Devereux Student Strengths Assessment High School Edition

Educator Manual

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

Paul A. LeBuffe, Valerie B. Shapiro,
Jennifer L. Robitaille, & Jack A. Naglieri

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Aperture Education, LLC
P.O. Box 1279
Fort Mill, SC 29716
www.apertureed.com

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ACKNOWLEDGMENTS

Aperture Education's goal is to create resources, such as the DESSA-HSE, 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 would like to acknowledge the contributions of our Aperture colleagues and customers who have made the DESSA-HSE possible.

First, we would like to thank the scores of schools and out-of-school-time programs and the hundreds of educators who contributed the ratings that were used in the development of the DESSA-HSE. Without their participation in the pilot study, national standardization study, and psychometric studies the development of the DESSA-HSE 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 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, youth, 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, youth, and adults.

Valerie B. Shapiro, Ph.D. is an associate professor jointly appointed in Social Welfare and Public Health at the University of California, Berkeley. Dr. Shapiro was recently selected as a William T. Grant Foundation Scholar. Dr. Shapiro's research is in the prevention of mental, emotional, and behavioral problems in children and youth through the adoption, implementation, and sustainability of effective prevention practices. In order to promote the use of evidence in prevention practice, her scholarship focuses on how to (1) set the stage for communities to adopt and sustain a science-based approach to prevention, (2) implement programs successfully, (3) assess youth outcomes in routine practice, and (4) use big data for continuous improvement in the implementation of systematic and transformative social and emotional learning.

She serves as the chair 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 Department of Education-certified school social worker.

Jennifer L. Robitaille, M.S. is the Director of Research and Development for Aperture Education. She earned her B.A. in psychology from Bloomsburg University of Pennsylvania and her master's degree in research psychology from Villanova University. For the past decade, Jennifer has focused her work on strength-based approaches to the measurement and promotion of social and emotional competence and resilience in children, youth, and the adults who care for them. She has provided consultation, professional development, and evaluation services to early care and education, school, and out-of-school-time settings using the strength-based assessment suite including the Devereux Early Childhood Assessment (DECA) for Infants, Toddlers, and Preschoolers and the Devereux Student Strengths Assessment (DESSA) for grades K–12. Jennifer is an author of the Educator Social-Emotional Reflection and Training (EdSERT) program, a professional development program focused on enhancing educators' knowledge and effective use of social and emotional learning teaching practices. Her primary research interests focus on the measurement of social and emotional competence and resilience in children and youth, the promotion of educator well-being and social and emotional teaching practices, and program implementation.

Jack A. Naglieri, Ph.D. is a research professor at the University of Virginia and senior research scientist 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* and *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), 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. These 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 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 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, 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 not only is an integral part of education and human development, it is broadly considered a path to personal well-being and global citizenship (Chatterjee Singh & Duraiappah, 2020). Decades of research have shown that SEL initiatives in schools and out-of-school-time (OST) programs can improve student social and emotional skills and relationships, perceptions of school climate, and academic performance — and reduce student anxiety and undesirable behavior (Mahoney et al., 2018). In addition, SEL initiatives, when implemented well and systemically, can contribute to continuous improvement in education and youth development systems with a favorable cost-benefit ratio (meaning, they save more than they cost; Payton et al., 2008; Gullotta, 2015; Belfield et al., 2015).

To identify and support the SEL of all students, a strength-based approach to assessment is needed that can assess student learning and provide actionable information to continuously improve SEL initiatives. Information about an individual student's 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 student 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 (DESSA-HSE)* is an assessment tool that provides these essential functions in the implementation of SEL initiatives for high school-aged youth.

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. 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; Malcolm, 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 et al., 2017) and more likely to have academic success (Chain et al., 2012). Now, with the publication of the DESSA-HSE, the benefits of the DESSA have been extended to youth in grades 9–12. The DESSA-HSE adds to a collection of tools that together (with the DESSA K–8 and the Devereux Early Child Assessment (DECA) for Infants, Toddlers, and Preschoolers; LeBuffe & Naglieri, 2012; Mackrain et al., 2007) provide 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 is used to 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 youth (Shapiro, 2015). To be clear, the DESSA-HSE 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.

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 a prosocial behavior. Our goal is to help identify and nurture the social and emotional strengths of youth, 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 is intended to support whole-child education, the creation of trauma-informed schools, the growing emphasis of schools and OST providers on transformative 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 can identify each student's social and emotional strengths and needs, inform instruction and programming, and gauge progress over time (Shapiro, Accomazzo, & Robitaille, 2017). Others have wanted an assessment tool that will promote reflective practice among the adults and create professional development opportunities for their staff around SEL (Jennings & Greenberg, 2009). Finally, schools and OST programs that have invested heavily in developing and/or implementing SEL programs need a summative assessment to evaluate and continuously improve their programs' impact. The DESSA-HSE was developed in response to these various needs.

Description of the DESSA-HSE

The DESSA-HSE is a 43-item standardized, norm-referenced behavior rating scale used to assess the social and emotional competence of youth 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 a number of areas, and they can be "cheap, quick, reliable, and in many cases, remarkably predictive of objectively measured outcomes" (Duckworth & Yeager, 2015, p. 239). The DESSA-HSE can be completed by educators or staff at schools and youth-serving agencies, including OST, social service, and mental health programs. The DESSA-HSE 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 is organized into conceptually-derived scales that provide information about eight CASEL-aligned social and emotional competencies. Standard scores can be used to calibrate an individual student's competence in each of the eight dimensions and guide school or program-wide, class-wide, and individual strategies to promote those competencies. For each question, the rater is asked to indicate on a five-point scale how often the youth engaged in each behavior over the past four weeks. The scale names, scale definitions, and sample scale items are as follows:

- ***Self-Awareness*** (5 items): A youth's realistic understanding of their strengths and limitations and consistent desire for self-improvement. For example, how often does the youth:
  - show an awareness of their personal strengths?

    - teach somebody how to do something?
    - ask somebody for feedback?
- ***Social-Awareness*** (5 items): A youth's capacity to interact with others in a way that shows respect for the ideas and behaviors of others, recognizes their impact on others, and uses cooperation and tolerance in social situations. For example, how often does the youth:
    - get along with different types of people?
    - show respect for others in a game or competition?
    - contribute to group efforts?
- ***Self-Management*** (6 items): A youth's success in controlling their emotions and behaviors to complete a task or to succeed in a new or challenging situation. For example, how often does the youth:
    - think before they acted?
    - stay focused despite a problem or distraction?
    - cope well with changes in plans?
- ***Goal-Directed Behavior*** (6 items): A youth's initiation of, and persistence in completing, tasks of varying difficulty. For example, how often does the youth:
    - keep trying when unsuccessful?
    - seek out more information when wanted or needed?
    - take an active role in learning?
- ***Relationship Skills*** (6 items): A youth's consistent performance of socially acceptable actions that promote and maintain positive connections with others. For example, how often does the youth:
    - compliment or congratulate somebody?
    - offer to help somebody?
    - show concern for someone?
- ***Personal Responsibility*** (6 items): A youth's tendency to be careful and reliable in their actions and conscientious in working with others. For example, how often does the youth:
    - remember important information?
    - serve an important role at home or school?
    - prepare for school, activities, or upcoming events?
- ***Decision Making*** (5 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 decisions. For example, how often does the youth:
    - follow the example of a positive role model?
    - do the right thing in a difficult situation?
    - learn from experience?
- ***Optimistic Thinking*** (4 items): A youth's attitude of confidence, hopefulness, and positive thinking regarding themself and their life situations in the past, present, and future. For example, how often does the youth:
    - say good things about their classmates?
    - look forward to classes or activities at school?
    - express high expectations for themself?

Each of the eight DESSA-HSE 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 eight scales. This composite score provides an overall indication of the strength of the youth's social and emotional competence. The separate scores on the eight DESSA-HSE 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 yields information that can also be used to compare ratings across raters and/or environments and across time to monitor progress and evaluate outcomes. More information about these interpretation strategies will be presented in Chapter 5.

Uses of the DESSA-HSE

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

- Provide a psychometrically sound, strength-based measure of social and emotional competence in youth.
- Inform the selection or design of SEL strategies within multi-tiered systems of support (universal, targeted, indicated) to facilitate social and emotional competence for all youth.
- 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, policy makers, 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 to identify similarities and meaningful differences.
- Identify youths with the greatest need for social and emotional instruction, prevent problems before they emerge, and promote positive developmental outcomes.
- Identify the strengths of individual youths who have already been identified as having social, emotional, and behavioral concerns.
- Provide meaningful information on youth 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 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

The overarching goal of the DESSA-HSE is to inform the promotion of social and emotional competence and resilience of youth. 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 practitioners to proactively identify 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 approaches also can be less stigmatizing, by focusing on strengths and goals rather than deficits, and are therefore likely to lead to less exclusionary and punitive interventions.

The second key characteristic of the DESSA-HSE 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 tool — the DESSA-HSE Student Self-Report — and contribute to equity for all. To fulfill this commitment, the DESSA-HSE was standardized on a sample of young people that reflects 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 stigmatizing and pathologizing of young people as a result of the assessment process. Similarly, our preventive 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 (e.g., providing high-quality, evidence-based SEL instruction), rather than presuming that low DESSA-HSE scores are the fault or responsibility of the young person themself. Chapter 5 also stresses the importance of using strategies for including the voice of young people and their parents in the process of interpreting DESSA-HSE scores, setting goals, and making decisions, and setting the expectation that the DESSA-HSE 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. Although this tool was standardized before CASEL's articulation of *Transformative SEL* as an imperative to (a) emphasize the development of identity, agency, belonging, curiosity, and collaborative problem solving, (b) promote justice-oriented civic engagement, and (c) concentrate SEL implementation and practice on transforming inequitable settings and systems, we are confident that the DESSA-HSE could be used in the context of Transformative SEL initiatives (Jagers et al., 2021).

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 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 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-aged youth 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 is provided in Chapter 3.

The fifth foundational characteristic of the DESSA-HSE is the focus on educators, including teachers and OST providers, as not only the raters (i.e., the people providing the ratings) but also as the users of that information (i.e., the people who interpret the assessment results and use them to inform instruction). This focus on empowering educators to be the consumers of test results was originally in response to a resource deficit; the lack of mental health consultants in public schools and OST environments (e.g., NASP, 2011). The strength-based orientation of the DESSA-HSE makes its use by individuals who are not 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 Users and Raters

Qualifications of DESSA-HSE Users

For the purposes of this manual, DESSA-HSE *users* are those who not only administer the DESSA-HSE but also interpret its scores. The guidelines presented here should be considered a general description, rather than an exhaustive list, of those who may use the DESSA-HSE. 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 user has responsibility for the proper use and interpretation of DESSA-HSE results.

Because DESSA-HSE results can be used to make decisions that shape the experiences of young people, DESSA-HSE users should have training in the proper administration, interpretation, and utilization of the DESSA-HSE. This should include 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 users will include educators, administrators, coaches, program directors, and evaluators. The DESSA-HSE can also be used by pediatricians, counselors, social workers, psychologists, nurses, and other professionals in education, behavioral health, child welfare, and juvenile justice settings to gain a better understanding of a youth's social and emotional strengths and needs.

Qualifications of DESSA-HSE Raters

A *rater* is any person who completes the items on the DESSA-HSE. There are two main qualifications of a rater: first, the rater must have had sufficient exposure to the youth over the four weeks prior to completing the DESSA-HSE; and second, raters should also be able to read English at the sixth grade level. (Recommendations for using the DESSA-HSE with raters who have difficulty reading English are presented in Chapter 4). Because the scores are a function of the number of times specific behaviors have been noted, a rater's insufficient opportunity to observe the youth could yield an erroneously low rating. In general, raters should have contact with the youth for one or more class or OST program periods per day for at least three days per week for a four-week period.

Raters generally fall into three categories: (1) parents, guardians, or other adult caregivers who live with the child; (2) teachers, after-school program staff, or other professionals who interact directly with the youth on a regular basis; and (3) young people themselves, reflecting on their own behavior. We refer to the first group of raters as "parents," the second group as "educators," and the third group as "youths." This manual discusses the DESSA-HSE with educator raters only.

Reasonable concerns exist as to whether a rater's biases may shape a young person's assessment scores. Rater bias may artificially inflate or suppress assessment scores relative to the actual frequency of behavior. A large amount of rater bias is problematic because scores could be less precise than are desired for educational and clinical decision making. Studies have shown that rater-specific bias on the DESSA K–8 may be less than expected (Shapiro et al., 2016), perhaps due to the strength-based nature of the items (see Chapter 3) and is further reduced when educators are prepared for implementation through training.

Restrictions for Use

DESSA-HSE users should follow both the instructions included in this manual and commonly accepted guidelines for test use and interpretation, such as the Standards for Educational and Psychological Testing (AERA, 2014). It is the DESSA-HSE user's responsibility to ensure that

completed DESSA-HSE 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 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 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 items, norms, and other materials are copyrighted, no DESSA-HSE 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 Items

A variety of approaches were used to develop the initial set of DESSA-HSE items. First, we reviewed the existing 72 items on the DESSA for kindergarten through eighth grade (K–8) children and youth (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 youth, 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 youth, 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-aged youths, and (3) high school-aged youths. Although this manual focuses on the development of the educator rating form, we simultaneously developed items for parent report and student self-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. All items were written to measure observable behaviors that would require little or no inference on the part of the adult observer. We carefully considered the reading level of the items so that the overall readability

level of the DESSA-HSE would be as low as possible. The Flesch-Kinkaid Grade Level of the final set of 43 items reflects a sixth grade (5.9) reading level.

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 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 youths 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 educators 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.

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 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-aged youth with respect to important demographic characteristics. This ensured a wide variety of youth were included for the generation of norms. A discussion of the psychometric characteristics of the DESSA-HSE 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 teachers, teacher aides, and OST staff from school districts and 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 Standardization Sample

Ratings of high school-aged youth in grades 9–12 completed by high school teachers, teacher aides, or OST staff were eligible for inclusion in the DESSA-HSE standardization sample.

Youths receiving special education services were eligible for inclusion in the sample, unless their teacher 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, AD/HD, 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 sensitivity of the DESSA-HSE as a measure of social and emotional competence for high school-aged youth.

In addition to criteria related to the youth being rated, 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., rater 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 Standardization Sample

A total of 1,162 youths who were in grades 9–12 (ages 13–19) at the time of the data collection comprised the DESSA-HSE educator standardization sample. School-based teachers and teacher aides provided ratings on 918 youths, while OST and other program staff contributed the remaining 244 ratings. To determine if these two groups of raters could be combined, we examined the mean *T*-score difference between these groups on the DESSA-HSE 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 .2 are negligible. Those between .2 and .5 reflect a small effect size. Those between .5 and .8 indicate a medium effect size, and *d*-ratios greater than .8 indicate a large effect size.

Negligible differences (*d*-ratio of .10) between the ratings provided by teachers (mean *T*-score = 50.3; SD = 9.8) and OST staff (mean *T*-score = 49.3; SD = 9.7) were found on the DESSA-HSE SEC. Therefore, these ratings were combined. In all subsequent analyses and descriptions, "educator" refers to a high school teacher, teacher aide, or OST or other program staff member. Similarly, minimal differences (*d*-ratio of .14) were found between responses obtained through paper ratings (mean *T*-score = 51.1; SD = 9.4) and online ratings (mean *T*-score = 49.8; SD = 9.8). Therefore, in all subsequent analyses we combined data obtained from both administration formats.

