

The Paradox of Twice-Exceptionality

Packet of Information for Professionals – 2nd Edition (PIP-2)

**BELIN-BLANK
CENTER**

College of Education
The University of Iowa



Nurturing **Potential** | *Inspiring* **Excellence**

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Purpose

Packet of Information for Professionals (2007 and 2008) was originally developed for professionals who work with gifted and talented students with an autism spectrum disorder (ASD) and intended for The University of Iowa Belin-Blank Center (BBC) programs. PIP-2 is a second edition, which expands the student population to include gifted students with other disabilities, specifically attention deficit hyperactivity disorder (ADHD) and specific learning disability (SLD). Students with high cognitive ability and a disability are referred to as “twice-exceptional.” It is also our intention that PIP-2 is accessible to professionals who work with twice-exceptional students anywhere in the world.

For nearly a decade, the BBC’s Assessment and Counseling Clinic (ACC) has worked extensively with twice-exceptional students, completing comprehensive evaluations, developing educational and behavioral recommendations, and providing counseling. The ACC offers research- and experience-based information and recommendations for educators, administrators, student program faculty, and residential staff working with these students.

We understand the importance of acknowledging twice-exceptional students’ academic and cognitive strengths as well as the fact that there are vulnerabilities in their learning and/or behavior that may present difficulties in academic and social situations. Our primary goal is to offer information that will lead to positive experiences for twice-exceptional students who attend programs for gifted/talented students.

Because PIP-2 is not for use as a system for intervention, we think it is important to underscore the distinction between recommendations and intervention. An **intervention** is a level of involvement that is intense and multifaceted, and has change in student behavior as its primary goal. Typically, student programs are short-term (one or two weeks), so our focus is on suggestions to professionals for accommodations in the learning and residential environment so that twice-exceptional students will have optimum experiences during their educational program. We hope that PIP-2 will assist professionals in structuring an educational and social experience that is as successful and as rich as possible for twice-exceptional students. Although focused on the time period for which the student is on campus (usually one or two weeks), we believe some of the suggestions might be useful for professionals or students during the regular academic year.

Structure of PIP

Section I of PIP introduces general information related to both giftedness and disabilities that twice-exceptional students face. This section is followed by **Section II**, which includes brief descriptions about students’ academic, behavioral, and social functioning as they relate to being gifted and having a diagnosed developmental, learning, or emotional disability such as an Autism Spectrum Disorder (ASD), Specific Learning Disability (SLD), or behavioral disorder (e.g., Attention-Deficit/Hyperactivity Disorder (ADHD)). These descriptions lead to the focus of PIP-2 — recommendations for effectively accommodating the complex learning, behavioral, and social needs of twice-exceptional students. The final section, **Section III**, includes appendices, resources, and an annotated bibliography. We hope that all professionals who receive PIP-2 will use it as a resource for their work both in and out of summer program settings.

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PIP-2 was developed for the student program faculty and professional staff of the Belin-Blank Center for Gifted Education and Talent Development.

We acknowledge the students and families who participated in the Belin-Blank Center’s Assessment and Counseling Clinic. Their patience with the B-BC staff and their dedication to the project was critical to the development of the recommendations that comprise earlier versions of the Packet of Information for Professionals as well as PIP-2.

PIP-2 would not have been possible without the superior clinical services provided by the team of licensed psychologists: Alissa Doobay, Ph.D.; Megan Foley Nicpon, Ph.D., Associate Professor; and Claire Whiteman, Ph.D. Drs. Doobay, Foley Nicpon, and Whiteman supervised multiple doctoral students in counseling psychology or school psychology who completed a practicum through the Belin-Blank Center’s Assessment and Counseling Clinic.

¹Packet of Information for Professionals (2007) and Packet of Information for Professionals - Revised (2008) were developed by Susan Assouline, Megan Foley Nicpon, Nicholas Colangelo, and Matthew O’Brien.

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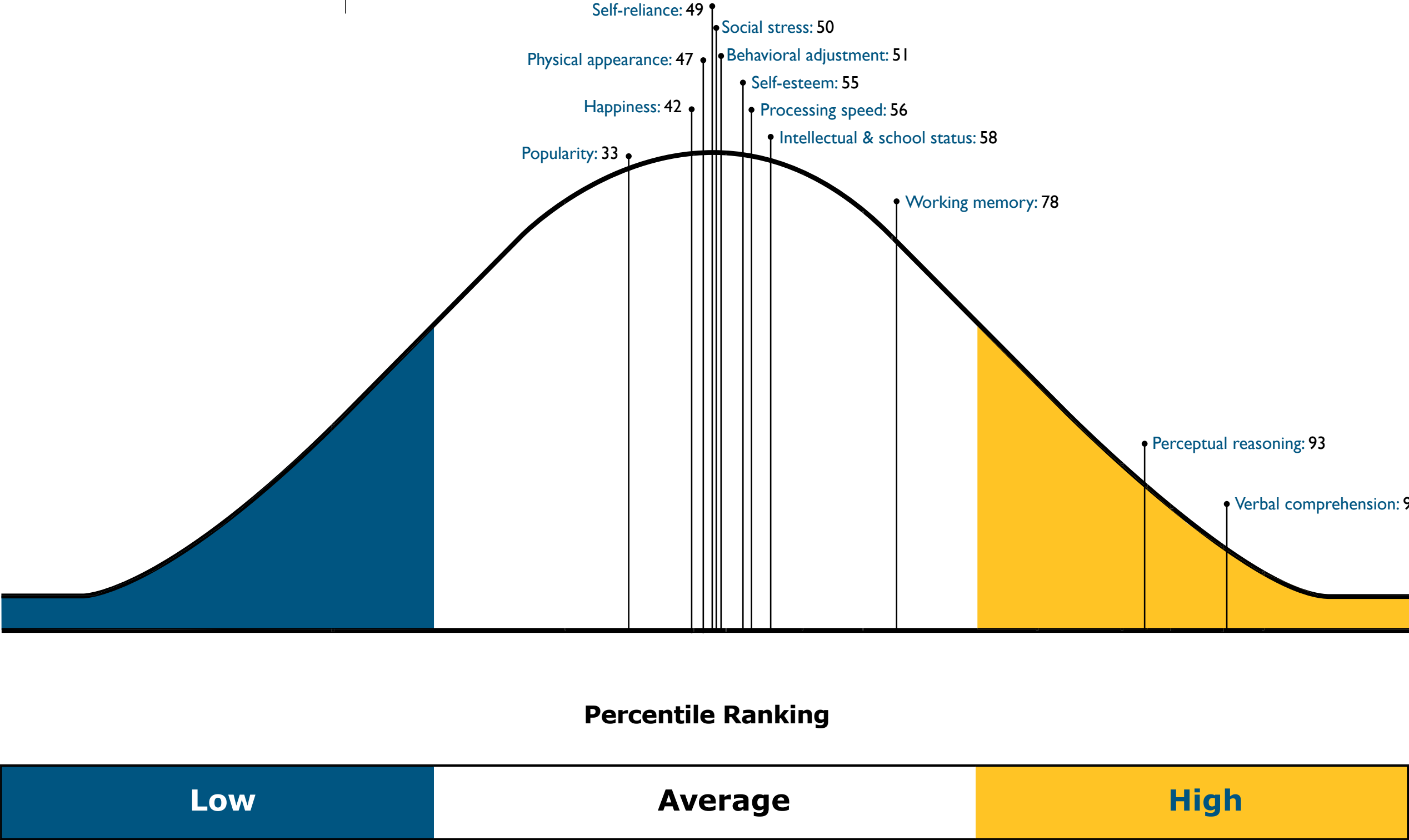
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**Graphic Representation
of the Paradox of Strengths
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ADHD

