports the DESSA-HSE SSR data for educators and administrators) do not display raw scores, they are discussed here because they are the basis for determining the standard scores that are provided. Scale raw scores are determined by adding the item raw score values (Never = 0; Rarely = 1; Sometimes = 2; Often = 3; and Almost Always = 4) for all the items comprising a scale. Because the number of items comprising the various scales differs, raw scores cannot be directly compared and provide little information about the overall level of the youth's social and emotional competencies. For instance, the Self-Management scale has 7 items. Therefore, an average rating of "Sometimes," which has an item raw score value of 2, would result in a Scale Raw Score of 14. In contrast, an average rating of "Sometimes" on the 5-item Relationship Skills scale would result in a Scale Raw Score of only 10.

Standard Scores

The DESSA-HSE SSR provides standard scores derived from the national standardization sample so that the scores on the seven separate scales of the DESSA-HSE SSR can be directly compared. Standard scores also enable the comparison of a given youth's behavior to that of the youths in the standardization sample. The DESSA-HSE SSR provides two standard scores, *T*-scores and their corresponding percentile ranks. Figure 5.1 shows the relationships between *T*-scores, percentile ranks, the normal distribution, and the *T*-score

FIGURE 5.1

Relationship of DESSA-HSE SSR *T*-Scores, Percentile Ranks, and the Normal Curve



range descriptions for the DESSA-HSE SSR scales. These standard scores and range descriptions are described on page 64.

T-Scores

Each DESSA-HSE SSR *T*-score is a standard score set to have a mean of 50 and a standard deviation of 10. Like the percentile ranks, *T*-scores are based on the raw score ratings received by the youths in the standardization sample. In contrast to percentile ranks, however, DESSA-HSE SSR *T*-scores have the same meaning throughout their range. That is, the 5-point difference between the *T*-scores of 50 and 55 is equivalent to the 5-point difference between *T*-scores of 40 and 45. In both cases, the difference between these sets of scores is one-half of a standard deviation. For this reason, *T*-scores should always be used when reporting DESSA-HSE SSR results and when comparing scores earned on the various scales. On the DESSA-HSE SSR, *T*-scores can range from 28 to 72.

Percentile Ranks

Percentile ranks compare the youth's behavior to that of other youths who have been rated using the DESSA-HSE SSR. The percentile rank indicates the percentage of youths in the standardization sample who earned the same or lower raw score. For example, if a youth earns a percentile rank of 65, that means that 65% of the youths in the standardization sample earned the same or a lower raw score. DESSA-HSE SSR percentile ranks range from a minimum of 1 to a maximum of 99.

Percentile ranks are easy to understand, but they do have a significant disadvantage—they cannot be easily compared and cannot be used in mathematical computations. The principal problem with percentile ranks is that the differences between the ranks do not have the same meaning across the 1–99 scale. This means that comparing two DESSA-HSE SSR scales using percentile ranks will likely mislead the practitioner to conclude that a significant difference exists when it does not. Consequently, although percentile ranks are useful for describing the relative standing of a youth versus other youths in the standardization sample, they should not

be used to compare a youth's scores across the DESSA-HSE SSR scales because their meaning changes at different points on the normal distribution. It is important to remember that these ranks should ***never*** be averaged or used in mathematical computations. Only DESSA-HSE SSR *T*-scores should be used for that purpose.

It should be noted that the DESSA-HSE SSR standard scores described in this section are only visible to adult users (educators, administrators, etc.) of the Aperture System. Rather than sharing numerical scores (*T*-scores and percentile ranks) with students that would require instruction to interpret correctly, students are instead presented with a visual depiction of their results and the associated *T*-score range descriptions discussed in the next section.

T-Score Range Descriptions for the DESSA-HSE SSR Scales

The DESSA-HSE SSR is a strength-based assessment tool in which the items reflect positively valued social and emotional competencies; therefore, high scores are desirable. For example, when a youth rates how often they "keep trying when unsuccessful" or "show appreciation for others," the higher the score the better. Consequently, high scale scores are desirable as well.

For clarity and consistency, and to aid in the communication of results, we provide descriptions for the *T*-score ranges. These *T*-score ranges and corresponding descriptions are presented in Table 5.1. Importantly, we recommend slight language differences between these descriptions for student and adult users of the DESSA-HSE SSR. For student users, these differences reflect a desire to use language in the Student Portal that is more meaningful, approachable, and growth-oriented. For adult users, the recommended language is designed to align with the *T*-score ranges and descriptions used when interpreting results for all other educator-completed DESSA assessment tool ratings, including the DESSA-HSE Educator form. We will first present the *T*-score range descriptions when reporting DESSA-HSE SSR results for student users. This will be followed by the recommendations when reporting results for adult users.

T-Score Range Descriptions for Student Users

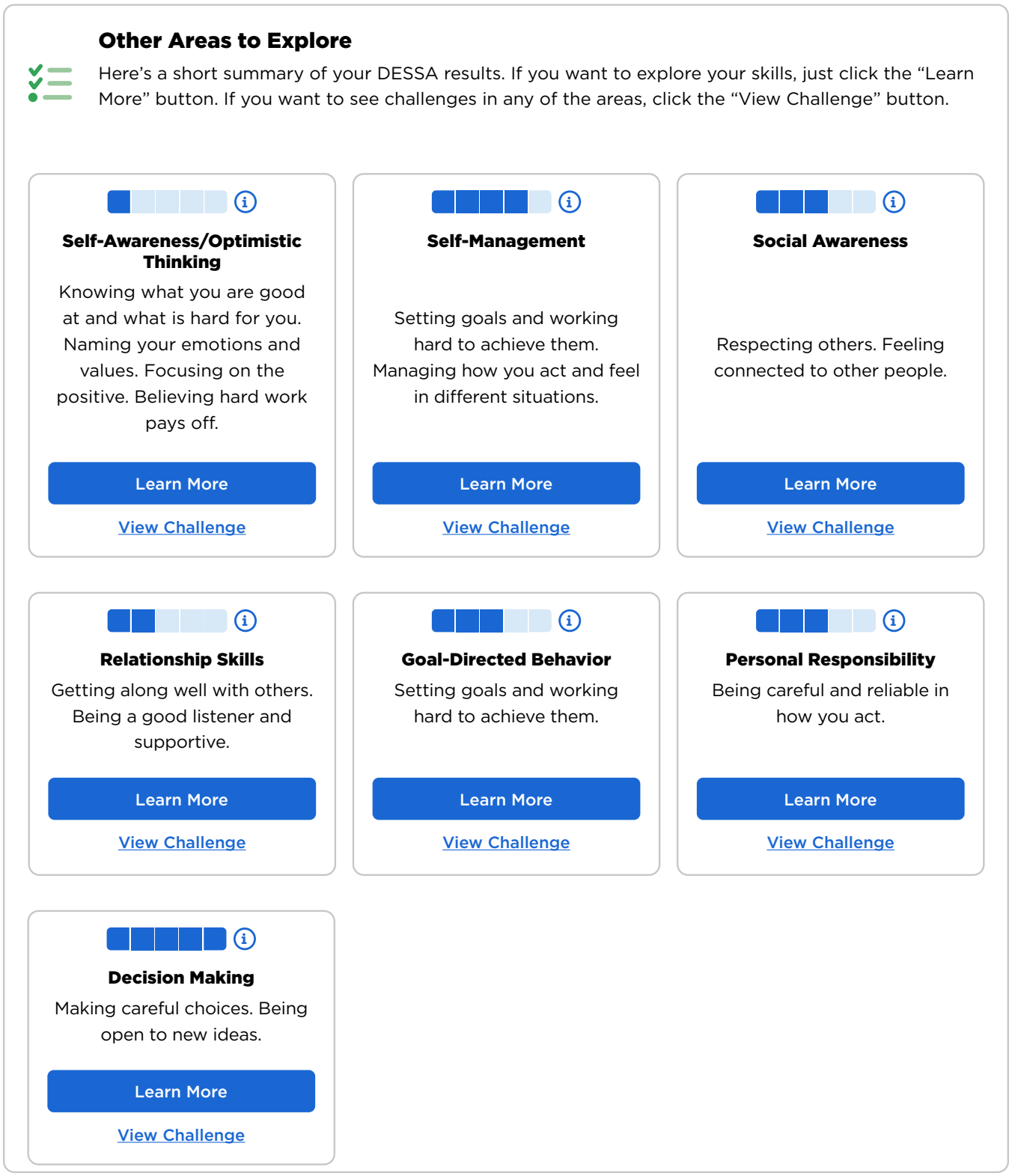
The term *growth opportunity* is used to describe DESSA-HSE SSR scale *T*-scores of 28 to 40 inclusive in the Student Portal. Scores in this range are visually depicted with one shaded bar on a five-bar graphic, as shown in Figure 5.2. *T*-scores of 40 or less mean that the youth rated themselves as showing few behaviors associated with the particular social and emotional

