1 Introduction to the SAGES-3

The SAGES-3 is a norm-referenced test used to identify students who are gifted and/or talented in intellectual and academic abilities. We describe the methods used to build the test and the procedures for administering, scoring, and interpreting its results later in this manual, in addition to providing evidence for the test's reliability and validity. Before delving into these topics, however, we provide here (a) a review of the definitions of giftedness, (b) a description of the test, and (c) a listing of its uses.

Definitions of Gifted and Talented

Definitions of *gifted and talented* have varied over the years. In this section, we review the current definitions for gifted and talented children that are still in use.

Advisory Panel to the U.S. Office of Education (1972)

In a report to Congress titled *Education of the Gifted and Talented*, the Advisory Panel to the U.S. Office of Education (USOE) stated,

> Gifted and talented children are those identified by professionally qualified persons who, by virtue of outstanding abilities, are capable of high performance. These are children who require differentiated educational programs and/or services beyond those normally provided by the regular school program in order to realize their contribution to self and society.
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> Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:
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> - general intellectual ability;
> - specific academic aptitude;
> - creative or productive thinking;
> - leadership ability;
> - visual and performing arts; and
> - psychomotor ability. (Marland, 1972, p. 9)

According to Marland (1972), general intellectual abilities included verbal, number, spatial, memory, and reasoning factors most often associated with superior performance in school and on tests of mental ability. Academic abilities included school content areas, such as science, mathematics, social studies, and language. Creative or productive thinking represented originality in solving

problems, flexibility in thinking, and fluency in ideas. Individuals who demonstrated an ability to improve human relationships and help groups in attaining goals would fall in the category of leadership. Talents in the visual and performing arts were demonstrated by prominent artists, dancers, writers, musicians, and actors. Psychomotor ability was demonstrated in athletics or in those mechanical skills required in engineering, fine arts, and science.

U.S. Department of Education's Office of Educational Research and Improvement (1993)

The U.S. Department of Education's Office of Educational Research and Improvement issued a report titled *National Excellence: A Case for Developing America's Talent* (Ross, 1993) that included this new definition:

> Children and youth with outstanding talent perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment. These children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided by the schools. Outstanding talents are present in children and youth from all cultural groups, across all economic strata, and in all areas of human endeavor. (p. 26)

The No Child Left Behind Act (2002)

The federal No Child Left Behind Act (2002) included this definition for gifted and talented students, which is similar to previous federal definitions:

> The term *gifted and talented*, when used with respect to students, children, or youth, means students, children, or youth who give evidence of high-achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities. (p. 535)

The National Association for Gifted Children (2010)

The National Association for Gifted Children (NAGC) issued a definition in its position statement "Redefining Giftedness for a New Century: Shifting the Paradigm" (NAGC, 2010):

> Gifted individuals are those who demonstrate outstanding levels of aptitude (defined as an exceptional ability to reason and learn) or competence (documented performance or achievement in top 10% or rarer) in one or more domains. Domains include any structured area of activity with its own symbol system (e.g., mathematics, music, language) and/or set of sensorimotor skills (e.g., painting, dance, sports). The development of ability or talent is a lifelong process. It can be evident in young children as exceptional performance on tests and/or other measures of ability or as a rapid rate of learning, compared to other students

> of the same age, or in actual achievement in a domain. As individuals mature through childhood to adolescence, however, achievement and high levels of motivation in the domain become the primary characteristics of their giftedness. Various factors can either enhance or inhibit the development and expression of abilities. (paras. 1–2)

The Every Student Succeeds Act (2015)

> The term "gifted and talented," when used with respect to students, children or youth, means students, children or youth who give evidence of high achievement capability in areas such as intellectual, creative, artistic, or leadership capacity, or in specific academic fields, and who need services or activities not ordinarily provided by the school in order to fully develop those capabilities. (Every Student Succeeds Act, P.L. 114–95 [Title VIII, General Provisions, Part A, Definition 27], 2015–2016, pp. 516–517)

While other definitions of *giftedness* exist, the latest *State of the States in Gifted Education* report (National Association for Gifted Children & the Council for State Directors of Programs for the Gifted, 2015) indicated that of the 39 states who responded to the survey, 34 included *intellectually gifted* in their definitions, and most included *academically gifted* (n = 24), performing/visual arts (n = 21), *creatively gifted* (n = 21), and/or specific academic areas (n = 20). For the most part, these states' definitions mirror the 1972 USOE definition by including assessment of potential ability and achievement in one or more areas. All the definitions emphasize potential ability, aptitude, capability, or competence that requires services or activities.

Description of the SAGES-3

The SAGES-3 is a norm-referenced screening test that identifies giftedness in students who are between the ages of 5 years 0 months (5-0) and 14 years 11 months (14-11). It has two forms: the SAGES-3: K–3, for kindergarten through third-grade students, and the SAGES-3: 4–8, for fourth-grade through eighth-grade students. Each form has four subtests (Nonverbal Reasoning, Language Arts/Social Studies, Verbal Reasoning, and Mathematics/Science). Results for the subtests and three composites (Reasoning Ability, Academic Ability, and General Ability) are reported as standard scores having a mean of 100 and a standard deviation of 15. On the SAGES-3, these scores are called *indexes*. The remainder of this section lists the SAGES-3's physical components and describes its subtests and composite scores.