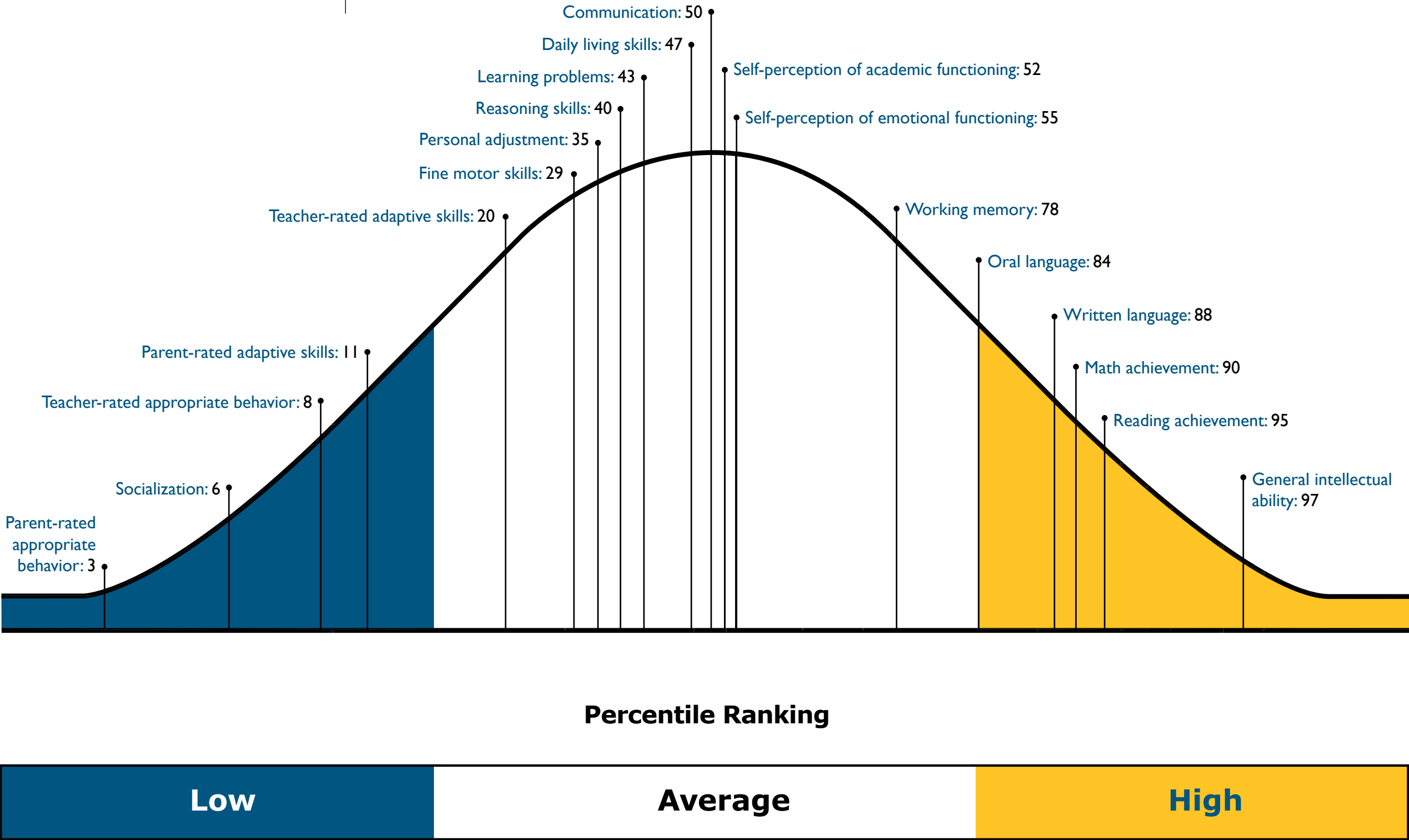
The figure below provides a visual display of students' abilities, and emphasizes the significant differences in the cognitive skills and self-concept of twice-exceptional students with ADHD. The Belin-Blank Center is an active leading contributor to this body of research and several recent publications have been included in this document (see [Annotated Bibliography](#)).