The DESSA-HSE standardization sample closely approximated the population of 15- to 19-year-old youths 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 1,162 due to missing data.

Grade and Sex

Table 2.1 presents the numbers and percentages of males and females in the DESSA-HSE 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 256 in 10th grade to 367 in ninth grade. The overall mean number of youths per grade was 290. 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 a whole, as well as in each grade, closely approximated the proportions of the U.S. population.

In addition to asking raters to report the young person's biological sex for the sake of making comparisons to the U.S. Census Bureau data, we also asked educators to report on how the youths describe themselves, with the option to choose all that apply. Based on this question, the standardization sample included 574 youths who identify as male; 572 youths who identify as female; 5 youths who identify as transgender; 2 youths who do not identify as male, female, or transgender; and 11 responses where the rater indicated they do not know how the youths describes themselves.

Geographic Region

We collected data from educators of students attending 358 schools and OST programs across 46 U.S. states. 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 standardization sample closely approximated the regional distribution of the U.S. population.

TABLE 2.1
DESSA-HSE Standardization Sample Characteristics by Grade and Sex (Educator Raters)

	Males		Females		Total	
	n	%	*n*	%	*n*	%
Grade 9	174	47.4	193	52.6	367	31.6
Grade 10	125	48.8	131	51.2	256	22.0
Grade 11	141	50.7	137	49.3	278	23.9
Grade 12	139	53.5	121	46.5	260	22.4
Total Sample	579	49.9	582	50.1	1161	
U.S. %		51.2		48.8		

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 Standardization Sample Characteristics by Geographic Region and Grade (Educator Raters)

	Northeast		Midwest		South		West		Total	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%
Grade 9	61	16.7	105	28.7	112	30.6	88	24.0	366	31.6
Grade 10	33	12.9	65	25.4	109	42.6	49	19.1	256	22.1
Grade 11	40	14.4	64	23.0	103	37.1	71	25.5	278	24.0
Grade 12	35	13.5	53	20.5	107	41.3	64	24.7	259	22.3
Total Sample	169	14.6	287	24.8	431	37.2	272	23.5	1159	
U.S. %		17.0		21.4		38.0		23.6		

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 standardization sample composition by race within each geographic region. Based on information provided by educators on the rating forms, we classified the youths 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.

TABLE 2.3
DESSA-HSE Standardization Sample Characteristics by Race and Geographic Region (Educator Raters)

	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	1	.8	8	6.6	39	32.0	0	.0	72	59.0	2	1.6	122
Midwest	0	.0	0	.0	28	11.1	0	.0	218	86.5	6	2.4	252
South	5	1.7	11	3.7	62	20.8	0	.0	213	71.5	7	2.3	298
West	12	6.4	19	10.2	25	13.4	4	2.1	119	63.6	8	4.3	187
Total Sample	18	2.1	38	4.4	154	17.9	4	.5	622	72.4	23	2.7	859
U.S. %		1.1		5.3		15.4		.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 Standardization Sample Characteristics by Hispanic/Latinx Ethnicity and Geographic Region (Educator Raters)

	Hispanic/Latinx		Non-Hispanic/Latinx		Total
	n	%	*n*	%	*n*
Northeast	37	23.1	123	76.9	160
Midwest	29	10.4	249	89.6	278
South	121	29.1	295	70.9	416
West	76	29.5	182	70.5	258
Total Sample	263	23.7	849	76.3	1112
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/**.

Hispanic/Latinx Ethnicity

The proportions of youths of Hispanic/Latinx ethnicity included in the DESSA-HSE standardization sample by geographic region are presented in Table 2.4. Raters were asked whether the youth was 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 standardization sample, we determined the number of students eligible to receive either free or reduced-price lunches. Based on the information provided by educators on the rating forms, eligibility data was available for 733 of the 1,162 youths in the standardization sample. Of this sample of 733 youths, 376 (51.3%) were eligible to receive free or reduced-price lunches. This very 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).

Organization of the DESSA-HSE Items into Scales

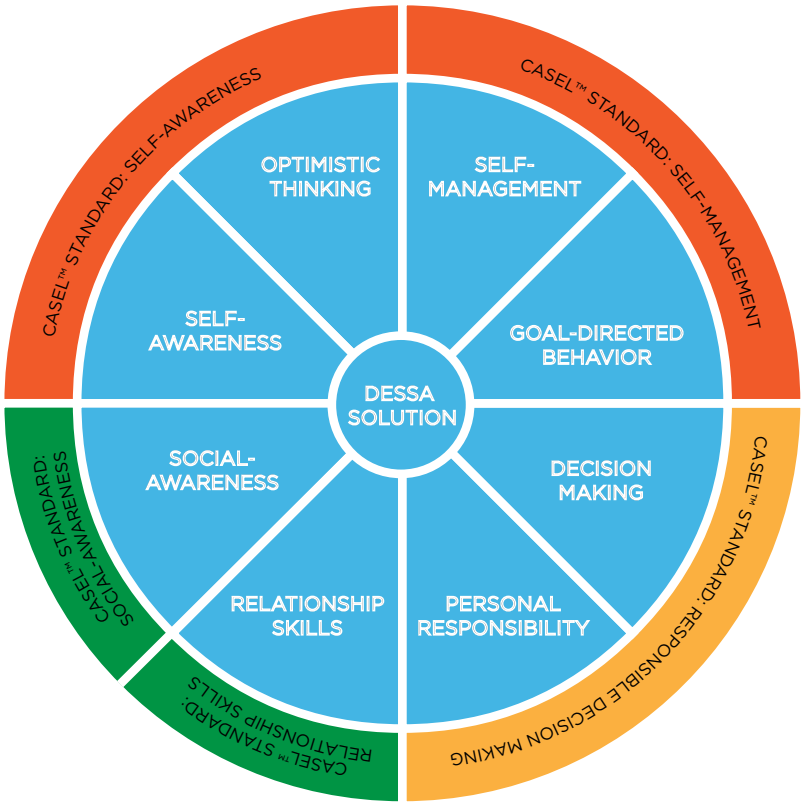
The primary purpose of the DESSA-HSE is to provide educators, parents, OST staff, other professionals concerned with the social and emotional competence of youth, as well as the youths themselves, with a useful and meaningful set of scales that both (a) reflect current social and emotional functioning and (b) lead to strategies and interventions to promote social and emotional competencies. Beginning with the DESSA K–8 and continuing with the DESSA-HSE, 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 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 as much as possible without compromising breadth of coverage; (3) to simplify the administration, scoring, and interpretation of the DESSA-HSE; and (4) to ensure that the constructs were measured reliably by the scales. To achieve these goals, 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

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



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 2.9; possible range = 0–4). To simplify the scales and avoid the necessity of age norms, we examined each item for evidence of age trends. Similarly, we examined each item for evidence of rater trends (defined as item mean score differences between teachers in school settings and staff in OST settings). Finally, we examined each item's ability to differentiate between youths with and without known social and emotional disorders. Twenty-two items were eliminated because of these steps, resulting in a final set of 43 items comprising the eight scales. Based upon the sum of the standard scores of all eight scales, we also created a composite score referred to as the SEC, which provides an overall estimate of the youth's social and emotional competencies.

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 eight DESSA-HSE 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-Awareness) 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-Awareness item discriminated between two students with similar competence in Self-Awareness).

With the techniques described above, we were able to confirm the item- and scale-level decisions.

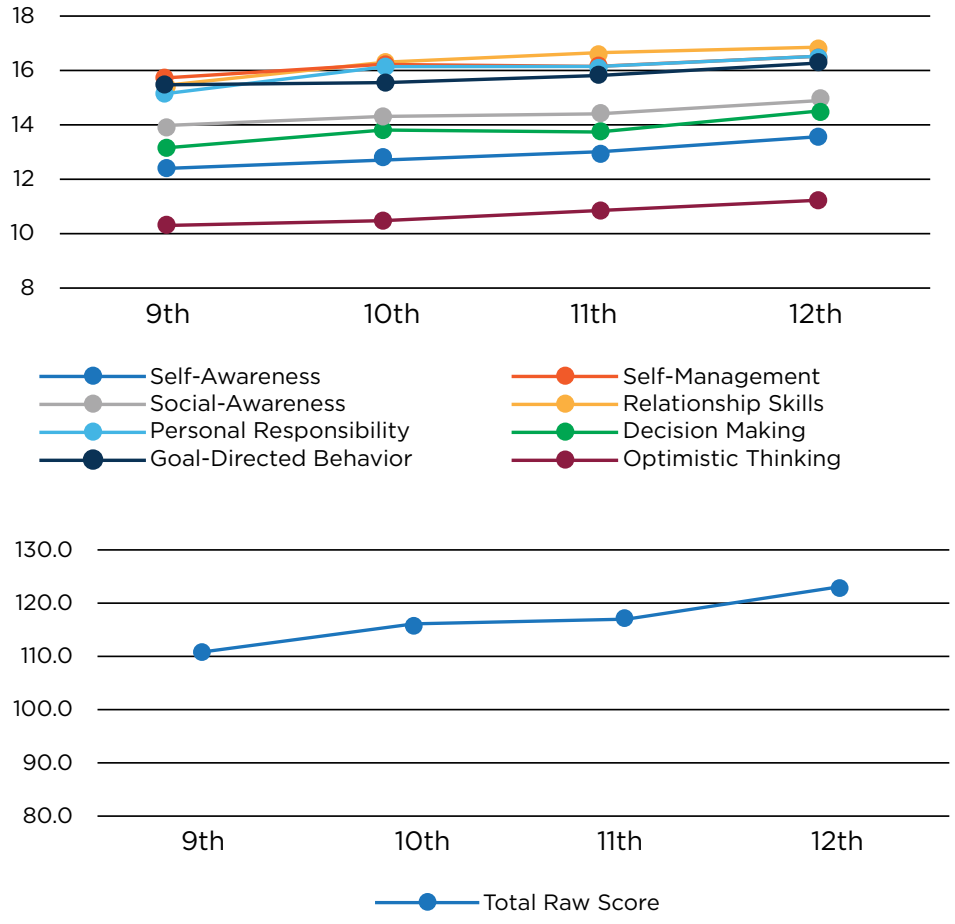
Norming Procedures

The initial step in preparation of the norms was to determine if any trends existed in the data. We first examined the DESSA-HSE scale and total raw scores for potential age differences. Table 2.5 presents the raw score means and standard deviations for the eight DESSA-HSE scales and total raw score by grade. These data are also presented graphically in Figure 2.2.

TABLE 2.5
DESSA-HSE Raw Score Means and Standard Deviations by Grade (Educator Raters)

Scales	Grade 9		Grade 10		Grade 11		Grade 12	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Self-Awareness	12.4	4.1	12.8	4.2	13.1	4.2	13.7	3.9
Self-Management	15.8	4.7	16.4	4.6	16.4	4.6	17.0	4.4
Social-Awareness	13.9	3.9	14.3	3.7	14.5	3.7	15.0	3.6
Relationship Skills	15.4	5.2	16.3	4.8	16.7	4.9	17.1	4.7
Personal Responsibility	15.6	4.9	16.2	4.9	16.3	5.0	17.0	4.7
Decision Making	13.4	4.1	14.0	3.9	14.1	3.9	14.7	3.9
Goal-Directed Behavior	15.3	5.3	15.7	5.2	15.9	5.5	16.8	5.1
Optimistic Thinking	10.2	3.4	10.5	3.3	10.8	3.3	11.2	3.2
Total Raw Score	111.3	31.8	115.9	31.5	117.7	31.9	122.2	30.5

FIGURE 2.2
DESSA-HSE Raw Score Means by Grade (Educator Raters)



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 48 comparisons), 36 were categorized as negligible, 12 were categorized as small, and no medium or large effect sizes were observed. Effect sizes ranged from .02 to .35, 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 .06 (10th vs. 11th grade comparison; mean raw score difference = 1.8) to .35 (9th vs. 12th grade comparison; mean raw score difference = 10.9). 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 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 youth in practice (Kim et al., 2015). Table 2.6 presents the *T*-score means, standard deviations, and sample size by scale for males and females using norms based on both sexes combined. The mean-scale *T*-scores for females are consistently two to four 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 all of these *d*-ratios to be small (.20–.40). The data in this table indicate that, as a group, females consistently show more behaviors related to social and emotional competence than males, but the magnitude of this difference is small.

Females in the DESSA-HSE standardization sample earned higher scores than males on each scale. 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 than males. This reflects natural differences commonly observed between the

TABLE 2.6
DESSA-HSE Standard Score Sex Differences by Scale (Educator Raters)

Scales	Males			Male Female *d*-ratio	Females		
	Mean	*SD*	*n*		*Mean*	*SD*	*n*
Self-Awareness	49.0	9.8	577	–.20	51.0	10.2	582
Self-Management	48.6	9.6	578	–.31	51.7	10.3	577
Social-Awareness	48.7	9.9	578	–.30	51.8	10.3	577
Relationship Skills	48.1	10.1	576	–.37	51.8	10.0	580
Personal Responsibility	47.9	10.0	575	–.40	51.9	10.3	581
Decision Making	48.7	10.0	579	–.26	51.4	10.1	582
Goal-Directed Behavior	48.5	10.2	576	–.34	51.9	10.0	581
Optimistic Thinking	48.9	9.9	578	–.25	51.4	10.3	581
Social-Emotional Composite	48.5	9.4	567	–.34	51.7	9.8	569

sexes and establishes a single set of social and emotional competency expectations that applies equally to all youth. Our sample was insufficient to provide additional guidance to shape expectations for social and emotional competences of nonbinary youth relative to their peers.

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 eight 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 eight *T*-scores corresponding to the DESSA-HSE scales for each case. This approach provides equal weighting to each of the eight 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 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-aged youth 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 about the social and emotional competence of youth.

Reliability

The reliability of an assessment tool like the DESSA-HSE 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 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. A third analysis, examining interrater reliability (two raters evaluating the same student), remains in progress following data collection interruptions due to the COVID-19 pandemic. We will report these findings when available.

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

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

Scales	Alpha Coefficient
Social-Emotional Composite	.98
Self-Awareness	.88
Self-Management	.90
Social-Awareness	.88
Relationship Skills	.92
Personal Responsibility	.90
Decision Making	.92
Goal-Directed Behavior	.91
Optimistic Thinking	.85

internal reliability coefficients were based on the individuals included in the DESSA-HSE Educator standardization sample ($N = 1{,}162$).

Table 3.1 presents the internal consistency estimates for each of the eight 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 combination. This coefficient for educator raters (.98) 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 eight DESSA-HSE scales range from a low of .85 (Optimistic Thinking) to a high of .92 (Relationship Skills and Decision Making). The median reliability coefficient across the eight scales was .90, well exceeding the .80 minimum suggested by Bracken (1987). Taken together, these results indicate that the DESSA-HSE scales have excellent 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 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 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 (10) and the appropriate reliability coefficient is used. The SE_M values for each DESSA-HSE 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. The values presented in Table 3.2 were calculated with reliability coefficients with three decimal places. These coefficients in

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

Scales	SE_M
Social-Emotional Composite	1.34
Self-Awareness	3.44
Self-Management	3.11
Social-Awareness	3.44
Relationship Skills	2.77
Personal Responsibility	3.19
Decision Making	2.90
Goal-Directed Behavior	2.93
Optimistic Thinking	3.87

Table 3.1 are rounded to two decimal places. Because the reliability coefficients in Table 3.1 meet or exceed recommended standards in the field, the SE_Ms in Table 3.2 are relatively small, indicating that the amount of error observed in a youth's DESSA-HSE scores is low.