Components

The SAGES-3 has seven physical components:

- *Examiner's Manual.* This manual provides general information about the test and specific instructions for administering and scoring the

SAGES-3's subtests and interpreting the results. It also presents an explanation of the test's organization and development, as well as information on standardization and norming, reliability, and validity.

- *SAGES-3: K–3 Examiner Record Form.* This form allows examiners to record identifying information about the students and the students' performances on the test. Examiners circle students' responses and score them. Space to record total raw scores for each subtest is also provided.
- *SAGES-3: 4–8 Examiner Record Form.* This form allows examiners to record identifying information about the students. Students circle their responses on the back of the Examiner Record Form in Section 5: Record of Item Performance. Space to record total raw scores for each subtest is also provided.
- *SAGES-3: K–3 Student Response Booklets.* Students in kindergarten through third grade record their responses to the subtests in these booklets.
- *SAGES-3: 4–8 Student Response Booklets.* Students in fourth through eighth grade read the questions from these booklets but do not mark in them, which allows them to be reused. Students record their answers on the back of the SAGES-3: 4–8 Examiner Record Form.
- *SAGES-3 Specific Administration Instructions Booklet.* This component contains specific instructions for administering the test.
- *Scoring Transparency.* This component provides the correct responses to the SAGES-3: 4–8 subtests.

Subtests

The SAGES-3 has two forms (SAGES-3: K–3 and SAGES-3: 4–8). Each form has four subtests.

- *Nonverbal Reasoning.* This subtest requires the student to solve problems by identifying relationships between figures and pictures. The items are presented in an analogy format. The student must recognize pictures or figures, deduce relationships, and then find other pictures or figures that relate to the stimulus in the same manner. Relationships may vary in one or more attributes, associations, and/or meanings. This subtest examines a sample of the student's ability to perceive new relations and learn new tasks because the content is not related to abilities formally taught in school.
- *Language Arts/Social Studies*. This subtest samples achievement in language arts (i.e., reading, spelling, literature, and composition) and social studies. These items reflect knowledge in the two (of four) core academic areas whose foundation is more linguistic in nature. This subtest requires the student to respond to questions in a multiple-choice format. The content was drawn from current texts, professional literature, books, and national standards in language arts and social studies. Items require the students to recall, understand, and apply ideas and basic concepts.

- *Verbal Reasoning*. This subtest requires the student to solve problems by identifying the relationships between pairs of words. As in the Nonverbal Reasoning subtest, items are presented in an analogy format. The student must recognize words, deduce relationships, and then find other words that relate to the stimulus in the same manner. Relationships may include common characteristics, synonyms or antonyms, examples of the other word, categories, functions, causes and effects, or time sequences. Using words that may be acquired at school (and read aloud to kindergarten through third-grade students), the subtest focuses on the student's ability to perceive relationships using verbal content.
- *Mathematics/Science*. This subtest samples achievement in mathematics and science. The items require the student to respond to questions in a multiple-choice format. The content for this subtest was drawn from current texts, professional literature, books, and the national standards in mathematics and science. Items require recall, understanding, and application of ideas and basic concepts in these content areas.

Composites

The SAGES-3 provides two domain composites (Reasoning Ability and Academic Ability) and one overall composite (General Ability). The indexes of the Nonverbal Reasoning and Verbal Reasoning subtests can be combined to form the Reasoning Ability composite. This composite represents students' overall reasoning ability. The indexes of the Language Arts/Social Studies and Mathematics/Science subtests can be combined to form the Academic Ability composite. This composite represents students' overall academic ability. The four subtest indexes can be combined to form the General Ability composite, which represents students' overall ability in reasoning and academics.

Uses of the SAGES-3

The SAGES-3 has four principal uses, which are to (a) identify students as gifted and talented in the areas of intellectual and academic ability, (b) screen entire pools of students for possible inclusion in gifted programs, (c) examine students' relative strengths and weaknesses in reasoning and academic abilities, and (d) serve as a measurement device in research studies investigating intellectual and academic abilities in gifted students. We describe each use in detail here.

First, the purpose of the SAGES-3 is to identify students for gifted and talented classes emphasizing reasoning and academic abilities. Along with other test results, behavioral observations and checklists, and parent interviews, the reliable and valid scores obtained from the SAGES-3 provide valuable information for identifying students who are gifted and talented.

Second, the SAGES-3 may also be used as a screening or identification instrument for the entire pool of students being considered for a gifted program or as a second-level screening instrument for only the nominated group.

Third, the results of the SAGES-3 can reveal students' relative strengths and weaknesses regarding specific intellectual and academic abilities assessed by the test. In this way, students' cognitive abilities are not hidden because students have not acquired the information necessary for scoring well on an achievement test.

Fourth, the SAGES-3's strong reliability and validity make it an excellent research tool, especially for researchers who need standardized instruments to study the behaviors of gifted learners. Its results can be used to test various theories of giftedness, to measure the relationship of reasoning and academic abilities to future school or vocational success, and to determine the effectiveness of various intervention programs.