**Graphic Representation
of the Paradox of Strengths
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ASD

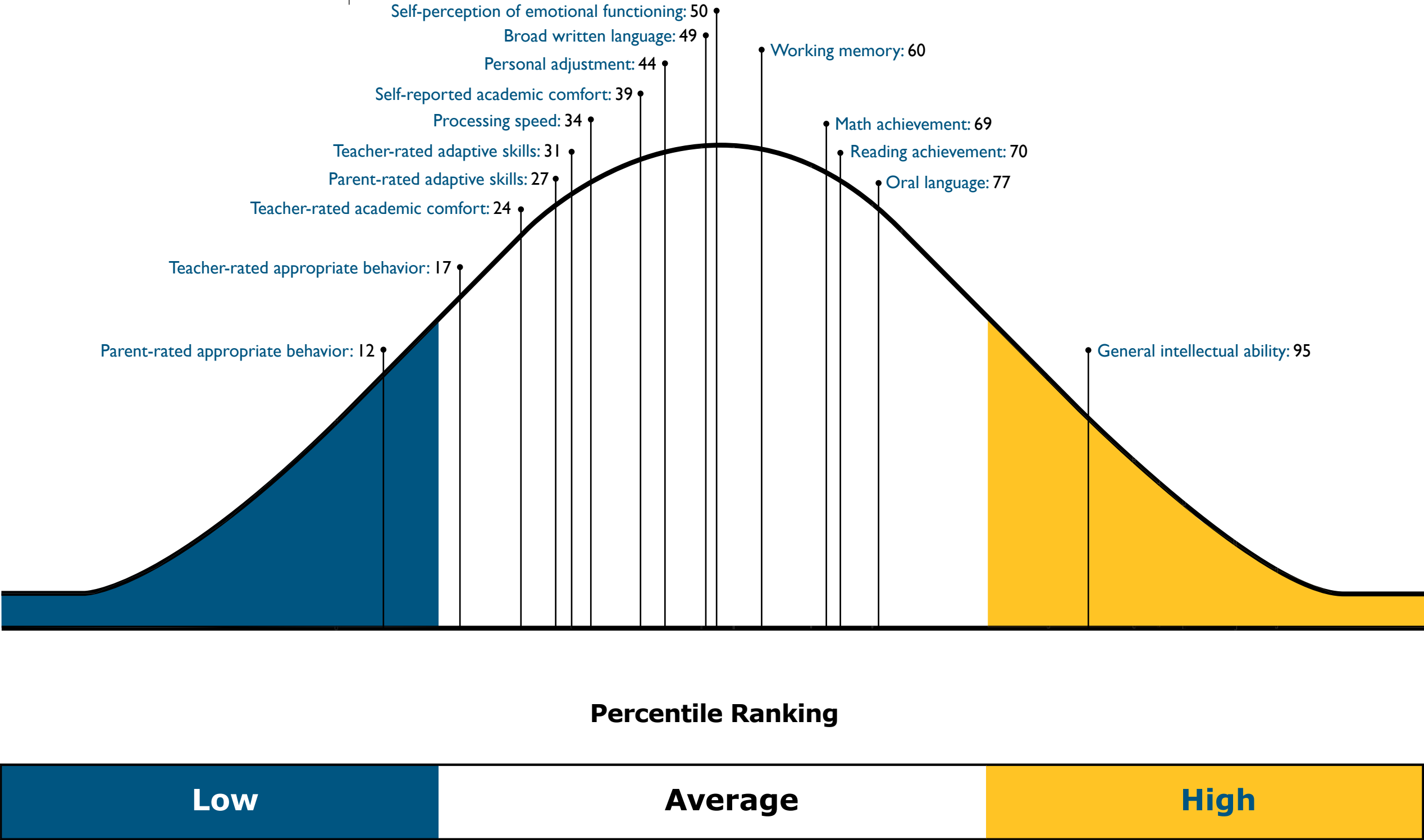
The figure below provides a visual display of students' abilities, and emphasizes the significant differences in the cognitive, academic and adaptive functioning skills of twice-exceptional students with ASD. The Belin-Blank Center is an active leading contributor to this body of research and several recent publications have been included in this document (see [Annotated Bibliography](#)).



**Graphic Representation
of the Paradox of Strengths
and Difficulties**

SLD

The figure below provides a visual display of students' abilities, and emphasizes the significant differences in the cognitive, academic and adaptive functioning skills of twice-exceptional students with SLD. The Belin-Blank Center is an active leading contributor to this body of research and several recent publications have been included in this document (see [Annotated Bibliography](#)).



The Paradox of Twice-Exceptionality

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Section I **A Paradox of Strengths and Difficulties**



Twice-Exceptional Students and the Challenges They Face

Who are twice-exceptional students? They are students who are both bolstered by exceptional talent or giftedness, as well as challenged by a form of disability. Unfortunately, this general description does little justice to describing the significant heterogeneity among the population of twice exceptional students. Giftedness bears many faces and, likewise, disabilities which vary in impact.

Within the PIP-2 document, we narrow our discussion of twice-exceptionality to students affected by a Specific Learning Disability (SLD), Autism Spectrum Disorder (ASD), or Attention-Deficit/Hyperactivity Disorder (ADHD). While these groups do not encapsulate the entirety of twice-exceptionality, they represent the more frequent occurrences. A brief description of each of these disability categories is provided, followed by a discussion of how these students are identified, and finally several case studies are presented. A more comprehensive discussion of twice-exceptionality can be found in Lovecky (2004), Neihart (2000), or Assouline and Whiteman (2011).

Gifted Students with Specific Learning Disability (SLD)

A learning disorder, also called specific learning disability (SLD), refers to significantly lower academic achievement relative to cognitive ability. In other words, students with learning disabilities perform at a lower level in a specific academic area than would be expected given their intellectual abilities. Learning disorders are not general, but rather specific to an academic skill area, such as reading, mathematics, or written expression. Within the DSM-V (APA, 2013), the diagnosis of Specific Learning Disorder is specified by not only the broad academic area in which the student has difficulties, but also the subskills that are impaired. These subskills include word reading accuracy, reading rate or fluency, reading comprehension, spelling accuracy, grammar and punctuation accuracy, clarity or organization of written expression, number sense, memorization of arithmetic facts, accurate or fluent calculation, and accurate math reasoning. Learning impairments may significantly impact some students in more than one academic area, and all of these deficits are specified in the individual's diagnosis of SLD. For more information, please see the IDEA definition of Specific Learning Disability in [Appendix B](#).