TABLE 5.1
Descriptive Categories and Interpretations of the DESSA-HSE SSR *T*-Scores

T-Score Range	Descriptive Ranges for Adult Users	Descriptive Ranges for Student Users
60 and above	Strength	Strength
41–59	Typical	Emerging Strength (55–59) Typical (46–54) Emerging Typical (41–45)
40 and below	Need for Instruction	Growth Opportunity

FIGURE 5.2

A Sample DESSA-HSE SSR Individual Student Rating Report as Presented to Students in the Student Portal



competency. Youths with scores in this range can be considered at risk for exhibiting or developing social and emotional problems (Shapiro et al., 2017). Similarly, they can be considered at promise for developing social and emotional competency in this area (LeBuffe et al., 2021). On each scale, approximately 16% of the youths in the standardization sample received scores in the growth opportunity range. If a youth receives a scale score in the growth opportunity range, they will benefit from choosing and implementing one or more SEL Challenges aligned to that scale domain (e.g., Self-Awareness/Optimistic Thinking) in the Student Portal. The SEL Challenges are meant to develop their social and emotional skills. These students will also benefit from adult-directed social and emotional supports and programming, as will be discussed in the "*T*-Score Range Descriptions for Adult Users" section.

Scale *T*-scores of 41 to 59 inclusive are considered to be within the "typical" range. To help students better understand scores within this range, scores of 41 to 45 should be described as "emerging typical," scores of 46 to 54 should be described as "typical," and scores of 55 to 59 should be described as "emerging strengths." In the Student Portal, scores in the emerging typical, typical, and emerging strength ranges are visually depicted with two, three, or four shaded bars on a five-bar graphic, respectively. Approximately 68% of youths in the standardization sample received scores in this range. Youths who receive scores in the typical range will likely benefit from implementing the SEL Challenges in the Student Portal, which will provide opportunities to expand and reinforce their social and emotional skills. They will likely also benefit from universal SEL strategies led by educators.

DESSA-HSE SSR scale *T*-scores of 60 to 72 inclusive should be described as "strengths" and are visually depicted with five shaded bars on a five-bar graphic in the Student Portal. Approximately 16% of the youths in the standardization sample received scale scores in the strength range. Youths may choose to implement SEL Challenges to support, sustain, and broaden social and emotional competencies that are rated in the strength range. Similarly, youths will benefit from educator-led universal SEL strategies to reinforce and build on their skills.

T-Score Range Descriptions for Adult Users

The term "need for instruction" (or "need" for short) is used to describe DESSA-HSE SSR scale *T*-scores of 28 to 40 inclusive in adult-facing reports in the Aperture System. In these reports, scores in the need for instruction range are color-coded as red. *T*-scores of 40 or less mean that the youth rated themselves as showing few behaviors associated with the particular social and emotional competency. Youths with scores in this range can be considered at risk for exhibiting or developing social and emotional problems (Shapiro et al., 2017). Similarly, they can be considered at promise for developing social and emotional competency in this area (LeBuffe et al., 2021). On each scale, approximately 16% of the youths in the standardization sample received scores in the need for instruction range. If a youth receives a scale score in the need for instruction range, an individualized plan should be developed and implemented to assist the youth in developing these important skills. Within a multi-tiered system of support (MTSS) framework, these youths might receive Tier 2 or Tier 3 social and emotional supports in addition to Tier 1 programming. The educator SEL Strategies provided in the Aperture System are designed for this purpose. The SEL Challenges in the Student Portal are also designed for students to engage in self-directed SEL strategies.

Scale *T*-scores of 41 to 59 inclusive should be described as "typical" and color-coded as blue in adult-facing reports in the Aperture System. Approximately 68% of youths in the standardization sample received scores in this range. Youths who receive scores in the typical range will likely benefit from universal strategies designed to promote the social and emotional competence of all youths, such as those found in the SEL Strategies section of the Aperture System and the SEL Challenges section of the Student Portal.

DESSA-HSE SSR scale *T*-scores of 60 to 72 inclusive should be described as "strengths" and are color-coded as green in the Aperture System. Approximately 16% of the youths in the standardization sample received scale scores in the strength range. Educators should consider and implement strategies to support, sustain, and broaden social and emotional competencies that are rated in the strength range. Similarly, youths may also choose to implement SEL Challenges to reinforce and build on social and emotional competencies that they rated in the strength range.

The various descriptions and their relationship to DESSA-HSE SSR *T*-scores are summarized in Table 5.1. The DESSA-HSE SSR user should keep in mind that these are guidelines for the categorization and interpretation of DESSA-HSE SSR scores and should not be rigidly applied, over-interpreted, or reified. Although the DESSA-HSE SSR scales have high internal reliability (see Table 3.1 on page 39), and consequently minimal standard errors of measurement (see Table 3.2 on page 40), DESSA-HSE SSR users should take measurement error into account when interpreting DESSA-HSE SSR scores. This is particularly important when the *T*-score obtained by the youth is close to the thresholds previously presented.

The Meaning and Interpretation of the DESSA-HSE SSR Scales

The DESSA-HSE SSR Scales

The following brief descriptions are to aid in the interpretation of the DESSA-HSE SSR scales. More thorough information on the content and meaning of these scales is presented in Chapter 1.

- ***Self-Awareness/Optimistic Thinking:*** A youth's realistic understanding of their strengths and limitations and consistent desire for self-improvement. A youth's attitude of confidence, hopefulness, and positive thinking regarding themself and their life situations in the past, present, and future.
- ***Self-Management:*** A youth's success in controlling their emotions and behaviors to complete a task or succeed in a new or challenging situation.
- ***Social-Awareness:*** A youth's capacity to interact with others in a way that shows respect for their ideas and behaviors, recognizes the impact of their behaviors on others, and uses cooperation and tolerance in social situations.
- ***Relationship Skills:*** A youth's consistent performance of socially acceptable actions that promote and maintain positive connections with others.