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, a group of high school educators ($N = 34$) rated the same youths on two different occasions separated by an interval of four to eight days. Further data collection was interrupted by the shift to remote learning during the COVID-19 pandemic in spring 2020. As many schools remained either fully remote or in a hybrid learning model during the 2020–2021 school year, further data collection was postponed. We will update these preliminary results upon completion of the study. Demographic information on this preliminary sample is provided in Table 3.3.

The preliminary results of this study are shown in Table 3.4. All of the correlations are significant ($p < .01$) and high in magnitude ranging from $r = .80$ (Self-Awareness) to $r = .91$ (Relationship Skills and Personal Responsibility). The coefficient for the SEC score was .92, while the median test–retest reliability coefficient across the DESSA-HSE scales was .86. These preliminary findings indicate that the DESSA-HSE scales have good test–retest reliability.

Stability of DESSA-HSE Ratings

The correlation coefficients reported above for the test–retest reliability study indicate that educators ranked youths similarly across the two DESSA-HSE ratings completed about one week apart. However, the coefficients do not describe the actual similarity in the scores. To

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

	Educator Sample (*N* = 34)	
	n	%
Grade		
9	10	32.3
10	8	25.8
11	7	22.6
12	6	19.4
Birth Sex		
Males	18	54.5
Females	15	45.5
Race		
American Indian/Alaskan Native	6	19.4
Asian	0	0
Black/African American	13	41.9
Native Hawaiian/Pacific Islander	0	0
White	9	29.0
Two or More	1	3.2
Don't Know	2	6.5
Ethnicity		
Hispanic	3	8.8
Region of Residence		
Northeast	10	30.3
Midwest	8	24.2
South	3	9.1
West	12	36.4
Free or Reduced-Price Lunch Eligibility		
Yes	14	43.8
No	2	6.3
Don't Know	16	50.0

TABLE 3.4
Test–Retest Reliability Coefficients for Two DESSA-HSE Ratings by the Same Educator for the Same Youth Over a Four- to Eight-Day Interval

Scales	r
Social-Emotional Composite	.92
Self-Awareness	.80
Self-Management	.82
Social-Awareness	.84
Relationship Skills	.91
Personal Responsibility	.91
Decision Making	.86
Goal-Directed Behavior	.85
Optimistic Thinking	.90

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

examine score stability across one 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 and standard deviations received by the youths in the test–retest study. As shown in Table 3.4, the mean score difference on the SEC was less than one *T*-score point (–.47). On average, the mean value of the test–retest difference on the eight social and emotional competence scales was also less than one *T*-score point (–.45). Paired samples *t*-tests conducted for each mean score comparison yielded no significant differences between the first and second ratings on any DESSA-HSE scale or the SEC, and all effect size estimates were considered negligible according to Cohen's (1988) guidelines ($d < .20$).

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

	First Rating		Second Rating	
Scales	Mean	SD	Mean	SD
Social-Emotional Composite	45.1	9.4	45.6	10.6
Self-Awareness	44.9	9.0	46.1	9.8
Self-Management	44.6	9.6	45.3	10.0
Social-Awareness	46.4	10.1	46.4	11.3
Relationship Skills	45.4	9.7	45.8	10.3
Personal Responsibility	45.4	10.8	45.4	12.1
Decision Making	45.7	10.4	46.1	11.3
Goal-Directed Behavior	46.5	10.3	47.2	11.2
Optimistic Thinking	44.9	11.0	45.1	11.9

Reliability Study Summary

The results of the reliability studies of the DESSA-HSE provide evidence of scale reliability for assessing high school youths' social and emotional competencies. The results of the internal consistency data demonstrate that the DESSA-HSE meets standards suggested by Bracken (1987). The preliminary test–retest study shows that raters rank the youth's scores on the DESSA-HSE similarly over relatively brief periods of time. The stability study further indicates that not only the rankings, but also the actual mean scale scores received by the youth at different points in time over a relatively brief interval are quite similar. As previously noted, additional studies will be shared as they are completed.

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 in regard to *test content* (content validity), *test–criterion relationships* (criterion 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, content-related validity addresses how well the 43 items represent the domain of behavioral characteristics related to social and emotional competence in high school youth.

As detailed in Chapter 2, we based the items comprising the DESSA-HSE on a thorough review of the literature on social and emotional competence, positive youth development, and resilience in high school-aged youth. We also based the items, in part, on our earlier publication, the DESSA for children and youth 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.

Criterion-Related Validity

Criterion-related validity measures the degree to which the scores on the assessment predict either an individual's performance on an outcome or criterion measure, or the status or group membership of the individual. As a measure of behaviors related to social and emotional competence, scores on the DESSA-HSE should predict social and emotional functioning of high school-aged youth. To test this hypothesis, we first explored the ability of DESSA-HSE scores to predict that a youth was receiving special education services under the "seriously emotionally disturbed" (SED) classification as reported by their teacher, controlling for a number of covariates. We explored this question using a series of nested logistic regression models on a

sample that included youths from the DESSA-HSE national standardization sample reported by their teacher to be in regular education (RE sample; $n = 703$) and youths who were reported by their teacher to be receiving special education services for an emotional or behavioral disorder (SED sample; $n = 102$). Table 3.6 provides descriptive information on this sample of youths, while Table 3.7 presents DESSA-HSE *T*-score means and standard deviations for the SEC and eight scales for both the SED and RE samples.

A series of logistic regression models were used to predict the odds that a youth was in the SED sample (versus in the RE sample). Covariates were added successively, one at a time, to assess the relative impact each additional covariate had on predicting the odds that a youth was

TABLE 3.6
Sample Characteristics for the DESSA-HSE Criterion Validity Study Sample (Educator Raters)

	SED Sample ($n = 102$)		Regular Education Sample ($n = 703$)	
	n	%	*n*	%
Grade				
9	41	40.2	216	30.7
10	30	29.4	156	22.2
11	19	18.6	171	24.3
12	12	11.8	160	22.8
Birth Sex				
Male	67	65.7	353	50.2
Female	35	34.3	350	49.8
Race				
American Indian/Alaskan Native	1	1.1	17	3.1
Asian	2	2.2	22	3.9
Black/African American	24	26.7	93	16.7
Native Hawaiian/Other Pacific Islander	0	0	3	.5
White	58	64.4	403	72.4
Other	0	0	4	.7
Two or More	5	5.6	15	2.7
Ethnicity				
Not Hispanic/Latinx	89	87.3	545	77.5
Hispanic/Latinx	13	12.7	158	22.5
Region of Residence				
Northeast	31	30.4	104	14.9
Midwest	28	27.5	161	23.0
South	28	27.5	287	41.0
West	15	14.7	148	21.1
Free or Reduced-Price Lunch Eligibility				
Yes	74	72.5	360	51.2
No	28	27.5	343	48.8

TABLE 3.7
DESSA-HSE Criterion Validity Study Sample T-score Means and Standard Deviations (Educator Raters)

Scales	SED Sample (*n* = 102)		Regular Education Sample (*n* = 703)	
	Mean	SD	Mean	SD
Social-Emotional Composite	38.5	8.0	50.7	9.7
Self-Awareness	40.5	8.6	50.7	10.0
Self-Management	38.2	8.6	50.5	10.1
Social-Awareness	38.4	8.2	50.6	10.1
Relationship Skills	40.9	9.3	50.5	10.2
Personal Responsibility	38.2	8.1	50.6	10.3
Decision Making	38.6	7.8	50.6	10.2
Goal-Directed Behavior	39.4	9.0	50.9	10.0
Optimistic Thinking	39.4	8.5	51.0	10.1

in the SED sample. DESSA-HSE scores were added last, after the covariates had been introduced into the model.

We began by fitting a model that predicted odds of SED from sex and added the following covariates successively: an indicator that a youth is Black/African American (versus not); an indicator that a student is Hispanic/Latinx (versus not); an indicator that the youth's preferred language is different from English (versus the youth's preferred language is English); and an indicator that the youth receives free or reduced-price lunch (versus does not receive free or reduced-price lunch). The fit statistics for each successive model are included in Table 3.8.

We then fit a model that predicted odds of being a member of the SED sample from a youth's DESSA-HSE SEC score (included as a binary variable labeled *need for instruction*, coded as "1" if the student received an SEC *T*-score of 40 or below, indicating a need for social and emotional instruction, and coded as "0" if the student received an SEC *T*-score of 41 or above), controlling for the covariates listed above. The fit statistics for this model are also included in Table 3.8. The model that predicts odds of being a member of the SED sample from the covariates and from DESSA-HSE scores is a significant improvement above the model that predicts odds of SED membership from the covariates alone. This suggests that the DESSA-HSE explains additional variance in the youth's odds of being in the SED sample above and beyond the variance explained by the included covariates. Furthermore, adding DESSA-HSE scores to the model resulted in the largest one-step increase in fit statistics among all models fit, suggesting that the DESSA-HSE explained more of the variance in the youth's odds of being in the SED sample compared to the prior covariates (e.g., sex, race, ethnicity, language, subsidized lunch) sequentially added to the model.

Individual Prediction

The criterion validity of a test or rating scale can also be determined by examining the ability of scores to accurately predict group membership for individuals. The extent to which the SEC scores accurately predicted membership in either the SED or the RE samples was therefore examined.

TABLE 3.8
DESSA-HSE Criterion Validity Logistic Regression Models (Educator Raters)

Model – Predicting Odds of SED from:	Nagelkerke Pseudo R-Squared / *Δ from Previous Model*	McFadden Pseudo R-Squared / *Δ from Previous Model*	AIC / *Δ from Previous Model*	Model Deviance	Likelihood Ratio Test (comparison of current model to previous model)	
					Difference in Deviance: Current Model – Previous Model	*p*-Value of Difference
Model 1: ***Sex***	.020	.014	607.23	603.2	–	–
Model 2: Sex and ***Race***	.038 / *Δ = .018*	.027 / *Δ* = .013	601.29 / *Δ = –5.94*	595.3	–7.94	$p = .004$
Model 3: Sex, Race and ***Ethnicity***	.046 / *Δ = .008*	.033 / *Δ = .006*	599.89 / *Δ = –1.40*	591.9	–3.40	$p = .065$
Model 4: Sex, Race, Ethnicity, and ***Preferred Language***	.059 / *Δ = .013*	.042 / *Δ = .009*	596.33 / *Δ = –3.56*	586.3	–5.56	$p = .018$
Model 5: Sex, Race, Ethnicity, Preferred Language, and ***Receives Free/Reduced-Price Lunch***	.098 / *Δ = .039*	.070 / *Δ = .028*	580.97 / *Δ = –15.36*	569.0	–17.36	$p < .001$
Model 6 (FULL MODEL): Sex, Race, Ethnicity, Preferred Language, Receives Free/ Reduced-Price Lunch, and ***DESSA-HSE Score***	.296 / *Δ = .198*	.226 / *Δ = .156*	487.71 / *Δ = –93.26*	473.7	–95.27	$p < .001$
Model 7: ***Need for Instruction***	.246	.185	502.85	498.9	(Compared to full model) 25.14	(Compared to full model) $p < .001$

We obtained a sample of youths who were reported by their teachers to be receiving special education services in school for an emotional or behavioral disorder (referred to as the SED sample). The youths in this SED sample (n = 149) were matched to a comparison group (referred to as the RE sample, n = 149) selected from the national standardization sample. Matching variables included: sex, age, race, ethnicity, and region of residence of the youths. Youths were excluded from analysis if they had missing data for any of these variables. Because fewer demographic variables were used in this analysis, this SED sample is slightly larger than that reported for the previous logistic regression criterion validity study. Table 3.9 provides

TABLE 3.9
Sample Characteristics for the DESSA-HSE Individual Prediction Study Sample (Educator Raters)

	SED Sample (n = 149)		Regular Education Sample (n = 149)	
	n	%	*n*	%
Grade				
9	55	36.9	59	39.6
10	39	26.2	38	25.5
11	32	21.5	30	20.1
12	23	15.4	22	14.8
Birth Sex				
Male	98	65.8	99	66.4
Female	51	34.2	50	33.6
Race				
American Indian/Alaskan Native	1	.8	1	.8
Asian	3	2.3	3	2.3
Black/African American	36	27.9	38	29.7
Native Hawaiian/Other Pacific Islander	1	.8	0	0
White	82	63.6	82	64.1
Other	0	0	0	0
Two or More	6	4.7	4	3.1
Ethnicity				
Not Hispanic/Latinx	126	84.6	125	83.9
Hispanic/Latinx	23	15.4	24	16.1
Region of Residence				
Northeast	40	26.8	42	28.2
Midwest	42	28.2	37	24.8
South	44	29.5	48	32.2
West	23	14.5	22	14.8

descriptive information on the SED and RE samples and shows that the two groups were demographically similar.

For the SEC, we predicted that individuals with a *T*-score of less than or equal to 40 would be members of the SED sample, and those with scores above 40 would be members of the RE sample. (As explained in Chapter 5, *T*-scores of 40 and below on DESSA-HSE scales indicate areas of need.) We then compared these predictions with actual group membership. Table 3.10 presents the results of this study.

As shown in Table 3.10, low SEC scores correctly predicted group membership for 66% of the SED sample. Similarly, average to high SEC scores correctly predicted 83% of the RE sample. These estimates exceed Glascoe's (2005) standards for acceptable sensitivity (50%) and specificity (80%) for screening instruments. Overall, the SEC scores correctly predicted group membership for 74% of the 298 youths in this study. Significant chi-square analysis results (X^2 (1, N = 298) = 71.60, $p < .001$; phi coefficient = .49) indicate that the SEC scores were significantly and sizably related to group membership.

Among this matched sample, we also conducted an independent samples *t*-test comparing the mean SEC *T*-score observed between the SED sample (M = 38.3; SD = 7.8) and the RE sample (M = 49.5; SD = 9.2). The *t*-test indicated that the difference between the SED and RE mean SEC *T*-score was statistically significant ($t(296) = 11.29$, $p < .001$), with Cohen's *d* indicating that the difference was large in magnitude ($d = 1.31$).

It should be noted that the classification accuracy of any assessment tool is determined both by the psychometric properties of the measure and the decision rules (i.e., cut scores) used to make these decisions. A less stringent decision rule will result in more youths being identified as having significant social and emotional needs. A more stringent decision rule will result in fewer youths being identified. In the case of the DESSA-HSE, we have chosen a relatively stringent decision rule to minimize the chances of youths being over-identified as having social and emotional needs. We aim to reduce the number of false positives (i.e., overidentifying students who do not have a social and emotional need) to avoid overtaxing the system for follow-up assessment, while also recommending universal strategies to promote the social and emotional development of all young people. The DESSA-HSE cut score that is used to indicate

TABLE 3.10
Actual and Predicted Group Membership for the DESSA-HSE Criterion Validity Study (Educator Raters)

	SED Sample		Regular Education Sample	
	n	%	*n*	%
Actual Group Membership	149		149	
Predicted Group Membership				
SEC ≤ 40 (Need for Instruction)	98	65.8%	26	17.4%
SEC > 40 (Typical/Strength)	51	34.2%	123	82.6%

a need for instruction reflects the threshold in the national standardization sample that indicates a young person is one standard deviation below the mean (lowest 16th percentile) and reflects our recommendation for practice. Schools may have different preferences for these decision rules based on local conditions and resources available. In these situations, this cut score may be adjusted to meet local needs and opportunities.