Unfortunately, identifying learning disorders in individuals with high cognitive ability can be challenging (Assouline, Foley Nicpon, & Whiteman, 2010; Berninger & O'Malley May, 2011; Fox, Brody, & Tobin, 1983). For these twice-exceptional students, some methods of identification fail to recognize that a student can achieve at or above average expectations in comparison to her or his peers, yet also achieve significantly below the level expected based on her or his cognitive ability level. As an example, imagine two students completing a standardized reading test at school. Student A has Average verbal intellectual abilities, but scores within the Below Average range on the test. Student B has Very Superior verbal intellectual abilities, yet scores within the Average range on the same test. Student A may be quickly identified as having difficulty with reading and will likely be provided with interventions and accommodations to remediate this weakness. In contrast, Student B is often overlooked. His or her performance may be viewed as Average and not deserving of intervention or further attention if his or her

score is not evaluated within the context of exceptional verbal abilities. However, the discrepancy in performance on these two measures is both significant and meaningful, and may even reflect greater relative difficulty with reading than a peer with Average intellectual ability! Examples such as these demonstrate the importance of comprehensive evaluations that incorporate student context.

Gifted Students with Autism Spectrum Disorder (ASD)

Students who are diagnosed with ASD have a developmental disorder that results in severe social, communication, and/or behavioral impairments. For gifted students on the autism spectrum, the “most pressing problem” is that “their emotional and behavioral challenges are considered ‘side effects’ of being unusually bright, rather than the manifestations of a neurological disorder,” according to Bashe and Kirby (2001, p. 364–365). This occurs even though autism is considered to have the best empirically based, cross-national set of criteria for diagnosis (Volkmar & Klin, 2005).

The criteria used to make diagnoses that are considered on the autism spectrum are outlined in the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* (DSM-V; American Psychiatric Association, 2013). To receive an ASD diagnosis, individuals must demonstrate restricted or repetitive patterns of behavior or activities as well as deficits in social communication. Social communication deficits include a lack of social-emotional reciprocity, failure to use or understand nonverbal behaviors in communication, and difficulty developing, maintaining, and understanding relationships. Repetitive patterns of behavior or activities may include repetitive motor movements or speech, inflexible adherence to routines, intense and highly restricted interests, and highly increased or severely decreased reactivity to sensory aspects of the surroundings. The overall ASD diagnosis is also supplemented by a severity level rating, which ranges from requiring support, to requiring substantial support, to requiring very substantial support. Diagnostic criteria and the conceptualization of this disorder in clinical and educational settings continue to evolve. This evolution is relevant to the gifted child with co-existing ASD because of the risk of misdiagnosis due to the shifting definitions and inexact use of terminology, e.g., high functioning autism. Only qualified professionals with appropriate training, such as psychologists or psychiatrists, can make a diagnosis of ASD.

A shift has occurred in the diagnostic criteria for ASD between the DSM-IV and the DSM-V, the most recent revision. The diagnoses of Autistic Disorder, Asperger’s Disorder, and Pervasive Developmental Disorder that were previously separate have been combined into the single diagnostic category of Autism Spectrum Disorder (ASD; DSM-V, 2013). This alteration has been met with both frustration (e.g., Boucher, 2011; Ghazziudin, 2011) and praise (e.g., Pine, 2011) related to the potential gains in specificity of diagnosis (i.e., correct identification of an ASD) at the cost of sensitivity (i.e., decreased likelihood of identifying an individual with ASD; McPartland, Reichow, & Volkmar, 2013). Early analysis suggests that higher functioning students with ASD may be more likely to be missed with the new diagnostic criteria.

Gifted Students with Attention-Deficit/ Hyperactivity Disorder (ADHD)

The primary features of ADHD are difficulties sustaining attention/focus, high levels of activity, and/or difficulties controlling impulsive behavior. While most people occasionally experience difficulties with one or more of these symptoms, individuals diagnosed with ADHD are consistently challenged by these symptoms across all areas of their lives (e.g., at home, in school, and in social settings). This condition is estimated to occur in approximately 5% of children and 2.5% of adults (APA, 2013).

Within the DSM-V (APA, 2013), ADHD as a disorder can present in three different ways, noted as subtypes. The Predominantly Inattentive Type refers to individuals whose main difficulty lies in sustaining attention. The Predominantly Hyperactive-Impulsive Type refers to individuals with a primary issue of excessive activity level and/or impulsive behavior, and the Combined Type refers to difficulties with both issues.

As with ASD, ADHD is recognized by IDEA as a disability (IDEA, 2004; See [Appendix B](#)). Further, this disorder has received significant national and international attention regarding identification and treatment. Use of psychostimulant medications, such as Methylphenidate (e.g., Ritalin), has been demonstrated to be very effective in improving sustained focus (MTA Cooperative Group, 1999). Although there are many ADHD resources that provide information on treatment and diet, most of these “treatments” have limited or no evidence. Thus, parents of children with ADHD are encouraged to be cautious when evaluating treatment and intervention options.

Specific Disability Diagnosis and Misdiagnosis

As noted earlier, giftedness and disability are not mutually exclusive; they can and do co-exist. For example, whereas there is limited information concerning the prevalence of gifted and talented children with ASD, there are many clinical cases as well as classroom anecdotes of this co-existence (e.g., Assouline, Foley Nipcon, & Doobay, 2009; Lovecky, 2004; Neihart, 2000; Webb, et al., 2005). Also, it has been noted (Gallagher & Gallagher, 2002) that in some individuals, characteristics of ADHD, SLD or ASD can obscure giftedness; whereas in others, giftedness can mask characteristics of ADHD, SLD, or ASD. These scenarios represent missed identification of giftedness or missed diagnosis of a disorder. In other individuals, misdiagnosis occurs; e.g., a clinician who is unfamiliar with the way in which ASD manifests in the gifted individual may misdiagnose the individual with another disorder. Misdiagnosis might happen when a gifted and talented student demonstrates some behaviors (e.g., extreme interest in facts) that are characteristic of his or her diagnosis, although upon completion of a comprehensive evaluation, it may be that the behaviors of concern are better explained by giftedness rather than the disability. In these cases, it is preferable to generate recommendations that address the student’s difficulties in terms of how they interact with their gifts and talents. The reverse scenario would attribute characteristics typically associated with autism (e.g., socialization difficulties) to giftedness (e.g., a child demonstrates socialization problems because he or she does not have intellectual peers). This scenario is equally unfortunate because the student is not receiving appropriate interventions to address challenges associated with his or her disability.