- ***Personal Responsibility:*** A youth's tendency to be careful and reliable in their actions and in contributing to group efforts.
- ***Goal-Directed Behavior:*** A youth's initiation of, and persistence in completing, tasks of varying difficulty.
- ***Decision Making:*** A youth's approach to problem solving that involves learning from others and from previous experiences, using values to guide action, and accepting responsibility for decisions.

The Social-Emotional Composite

This scale gives an overall indication of the youth's social and emotional competence. It is the most reliable and valid overall indicator within the DESSA-HSE SSR. Because it characterizes the youth's social and emotional competence with a single number, the Social-Emotional Composite (SEC) is particularly useful in outcome measurement and program evaluation.

Basic Interpretation of the DESSA-HSE SSR

As previously noted, the interpretation of the DESSA-HSE SSR results differs slightly depending on whether the student or an adult (educator, administrator, etc.) is reviewing results. This section will first describe the process from the perspective of a student reviewing their own DESSA-HSE SSR results in the Student Portal. We will then describe the process from the perspective of an adult reviewing a youth's results in the Aperture System.

Basic Interpretation by a Student

After completing the DESSA-HSE SSR, students receive immediate access to their results. Two key differences between student-facing and adult-facing results should be noted. First, students are presented with a visual depiction of their scores across the seven scales. Unlike adult-facing reports in the Aperture System, students are not shown information about their overall SEC score. By removing this overall indication of "strength, typical, or growth opportunity," we aimed to avoid the possibility that youths would label themselves as definitively "good" or "bad" at social and emotional competence. Instead, we hoped to create a mindset that encouraged youths to work towards building their specific "growth opportunity" skills or continue to strengthen their existing skillsets. For similar reasons, the Student Portal does not provide *T*-scores or percentile ranks to students.

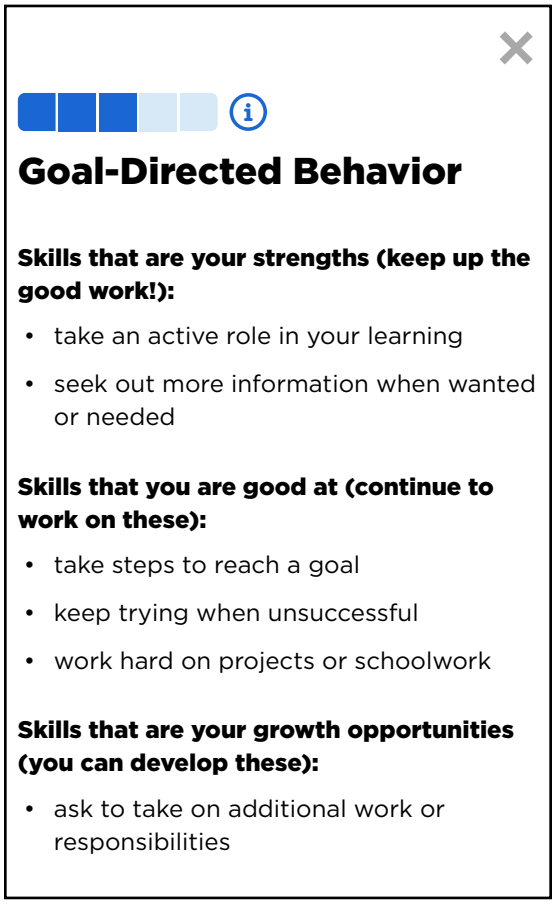
Figure 5.2 on page 65, displays a sample of results as presented to a youth in the Student Portal. As can be seen, the seven DESSA-HSE SSR scale scores are depicted with a five-bar graphic. By clicking the (i) next to the graphic (as shown in Figure 5.2), youths are provided the following explanation to aid understanding of their results:

- Five bars means that you have a "Strength" in this area.
- Four bars means that this area is an "Emerging Strength" for you.

- Three bars indicate that you are demonstrating a "Typical" amount of this competency. That is, this is what most high school students report.
- Two bars means that this is an "Emerging Typical" area for you.
- One bar indicates that this is a "Growth Opportunity" for you. You are not yet demonstrating a lot of these behaviors.

Youths can further explore their specific behavioral strengths and needs by clicking on "Learn More" for each of the seven scales. This opens a pop-up window that displays detailed item-level information. Using a method referred to as Individual Item Analysis, which is explained in detail in the next section, youths are provided with a simplified explanation of the specific behaviors (items) on the DESSA-0HSE SSR that are their strengths, typical behaviors, or growth opportunities. Figure 5.3 provides an example of this functionality.

FIGURE 5.3
Item Level Identification as Shown on the Individual Student Rating Report in the Student Portal



The DESSA-HSE SSR res0ults as presented to students are designed to facilitate students' understanding about their current social and emotional skills and serve as a foundation for choosing and implementing SEL challenges to build their skills. Because the Student Portal is student-directed, students have the option to view and accept an SEL Challenge in any of the seven social and emotional competency domains. They may choose to select a Challenge in a domain that allows them to leverage their strengths to build their skills. Alternatively, they may also choose to select a Challenge in an area that presents a growth opportunity. This student-directed platform is designed to provide students with a voice and choice in their own learning and development.

Basic Interpretation by an Adult

Interpretation of the DESSA-HSE SSR results by an adult proceeds in a stepwise fashion from the most general indicator of the youth's social and emotional status to increasingly more specific information.

Step 1: The Social-Emotional Composite

First, examine the SEC *T*-score and note the corresponding range description (i.e., strength, typical, and need for instruction). This is the broadest and the most reliable index of the youth's self-reported social and emotional well-being. The SEC *T*-score is a highly reliable indicator of the youth's overall social and emotional functioning and serves as the starting point in interpreting the DESSA-HSE SSR. The score a youth receives on the SEC also provides a frame of reference for the remaining interpretive steps.