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, two types of construct validity were investigated. The first pertains to the DESSA-HSE'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 scale scores and scores on other widely used measures of behavioral strengths and problematic behaviors in youth. This study is discussed below in the "convergent validity" section.

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 items into statistically and logically derived scales. We examined this scale structure of the DESSA-HSE using confirmatory factor analysis.

Confirmatory Factor Analysis. To better explore the validity of the DESSA-HSE'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 = 1,137). We fit an eight-factor model in which each item was assigned to one factor in alignment with its earlier assignment to one of the eight DESSA-HSE scales (Self-Awareness, Self-Management, etc.). Chapter 2 of this manual provides a discussion of assignment of items to the eight 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 eight-scale solution exhibited an excellent model fit, as indicated by a Tucker-Lewis Index (TLI) value of .997 and a Root Mean Square Error of Approximation (RMSEA) value of .030.

This evidence suggests that the eight-factor DESSA-HSE 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 scales of Self-Awareness and Optimistic Thinking), Self-Management (comprised of the DESSA-HSE scales of Self-Management and Goal-Directed Behavior), Social-Awareness (comprised of the DESSA-HSE scale of Social-Awareness), Relationship

TABLE 3.11
Fit Indices for the DESSA-HSE Eight-Scale Model and Three Alternative Models (Educator 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)
Eight-Scale Model	1688.61 // $p < .001$	3745.35 // $p < .001$	832	.997	.030
Five-Scale Model	2024.72 // $p < .001$	4137.13 // $p < .001$	850	.996	.035
Three-Scale Model	2329.65 // $p < .001$	4447.12 // $p < .001$	857	.995	.039
One-Scale Model	2682.34 // $p < .001$	4835.02 // $p < .001$	860	.993	.043

Skills (comprised of the DESSA-HSE scale of Relationship Skills), and Responsible Decision Making (comprised of the DESSA-HSE 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 scales of Self-Awareness, Optimistic Thinking, Self-Management, and Goal-Directed Behavior); Inter-Personal (comprised of the DESSA-HSE scales of Social-Awareness and Relationship Skills), and Decision Making (comprised of the DESSA-HSE scales of Personal Responsibility and Decision Making).
3. A one-factor model that assigned all items to a single factor.

Fit indices for the eight-scale model and the three additional models are presented in Table 3.11. Each model tested exhibits a high TLI value (ranging from .993 for the one-scale model to .997 for the eight-scale model) and a low RMSEA value (ranging from .030 for the eight-scale model to .043 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 model relative to the alternative models, the proposed DESSA-HSE 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 3.12.

TABLE 3.12
Comparisons Between the DESSA-HSE Eight-Scale Model and Three Alternative Models (Educator Raters)

Comparison	Chi-square of Eight-Scale Model	Chi-square of Comparison Model	Chi-square Difference	df Difference	*p*
Eight-Scale Model vs. Five-Scale Model	1688.61	2024.72	305.09	18	$p < .001$
Eight-Scale Model vs. Three-Scale Model	1688.61	2329.65	548.57	25	$p < .001$
Eight-Scale Model vs. One-Scale Model	1688.61	2682.34	806.21	28	$p < .001$

These results indicate that the proposed DESSA-HSE eight-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 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 Scale Scores. Evidence for the construct validity of DESSA-HSE 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 ran a frequency distribution and descriptive statistics of the T-score difference. These results are presented in Table 3.13.

TABLE 3.13
Cumulative Frequencies of the T-score Difference between the Highest and Lowest DESSA-HSE Scale Scores (Educator Raters)

Cumulative Frequencies of the *T*-Score Difference between the Highest and Lowest DESSA-HSE Scale Scores			
Scale Difference	Cumulative Percent	Scale Difference	Cumulative Percent
0	.1	22	95.3
1	.1	23	96.1
2	.7	24	97.0
3	1.7	25	97.5
4	4.4	26	97.9
5	7.3	27	98.4
6	14.4	28	98.7
7	19.4	29	99.3
8	26.2	30	99.4
9	35.1	31	99.4
10	43.5	32	99.7
11	51.5	33	99.7
12	59.2	34	99.7
13	66.9	35	99.7
14	72.6	36	99.7
15	77.5	37	99.7
16	82.2	38	99.7
17	85.7	39	99.7
18	89.4	40	99.8
19	91.1	41	100.0
20	92.9	M	12.07
21	94.6	SD	5.47

There are several important points to consider when examining the variability of DESSA-HSE scale scores. First, the mean difference between all youths' highest and lowest *T*-scores is 12.1 (SD = 5.5). This means that the typical high school youth will show a difference of about 12 *T*-score points between the highest and lowest of the eight DESSA-HSE scales. Second, the cumulative percentages of DESSA-HSE scale *T*-score differences reported in Table 3.13 tells us that very few youths (7.3%) rated by an educator had minimal or no variation (defined as five or fewer points) between their highest and lowest DESSA-HSE scale *T*-score. Similarly, few youths (8.9%) had a difference of 19 points or more. This, along with the mean difference reported at the bottom of Table 3.13, indicates that typically, the eight DESSA-HSE scales do differ from one another.

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 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 with standard scores from the Social Emotional Assets and Resilience Scales (SEARS, Merrell, 2011) and the Behavior Assessment System for Children-Third Edition (BASC-3; Reynolds & Kamphaus, 2015). High school educators ($N = 70$) completed the DESSA-HSE and the SEARS or BASC-3 in one session in counterbalanced order to avoid practice or fatigue effects.

The demographic characteristics of the youths involved in this study are presented in Table 3.14. These data indicate that this sample was diverse in terms of demographics.

The results of this study, which are presented in Table 3.15 (SEARS) and Table 3.16 (BASC-3), indicate that the DESSA-HSE has strong convergent validity with both instruments. The DESSA-HSE SEC correlated significantly ($r = .94$, $p < .01$) with the SEARS Total Score, and its four scale scores including Self-Regulation ($r = .93$, $p < .01$), Social Competence ($r = .69$, $p < .01$), Empathy ($r = .86$, $p < .01$), and Responsibility ($r = .94$, $p < .01$). Similarly, the DESSA-HSE SEC correlated significantly with the Adaptive Skills Composite on the BASC-3 ($r = .91$, $p < .01$). Furthermore, as would be expected, the SEC correlated negatively with the Externalizing Problems Composite ($r = -.62$, $p < .01$), Internalizing Problems Composite ($r = -.45$, $p < .01$), School Problems Composite ($r = -.81$, $p < .01$), and Behavioral Symptoms Index ($r = -.81$, $p < .01$) of the BASC-3.

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,

TABLE 3.14
Demographic Characteristics of the DESSA-HSE Construct Validity Sample (Educator Raters)

	SEARS (*n* = 35)		BASC-3 (*n* = 35)	
	n	%	*n*	%
Grade				
9	14	40.0	13	37.1
10	6	17.1	7	20.0
11	9	25.7	6	17.1
12	6	17.1	9	25.7
Birth Sex				
Male	17	48.6	15	42.9
Female	18	51.4	20	57.1
Race				
American Indian/Alaskan Native	3	8.6	4	11.4
Asian	1	2.9	2	5.7
Black/African American	10	28.6	7	20.0
Native Hawaiian/Other Pacific Islander	0	0	0	0
White	12	34.3	15	42.9
Two or More	0	0	1	2.9
Don't Know/Missing	9	25.8	6	17.2
Ethnicity				
Not Hispanic/Latinx	26	76.3	28	80.0
Hispanic/Latinx	9	25.7	7	20.0
Region of Residence				
Northeast	5	14.7	5	14.3
Midwest	9	26.5	9	25.7
South	9	26.5	7	20.0
West	11	32.4	14	40.0
Free or Reduced-Price Lunch Eligibility				
Yes	12	35.3	12	34.3
No	4	11.8	5	14.3
Don't Know	18	52.9	18	51.4

TABLE 3.15
Results of the DESSA-HSE Construct Validity Study Correlation of the DESSA-HSE Social-Emotional Composite with SEARS Scales (Educator Raters)

	DESSA-HSE Social-Emotional Composite	—	—
	r	Mean	SD
SEARS			
Self-Regulation	.93*	49.5	10.3
Social Competence	.69*	49.4	8.7
Empathy	.86*	51.4	10.8
Responsibility	.94*	47.4	11.1
Total Score	.94*	49.1	10.4
DESSA-HSE Social-Emotional Composite		47.9	10.2

*$p < .01$

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

TABLE 3.16
Results of the DESSA-HSE Construct Validity Study Correlation of the DESSA-HSE Social-Emotional Composite with BASC-3 Summary Scales (Educator Raters)

	DESSA-HSE Social-Emotional Composite	—	—
	r	Mean	SD
BASC-3			
Externalizing Problems	–.62*	51.9	10.0
Internalizing Problems	–.45*	51.8	9.9
School Problems	–.81*	54.4	11.2
Behavioral Symptoms	–.81*	53.9	10.6
Adaptive Skills	.91*	45.0	10.2
DESSA-HSE Social-Emotional Composite		46.3	9.0

*$p < .01$

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. Additional analyses are planned for the future.

We examined race and ethnicity differences in the DESSA-HSE standardization sample using a series of regression models to predict the DESSA-HSE SEC *T*-score and the eight DESSA-HSE scale *T*-scores from youths' race/ethnicity, statistically parsing out factors which may obscure the analysis of differences in social and emotional competence by race/ethnicity. These factors included: youth sex, socioeconomic status, and preferred language (only included for Hispanic/Latinx youth analysis). Youths were excluded from analysis if data across these factors were missing. We used these procedures to compare: (1) Black/African American youths (n = 99) and *all other* youths (n = 617); and (2) Hispanic/Latinx youths (n = 158) and *all other* youths (n = 545).

Black/African American Youths vs. All Other Youths

The results obtained when examining the effect of race on DESSA-HSE scores, while controlling for birth sex (male vs. female) and free or reduced-price lunch eligibility (eligible vs. ineligible, as an indicator of socio-economic status), are shown in Table 3.17. The variable Black/African American was not found to be a significant predictor of the DESSA-HSE SEC *T*-score at the $\alpha = .05$ significance level. In addition, none of the eight scales showed a significant difference between Black/African American and all other youths (Bonferroni $\alpha = .006$).

Hispanic/Latinx Youths vs. All Other Youths

The results obtained when examining the effect of ethnicity on DESSA-HSE scores, when controlling for birth sex (male vs. female), free or reduced-price lunch eligibility (eligible vs. ineligible), and preferred language (English or not English), are shown in Table 3.18. Hispanic/Latinx ethnicity was found to be a significant predictor of the DESSA-HSE SEC T-score at the $\alpha = .05$ significance level. After controlling for birth sex, free or reduced-price lunch eligibility, and preferred language, the Hispanic/Latinx youths in the sample received SEC T-scores that were, on average, 2.14 T-score points lower than the non-Hispanic youths in the sample. None of the eight scales showed a significant difference between Hispanic/Latinx and all other youths (Bonferroni $\alpha = .006$).

Summary

When controlling for birth sex and free or reduced-price lunch eligibility status and using a Bonferroni correction to control for multiple comparisons, there were no differences on the eight DESSA-HSE scale scores between either: (1) Black/African-American and all other youths or (2) Hispanic/Latinx and all other youths. When examining differences obtained on the SEC, Hispanic/Latinx youths received lower scores than non-Hispanic youths. The small

TABLE 3.17

Regression Results for Black/African American Youths (*n* = 99) vs. All Other Youths (*n* = 617) (Educator Raters)

DESSA-HSE 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 α = .05 Significance Level?	Significant after Bonferroni Correction? pairwise α = .006
Social-Emotional Composite	–1.464	49.4	50.9	–1.375	.170	No	NA
Self-Awareness	–.808	50.5	51.3	–.735	.462	No	No
Self-Management	–1.363	49.6	50.9	–1.238	.216	No	No
Social-Awareness	–1.896	48.7	50.6	–1.700	.090	No	No
Relationship Skills	–1.479	48.4	49.9	–1.318	.188	No	No
Personal Responsibility	–1.802	48.7	50.5	–1.621	.105	No	No
Decision Making	–2.319	49.1	51.4	–2.083	.038	Yes	No
Goal-Directed Behavior	–1.023	50.0	51.0	–.941	.347	No	No
Optimistic Thinking	–.918	50.6	51.5	–.833	.405	No	No

TABLE 3.18

Regression Results for Hispanic/Latinx Youths (n = 158) vs. All Other Youths (n = 545) (Educator Raters)

DESSA HSE 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	–2.144	49.0	51.1	–2.339	.020	Yes	NA
Self-Awareness	–1.985	49.6	51.6	–2.096	.036	Yes	No
Self-Management	–1.846	49.3	51.2	–1.940	.053	No	No
Social-Awareness	–2.379	48.5	50.9	–2.487	.013	Yes	No
Relationship Skills	–2.078	48.0	50.1	–2.145	.032	Yes	No
Personal Responsibility	–2.021	48.8	50.8	–2.109	.035	Yes	No
Decision Making	–1.541	50.0	51.5	–1.600	.110	No	No
Goal-Directed Behavior	–1.235	50.1	51.3	–1.314	.189	No	No
Optimistic Thinking	–2.551	49.3	51.8	–2.686	.007	Yes	No

difference of 2.14 T-score points was statistically significant and not explained by birth sex, free or reduced-price lunch eligibility, or primary language.

Validity Study Summary

The content-related evidence provided in this chapter related the DESSA-HSE items to both the research and practice literatures on social and emotional competence in youth. The results of the criterion-related validity studies demonstrated that DESSA-HSE scores do differentiate between groups of youths with and without the special education designation of SED. The construct-related validity studies provide evidence in support of the eight-scale model structure of the DESSA-HSE and demonstrate that the DESSA-HSE scales show strong convergent validity with similar measures, whether a strength-based measure or a problem-focused measure. Lastly, the race/ethnicity group analyses indicated no differences on the eight DESSA-HSE scales between either Black/African-American and all other youths or Hispanic/Latinx and all other youths after controlling for birth sex and free or reduced-price lunch eligibility. A small difference of 2.14 *T*-score points was observed between Hispanic/Latinx youths and all other youths on the DESSA-HSE SEC.