Section I: A Paradox of Strengths and Difficulties

The following case studies are reprinted with permission by Taylor & Francis, Inc. The original printing of these case studies was in the Journal of Applied School Psychology, Volume 27, pages 380-402. The article was written by Susan Assouline and Claire Whiteman and titled "Twice-Exceptionality: Implications for School Psychologists in the Post-IDEA 2004 Era."

Because twice-exceptional students are apt to be misunderstood, and consequently under-identified and under-served, it is essential for professionals to be aware of the unique needs of these students. Further, given the new DSM-V diagnostic criteria for ASD, the identification of twice-exceptional students with ASD will require diligence and increased awareness of psychologists, counselors, and educators.

Case Studies

In this section, we will provide 3 case studies illustrating the comprehensive evaluation process for twice-exceptional students with ADHD, ASD, and/or SLD. These case examples serve both to demonstrate the importance of a comprehensive evaluation in accurate and meaningful diagnosis, treatment, and accommodations, as well as to provide a glimpse into the complex challenges that these students face.

Tom: Gifted With ADHD

The referral question for Tom, who was a young third grader when he was evaluated in our clinic, was focused on determining appropriate behavioral expectations and obtaining recommendations about how to meet his academic needs. Although it was reported that Tom would get off task easily in the classroom, he was observed to be attentive during time in the talented and gifted class. His cognitive ability, as measured by the Wechsler Intelligence Scale for Children (4th edition), was determined to be in the superior range of intellectual ability (Full Scale IQ at the 95th percentile). His behavioral profile was consistent with ADHD. Although it was reported that medication to address his ADHD symptoms had been tried, it had been discontinued because of significant side effects. The family had also worked with a counselor on behavioral interventions to address ADHD symptoms. In this case, our comprehensive assessment focused on obtaining specific information about Tom's academic skills, ADHD symptoms, and overall adjustment to guide recommendations for intervention.

The academic assessment, with the Wechsler Individual Achievement Test (2nd edition), revealed that Tom's achievement was commensurate with his measured ability. Not only did he score at the 98–99th percentile for his grade on the reading, math, and written language sections of the Wechsler Individual Achievement Test, but he also obtained a score at the 98th percentile on the Comprehensive Testing Program (4th edition) reading comprehension and at the 99th percentile on the Comprehensive Testing Program (4th edition) mathematics subtests designed for and normed on a national sample of students in the spring of fourth grade, one full grade level above Tom's current placement.

The ADHD assessment, the Continuous Performance Test (2nd edition), the ADHD Rating Scale, and the Brown ADD Scales, in our clinic was consistent with previous findings, which were that significant symptoms of inattention and impulsivity/hyperactivity were present in home and school settings. In addition, some issues about Tom's adjustment (Behavioral Assessment System for Children (2nd edition) came to light, including mild symptoms of unhappiness and some acting-out behaviors in the classroom, which were believed to be related to his ADHD symptoms, as well as his readiness for significantly greater academic challenge in the classroom.

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In summarizing the results of the assessment, our goal was to prepare a report that Tom's parents could use to advocate for changes at school that addressed his strong academic performance and his ADHD. Among the issues considered in addressing Tom's diagnosis of ADHD was the use of medication. The research literature is consistent in supporting the use of stimulant medication as the most effective treatment to date for management of ADHD symptoms (Connor, 2006); however, in Tom's case, finding the right medication posed a challenge. We recommended that the parents work with their physician to consider other medications that could provide symptom control without causing severe side-effects.

We also recommended that the family continue to work with their local psychologist for behavioral strategies to address symptoms at home and in the classroom (see Brown et al., 2008, for evidence about the effectiveness of long-term behavioral and psychosocial interventions in treating ADHD symptoms). When a gifted student presents with ADHD, we typically recommend accommodations within the classroom that include allowing preferential seating to minimize distractions; breaking larger projects down into smaller segments, and allowing a break after completion of each segment; initiating a nonintrusive cueing system (such as an eye blink) to prompt the student to get back to work when he or she is observed to be off task; and providing support with organization of assignments and homework. In some instances, development of a classroom behavioral program that emphasizes positive reinforcement for completion of tasks is an option, which can be developed and monitored by a local psychologist.

In addition to the recommendations regarding ADHD, it was important to identify the most appropriate academic interventions. Tom's outstanding ability, aptitude, and achievement test results prompted us to recommend enrichment, acceleration, or some combination. Often educators do not consider the option of acceleration for students who are young (Tom was already young for his class) and/or who display behavioral difficulties (in Tom's case this involved problems with organization and staying on task). However, our clinical experience is that these factors need not be reasons to dismiss the option of some form of acceleration, but rather issues to be considered and planned for. With respect to age, consider the fact that the typical classroom includes students with an age range of 18 months between oldest and youngest, as well as considerable normal variations in height, weight, and physical coordination. An accelerated student can typically fit well within this context, especially because he or she has more in common academically with students in the accelerated grade than with age-mates. (For an exhaustive discussion regarding the empirical support for acceleration as the most effective academic intervention for highly able students, see Colangelo, Assouline, & Gross, 2004.)