Step 2: Examining Scale Scores

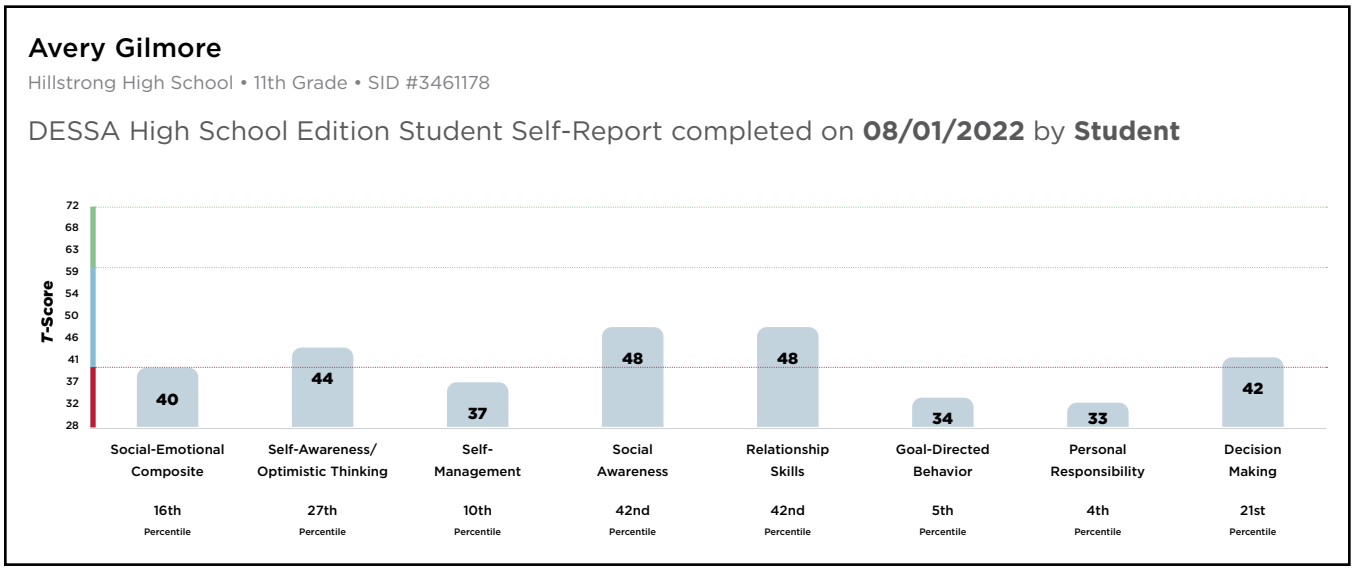
Next, examine the seven separate DESSA-HSE SSR scales, and note the *T*-scores and corresponding strength, typical, and need for instruction ranges. Examination of the separate DESSA-HSE SSR scale *T*-scores provides useful information about the youth's specific self-reported social and emotional competencies. For instance, the scores can suggest whether a youth's strengths or needs are primarily intrapersonal (as evidenced by high or low scores on the Self-Awareness/Optimistic Thinking and Self-Management scales) or interpersonal (as shown by high or low scores on Social-Awareness and Relationship Skills). Examination of the DESSA-HSE SSR Individual Student Rating Report is particularly useful at this step, as the visual depiction of the scale scores can make patterns easier to discern. Figure 5.4 provides a sample Individual Student Rating Report as presented in the Aperture System.

Step 3: Identifying Specific Strength and Need for Instruction Items

Each of the seven DESSA-HSE SSR scales represents a group of items that relate to a common social and emotional competency (e.g., Goal-Directed Behavior, Personal Responsibility). However, these competencies are broad categories that encompass varying and more specific social and emotional skill sets. For example, a youth with a need for instruction on the Goal-Directed Behavior scale may have difficulties showing persistent effort in accomplishing a

FIGURE 5.4

A Sample DESSA-HSE SSR Individual Student Rating Report as Presented to Adults in the Aperture System



goal (e.g., item #2, keep trying when unsuccessful; item #23, work hard on projects or schoolwork) or in gathering information to guide goal-directed behavior (e.g., item #19, seek out more information when wanted or needed; item #9, take an active role in your learning). Step 3 enables the DESSA-HSE SSR user to move beyond scale scores to gain an understanding of the specific behaviors that are strengths (i.e., in the youth's behavioral repertoire) or needs for instruction (i.e., not yet acquired) for the youth.

Identification of specific behavioral strengths and needs for instruction involves a method called Individual Item Analysis. Any item can represent a need for instruction if the rating the youth received is substantially lower than the rating given to youths who have typical scores. That is, an individual item is considered to indicate a need for instruction if the score the youth received is at least one standard deviation below the mean for that item in the national standardization sample. Less than 16% of youths in the standardization sample received scores in the need for instruction range on each item on the DESSA-HSE SSR. Such a score on an individual item indicates that the youth has reported they do not yet demonstrate this behavior to the extent considered typical as reported by other youths. Individual items rated in the need for instruction range should be considered as targets for social and emotional instruction.

Similarly, any item can represent a strength if the rating is substantially higher (at least one standard deviation above the national mean) than that given to youths with typical scores. For each item, no more than 16% of youths in the national standardization sample received ratings in the strength range. DESSA-HSE SSR users should consider how these focal strengths can be leveraged or built upon in a support plan. Youth should be given many opportunities to demonstrate and reinforce their strengths. The item score values associated with the need and strength ranges are found in Table 5.2.

TABLE 5.2
Individual Item Analysis Values for the DESSA-HSE SSR

Item Number	Item	Need for Instruction	Typical	Strength
1	Take steps to reach a goal?	0, 1, 2	3	4
2	Keep trying when unsuccessful?	0, 1, 2	3	4
3	Serve an important role at home or school?	0, 1, 2	3	4
4	Think about positive things?	0, 1, 2	3	4
5	Look forward to classes or activities at school?	0, 1	2, 3	4
6	Get along well with different types of people?	0, 1, 2	3	4
7	Believe that you can achieve your goals?	N/A	N/A	N/A
8	Do chores, tasks, or homework without being reminded?	0, 1, 2	3	4
9	Take an active role in your learning?	0, 1, 2	3	4
10	Describe to others what you were feeling?	N/A	N/A	N/A
11	Say good things about your classmates?	0, 1, 2	3	4
12	Show respect for others in a game or competition?	0, 1, 2	3	4
13	Ask to take on additional work or responsibilities?	0, 1	2, 3	4
14	Respect another person's opinion?	0, 1, 2	3	4
15	Take time to reflect on your feelings?	N/A	N/A	N/A
16	Encourage positive behaviors in others?	0, 1, 2	3	4
17	Prepare for school, activities, or upcoming events?	0, 1, 2	3	4
18	Contribute to group efforts?	0, 1, 2	3	4
19	Seek out more information when wanted or needed?	0, 1, 2	3	4
20	Recognize how your emotions were influencing your behavior?	N/A	N/A	N/A
21	Share with others?	0, 1	2, 3	4
22	Get things done in a timely fashion?	0, 1	2, 3	4
23	Work hard on projects or schoolwork?	0, 1, 2	3	4
24	Have high expectations for yourself?	0, 1, 2	3	4
25	Expect that you will be successful?	N/A	N/A	N/A
26	Work carefully on projects or schoolwork?	0, 1, 2	3	4
27	Follow the example of a positive role model?	0, 1, 2	3	4
28	Cooperate with peers or siblings?	0, 1, 2	3	4
29	Agree with the way others think about you?	0, 1	2, 3	4
30	Notice when your emotions were making it difficult to concentrate?	N/A	N/A	N/A
31	Show good judgment?	0, 1, 2	3	4
32	Show appreciation of others?	0, 1, 2	3	4

Item Number	Item	Need for Instruction	Typical	Strength
33	Stay focused despite a problem or distraction?	0, 1	2, 3	4
34	Ask for advice?	0, 1	2, 3	4
35	Trust that your hard work will pay off?	N/A	N/A	N/A
36	Teach someone how to do something?	0, 1	2, 3	4
37	Do the steps of a task in order?	0, 1, 2	3	4
38	Think before you acted?	0, 1	2, 3	4
39	Make a suggestion or request in a polite way?	0, 1, 2	3	4
40	Expect that good things will happen?	N/A	N/A	N/A
41	Accept another choice when your first choice was not available?	0, 1, 2	3	4
42	Ask questions when you did not understand something?	0, 1	2, 3	4
43	Respond to another person's feelings?	0, 1, 2	3	4
44	Ask somebody for feedback?	0, 1	2, 3	4
45	Understand what caused your strong emotions?	N/A	N/A	N/A
46	Learn from experience?	0, 1, 2	3	4
47	Follow the advice of a trusted adult?	0, 1, 2	3	4
48	Cope well with changes in plans?	0, 1	2, 3	4
49	Do the right thing in a difficult situation?	0, 1, 2	3	4
50	Believe that you can make a difference?	N/A	N/A	N/A
51	Offer to help somebody?	0, 1, 2	3	4
52	Recognize your personal strengths?	0, 1	2, 3	4
53	Share credit when appropriate?	0, 1, 2	3	4
54	Stay calm when faced with a challenge?	0, 1, 2	3	4
55	Cope well when going from one setting to another?	0, 1, 2	3	4