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

Chapter 4

ADMINISTRATION AND SCORING

CHAPTER 4

Administration and Scoring

General Administration Guidelines

The DESSA-HSE Educator record form can be completed by an educator (this includes teachers, teacher aides, instructional assistants, etc.) as well as OST program staff. For simplicity, these raters are referred to in this manual as "educators." The person who completes the DESSA-HSE and provides the ratings is referred to as the "rater." The person who interprets and uses the DESSA-HSE ratings is referred to as the "user" and is often the same person as the rater. However, student support personnel such as school counselors, psychologists, and social workers as well as staff from social service, mental health, or child welfare agencies may also serve as users. The qualifications of raters and users were described in Chapter 1. The following general guidelines for completing the DESSA-HSE should be reviewed with the rater:

- First, the rater should complete the DESSA-HSE during a quiet time when there are few distractions.
- Second, the rater should base the ratings on direct observations of the youth, considering only behaviors that the rater has actually seen. The rater should not consider behaviors that were reported to occur in other classrooms or settings. Youths' behavior, including the demonstration of social and emotional competencies, may vary in different environments and with different adults. Capturing and understanding these differences by comparing ratings provided by different raters can provide a more complete, nuanced, and accurate picture of the youth's social and emotional competencies. For similar reasons, the use of group ratings in which two or more educators collaborate to provide a single rating is discouraged because it obfuscates these important contextual differences.
- Third, the rater should consider only those behaviors that have occurred in the past four weeks. In general, a rater should have the opportunity to observe the youth for one or more class or OST program periods per day for at least three days per week for four weeks. This

translates to approximately 12 to 24 hours of exposure to the youth. These guidelines are based on educators' estimation of how long they need to have a youth in their classroom or OST program before they feel confident in providing a DESSA-HSE rating. In addition, reliability did not improve when educators reported spending more time observing the youth (up to "six or more hours per week"). However, it is important to keep in mind that this is a general recommendation, not a strict requirement. The most important consideration is the degree of confidence that the rater has in completing the DESSA-HSE.

Especially in after-school or summer program settings, one must consider the many factors that play a role in a rater's exposure to a youth, such as staff–youth ratios, types of interactions in the program (e.g., individual mentoring, help with homework, large or small group activities, unstructured recreation time, etc.), and a variety of other factors. Therefore, a rater who has less exposure than the 12 to 24 recommended hours may still know the youth well enough to complete the DESSA-HSE and can do so accurately, depending on these factors. It should be noted that because the DESSA-HSE scores are based on the number of times specific behaviors have been noted, a rater's insufficient opportunity to observe the youth could lead to an erroneously low rating. This should be taken into consideration when interpreting a youth's DESSA results.

Although some educators may feel hesitant in completing the DESSA-HSE, the psychometric study data presented in Chapter 3 indicate that, in general, educators are good observers of high school-aged youths and provide reliable and useful estimates of youths' social and emotional competencies. Professional development offered by Aperture Education can increase an educator's confidence in using the DESSA-HSE.

- Fourth, when completing the DESSA-HSE, the rater should avoid comparing the youth being rated to other youths. The rating should be based solely on the number of times the youth being rated exhibited the behaviors, not how frequently the youth exhibited the behavior in comparison to other youths in the classroom or program.
- Fifth, the rater is requested to answer every item. An inability to complete the items indicates that the rater may not know the youth well, and another rater should be used. If a behavior is not observed, the rater should be encouraged to answer "never." The rater may leave up to two items blank as long as they are on different scales (see "Treatment of Missing Items" below).

Specific Directions for Completing the DESSA-HSE

The DESSA-HSE is available only through the online Aperture System; there is no hand-scorable paper record form available. A PDF of the DESSA-HSE items can be generated through the Aperture System as needed to collect pencil and paper responses for entry into the online system. There is only one form, which is used for all youth in the ninth through the 12th grade. In nongraded programs, the DESSA-HSE can be used with youths ages 13 through 19, inclusive. The DESSA-HSE 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 available on the Aperture System Support Portal.

Completing the Ratings

The online DESSA-HSE Educator record form contains the following directions to the rater:

> This 43-question 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 the youth** . . . and click on the button underneath the word that tells how often you saw the behavior. 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. Please do not skip any items.

The 43 items that comprise the DESSA-HSE are presented in a scrolling list (see Figure 4.1). The rater responds to each item by clicking on the appropriate "radio button" (circle) underneath the words "Never," "Rarely," "Sometimes," "Often," or "Almost Always." When all items have been completed, the rater clicks on the "Complete" button to save and score the DESSA-HSE. To ensure the security of the Aperture System and to protect sensitive student information, ratings must be completed in one session. The Aperture System will not store partially completed ratings.

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

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

Treatment of Missing or Blank Items

The Aperture System limits the number of items that can be left blank to ensure the validity and reliability of the ratings. If one or more items are left blank and the rater clicks on the "Complete" button, the Aperture System will present the following message: *"Too many questions are left blank. Please answer additional questions, then submit again."* along with a list of the items missing a rating. The rater can either go back and provide the missing ratings, or, if the rater truly cannot answer the items, click on the "Complete" button again.

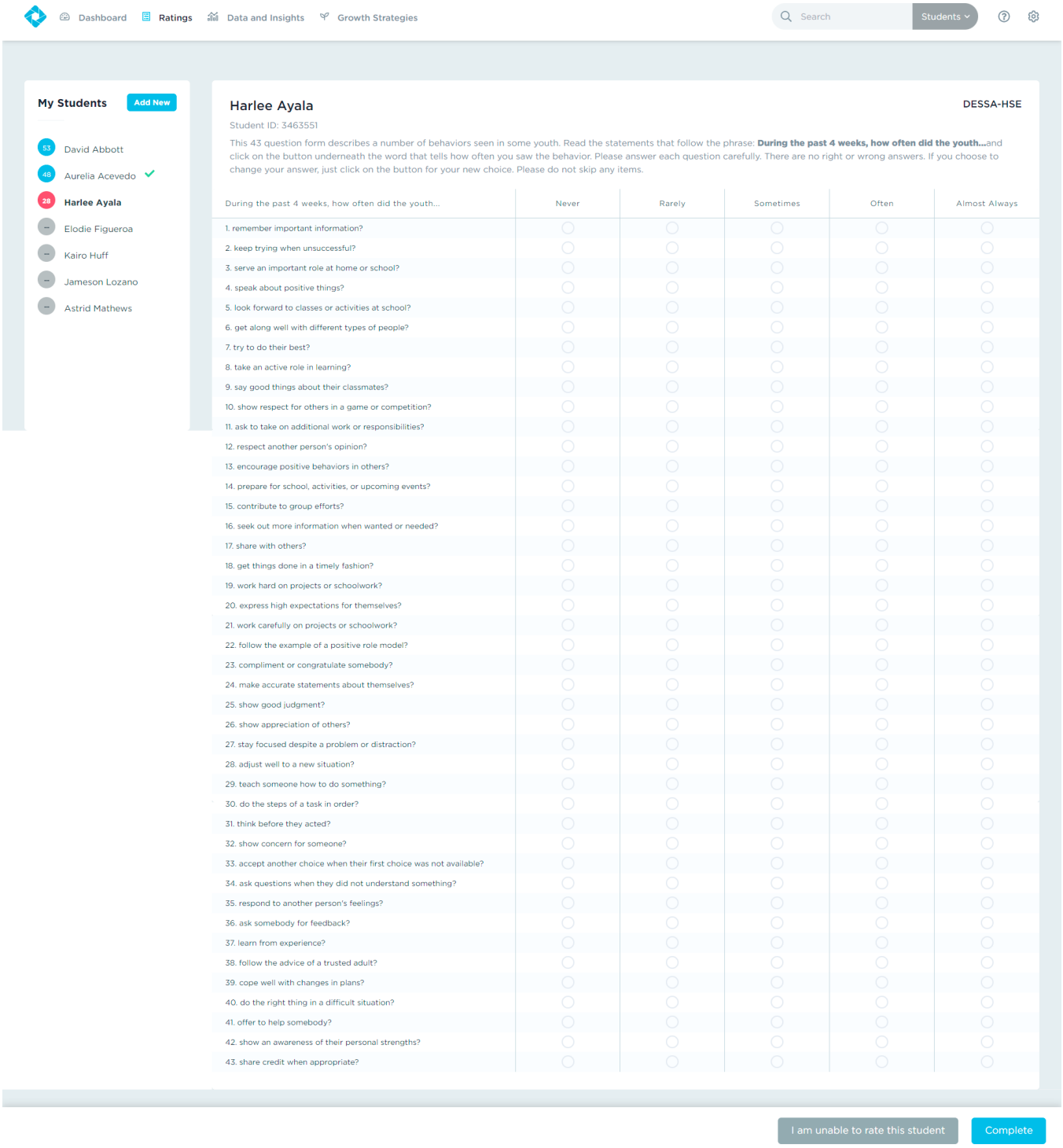
The Aperture System will score the DESSA-HSE if the following conditions are met:

1. There are no more than two (2) items left blank on the entire DESSA-HSE.
2. There is no more than one (1) item left blank on any individual scale.

If the above two conditions are met, the Aperture System will compute the mean score for the other items assigned to the same scale as the missing item, round the mean to the nearest whole number, and substitute that value for the missing item. The rater will not see the substituted value on the record form, but it will be used in calculating the rating results.

If three or more ratings are left blank and the rater clicks on the "Complete" button, the Aperture System will display this message, along with a list of the missing items: *More than 2 questions are blank for this DESSA-HSE. Please complete your form and submit again*. If the

FIGURE 4.1
DESSA-HSE Educator Record Form Presented in the Aperture System



rater cannot provide a rating for the missing items (that is, the rater still leaves three or more items blank), the form cannot be scored, and the rater will need to click on the "I am unable to rate this student" button. In this circumstance, another rater who knows the youth better should be asked to complete the DESSA-HSE.

Scoring the DESSA-HSE

The Aperture System automatically scores and saves the DESSA-HSE administration as soon as the "Complete" button is clicked. DESSA-HSE scores are computed in the following way.

Calculating the DESSA-HSE Scale Raw Scores

Scale Raw Scores for the eight scales (Self-Awareness, Self-Management, Social-Awareness, Relationship Skills, Personal Responsibility, Decision Making, Goal-Directed Behavior, and Optimistic Thinking) 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 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 only one DESSA-HSE norms table for educator raters; the same norms are used for grades 9 through 12 and for 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 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 eight DESSA-HSE 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 eight DESSA-HSE scales.

Determining the Descriptive Range for Each Scale

For each scale, high scores (*T*-scores of 60 and above) are referred to as *strengths*. This range of scores is indicated by green shading on reports. *T*-scores that fall between 41 and 59 inclusive are described as *typical* and are indicated by blue shading on reports. Low scores (*T*-scores of 40 and below) are described as a *need for instruction*. This range of scores is indicated by red shading on the reports. The interpretation and use of these scores in providing data-driven social and emotional learning, monitoring progress, and evaluating program outcomes is described in the next chapter.

Note for Researchers: Aperture Education encourages the use of the DESSA suite of assessments, including the DESSA-HSE, 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 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 youth. When interpreting DESSA-HSE scores, the DESSA-HSE user should always consider the following general guidelines.

First, the DESSA-HSE user should have a thorough understanding of the meanings and appropriate uses of the various standard scores and descriptive ranges. Although the DESSA-HSE meets or exceeds accepted professional standards for reliability, the user needs to realize that all assessments 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 findings. Although we took many steps during the development of the DESSA-HSE 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 items might exist, as they would with any assessment. Therefore, the DESSA-HSE user should be sensitive to cultural differences when interpreting the DESSA-HSE.

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 users:

- An understanding of psychosocial stressors and traumas such as 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 findings, and more useful recommendations to youths, parents, and educators.

Third, users should appreciate that the DESSA-HSE is one source of information about the social and emotional competence of youth. Each set of DESSA-HSE scores is based on the ratings provided by a single adult. Therefore, the scores reflect the unique interactions between the youth and that adult in a particular context, often the classroom. A different rater who sees the youth in a different context may well provide somewhat different ratings. Therefore, we recommend that DESSA-HSE 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 and the rater comparison technique explained later in this chapter.

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

Although the DESSA-HSE 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 very helpful in informing an individual education plan (IEP) or other support plans. The DESSA-HSE 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 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 can inform the IEP, resulting in student-specific, empirically grounded, data-driven strength and goal statements.

More specific issues regarding interpretation of the DESSA-HSE 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 Aperture System (the web-based platform that supports the DESSA-HSE) does not display raw scores, they are discussed here because they are the basis for determining the standard scores that are provided. Furthermore, researchers may need the raw scores for certain analyses, although raw scores should always be converted into standard scores in research reports to enable comparisons across studies, including meta-analyses. 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 6 items. Therefore, an average rating of "Sometimes," which has an item raw score value of 2 would result in a Scale Raw Score of 12. In contrast, an average rating of "Sometimes" on the 4-item Optimistic Thinking scale would result in a Scale Raw Score of only 8.

Standard Scores

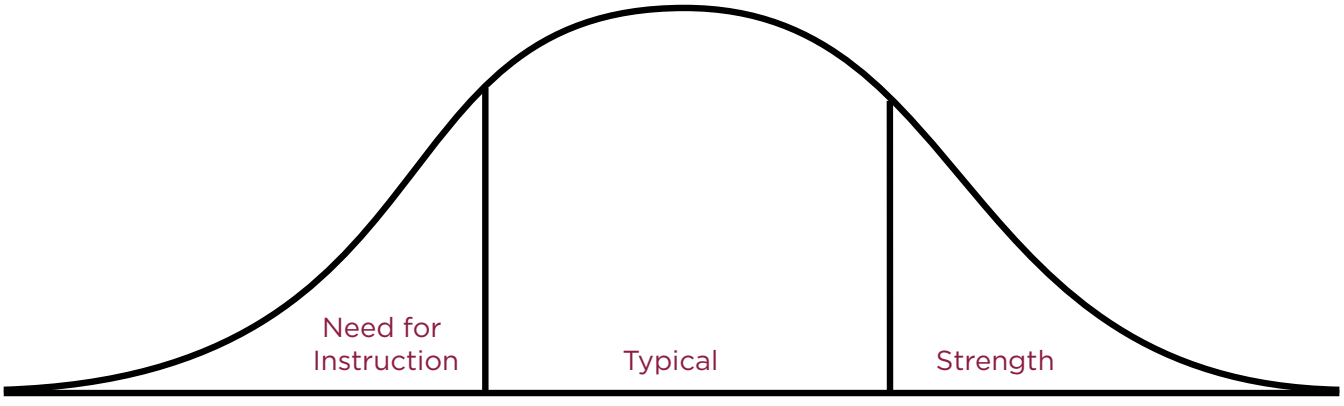
The DESSA-HSE provides standard scores derived from the national standardization sample so that the scores on the eight separate scales of the DESSA-HSE can be directly compared. Standard scores also enable the comparison of a given youth's behavior to that of the youths in the standardization sample.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

Percentile Ranks

Percentile ranks compare the youth's behavior to that of other youths who have been rated using the DESSA-HSE. 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 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

FIGURE 5.1
Relationship of DESSA-HSE T-Scores, Percentile Ranks, and the Normal Curve



problem with percentile ranks is that differences between the ranks do not have the same meaning across the 1–99 scale. That is, a five-point difference between percentile ranks of 90 and 95 is a much greater distance on the normal curve than a five-point difference between percentile ranks of 50 and 55. This means that comparing two DESSA-HSE scales using percentile ranks might lead 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 the other youths in the standardization sample, they should not be used to compare a youth's scores across DESSA-HSE 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 *T*-scores should be used for that purpose.

T-Scores

Each DESSA-HSE *T*-score is a standard score set to have a mean of 50 and standard deviation of 10. Like the percentile ranks, *T*-scores are based on the ratings received by the youths in the standardization sample. In contrast to percentile ranks, however, DESSA-HSE *T*-scores have the same meaning throughout their range. The five-point difference between the *T*-scores of 50 and 55 is equivalent to the five-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 results and when comparing scores earned on the various scales. On the DESSA-HSE, *T*-scores can range from 28 to 72.