The issue of behavioral challenges, such as ADHD, is more complex. There is evidence that gifted students with ADHD who are accelerated may be at risk for difficulties with group work, peer interaction, and management of long-term projects because of their disability (Moon, et al., 2001; Zentall, Moon, Hall, & Grskovik, 2001). This evidence, as well as our clinical experience, indicates that providing appropriate accommodations within the classroom to address the disability, as well as giving full consideration to medication options to address ADHD symptoms, are key recommendations.

Full consideration of these factors are among the multiple reasons why we suggest that educators take the personal bias out of the decision about acceleration and rely on an instrument such as the Iowa Acceleration Scale (3rd edition;

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Assouline, Colangelo, Lupkowski-Shoplik, Lipscomb, & Forstadt, 2009). The Iowa Acceleration Scale was designed to focus the discussion about academic acceleration on the salient issues, specifically, academic readiness of the student. That process, which occurred in the second semester of Tom's fourth-grade year, included documentation of his academic strengths and of his disability. The conclusion from the Iowa Acceleration Scale staffing was that Tom would be an excellent candidate for acceleration. His disability was noted and recommended accommodations were included, but the disability was not used as a reason to not accelerate him. Tom finished fourth grade; however, at the beginning of the next school year, rather than going into fifth grade, Tom went into sixth grade. Reports from home and school indicated that Tom excelled. His whole-grade accelerated academic experience was so strong that additional subject acceleration in math was implemented.

Tom's parents recognized that he was happier socially and emotionally and his teachers indicated that he integrated fully into the sixth-grade classroom. His parents reported: "It's a relief to see him finally have the opportunity to begin reaching his potential and to be happy about school." Regarding the acceleration, they suggested: "It [skipping a grade] has been the best decision we've made so far in regards to his education."

Neither Tom nor his parents were unrealistic concerning the complexity of such a decision. Tom's parents recognized that although Tom was happy at school and was closer to reaching his measured potential, Tom was likely still not fully challenged, and was ready to handle more advanced coursework. However, he also had the self-awareness to recognize that he needed a certain level of maturity (i.e., regarding self-regulation) to handle the additional requirements for organization or homework that would accompany an additional grade skip. His parents understood that his ADHD symptoms, while adequately managed, still affected his overall progress.

Tom's mother provided additional insight regarding a comprehensive psychoeducational evaluation and subsequent advocacy. Like many others, she viewed advocacy as an opportunity for teachers and administrators to learn more about the unique issues of twice-exceptional students. She reported that, as a result, every teacher who had Tom in the classroom chose to attend an optional seminar about twice-exceptional learners.

Dan: Gifted with ASD

Dan's case points out the complexities of addressing the needs of high ability students with ASD. His parents referred him for a comprehensive evaluation during his third-grade year because of significant behavioral concerns, including noncompliance and disrespectful, sometimes physically aggressive, behavior. His parents reported they had experienced serious difficulties locating a preschool program that was a good match for him when he was 3 years old; he had been asked to leave two centers before they found a small, flexible program where he fit in better.

According to his parents, Dan exhibited impressive early reading (including comprehension) and mathematics skills. Nevertheless, this academic precocity, along with his behavioral difficulties, made placement in a traditional kindergarten setting challenging. He attended Kindergarten in a small private school; however, his significant problems adjusting to the classroom environment resulted in placement half the day in a preschool setting and half the day in kindergarten during the fall

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semester, with the goal of easing him into a more traditional classroom setting. Nevertheless, because of his advanced reading and math skills, he was accelerated to first grade during the spring semester. Continued concerns about emotional outbursts in the classroom led the principal to consider retaining Dan in first grade for the next year, even though school personnel agreed that his academic skills were at or above the first-grade level. In the end, Dan was allowed to progress to the second grade and his academic skills continued to develop at an advanced pace despite ongoing behavioral challenges, such as periodic refusal to complete school work and intermittent angry outbursts.

Standardized testing completed at school during third grade revealed outstanding academic achievement in reading, language, and math (total scores at the 97–99th percentiles, compared with other third-grade students). Also, as a third-grade student, he participated in the above-level testing provided by a talent search (for a comprehensive discussion of the Talent Search testing model see Assouline & Lukowski-Shoplik, 2011; Lupkowski-Shoplik, Benbow, Assouline, & Brody, 2003; Olszewski-Kubilius, 2004). Dan took a test designed for eighth-grade students, EXPLORE, which is published by ACT, Inc., and earned a composite score equivalent to the 53rd percentile compared with eighth-grade students. In other words, as a third-grade student, he outperformed 53% of the eighth-grade students who typically have more than 5 more years of academic exposure. This performance was an indication that he needed additional challenge in his current grade placement and would continue to require advanced work throughout his academic career.

Such profound academic strengths sometimes make it difficult for students to find intellectual peers, and this difficulty is sometimes associated with social impairments (Assouline et al., 2009). Whether the social impairment is the result of a mismatch between the students' ability and challenge in the classroom, or the expression of an underlying disorder, can only be determined through a comprehensive evaluation.

The assessment completed to learn more about Dan's abilities and difficulties revealed the complexities and contrasts presented by exceptionally bright children with ASD. First, the testing process was highly challenging. At times Dan was cooperative and showed eagerness to talk about his interests and demonstrate his knowledge, although he also frequently sought reassurance about his performance. When presented with challenging testing items, his behavior quickly escalated into dramatic displays of frustration and anger, during which he threw test materials, kicked furniture, and engaged in name-calling. Despite his difficulties responding to the demands of the testing situation, he periodically engaged in conversation with the examiner and his cooperation improved with establishment of guidelines for behavior and frequent praise for any effort he made. The intellectual evaluation with the Wechsler Intelligence Scale for Children (4th edition), revealed exceptional nonverbal ability (Perceptual Reasoning Index at the 98th percentile) and working memory (99th percentile), along with strong verbal (75th percentile) ability, even though he did not complete all items within some of the subtests on the Wechsler Intelligence Scale for Children (4th edition). Dan refused to attempt two of the three subtests used to assess processing speed, although he performed within the high average range on the one (Symbol Search) that he completed. On the Wechsler Individual Achievement Test (3rd edition), Dan completed just two of the subtests, Word Reading and Numerical Operations, although again he showed outstanding skills, obtaining scores at the 91st and 99.9th percentiles, respectively. Dan's math skills were particularly notable in that he completed written computation problems

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involving division of fractions and decimals, determination of square roots, and definition of pi to four decimals places.