The primary advantage of this method is that it allows for the identification of specific behaviors that can be leveraged (strengths) or acquired (needs for instruction) by specific interventions. Individual item identification facilitates the development of support plans that are individualized and behaviorally grounded. For instance, if the youth's rating on item #22, "get things done in a timely fashion," was in the need for instruction range, then developing or improving time management skills can become a goal, and each component skill (e.g., setting priorities, task analyzing larger projects) can become an objective on the support plan. Conversely, if item #16, "encourage positive behaviors in others," is a strength for the youth, then involving this individual as a leader in a peer group would be an appropriate way of supporting and further developing this desired behavior. The identification of specific strengths and needs is an important step in linking DESSA-HSE SSR assessment results to SEL strategies and tiered interventions.

FIGURE 5.5

Item Level Identification as Shown on the Individual Student Rating Report in the Aperture System

Individual Item Analysis **Goal-Directed Behavior**

Competency	Item	Response	Category
Goal-Directed Behavior	Take an active role in your learning?	Almost Always	Strength
Goal-Directed Behavior	Seek out more information when wanted or needed?	Almost Always	Strength
Goal-Directed Behavior	Take steps to reach a goal?	Often	Typical
Goal-Directed Behavior	Keep trying when unsuccessful?	Often	Typical
Goal-Directed Behavior	Work hard on projects or schoolwork?	Often	Typical
Goal-Directed Behavior	Ask to take on additional work or responsibilities?	Rarely	Need

Another advantage of the Individual Item Analysis method is that it allows the DESSA-HSE SSR user to identify specific needs for instruction even if the youth's scale scores are not in the need for instruction range. That is, even though a scale score may be in the typical or even strength range, examination of the individual items may identify specific behaviors that were rated in the need for instruction range. These specific skills can then be taught resulting in a more complete repertoire of social and emotional skills. This approach is particularly important for schools and programs that are committed to thriving; that is maximizing the social and emotional competence of each student.

In the Aperture System, the results of the individual item analysis are available on the Individual Student Rating Report. The DESSA-HSE SSR user has the option of viewing the item-level results for an individual competency or all seven competencies. Within each competency, the item-level results are sorted by their descriptive range so that all the strengths, typical ratings, and needs for instruction are presented together. Figure 5.5 provides an example of this functionality.

Advanced Interpretation of the DESSA-HSE SSR by Adults

Progress Monitoring with the DESSA-HSE SSR

Progress monitoring is a key component of the response to intervention (RTI) framework. The goal of progress monitoring is to determine if the interventions (in the case of the DESSA-HSE SSR, social and emotional skill instruction) are being effective in enhancing the youth's social and emotional competence by comparing scores on successive assessments. Rather than waiting until the end of the year to determine if growth has occurred, progress monitoring provides

opportunities throughout the school year to evaluate growth and make any indicated changes to improve end-of-year outcomes. The DESSA-HSE SSR can be used if the goal is to improve either overall social and emotional competence or improvement in one or more specific social and emotional competencies.

To evaluate progress the administrations of the DESSA-HSE SSR must be separated by at least four weeks so that the second administration is based on a different sample of behaviors. To allow for sufficient time for social and emotional skill instruction, six to eight weeks is recommended between administrations. Many school districts and OST programs have adopted the practice of monitoring progress one or two times during a school year. A typical schedule might be the initial DESSA-HSE SSR administration in October. First progress monitoring prior to the holiday break in December. Second progress monitoring in early March, followed by an end-of-year summative assessment in late May or June.

Cohen's *d*-ratio, which was introduced in Chapter 3, is used to evaluate the progress made between successive administrations. Using the *T*-scores on the scale(s) of interest, the pretest or earlier administration scale score is subtracted from the posttest or more recent administration. If the youth's score has increased (i.e., shown progress or growth) the resulting difference will be positive. Cohen (1988) suggested that *d*-ratios of 0.2, 0.5, and 0.8 be considered small, medium, and large changes respectively. Because *T*-scores have a standard deviation of 10, these ranges are equivalent to 2–4, 5–7, and 8 or more *T*-score units (changes of 0 or 1 *T*-score unit are considered to be "negligible"). As shown in Table 5.3, DESSA-HSE SSR users can modify their social and emotional instruction (e.g., supplementing universal instruction with small group targeted supports) based on the degree of progress shown by the student. The thoughtful use of this progress monitoring technique can result in better end-of-year outcomes. Progress monitoring data and interpretation guidance is provided to adult users of the DESSA-HSE SSR in the Aperture System.

TABLE 5.3
Interpretation and Guidance for Progress Monitoring

Magnitude of the Difference	Standard Deviation Unit	*T*-Score Units	Guidance
Negligible/None	Less than 0.20	Less than 2	Supports are ineffective; try new supports and strategies. Consult with student assistance personnel.
Small	0.20 to 0.49	2 to 4, inclusive	Supports are minimally effective. Increase frequency, duration, or intensity, or try new strategies. If using only group interventions/supports, consider individualized supports.
Medium	0.50 to 0.70	5 to 7 inclusive	Supports are moderately effective. Consider enhancing if resources, including time and personnel, permit.
Large	Greater than or equal to 0.80	8 or higher	Supports are working well. Continue current plans.

Evaluating Programmatic Outcomes and Impact with the DESSA-HSE SSR

Whereas the progress monitoring technique previously described is a formative evaluation approach with a goal of improving individual youth outcomes, the information in this section describes a summative evaluation approach designed to assess program effectiveness, evaluate impact, and inform continuous quality improvement (CQI) efforts for groups of youths. Like progress monitoring, summative evaluation involves comparing changes in scores over time, but typically is used to compare the first or beginning-of-year rating with the last or end-of-year rating, with an intervention implemented in between.

The Impact Report in the Aperture System is designed to facilitate outcome evaluation with the DESSA-HSE SSR. It allows users to compare the progress of students from one rating to the next in the three *T*-score range descriptions of strength, typical, and need for instruction categories (see Figure 5.6). The Student Movement component of the Impact Report provides specific information on how many students from a given descriptive category (e.g., need for instruction) moved to a different category (e.g., typical, strength) between ratings (see Figure 5.7). Users may also run the Impact Report by student population (e.g., race/ethnicity, gender, special populations) and review results of disaggregated data across sub-groups of students. Data from the Impact Report can be exported from the Aperture System to enable users to conduct statistical analysis and compare to other district or school collected data such as academic achievement or behavioral data.