T-Score Range Descriptions for the DESSA-HSE Scales

The DESSA-HSE is a strength-based assessment in which the items reflect positively valued social and emotional competencies, and therefore high scores are desirable. For example, when rating how often a youth "keep(s) trying when unsuccessful" or "show(s) appreciation of 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 recommend using the following *T*-score range descriptions when reporting DESSA-HSE results. The term "need for instruction" (or "need" for short) should be used to describe DESSA-HSE scale *T*-scores of 28 to 40 inclusive. Scores of 40 or less mean that the youth was rated as showing few behaviors associated with the particular social and emotional competency. Youth 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

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

60 and above	Strength
41–59	Typical
40 and below	Need for Instruction

DESSA-HSE Growth Strategies provided in the Aperture System are designed for this purpose. In the Aperture System, scores in the need for instruction range are color-coded as red.

Scale *T*-scores of 41 to 59 inclusive should be described as "typical." 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 youth such as those found in the Growth Strategies section of the Aperture System. Scores in the typical range are color coded as blue in the Aperture System.

DESSA-HSE 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. Teachers and OST program staff should consider and implement strategies to support, sustain, and broaden social and emotional competencies that are rated in the strength range.

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

The Meaning and Interpretation of the DESSA-HSE Scales

The DESSA-HSE Scales

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

Self-Awareness: A youth's realistic understanding of their strengths and limitations and consistent desire for self-improvement.

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.

Optimistic Thinking: A youth's attitude of confidence, hopefulness, and positive thinking regarding themself and their life situations in the past, present, and future.

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. 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

Interpretation of the DESSA-HSE results proceeds in a stepwise fashion from the most general indicator of the youth's social and emotional status to increasingly more specific information. This process should include the following three steps:

Step 1: The Social-Emotional Composite

First, examine the SEC *T*-score and note the corresponding range description (i.e., strength, typical, need for instruction). This is the broadest and the most reliable index of the youth's 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. The score a youth receives on the SEC also provides a frame of reference for the remaining interpretive steps.

Step 2: Examining Scale Scores

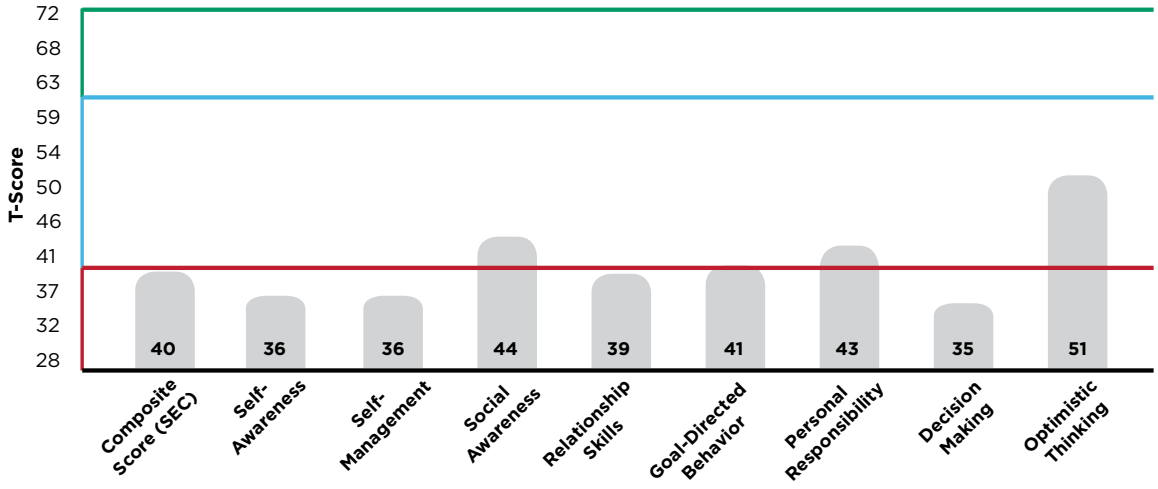
Next examine the eight separate DESSA-HSE scales, and note the *T*-scores and corresponding strength, typical, and need for instruction ranges. Examination of the separate DESSA-HSE scale *T*-scores provides useful information about the youth's specific social and emotional competencies. For instance, 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 and Self-Management scales) or interpersonal (as shown by high or low scores on Social-Awareness and Relationship Skills). Examination of the DESSA-HSE Individual Student Rating Report is particularly useful

FIGURE 5.2
A Sample DESSA-HSE Individual Student Rating Report as Presented in the Aperture System

Charleigh Copeland

Hillstrong High School • 1st Grade • SID #3461822

DESSA High School Edition completed on 08/01/2021 by Callie Snyder



at this step, as the visual depiction of the scale scores can make patterns easier to discern. Figure 5.2 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 eight DESSA-HSE 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 goal (e.g., item #2, keep trying when unsuccessful; item #19, work hard on projects or schoolwork) or in gathering information to guide goal-directed behavior (e.g., item #16, seek out more information when wanted or needed; item #8, take an active role in learning). Step 3 enables the DESSA-HSE 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 the youths in the standardization sample received scores in the need for instruction range on each item on the DESSA-HSE. Such a score on an individual item indicates that the rater has reported that the youth is not yet demonstrating this behavior in the

rater's presence to the extent considered typical in 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 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

Item Number	Item	Need for Instruction	Typical	Strength
1	Remember important information?	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	Speak 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	Try to do their best?	0, 1	2, 3	4
8	Take an active role in learning?	0, 1	2, 3	4
9	Say good things about their classmates?	0, 1	2, 3	4
10	Show respect for others in a game or competition?	0, 1, 2	3	4
11	Ask to take on additional work or responsibilities?	0	1, 2, 3	4
12	Respect another person's opinion?	0, 1	2, 3	4
13	Encourage positive behaviors in others?	0, 1	2, 3	4
14	Prepare for school, activities, or upcoming events?	0, 1	2, 3	4
15	Contribute to group efforts?	0, 1	2, 3	4
16	Seek out more information when wanted or needed?	0, 1	2, 3	4
17	Share with others?	0, 1	2, 3	4
18	Get things done in a timely fashion?	0, 1	2, 3	4
19	Work hard on projects or schoolwork?	0, 1	2, 3	4
20	Express high expectations for themselves?	0, 1	2, 3	4
21	Work carefully on projects or schoolwork?	0, 1	2, 3	4
22	Follow the example of a positive role model?	0, 1	2, 3	4
23	Compliment or congratulate somebody?	0, 1	2, 3	4
24	Make accurate statements about themselves?	0, 1	2, 3	4

(*continued on next page*)

TABLE 5.2
Individual Item Analysis Values for the DESSA-HSE (Cont.)

Item Number	Item	Need for Instruction	Typical	Strength
25	Show good judgment?	0, 1	2, 3	4
26	Show appreciation of others?	0, 1	2, 3	4
27	Stay focused despite a problem or distraction?	0, 1	2, 3	4
28	Adjust well to a new situation?	0, 1	2, 3	4
29	Teach someone how to do something?	0, 1	2, 3	4
30	Do the steps of a task in order?	0, 1	2, 3	4
31	Think before they acted?	0, 1	2, 3	4
32	Show concern for someone?	0, 1	2, 3	4
33	Accept another choice when their first choice was not available?	0, 1	2, 3	4
34	Ask questions when they did not understand something?	0, 1	2, 3	4
35	Respond to another person's feelings?	0, 1	2, 3	4
36	Ask somebody for feedback?	0, 1	2, 3	4
37	Learn from experience?	0, 1	2, 3	4
38	Follow the advice of a trusted adult?	0, 1	2, 3	4
39	Cope well with changes in plans?	0, 1	2, 3	4
40	Do the right thing in a difficult situation?	0, 1	2, 3	4
41	Offer to help somebody?	0, 1	2, 3	4
42	Show an awareness of their personal strengths?	0, 1	2, 3	4
43	Share credit when appropriate?	0, 1	2, 3	4

The primary advantage of this method is that it allows for 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 #18, "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 #13, "encourage positive behavior 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 assessment results to SEL strategies and tiered interventions.

Another advantage of the Individual Item Analysis method is that it allows the DESSA-HSE user to identify specific needs for instruction even if the youth's scale scores are not in the

FIGURE 5.3

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

Individual Item Analysis	Personal Responsibility ⌄		
Competency	**Item**	**Response**	**Category**
Personal Responsibility	prepare for school, activities or upcoming events?	Almost always	Strength
Personal Responsibility	remember important information?	Sometimes	Typical
Personal Responsibility	serve an important role at home or school?	Sometimes	Typical
Personal Responsibility	encourage positive behavior in others?	Often	Typical
Personal Responsibility	get things done in a timely fashion?	Rarely	Need
Personal Responsibility	work carefully on projects or schoolwork?	Rarely	Need

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 promoting 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 user has the option of viewing the item-level results for an individual competency or all eight 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 5.3 provides an example of this functionality.

Advanced Interpretation of the DESSA-HSE

Comparisons Across Raters

The scores that a youth receives on the DESSA-HSE are based on the observations of a single adult, often in a particular setting, over a limited period of time. As such, the ratings reflect a sample of the youth's social and emotional competencies. Youths may well demonstrate additional competencies in different environments with different adults. For instance, a classroom teacher may not have the opportunity to observe the various behaviors related to Personal Responsibility that the youth demonstrates at home, on an athletic team, or in another extracurricular activity. Comparison of DESSA-HSE *T*-scores on the same youth, on the same scale, but obtained from different raters (for example, a teacher and a coach) can be very useful. Such comparisons can demonstrate the consistency of the youth's behavior across environments and adults or can show how the youth's behavior differs under various circumstances. This information can help the DESSA-HSE user more fully understand the youth's behavior and plan

more effective strategies for strengthening social and emotional competencies within these different contexts.

The DESSA-HSE assessment suite incorporates ratings from three key stakeholders in the youth's life: (1) educators, (2) parents and other family caregivers, and (3) the youth themself. This section of this manual presents the approach for comparing ratings completed by educators. The manual accompanying the DESSA-HSE Parent record form will address both comparing ratings obtained from different family members and comparing a parent/family member rating with an educator rating. The manual accompanying the DESSA-HSE Student Self-Report will present the approach for comparing all three informants: educator, parent, and the youth themself to obtain the most complete understanding of the youth's social and emotional competence.

Comparing scores obtained from different raters must take measurement error into consideration. Essentially the user must determine if the differences in DESSA-HSE scores exceed the amount of variation that would be expected due to chance. Table 5.3 provides the differences needed for significance at the 95% and 99% level of significance, when comparing ratings on the same scale obtained from different educators. Table 5.3 is used to compare the ratings obtained from two educators, keeping in mind that this term encompasses staff in OST programs. The values in these tables are based on the standard error of the difference between the scores, calculated using the formula provided by Anastasi and Urbina (1997), a z value of 1.96 or 2.57 for the 95% and 99% level of significance respectively, and the standard errors of measurement provided in this manual in Table 3.2.

The 95% level of significance should be used when comparing two raters. To control for the increase in the probability of a Type I error when making multiple comparisons, the 99% level of significance should be used when comparing three or more raters. For example, when comparing the ratings obtained from a science teacher, a language arts teacher, and a music teacher, three pair-wise comparisons can be made (science-language arts, science-music, music-language arts). The 99% level of significance values should be used for each pair-wise comparison, so that across all three comparisons, the probability of a Type I error is less than 5% ($p < .05$).

To use this table, first determine if the comparison is to be made using the 95% ($p < .05$) or 99% ($p < .01$) level of significance. The .01 values are presented in the top row of numbers in Table 5.3, and the .05 values in the bottom row. Next, find the column of the table for the appropriate scale that is being compared. To be significant, the difference between the two raters' T-scores on this scale must be equal to or greater than the tabled value.

TABLE 5.3
Differences Required for Significance When Comparing DESSA-HSE T-Scores Between Two Educator Raters

	Self-Awareness	Self-Management	Social-Awareness	Relationship Skills	Personal Responsibility	Decision Making	Goal-Directed Behavior	Optimistic Thinking	Social-Emotional Composite
$p = .01$	13	11	13	10	12	11	11	14	5
$p = .05$	10	9	10	8	9	8	8	11	4

For example, if the language arts teacher and a teacher aide in the same class both rate the same youth, and the SEC *T*-score is 60 when rated by the teacher and 54 when rated by the aide, the six-point difference is compared to the value in Table 5.3. Because we are only making one comparison involving one pair of raters, we would use the values for the .05 level of significance. In this example, the difference is significant (Table 5.3 shows that a difference of four or more points is needed). This result would be interpreted as meaning that the teacher and the aide provided reliably different ratings. The next step would be to gain an understanding of this difference within the context of the interactions between the youth and each educator. For instance, do the educators' ratings differ because the aide is working with the youth in small groups or one-to-one, which may provide more opportunities for the demonstration of certain social and emotional skills? A discussion of these differences can lead to a fuller understanding of the youth's social and emotional skill repertoire.

Progress Monitoring with the DESSA-HSE

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, 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. If the goal is to improve overall social and emotional competence, the use of the eight-item DESSA-HSE mini is recommended because of its brevity. However, the DESSA-HSE mini yields only one score, the Social-Emotional Total (SET), which is a measure of overall social and emotional competence. Consequently, if the question of interest is improvement in one or more specific social and emotional competencies, the full DESSA-HSE should be used.

To evaluate progress the administrations of the DESSA-HSE 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 initial DESSA-HSE 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 .2, .5, and .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 5.4, DESSA-HSE users can modify their social and emotional instruction (e.g., supplementing universal

TABLE 5.4
Interpretation and Guidance for Progress Monitoring

Magnitude of the Difference	Standard Deviation Unit	T-score Units	Guidance
Negligible/None	Less than .20	Less than 2	Supports are ineffective; try new supports and strategies. Consult with student assistance personnel.
Small	.20 to .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	.50 to .70	5 to 7 inclusive	Supports are moderately effective. Consider enhancing if resources, including time and personnel, permit.
Large	Greater than or equal to .80	8 or higher	Supports are working well. Continue current plans.

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.

Pretest–Posttest Comparisons and Summative Evaluation

Whereas the progress monitoring technique described above is a formative evaluation approach with a goal of improving individual youth outcomes, the pretest–posttest comparison technique described in this section is a summative evaluation approach designed to assess program effectiveness and inform continuous quality improvement (CQI) efforts. Similar to progress monitoring, the pretest–posttest comparison technique involves comparing changes in scores over time, but typically is used to compare the first or beginning of year (BOY) rating with the last or end-of-year (EOY) rating. Another key difference between these approaches is that the pretest–posttest comparison examines whether the observed change in scores between BOY and EOY is statistically significant. Whenever possible, the same rater should be used for both the pretest and the posttest rating.

The statistical significance of the difference between pretest and posttest scores can be determined using the method described by Atkinson (1991). This approach involves the comparison of the obtained posttest score with a range of scores that represents the variability expected by both regression to the mean and measurement error based on the pretest score. To obtain the values needed to assess the significance of the pretest–posttest score differences, we calculated the standard error of prediction (SEp). The standard error of prediction is used instead of the standard error of measurement because we are concerned about the predictability (or consistency) between the pretest and posttest scores. See Atkinson (1991) for more details or Naglieri and colleagues (1993) for more discussion.