The psychosocial evaluation indicated significant behavioral concerns noted by Dan's teachers at school, including noncompliance, impulsivity, anger outbursts, and significant anxiety on the Behavioral Assessment System for Children. Fewer concerns were reported on the assessment by the parents, although they noted that they made significantly fewer demands on Dan than were made at school. Dan did not complete the Behavioral Assessment System for Children Self-Report and did not show interest in responding to questions about home or school, although did consistently initiate conversation about his areas of interest, science and mathematics. The primary recommendations provided to the family at that time were to obtain child management training to address behavioral issues, such as compliance and aggressive outbursts, consideration of ways to provide further enrichment and acceleration in mathematics, and strategies for addressing anxiety.

Over the next year and a half, Dan and his parents participated in child management training at our center and saw significant improvement in his compliance, as well as a decrease in the frequency and severity of behavioral outbursts. At this point his parents agreed to further evaluation to determine whether Dan's profile of behavioral and developmental difficulties was the result of ASD. This subsequent evaluation, completed when Dan was a fifth-grade student, included the administration of the Autism Diagnostic Observation Schedule, Autism Diagnostic Interview–Revised, and the Vineland Adaptive Behavior Scales (2nd edition) and produced results that revealed a history and symptoms consistent with Asperger's disorder. The core characteristics of qualitative impairment in reciprocal social interaction as well as restricted, repetitive and stereotyped patterns of behavior and interests that cause impairment in daily functioning were apparent during the interactive evaluation with Dan and in the developmental history provided by the parents. No clinically significant delays or deviance in language acquisition were noted, although more subtle difficulties with the social aspects of communication (e.g., he engaged in less social conversation than expected for his age, and did not easily engage in give and take conversation if the topic was not one that he enjoyed) were observed.

Key recommendations centered on encouraging his parents to continue with child management training and to provide the school with information and resources about ASD. It was recommended that there be a specific focus on obtaining accommodations and supportive services to promote Dan's ability to function effectively within the classroom and provide continued enrichment in his areas of academic talent.

In the 2 years that followed, Dan continued to excel academically and was accelerated another year in mathematics. However, his behavioral difficulties within the classroom persisted and Dan was eventually asked to leave the private

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school because of his behavior. After much deliberation and exploration of options, his parents elected to enroll Dan in a public school setting in which an individualized education plan was established and he was provided with special education support and accommodations to address his needs related to ASD. Despite concerns about Dan's ability to fit into this larger setting, which at first was overwhelming to him, his parents were pleasantly surprised to see the significant progress Dan was able to make in adapting to this setting when provided with appropriate support and a gradual increase in expectations for his participation in classroom and school activities.

His parents also obtained a consultation from a developmental pediatrician who works extensively with children with ASD and started Dan on medication to address anxiety symptoms. Further hurdles were cleared the subsequent year when Dan made the transition to middle school. His success in adjusting to new situations was the result of careful planning by the parents and school personnel together; provision of a lead person, the special education teacher at the school, to coordinate Dan's academic and behavioral plans; and ongoing close communication between the parents and the school.

David: Gifted with a SLD or SLD

David was a fifth-grade student receiving talented and gifted services when his parents sought an evaluation because he was struggling with writing and math facts. Of note, David had been evaluated 2 years previously at another center and diagnosed with a learning disability in written language. David's parents had requested accommodations within his school setting following this evaluation, and David was being provided with access to a computer for completing longer written assignments, although no formal individualized education plan or 504 plan had been initiated. His parents had arranged for private occupational therapy services to address fine motor delays that contributed to his writing difficulties and for tutoring from an educational specialist, services that were provided for more than a year. His parents expressed concern about the frustration David was experiencing with written work at school and concern about whether he was receiving the services he needed to address his disability. Several months prior to this evaluation, a response-to-intervention trial was initiated to address his problems with writing and multiplication skills; this intervention was ongoing when the evaluation at this center was requested. Standardized grade-level tests, (the Iowa Tests of Basic Skills) previously revealed exceptional academic achievement in Reading, Science, Social Studies (all at the 99th percentile), and Math (92nd percentile), with lower, although still above average, achievement in Language (76th percentile).

The comprehensive psychoeducational evaluation completed to address questions about David's abilities and challenges included individually administered tests of intellectual ability (Wechsler Intelligence Scale for Children), academic achievement (Wechsler Individual Achievement Test and Woodcock-Johnson III), visual-motor integration, visual-spatial reasoning (NEPSY-II), memory (NEPSY-II), and psychosocial adjustment (Behavioral Assessment System for Children). This evaluation revealed that David was a delightful, hard-working student with good psychosocial adjustment. He readily reported his problems with writing, especially with learning cursive, but also described his interests in science and the sense of awe he experienced when participating in an enrichment class on robotics. The intellectual assessment indicated that David's verbal intellectual abilities were within the very superior range (99.8th percentile), while his nonverbal and processing speed abilities were high average (84th and 79th percentiles,

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respectively). His short-term auditory memory abilities were variable, with his memory for related verbal material (e.g., memory for stories) and spatial material being stronger than his memory for unrelated material, such as number or letter sequences.

The academic assessment revealed that David's written language skills (45th percentile on the Wechsler Individual Achievement Test and 55th percentile on the Woodcock-Johnson III) were significantly below the level expected given his very superior verbal intellectual abilities (predicted difference method base rate <1%). His difficulties with spelling and writing mechanics were particularly notable given the level of his intellectual ability and the private therapy and tutoring he had received, and indicated the presence of a specific learning disability in the area of written language. David's math reasoning skills were superior, although his written computation skills were average to high average, which may have been due in part to his memory for unrelated material, such as numbers, being less well-developed.