FIGURE 5.6
Sample Impact Report for DESSA-HSE SSR Data

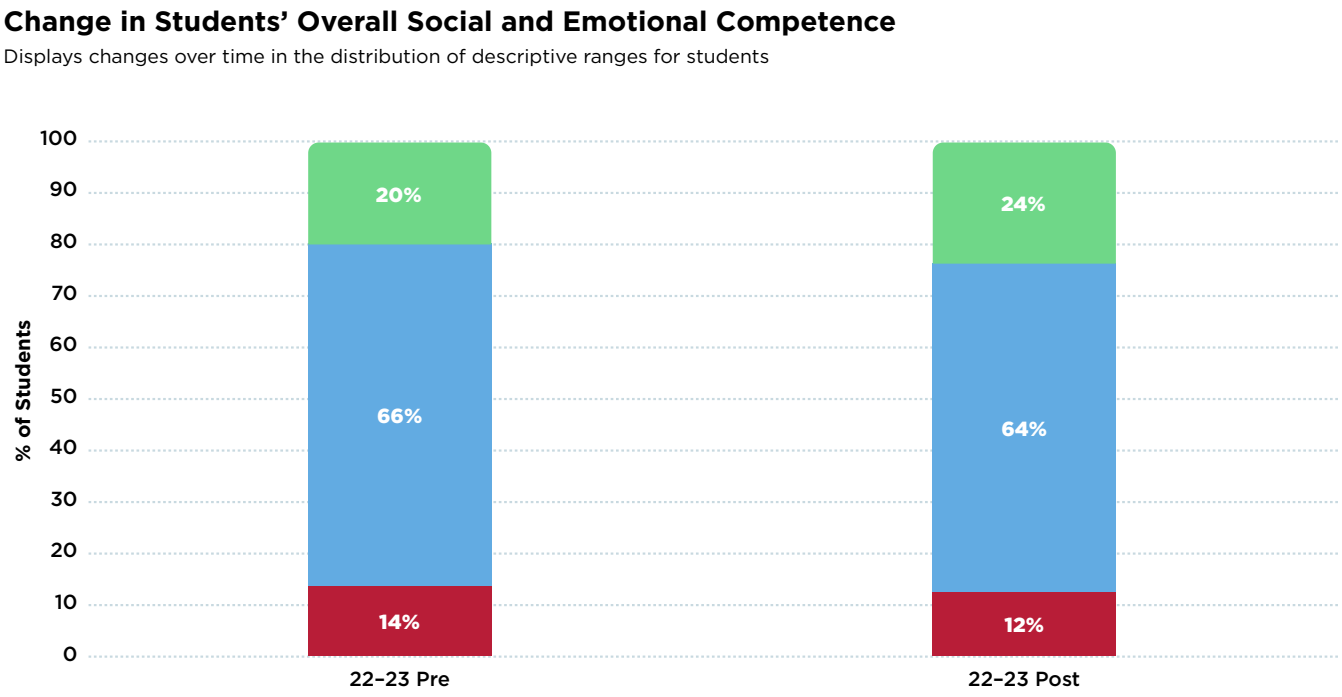


FIGURE 5.7
Sample Student Movement Report for DESSA-HSE SSR Data

Outcome evaluation as applied to helping youths develop social and emotional competencies is a flexible and powerful tool. This approach enables the DESSA-HSE SSR user to look at the effectiveness of interventions on a scale-by-scale basis and across groups of youths. By using this method, we can determine which youths benefited from which interventions in which areas. This youth-specific information is especially useful for quality improvement efforts. By aggregating findings across youths, classrooms, schools, etc., schools and OST programs can determine the relative impact of their SEL efforts on differing social and emotional competencies. For example, aggregated data might show more improvement and better outcomes in the area of self-management as compared to relationship skills. Similarly, this approach can explore different SEL outcomes for different groups of youths. For example, the data might show that youths in the ninth grade are showing more growth than those in the 12th grade. The approach provides valuable data on youth outcomes that can inform both program evaluation efforts/CQI as well as efforts to promote educational equity.

Determining the impact of SEL strategies and curricula at the individual youth and group levels is essential to continuously improving professional practice, advancing the SEL field, and most importantly, improving outcomes for youths. Examining outcomes at the individual youth level and using this information to adjust or modify SEL instruction to ensure that each

youth acquires a full repertoire of social and emotional skills is essential to efforts to promote educational equity and lies at the heart of data-driven SEL.

Interpretation Examples

The following example illustrates the interpretation of the DESSA-HSE SSR and how results facilitate intervention planning. This example concerns a student in the ninth grade, Aydin. Aydin attends the STEM Academy in his district and does well academically. He excels at math and science and is enrolled in the International Baccalaureate program. However, Aydin's chemistry teacher, Ms. Loudon, is concerned that he lacks the interpersonal skills to succeed in classes that require group labs. To better understand Aydin's self-reported social and emotional skills, Ms. Louden accesses Aydin's DESSA-HSE SSR results, which Aydin completed along with his classmates as part of the STEM Academy's universal use of the DESSA-HSE SSR. Ms. Louden also completed a DESSA-HSE educator rating, the results and interpretation of which can be reviewed in Chapter 5 of the DESSA-HSE Educator manual. We will first present the interpretation of DESSA-HSE SSR results from Aydin's perspective. We will then present it from the perspective of Ms. Louden.

Interpretation Example from the Student's Perspective

As soon as Aydin completes his DESSA-HSE SSR rating, he can review his results across the seven social and emotional competency domains. The first thing Aydin notices is that he has a strength in Goal-Directed Behavior. This does not surprise him, as he knows he works very hard on his schoolwork and often asks for more information when he finds a topic interesting, particularly in his science classes. Aydin also sees that his scores in three areas—Self-Management, Personal Responsibility, and Decision Making—are either typical scores or emerging strengths for him. He clicks on the "Learn More" button and is interested to see specific skills he has in these areas (including staying focused despite distractions), as well as some behaviors he could still work on improving (such as serving an important role at school). Lastly, Aydin sees that he has a growth opportunity in three areas—Self-Awareness/Optimistic Thinking, Social-Awareness, and Relationship Skills. Again, he clicks the button to "Learn More" and sees some specific ways he can improve his skills, such as respecting others' opinions, cooperating with and saying good things about his classmates, and making suggestions in a polite way.

After exploring his results, Aydin thinks about what skills he might want to improve. He decides on two areas. First, he wants to work in an area that is a growth opportunity. He chooses Relationship Skills because he knows he must collaborate often with his classmates on projects. Second, he selects Personal Responsibility because he is interested in joining and getting involved in a new after-school activity. He accepts the first SEL Challenges for these two areas which will provide him with activities to begin improving his skills. He also decides to set a goal within the Student Portal to join an after-school club or activity before the mid-year holiday break. He plans to share his goal and progress on the two SEL Challenges with Ms. Louden when they meet later that week to talk about his DESSA-HSE SSR results.

Interpretation Example from the Educator's Perspective

Step 1: Examination of the Social-Emotional Composite

Ms. Louden began by examining the SEC score on the Individual Student Rating Report accessible in the Aperture System. She noted that Aydin received a *T*-score of 43, and corresponding percentile rank of 24, placing him in the lower end of the typical range. These scores confirmed Ms. Louden's concerns that Aydin's social and emotional skills were not commensurate with his academic performance.

Step 2: Examining Scale Scores

Although the SEC score was in the typical range, an examination of the seven scale scores did show variability across the domains. Ms. Louden began by noting Aydin's strength in Goal-Directed Behavior. She also noted that, consistent with her concerns, Aydin was exhibiting a need for instruction in key interpersonal areas including Social-Awareness and Relationship Skills in which he received his lowest scores—a *T*-score of 29, corresponding to a percentile rank of just 2. She was surprised, however, to note that Aydin was also exhibiting a need for instruction in Self-Awareness/Optimistic Thinking. The remaining three scales (Self-Management, Personal Responsibility, and Decision Making) were rated in the typical range.