Posttest confidence ranges were calculated for each DESSA-HSE scale and are presented in Appendix B. To determine if significant change has occurred, the pretest and posttest scores should be compared using the following method:

- Step 1: Find the pretest DESSA-HSE *T*-score in the first column labeled "Pretest Obtained Score."
- Step 2: Read across the table to the column that corresponds to the DESSA-HSE scale being evaluated.
- Step 3: If the posttest DESSA-HSE *T*-score falls within the posttest range of expected variation provided in the table, there has been no significant change in the youth's score. If, however, the posttest score falls above the posttest range, we can conclude that the youth's score has shown significant improvement. If the posttest score falls below the range provided, then we conclude that the score has shown significant decline.

For example, if a youth's rating on the Personal Responsibility scale was a *T*-score of 39 on the pretest and 50 on the posttest, then this change is considered significant and the youth's posttest score reflects reliable improvement in Personal Responsibility. We reach this conclusion because the posttest score of 50 exceeds the posttest range of 31–49. If that same youth's rating by an educator was initially a *T*-score of 35 in Decision Making with a posttest *T*-score of 44, then the change is not significant (a score of 45 or more is required).

Evaluating Programmatic Outcomes and Impact

The evaluation of changes in DESSA-HSE scores before and after intervention (i.e., BOY vs. EOY) is a way to determine the effectiveness of the strategies that were applied. It is important, however, to consider two issues when comparing differences over time. As recommended by Jacobsen and Truax (1991), treatment outcome or program evaluation should incorporate the dual criteria of statistically reliable change and clinically meaningful change. The first criterion, statistically reliable change, is addressed using the pretest–posttest comparison technique explained in the previous section. With respect to the second criterion, although Jacobsen and Truax proposed this approach for evaluating the outcomes of clinical interventions, their approach works equally well for evaluating social and emotional strategies, curricula, or programs. In the discussion that follows, we use the term "clinical significance" because we are discussing Jacobsen and Truax's approach. In the social and emotional learning (SEL) field, however, educational impact might be a more appropriate term and frame of reference. The critical consideration with this second criterion is whether the amount of change has a "real-life" or practical impact on the social and emotional competence of youths and ultimately their educational outcomes.

The analysis begins by determining whether the changes in the DESSA-HSE scores over time reflect statistically reliable change using the pretest–posttest comparison approach described above. Only when statistically reliable change has occurred, is the second criterion, the clinical meaningfulness of the change, determined by the examination of the value of the posttest *T*-scores. Clinically meaningful improvement can be further divided into optimal outcomes and favorable outcomes.

An optimal outcome is found when a youth with a pretest score in the need for instruction or typical range shows reliable change in a positive direction, as determined using Appendix B, *and* the posttest *T*-score falls in the strength range. A favorable outcome occurs when a

youth with a pretest *T*-score in the need for instruction or typical range shows reliable improvement, but the posttest *T*-score is below 60.

Ultimately, the best possible outcome for a youth is having all the DESSA-HSE social and emotional competency scales rated in the strength range. Conversely, the worst outcome for a youth is to have all the DESSA-HSE scales rated in the need for instruction range.

This dual criteria approach to examining the effectiveness of interventions and strategies to help youth develop social and emotional competencies is a very flexible and powerful tool. This approach enables the DESSA-HSE user to look at the effectiveness of interventions on a scale-by-scale and youth-by-youth basis. By using this method, we can determine which youths benefited from which interventions in which areas. This youth-specific information is especially useful to 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 optimistic thinking. 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 dual-criteria approach provides valuable data on youth outcomes that can inform both program evaluation/continuous quality improvement efforts 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 youth. 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 Example

The following example illustrates the interpretation of the DESSA-HSE 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 very well academically. He excels at math and science and is enrolled in the International Baccalaureate program. However, Aydin's chemistry teacher, Ms. Louden, is concerned that he lacks the interpersonal skills to succeed in classes that require group labs. To better understand Aydin's social and emotional skills, Ms. Louden completed a DESSA-HSE.

Step 1: Examination of the Social-Emotional Composite

Ms. Louden began by examining the SEC score on the Individual Student Rating Report. She noted that Aydin received a *T*-score of 45, and corresponding percentile rank of 35, 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 eight 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 both Self-Awareness and 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. Louden reviewed the individual item analyses presented on the Individual Student Rating Report. Given Aydin's very 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 two conceptually similar groups or clusters of items. The first cluster had to do with empathy and included item 32 "show concern for someone," and item 35 "respond to another person's feelings." Given that Aydin also demonstrated a need in Social-Awareness, which is key to showing empathy, Ms. Louden decided to concentrate her efforts on the second cluster that focused on showing appreciation of others and included items #43, "share credit when appropriate," #23, "compliment or congratulate somebody," and #26, "show appreciation of others."

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 "work(s) hard on projects or school-work," (item #19), "ask(s) to take on additional work or responsibilities" (item #11), and "try(ies) to do their best" (item #7). 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 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 complete a second DESSA-HSE on Aydin eight weeks after he completes the strategy to see if it was effective in promoting his Relationship Skills.

Using the DESSA-HSE to Improve Youth Outcomes

The DESSA-HSE is one component of the DESSA-HSE assessment suite, a comprehensive collection of resources designed to: (1) screen (DESSA-HSE mini), (2) assess (DESSA-HSE; DESSA-HSE Student Self-Report) social and emotional competencies, (3) guide and differentiate social and emotional instruction (DESSA High School Growth Strategies and Foundational Practices), and (4) monitor progress, assess programmatic outcomes, and inform quality improvement efforts (advanced interpretation techniques and reporting). This system incorporates multiple informants, including educators, parents/family caregivers, and the youths themselves, to provide a more complete and nuanced understanding of the youth's social and emotional strengths and needs for instruction. The overarching goal of this system is to maximize positive outcomes for each youth, a key to attaining educational equity.

The DESSA-HSE suite is accessed through a web-based platform, the *Aperture System* that is used to complete and score DESSA-HSE ratings, as well as run reports and connect DESSA-HSE scores to strategies. More detail on both the DESSA-HSE suite and the Aperture System is available through Aperture Education.

Here we highlight the information most related to the contents of this manual (DESSA-HSE Educator record form). This conclusion also reiterates and reinforces that the endpoint of the DESSA-HSE is not obtaining an understanding of each youth's social and emotional competencies but using this information to inform instruction and improve outcomes.

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

The use of the DESSA-HSE 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.[1] The DESSA-HSE resources and their applications at the three tiers of the MTSS framework are presented below.

Use of the DESSA-HSE 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 DESSA-HSE mini (Shapiro et al., 2022) 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,

[1] 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**

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 assessment with the DESSA-HSE. However, some programs have opted to use the full DESSA-HSE at the universal level because of the rich information it provides on eight social and emotional competencies. 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.

If a program uses 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.

Many schools and programs use the DESSA-HSE to support their use of universal, evidence-based SEL curricula, adjusting their delivery of the curriculum based on DESSA-HSE results. For example, the 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 skill 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 begin their SEL initiatives by assessing climate and culture. Many well-developed school climate surveys are available. The American Institutes for Research (AIR) provides a compendium of school climate surveys (**https://www.air.org/project/school-climate-survey-compendium**).

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. Some programs will prioritize the use of specific foundational practices based on the results of climate surveys. For instance, if the survey indicates that many youths do not feel a sense of attachment to their teachers, the school might utilize the "Building and Sustaining Relationships" foundational practice.

Use of the DESSA-HSE at Tier 2

As mentioned above, most programs use the DESSA-HSE mini as a universal screener of social and emotional competence. Those youths whose Social and Emotional Total (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 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 either 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 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 described above is particularly useful at this stage. 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 scales.

It is important to note that at all three tiers we are recommending that the 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 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 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 your 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 RDDepartment@ApertureEd.com if you are in need of assistance.

APPENDIX B

Values Needed When Comparing T-Scores

VALUES NEEDED FOR SIGNIFICANCE WHEN COMPARING DESSA-HSE T-SCORES OBTAINED BEFORE AND AFTER INTERVENTION FOR EDUCATOR RATERS (p = .05)

Pretest Obtained Score	Social-Emotional Composite	Self-Awareness	Self-Management	Social-Awareness	Relationship Skills	Personal Responsibility	Decision Making	Goal-Directed Behavior	Optimistic Thinking
	Posttest Range								
72	68-75	60-79	61-78	60-79	63-78	61-78	62-78	62-78	58-79
71	67-74	59-78	61-77	59-78	62-77	60-77	61-77	61-77	58-78
70	66-73	58-77	60-76	58-77	61-76	59-77	60-76	60-76	57-77
69	65-72	58-76	59-76	58-76	60-75	58-76	60-75	59-75	56-76
68	64-71	57-75	58-75	57-75	59-74	58-75	59-74	59-74	55-76
67	63-70	56-74	57-74	56-74	58-73	57-74	58-73	58-73	54-75
66	62-69	55-73	56-73	55-73	57-72	56-73	57-73	57-73	53-74
65	61-68	54-72	55-72	54-72	56-71	55-72	56-72	56-72	52-73
64	60-67	53-72	54-71	53-72	55-70	54-71	55-71	55-71	52-72
63	59-66	52-71	53-70	52-71	54-70	53-70	54-70	54-70	51-71
62	58-65	51-70	52-69	51-70	54-69	52-69	53-69	53-69	50-71
61	57-64	50-69	52-68	50-69	53-68	51-69	52-68	52-68	49-70
60	56-63	50-68	51-67	50-68	52-67	50-68	51-67	51-67	48-69
59	55-62	49-67	50-67	49-67	51-66	49-67	50-66	50-66	47-68
58	54-61	48-66	49-66	48-66	50-65	49-66	49-65	49-65	46-67
57	53-60	47-65	48-65	47-65	49-64	48-65	49-64	48-64	46-66

(*continued*)

VALUES NEEDED WHEN COMPARING T-SCORES (Cont.)

Pretest Obtained Score	Social-Emotional Composite	Self-Awareness	Self-Management	Social-Awareness	Relationship Skills	Personal Responsibility	Decision Making	Goal-Directed Behavior	Optimistic Thinking
	Posttest Range								
56	52-59	46-65	47-64	46-65	48-63	47-64	48-63	48-63	45-65
55	51-58	45-64	46-63	45-64	47-62	46-63	47-62	47-63	44-65
54	50-57	44-63	45-62	44-63	46-61	45-62	46-62	46-62	43-64
53	49-56	43-62	44-61	43-62	45-60	44-61	45-61	45-61	42-63
52	49-55	43-61	43-60	43-61	44-59	43-60	44-60	44-60	41-62
51	48-54	42-60	42-59	42-60	43-58	42-60	43-59	43-59	41-61
50	47-53	41-59	42-58	41-59	42-58	41-59	42-58	42-58	40-60
49	46-52	40-58	41-58	40-58	42-57	40-58	41-57	41-57	39-59
48	45-51	39-57	40-57	39-57	41-56	40-57	40-56	40-56	38-59
47	44-51	38-57	39-56	38-57	40-55	39-56	39-55	39-55	37-58
46	43-50	37-56	38-55	37-56	39-54	38-55	38-54	38-54	36-57
45	42-49	36-55	37-54	36-55	38-53	37-54	38-53	37-53	35-56
44	41-48	35-54	36-53	35-54	37-52	36-53	37-52	37-52	35-55
43	40-47	35-53	35-52	35-53	36-51	35-52	36-51	36-52	34-54
42	39-46	34-52	34-51	34-52	35-50	34-51	35-51	35-51	33-54
41	38-45	33-51	33-50	33-51	34-49	33-51	34-50	34-50	32-53
40	37-44	32-50	33-49	32-50	33-48	32-50	33-49	33-49	31-52
39	36-43	31-50	32-48	31-50	32-47	31-49	32-48	32-48	30-51
38	35-42	30-49	31-48	30-49	31-46	31-48	31-47	31-47	29-50
37	34-41	29-48	30-47	29-48	30-46	30-47	30-46	30-46	29-49
36	33-40	28-47	29-46	28-47	30-45	29-46	29-45	29-45	28-48
35	32-39	28-46	28-45	28-46	29-44	28-45	28-44	28-44	27-48
34	31-38	27-45	27-44	27-45	28-43	27-44	27-43	27-43	26-47
33	30-37	26-44	26-43	26-44	27-42	26-43	27-42	27-42	25-46
32	29-36	25-43	25-42	25-43	26-41	25-42	26-41	26-41	24-45
31	28-35	24-42	24-41	24-42	25-40	24-42	25-40	25-41	24-44
30	27-34	23-42	24-40	23-42	24-39	23-41	24-40	24-40	23-43
29	26-33	22-41	23-39	22-41	23-38	23-40	23-39	23-39	22-42
28	25-32	21-40	22-39	21-40	22-37	22-39	22-38	22-38	21-42

APPENDIX C

List of Data Collection Sites by State

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

ALABAMA

Athens High School, Athens
Calera High School, Calera
Corner High School, Dora
Fairview School, Cullman
Foley High School, Foley
Munford High School, Munford
Wetumpka High School, Wetumpka

ALASKA

Togiak High School, Togiak

ARIZONA

Boulder Creek High School, Anthem
Desert Vista High School, Phoenix
Douglas High School, Douglas
Prescott Valley High School, Prescott Valley
Presidio School, Tucson
Willow Canyon High School, Surprise

ARKANSAS

Centerpoint High School, Amity
Conway High School, Conway
Izard Center for Learning, Van Buren
Rogers Heritage High School, Rogers
Trinity Junior High School, Ft. Smith
Valley View High School, Jonesboro
Watson Chapel Junior High School, Pine Bluff

CALIFORNIA

Animo Venice Charter High School, Venice
Archbishop Mitty High School, San Jose
Big Bear High School, Big Bear Lake
Big Pine High School, Big Pine
Birmingham Community Charter High School, Lake Balboa

CALIFORNIA

Burbank High School, Burbank
Castro Valley High School, Castro Valley
Cathedral City High School, Cathedral City
Centennial High School, Corona
Central High School, Fresno
Del Norte High School, San Diego
Desert Hot Springs High School, Hot Springs
Dewey Academy School, Oakland
El Dorado High School, Placerville
Esperanza High School, Anaheim
Freedom High School, Brentwood
Gunn High School, Palo Alto
Hamilton Unified High School, Hamilton City
JSerra Catholic High School, San Juan Capistrano
La Quinta High School, La Quinta
Mira Costa High School, Manhattan Beach
Mission San Jose High School, Fremont
Murrieta Valley High School, Murrieta
Outsider Arts of Big Bear, Big Bear City
Palm Desert High School, Palm Desert
Palmdale High School, Palmdale
Perris High School, Perris
Ralph J. Bunche High School, Oakland
River City High School, West Sacramento
Rudsdale High School, Oakland
San Jose Learning Center, San Jose
San Marino High School, San Marino
Santee Education Complex, Los Angeles
Saugus High School, Santa Clarita
Schurr High School, Montebello
Serrano High School, Phelan
Shadow Hills High School, Indio
Silver Creek High School, San Jose
Silverado High School, Victorville
Skyline High School, Oakland
Summit High School, La Quinta
Sunburst Youth Academy, Los Alamitos
University Preparatory School, Victorville
Valley High School, Sacramento
Wasco High School, Wasco
Xavier College Preparatory High School, Palm Desert

COLORADO

Cleo Wallace Academy (Devereux), Westminster
Ellicott School District, Calhan
GOAL Academy High School, Greeley
Hinkley High School, Aurora
Liberty High School, Colorado Springs
Westgate Community School, Thornton

CONNECTICUT

Capital Preparatory Magnet School, Hartford
Joseph A. Foran High School, Milford
The Loomis Chaffee School, Windsor
Platt High School, Meriden
Suffield High School, West Suffield
The Glenholme School, Washington
Weaver High School, Hartford
YouMedia Programs

DELAWARE

Dover High School, Dover

DISTRICT OF COLUMBIA

Cardozo Education Campus, Washington, D.C.
Coolidge High School, Washington, D.C.
H.D. Woodson High School, Washington, D.C.
The School Without Walls High School, Washington, D.C.