Step 3: Individual Item Analysis

Although the review of scale scores in step 2 was very helpful in confirming Ms. Louden's concerns, identifying additional needs for instruction, and making her more aware of Aydin's strengths, she was still somewhat at a loss of how to help Aydin acquire the critical skills that were not yet in his repertoire. To gain a better understanding of what specific skills Aydin would benefit from learning, Ms. Loudon reviewed the individual item analyses presented on the Individual Student Rating Report. Given Aydin's low score, Ms. Louden decided to focus her efforts on Relationship Skills. A review of the items on this scale that were rated in the need range suggested three behaviors to concentrate her efforts: item #32, "show appreciation of others"; item #43, "respond to another person's feelings"; and item #53, "share credit when appropriate."

Wanting to both honor and leverage Aydin's strengths, Ms. Louden next looked at the items on the Goal-Directed Behavior scale, noting that Aydin "ask(s) to take on additional work or responsibilities" (item #13), "seek(s) out more information when wanted or needed" (item #19), and "work(s) hard on projects or schoolwork" (item #23). She then decided on a strategy that would address the needs while leveraging the strengths in the context of the STEM program. She asked Aydin and two of his classmates to review the initial sections of "Collaboration & Team Science: A Field Guide" published by the National Institutes of Health (Bennett et al., 2010) and to discuss and then create class guidelines based on the Field Guide's reflection exercise, "Ask Yourself: Am I Ready to Participate on a Research Team?" Through this activity, Aydin and his peers would learn more about the importance of sharing credit, providing and receiving constructive feedback, and openly discussing issues and concerns. They would then work together to create and share their learnings and guidelines with their classmates. Through this strategy, driven by Aydin's DESSA-HSE SSR findings, Ms. Louden addressed Aydin's need

for instruction in Relationship Skills while reinforcing his strengths in Goal-Directed Behavior. Most important, she is ensuring that Aydin is acquiring the specific social and emotional skills that he will need to excel in the chemistry lab, the STEM program, and in his career after high school. She intends to talk through Aydin's DESSA-HSE SSR results with him later that week, the strategy she has selected for him, as well as talk through the SEL Challenges and goals Aydin has set for himself. She will plan to review Aydin's mid-year DESSA-HSE SSR results after he completes the strategies to see if they were effective in promoting his Relationship Skills.

Use of the DESSA-HSE SSR within a Multi-Tiered System of Support (MTSS)

The use of the DESSA-HSE SSR is not limited to the MTSS framework; however, the widespread adoption of MTSS provides a familiar and useful frame of reference for discussing the most common applications of the DESSA-HSE SSR.[2] The DESSA-HSE assessment suite and their applications at the three tiers of the MTSS framework are presented below.

Use of the DESSA-HSE SSR at Tier 1

Tier 1 or *universal* services and supports are provided to all students in a school or OST program. They provide the common foundation for effective SEL. Most programs utilize the youth-completed DESSA-HSE SSR as a universal assessment and/or the educator-completed DESSA-HSE mini as a universal screener of social and emotional competence at Tier 1. The DESSA-HSE mini consists of four equivalent eight-item forms and takes the educator about one minute to complete per youth. The mini has the advantage of brevity, but it yields only one score: the Social and Emotional Total (SET) that provides a measure of overall social and emotional competence. The results are used to identify those youths whose overall social and emotional competence is in the need for instruction range and who would benefit from a full educator-completed assessment with the DESSA-HSE. However, some programs have opted to use the full DESSA-HSE educator form at the universal level because of the rich information it provides on eight social and emotional competences. For these programs, this deeper understanding of each youth's social and emotional strengths and needs across the eight domains justifies the added time and effort of teachers.

For programs using either the DESSA-HSE SSR or the full DESSA-HSE, the classroom/group profile, available through the Aperture System, is a highly informative and useful report. This report enables the educator to identify the most common strengths and needs for instruction presented by the youths in the group. The most commonly occurring needs for instruction can then be addressed through the universal "growth strategies," which are aligned to the specific social and emotional competency and are available through the Aperture System. The home-based (i.e., family involvement) growth strategies can also be used at the universal level.

[2] Readers who are unfamiliar with the MTSS framework may want to visit the website of the Center on PBIS (Positive Behavioral Interventions and Supports) at **https://www.pbis.org**

In addition to adult-led planning and instruction, programs using the DESSA-HSE SSR universally enable all youths to identify personal goals and corresponding SEL instructional strategies that they can implement on their own. This provides youths with a voice and choice in their own social and emotional growth and engages them as active participants in the SEL process.

Many schools and programs use the DESSA-HSE SSR to support their use of universal, evidence-based SEL curricula, adjusting their delivery of the curriculum based on DESSA-HSE SSR results. For example, universal and home-based growth strategies can supplement the lesson plans, or the most common needs for instruction can suggest areas that could be emphasized through extension activities or repetition throughout the school year. Educators may also want to do additional skills checks or knowledge assessments with youths demonstrating a need for instruction in a given area to ensure that they are acquiring the skills. Both the Collaborative for Academic, Social and Emotional Learning (**https://pg.casel.org/review-programs/**) and the Blueprints Program for Healthy Youth Development (**https://www.blueprintsprograms.org/program-search/**) provide searchable listings of evidence-based SEL programs.

It is important to recognize that SEL occurs in contexts such as a classroom, school, or OST program. This context can influence not only the demonstration of a youth's social and emotional skills but also the effectiveness of SEL instruction. Consequently, many programs incorporate school climate and culture surveys as part of their SEL initiatives. Information about school climate and culture can be used in conjunction with the *Foundational Practices*, universal strategies found in the Aperture System that are intended to create a classroom culture and climate that will support SEL. Whereas the growth strategies are aligned to a specific social and emotional competency, the foundational practices are nonspecific and can be implemented immediately at the beginning of the school year. They can also be reinforced and sustained throughout the year.

Use of the DESSA-HSE SSR at Tier 2

As mentioned above, most programs use the youth-completed DESSA-HSE SSR and/or the educator-completed DESSA-HSE mini as universal measures of social and emotional competence. For programs using the DESSA-HSE mini, those youths whose SET score indicates a need for instruction are then assessed with the full DESSA-HSE to identify the specific social and emotional competencies that are not yet being demonstrated to a sufficient degree. These youths, as well as youths receiving SEC scores in the need for instruction range on the DESSA-HSE SSR, then may receive Tier 2 or *targeted* supports that supplement the Tier 1 universal social and emotional instruction. Some programs will use the classroom/group profile to create small groups of youths with similar needs and then utilize the small-group growth strategies provided in the Aperture System (Adams, 2013). Periodic readministration of the DESSA-HSE SSR, the DESSA-HSE, or the DESSA-HSE mini is then used to monitor the progress of these youths in enhancing their social and emotional competence.

Use of the DESSA-HSE SSR at Tier 3

Tier 3 or *indicated* supports and services are provided to those youths who have not sufficiently benefitted from Tier 1 and Tier 2 services. Tier 3 supports and services are typically intensive and individualized. The Individual Item Analysis technique previously described is particularly useful at this stage. The DESSA-HSE SSR and/or the DESSA-HSE Individual Student Report identifies those specific items that were rated as strengths for youths as well as those rated as indicating a need for instruction. This information can be used to create highly individualized and data-based plans to reinforce and leverage the student strengths while addressing their specific needs for instruction. The Aperture System provides individual student growth strategies that are aligned to the DESSA-HSE SSR scales.

It is important to note that at all three tiers we are recommending that the DESSA-HSE SSR (and DESSA-HSE) be used as a formative assessment. That is, assessment data is collected during the school or program year with the goal of better understanding the youth's strengths and needs so that instruction can be differentiated and improved leading to better outcomes. Our goal is not to categorize or label youths based on DESSA-HSE SSR scores. Rather our purpose is to understand better the unique constellation of social and emotional strengths and needs for instruction presented by individual youths, classrooms, schools, districts, and programs so that social and emotional instruction can be differentiated, progress monitored, and outcomes enhanced. Although the DESSA-HSE SSR can also be used as a summative assessment to evaluate programmatic outcomes and inform continuous quality improvement, our primary objective is ensuring that each student has a full complement of social and emotional skills to achieve success in school and in life after graduation.

*The authors would like to thank our many colleagues and DESSA clients who have shared their challenges and successes with us since the publication of the DESSA for grades K–8 in 2009. Their feedback has deepened our understanding and led to many improvements in the Aperture System. We hope that you will continue to share thoughts, suggestions, and experiences with us. We can be reached through Aperture Education's website (**www.ApertureEd.com**).*

Appendices

Appendix A has been redacted.

Please contact Jennifer Robitaille at JRobitaille@ApertureEd.com if you are in need of assistance.

APPENDIX B

List of Data Collection Sites by State

With deep appreciation, we would like to acknowledge the students and staff from the following schools, out-of-school time programs, and community organizations who participated in the development of the DESSA-HSE SSR:

ALASKA

Frontier Charter School, Anchorage

ARIZONA

Presidio School, Tucson
University High School, Tucson
Willow Canyon High School, Surprise

CALIFORNIA

Abraham Lincoln High School, Los Angeles
Alliance Ted K. Tajima High School, Los Angeles
Downey High School, Downey
Eagle Rock High School, Los Angeles
Francisco Bravo Medical Magnet, Los Angeles
La Quinta High School, La Quinta
Leigh High School, San Jose
Lincoln High School, Los Angeles
River City High School, West Sacramento
Santa Rosa Academy, Menifee
Woodrow Wilson Senior High School, Los Angeles

COLORADO

Jefferson Academy, Broomfield
Westgate Community School, Thornton

CONNECTICUT

New Milford High School, New Milford
YouMedia Programs

DISTRICT OF COLUMBIA

Duke Ellington School of the Arts, Washington

FLORIDA

F.W. Springstead High School, Spring Hill
Mater Lakes Academy, Hialeah
Poinciana High School, Kissimmee
Tampa Bay Christian Academy, Tampa

GEORGIA

Carrollton High School, Carrollton
Lithia Springs High School, Lithia Springs

HAWAII

Kanuikapono Public Charter School, Anahola
Radford High School, Honolulu

ILLINOIS

Back of the Yards College Preparatory High School, Chicago
Christian Fenger Academy High School, Chicago
Marengo Community High School, Marengo

INDIANA

Arsenal Technical High School, Indianapolis
East Chicago Central High School, East Chicago
Tipton High School, Tipton

LOUISIANA

Broadmoor Senior High School, Baton Rouge

MASSACHUSETTS

Ayer Shirley Regional High School, Ayer
Cape Cod Regional Technical High School, Harwich

MICHIGAN

Juvenile Home School – Intensive Learning Center, Kalamazoo
Gull Lake High School, Richland
Mattawan High School, Mattawan

MINNESOTA

Christ's Household of Faith, St. Paul
New York Mills Secondary School, New York Mills

MISSOURI

Fair Play R-II High School (MO Afterschool Network), Fair Play
21st Century Community Learning Center Afterschool Program at Van Buren R-1 High School, Van Buren

MINNESOTA

Century High School, Rochester
Work Experience Life Skills (WELS), North Vadnais Heights

MONTANA

Belgrade High School, Belgrade

NEBRASKA

Deshler High School, Deshler

NEW MEXICO

Mandela International Magnet School, Santa Fe

NEW YORK

F. D. Roosevelt High School, Hyde Park
Flushing High School, Flushing
High School for Teaching and the Professions, Bronx
Horseheads High School, Horseheads
International Prep at Grover Cleveland High School (I-Prep), Buffalo
Jamestown High School, Jamestown
Project SOAR, Buffalo
South Glens Falls High School, South Glens Falls

NORTH CAROLINA

Brown Christian Academy, Raleigh
Cary High School, Cary
Garinger High School, Charlotte
NextGen Charlotte, Charlotte
Phillip O'Berry School of Technology, Charlotte
Providence Christian Academy, Raleigh
ResCare Workforce Services, Charlotte
Vance High School, Charlotte
West Mecklenburg High School, Charlotte

OHIO

Bellaire High School, Bellaire
Boys and Girls Club of Columbus, Columbus
Carpe Diem Preparatory Academy at Aiken High School, Cincinnati
Gilbert A. Dater High School, Cincinnati
Grandview Heights High School, Grandview Heights
Hughes STEM High School, Cincinnati
Shroder High School, Cincinnati
The Charles School at Ohio Dominican University, Columbus
The Graham School, Columbus
TRECA Digital Academy, Marion
Vineyard Community Center – LAUNCH, Columbus
Westerville North High School, Westerville
Withrow University High School (Families Forward), Cincinnati

OKLAHOMA

Daniel Webster High School, Tulsa

OREGON

Dallas High School, Dallas
Morrison Campus Alternative School, Dallas
Perrydale High School, Amity

PENNSYLVANIA

Bayard Rustin High School, West Chester
Conestoga High School, Berwyn
Downingtown East High School, Exton
East High School, West Chester
Owen J. Roberts High School, Pottstown
Stetson Middle School, West Chester
Strath Haven High School, Wallingford
Upper Darby High School, Drexel Hill

TEXAS

Atascocita High School, Humble
B. F. Terry High School, Rosenberg
Humble High School, Humble
PACE Community Learning Center, Humble
Robert Vela High School, Edinburg
Victoria West High School, Victoria

Also with great appreciation, we would like to acknowledge the many parents home schooling their children across the nation!

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About Aperture Education

Aperture Education empowers over 3,000 schools and out-of-school-time programs across North America to measure, strengthen, and support social and emotional competence in K–12 students and educators. The mission of Aperture Education is to ensure that all members of school and out-of-school-time communities, both children and adults, have the social and emotional skills to be successful, productive, and happy. We achieve this by providing education leaders, teachers, out-of-school-time staff, parents, and students with accurate and actionable data about their social and emotional strengths and needs. We pair this data with research-informed strategies and resources, leading to improved outcomes.

The Aperture System includes the Devereux Student Strengths Assessment (DESSA) suite of strength-based assessments, which is lauded by researchers for its high standards for reliability and validity and appreciated by educators for its ability to easily and quickly identify each student's unique social and emotional strengths and areas of needed support. Aperture Education partners with industry curriculum leaders to deliver research-based intervention strategies to bolster specific areas of needed growth. Paired with robust reporting in one easy-to-use system, professional development for staff, and an aligned educator social and emotional learning program called the Educator Social-Emotional Reflection and Training (EdSERT), Aperture is often favored in districts and programs nation-wide and continues to develop innovative solutions to bring the whole child into focus.

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