FLORIDA

Viera Campus (Devereux), Viera
Endeavor School, Lake Mary
F.W. Springstead High School, Spring Hill

FLORIDA

Hialeah Gardens High School, Hialeah Gardens
Kathleen High School, Lakeland
Keystone Heights Junior/Senior High School, Keystone Heights
Lemon Bay High School, Englewood
Lincoln High School, Tallahassee
Mount Dora High School, Mount Dora
Ocoee High School, Ocoee
Palmetto Ridge High School, Naples
Tampa Bay Christian Academy, Tampa
Urban Youth Impact, West Palm Beach

GEORGIA

Alcovy High School, Covington
Alpharetta High School, Alpharetta
Berkmar High School, Lilburn
Bradwell High School, Hinesville
Building Bridges Academy High School, Savannah
Carrollton High School, Carrollton
Chapel Hill High School, Douglasville
Colquitt County High School, Moultrie
Discovery High School, Lawrenceville
Eastside High School, Covington
Friendship Christian School, Suwanee
Houston County High School, Warner Robins
Jasper County High School, Monticello
Newton High School, Covington
Norcross High School, Norcross
Pike County High School, Zebulon
Starr's Mill High School, Fayetteville
Stephens County High School/The Futures Program, Toccoa
Washington-Wilkes Comprehensive High School, Washington

HAWAII

Baldwin High School, Wailuku
Kanuikapono Public Charter School, Anahola
Keaau High School, Keaau
Radford High School, Honolulu

IDAHO

Boise High School, Boise
Fairmont High School, Boise
Highland High School, Pocatello
Meridian High School, Meridian
Rigby High School, Rigby
Vallivue High School, Caldwell

ILLINOIS

Geneseo High School, Geneseo
Glenbrook North High School, Northbrook
Homewood Flossmoor High School, Flossmoor
Hubbard High School, Chicago
J. Sterling Morton West High School, Berwyn
Kankakee High School, Kankakee
Lindblom Math & Science Academy, Chicago
Marengo Community High School, Marengo
Morrison High School, Morrison
Rochelle Township High School, Rochelle
Rockford Lutheran School, Rockford
Schaumburg High School, Schaumburg
Waukegan High School, Waukegan

INDIANA

The EDGE Afterschool Program at Arsenal Technical High School, Indianapolis
Central High School, East Chicago
Culver Community Schools, Culver
Decatur Township School for Excellence, Indianapolis
East Chicago Central High School, East Chicago
Elkhart Central High School, Elkhart
Herron High School, Indianapolis
Kankakee Valley High School, Wheatfield
Kokomo High School, Kokomo
Tipton High School, Tipton

KANSAS

Lawrence High School, Lawrence
McLouth High School, McLouth
Oskaloosa Junior/Senior High, Oskaloosa
USD 483, Kismet
West High School, Wichita

KENTUCKY

Allen Central High School, Eastern
Belfry High School, Belfry
Butler Traditional High School, Louisville
Campbell County High School, Alexandria
Central Hardin High School, Elizabethtown
Central High School, Louisville
Doss High School, Louisville
duPont Manual High School, Louisville
KORE Academy, Lexington
Louisville Male High School, Louisville
Mercer Senior High School, Harrodsburg
Marion C. Moore School, Louisville
North Hardin High School, Radcliff
Phoenix Academy, Winchester
Trimble County High School, Bedford

LOUISIANA

City Year Baton Rouge, Baton Rouge
Hahnville High School, Boutte
Kipp Early College, New Orleans

MAINE

Massabesic High School, Waterboro

MARYLAND

Academy of the Holy Cross, Kensington
Catoctin High School, Thurmont
Gaithersburg High School, Gaithersburg
Huntingtown High School, Huntingtown
Walt Whitman High School, Bethesda

MASSACHUSETTS

Ayer Shirley Regional High School, Ayer
Brockton High School, Brockton
Cape Cod Regional Technical High School, Harwich
Cristo Rey High School, Boston
Hingham High School, Hingham
King Philip Regional High School, Wrentham
Rockland High School, Rockland
Rockport High School, Rockport
Sharon High School, Sharon
Taunton Alternative High School, Taunton
Westford Academy, Westford

MICHIGAN

Bradford Academy, Southfield
Carson City Crystal High School, Carson City
Cass City Junior/Senior High School, Cass City
Clintondale High School, Clinton Township
Constantine High School, Constantine
Hillsdale High School, Hillsdale
Kalamazoo Youth Development Network, Kalamazoo
New School High, Plymouth
Oscar Carlson High School, Gibraltar
Pershing High School, Detroit
Portage Northern High School, Portage
Southgate Anderson High School, Southgate
Western Michigan Christian School, Muskegon
Warren Mott High School, Warren

MINNESOTA

Albany High School, Albany
Bellaire Education Center ISD #916, White Bear Lake
Christ's Household of Faith, St. Paul
Faribault High School, Faribault
St. Croix Valley Area Learning Center, Stillwater
Waconia High School, Waconia
Wayzata High School, Plymouth

MISSISSIPPI

Columbia High School, Columbia
Houston Alternative School, Houston

MISSOURI

Advance High School, Advance
Carthage High School, Carthage
Center Alternative School, Kansas City
Fair Play R-II High School (MO Afterschool Network), Fair Play
Lebanon High School, Lebanon
Oakville High School, Oakville
Pathway Academy Charter School, Kansas City
21st Century Community Learning Center Afterschool Program at Van Buren R-1 High School, Van Buren
Winfield High School, Winfield

MONTANA

Belgrade High School, Belgrade

NEBRASKA

Benson High Magnet School, Omaha
Falls City High School, Falls City
Kearney High School, Kearney

NEVADA

Las Vegas High School, Las Vegas
Mineral County High School, Hawthorne
Pahrump Valley High School, Pahrump
Southeast Career Technical Academy, Las Vegas
Silver Stage High School, Silver Springs

NEW HAMPSHIRE

Mascoma Valley Regional High School, Canaan
Spaulding High School, Rochester

NEW JERSEY

Archbishop Damiano School, Westville Grove
Clifton High School, Clifton
College Achieve Central Charter School, Plainfield
Foundation Academy Charter School, Trenton
Immaculata High School, Somerville
Memorial High School, Millville
The Pingry School, Basking Ridge
Pitman High School, Pitman
Steinert High School, Hamilton
Westfield High School, Westfield

NEW MEXICO

Aztec High School, Aztec
Cuba High School, Cuba
Pecos High School, Pecos
Penasco High School, Penasco

NEW YORK

Archimedes Academy, Bronx
Arkport Central School, Arkport
BestSelf Behavioral Health, Buffalo
Brockport High School, Brockport
Channel View School for Research, Rockaway Park
Fairport High School, Fairport
Flushing High School, Flushing
GST Boces Alternative Program, Painted Post
High School for Teaching and the Professions, Bronx
Jamestown YMCA Teen Center, Jamestown
Lansingburgh High School, Troy
Lawrence High School, Cedarhurst
Leon Goldstein High School, Brooklyn
Madison High School, Brooklyn
Magen David High School, Brooklyn
North Rose Wolcott High School, Wolcott
Pathways Academy, Buffalo
Poughkeepsie High School, Poughkeepsie
Project SOAR, Buffalo
Rochester City Schools, Rochester
Rye High School, Scarsdale
The Young Scholars Academy, Bronx
Thomas A. Edison Career & Technical Education High School, Queens
Truman High School, Bronx
Vanderheyden Hall School, Wynantskill
Vernon Verona Sherrill High School, Verona
Watertown High, Watertown
Wellsville High School, Wellsville
Whitesboro High School, Marcy

NORTH CAROLINA

Ardrey Kell High School, Charlotte
Brown Christian Academy, Raleigh
Butler High School, Matthews
Central Davidson High School, Lexington
Charlotte Engineering Early College, Charlotte
Chase High School, Forest City
East Columbus High School, Lake Waccamaw
East Mecklenburg High School, Charlotte
East Wake High School, Wendell
Endeavor Charter School, Wake Forest
Fayetteville Academy, Fayetteville
First Ward Creative Arts Academy, Charlotte
Garinger High School, Charlotte
Gaston Early College High School, Dallas
Hopewell High School, Huntersville
Independence High School, Charlotte
Louisburg High School, Louisburg
Myers Park High School, Charlotte
Owen High School, Black Mountain
Phillip O'Berry School of Technology, Charlotte
ResCare Workforce Services, Charlotte
Riverside High School, Durham
Rocky Mount Academy, Rocky Mount
Summerfield Charter Academy, Greensboro
The Piedmont School, High Point
Vance High School, Charlotte
William Amos Hough High School, Charlotte

NORTH DAKOTA

Des Lacs Burlington High School, Des Lacs

OHIO

Aiken High School, Cincinnati
Boys and Girls Clubs of Columbus, Columbus
Carpe Diem Innovative School, Cincinnati
City Year Cleveland, Cleveland
Cloverleaf High School, Lodi
Columbus Downtown High School, Columbus
De Paul Cristo Rey High School, Cincinnati
Electronic Classroom of Tomorrow, Columbus
Facing History New Tech High School, Cleveland
Gamble Montessori High School, Cincinnati
Grandview Heights High School, Grandview Heights
Greene County Career Center, Xenia
Hillcrest Academy School, Cincinnati
Horizon Science Academy Dayton High School, Dayton

OHIO

Hughes STEM High School, Cincinnati
John Adams High School, Cleveland
Life Skills High School, Columbus
Linden McKinley High School, Columbus
Longfellow Academy, Dayton
Lorain High School, Lorain
Marion Franklin High School, Columbus
Marion L. Steele High School, Amherst
Miami Valley Career Technology Center, Englewood
Newark High School, Newark
North College Hill High School, Cincinnati
Norwood High School, Cincinnati
Orion Academy, Cincinnati
Promise Academy, Cleveland
School for Creative and Performing Arts, Cincinnati
The Charles School at Ohio Dominican University, Columbus
Westerville Central High School, Westerville
Westerville North High School, Westerville
Westerville South High School, Westerville
Wilmington High School, Wilmington
Withrow University High School (Families Forward), Cincinnati
Woodward High School, Cincinnati
Zenith Academy (Boys and Girls Club of Columbus), Columbus

OKLAHOMA

Bethel High School, Shawnee
Casady School, Oklahoma City
Hartshorne High School, Hartshorne
Lawton High School, Lawton
McAlester High School, McAlester
Noble High School, Noble

OREGON

Benson Polytechnic High School, Portland
Dallas High School, Dallas
Eagle Point High School, Eagle Point
Gervais High School, Gervais
Roseburg High School, Roseburg
Toledo Junior/Senior High, Toledo
Perrydale High School, Amity

PENNSYLVANIA

Cumberland Valley High School, Mechanicsburg
Devereux Day School, Malvern
Downingtown High School, West Downingtown
George Washington High School, Philadelphia
John W. Hallahan Catholic Girls' High School, Philadelphia
Muhlenberg High School, Reading
Nativity BVM High School, Pottsville
Parkland High School, Allentown
Riverview Junior/Senior High School, Oakmont
Springfield High School, Springfield
Strath Haven High School, Wallingford
Swenson Arts and Technology High School, Philadelphia
Upper Dauphin Area High School, Elizabethville
West Catholic High School, Philadelphia

SOUTH CAROLINA

Dillon High School, Dillon
Emerald High School, Greenwood
Fairfield High School, Winnsboro
Lake City High School, Lake City
South Pointe High School, Rock Hill
Summerville High School, Summerville
Timberland High School, St. Stephen
Walhalla High School, Walhalla

SOUTH DAKOTA

Florence High School, Florence

TENNESSEE

Cordova High School, Cordova
E. W. Grove School, Paris
Sullivan Central High School, Blountville

TEXAS

Atascocita High School, Humble
ASSETS Learning Center, Alvin
Brownsville Early College High School, Brownsville
Bryan High School, Bryan
Carroll High School, Southlake
Cedar Hill High School Ninth Grade Center, Cedar Hill
Cedar Ridge High School, Round Rock
Community Learning Center (PACE Program), Humble
Coppell High School, Coppell
Cypress Falls High School, Houston
Dallas Lutheran School, Dallas
Denton High School, Denton
Eldorado High School, Eldorado
Ellison High School, Killeen
Flower Mound High School, Flower Mound
Garza Early College High School, Dallas
George Ranch High School, Richmond
Guinn Special Programs Center, Plano
School of Health Professions, Dallas
Hughes Springs High School, Hughes Springs
Humble High School, Humble
I.H. Kempner High School, Sugar Land
International Schools of the Americas (Lee High School), San Antonio
Juan Seguin High School, Arlington
Katherine Anne Porter School, Wimberley
Kingwood High School, Kingwood
Kingwood Park High School, Kingwood
Klein Collins High School, Spring
Langham Creek High School, Houston
Manvel High School, Manvel
North Crowley High School, Fort Worth
Ridge Point High School, Missouri City
Robert E. Lee High School, San Antonio
Rodeo Palms Junior High School, Manvel
Rouse High School, Leander
Summer Creek High School, Houston
Trinity River Mission, Dallas
Tuloso Midway High School, Corpus Christi

UTAH

Alta High School, Sandy
Copper Hills High School, West Jordan
Kearns High School, Kearns
Layton High School, Layton
Roy Junior High School, Roy

VERMONT

Chelsea High School, Chelsea
The Greenwood School, Putney

VIRGINIA

Alleghany High School, Covington
Chesapeake Bay Academy, Virginia Beach
Christiansburg High School, Christiansburg
Colonial Forge High School, Stafford
Hanover High School, Mechanicsville
John Battle High School, Bristol
Kettle Run High School, Nokesville
Kings Fork High School, Suffolk
Lake Taylor High School, Norfolk
Magna Vista High School, Ridgeway
New Directions, Arlington
Norview High School, Norfolk
Osbourn High School, Manassas
South Lakes High School, Reston
Thomas Dale High School, Chester
Warwick High School, Newport News
Washington Liberty High School, Arlington

WASHINGTON

Bremerton High School, Bremerton
Federal Way High School, Federal Way
Newport High School, Bellevue
Orting High School, Orting
River Ridge High School, Lacey
Skyview High School, Vancouver

WEST VIRGINIA

Brooke High School, Wellsburg
Logan Senior High, Logan

WISCONSIN

Cadott High School, Cadott
Cadott Junior/Senior High School, Cadott
City Year Milwaukee, Milwaukee
Oak Creek High School, Oak Creek
Sacred Heart School, Reedsburg
West Allis Central High School, West Allis

WYOMING

Torrington High School, Torrington

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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