Key recommendations to address David's talents and challenges included implementation of accommodations and supportive services through a 504 plan or individualized education plan within the school setting that would continue to nurture his areas of high ability and address his learning disability. At school, continued use of a computer for written assignments, provision of extra time for written assignments, reduction in the length of handwritten assignments while still requiring completion of the most difficult items to confirm understanding, more review and explicit teaching of the writing process and rules for writing mechanics, and use of voice recognition software to provide an avenue for completing longer writing assignments were recommended. In addition, continued involvement in talented and gifted services at school, including online courses as well as participation in enrichment activities in the community, were encouraged. Contacting the junior high school counselor in advance to consider ways to support David in that setting, in which expectations for written language would be significantly greater, was also suggested.

Follow-up information obtained from David's mother a little more than a year after our evaluation revealed some positive progress. She indicated that the information obtained during our evaluation continued to be helpful when they encountered new situations. They also indicated that they had benefitted from recommended resources to provide more information about twice-exceptionality (e.g., newsletters, journals). David's mother noted that the school did implement a 504 plan following our evaluation, and David was making progress in developing his spelling skills. She reported that David had some successes in fine arts (photography and poetry) and was continuing to enjoy school and learning. However, she noted consistent challenges in getting the school to fulfill the 504 plan along with growing concern about David's difficulties with math computation. The family made contact with the junior high school counselor to discuss the transition. This meeting had prompted the family to begin thinking about options for David to fulfill the foreign language requirement, because this would be a challenging process for him given his difficulties in written language. David's situation points to the importance of gaining comprehensive information about a student's abilities and achievement as well as the essential need to consider changes required in the support and enrichment provided to these students as they progress through school and encounter new challenges.

The Paradox of Twice-Exceptionality

*Packet of Information
for Professionals –
2nd Edition (PIP-2)*

Section II **Addressing the Paradox: Developing Strengths and Accommodating Difficulties**



Section II:

Addressing the Paradox: Developing Strengths and Accommodating Difficulties

In this section, we address multiple areas that can present challenges to twice-exceptional students, including general cognitive ability, reading, math, written language, cognitive processing speed, and motor coordination. After each area is briefly described, we provide specific recommendations that support strengths and, when appropriate, minimize difficulties. Following the discussion about academically-related areas, we present extensive information about several areas that can be challenging for individuals who are twice-exceptional. For example, students with ASD frequently have difficulty in the areas of socialization, communication and daily living skills, and display behaviors and interests that may be unique, even unusual. Challenges for students with ADHD include sustaining attention, impulse control, planning/organization, remaining focused, and modulating their behavior.

General Cognitive Ability

General cognitive ability is the first item in the federal definition of giftedness (see Appendix A), and includes the observation that most gifted and talented programming involves some form of assessment of general cognitive ability. However, despite its ubiquitous nature, defining general cognitive ability is an elusive undertaking. Psychologists who specialize in measuring cognitive ability often associate the concept with skills that are essential to learning and solving problems. With that in mind, many of the measures used to assess general cognitive ability involve having individuals respond to questions and complete tasks that measure how well they figure things out, especially as the task becomes increasingly complex. These types of tasks and questions make up IQ tests. The individual's performance on an IQ test is then compared to other individuals who are approximately the same age, and it is this comparison that helps educators understand what the student's strengths and weaknesses are as they relate to coursework.

Intelligence Tests

Some intelligence tests are group-administered paper-and-pencil measures. The most comprehensive assessments of intelligence are individually administered tests that involve multiple modes of task presentation and response. For most comprehensive evaluations that are conducted in a clinic, the individually administered IQ test is the best approach because it yields extensive information about both general and specific areas of ability. This instrument gives an indication of a student's various cognitive abilities, such as verbal comprehension, perceptual reasoning, working memory, and processing speed. These are all areas that are crucial for learning and problem solving, and many gifted students who are also diagnosed with a disability have some unique characteristics within these areas that require attention.

Results from an IQ test can be reported in a variety of ways, including a score, a percentile ranking, or a descriptive category, each of which assumes a comparison with same-age peers. Therefore, an IQ of 145 represents a score that is at the 99.9th percentile, and is described as "Very Superior." The 99.9th percentile means that out of 1000 students the same age, the student with an IQ of 145 scored as well as or better than 999 of those students! This is a remarkable performance, which implies several important things. First, many educators will often state that they teach lots of bright students and, indeed, they do. But, a student with an IQ of 145 is very rare and will seldom be challenged in a classroom that does not have advanced material. Second, a student with an IQ of 145 will still have relative strengths and weaknesses.

Further, a student with an IQ of 145, who is also diagnosed with ASD, will have some areas that are dramatically limited in comparison to his or her strengths. In these cases, what is most important about the information from an IQ test is not the overall score, per se, but the profile of scores from the subtests that comprise the entire instrument.

The Four Indices of the Wechsler Intelligence Scale for Children – 4th Edition (WISC-IV)

Verbal Comprehension	A measure of the individual’s ability to use language and acquired knowledge effectively.
Perceptual Reasoning	A measure of the individual’s ability to perceive logical relationships and solve problems using novel information.
Processing Speed	A measure of the individual’s ability to perform simple, visual-motor tasks speedily.
Working Memory	A measure of the individual’s ability to hold information in immediate awareness and use that information to repeat sequences in various ways.

High Cognitive Ability and Difficulties in Specific Domains

Gifted students who have a disability and have participated in the research sponsored by the Belin-Blank Center have exceptionally high general cognitive ability—especially on the subtests that measure verbal comprehension and perceptual reasoning abilities. The student’s cognitive ability is often at the 90th percentile or higher, which is considered a superior performance. One would expect the achievement of a students with superior ability to be well above-average; however, a few students will struggle and difficulties should be investigated thoroughly.

Reading

Difficulties with reading may be present for many gifted students with disabilities. For example, students with SLD in reading can have difficulty with letter or word identification, reading speed, and/or reading comprehension. For many students with ASD, word-reading skills are advanced in comparison to their comprehension skills. For these twice-exceptional students who we have tested, this pattern is similar; yet reading comprehension continues to be high. One example of this is the case of a student we will refer to as “Jane.” Many people thought that “Jane” was hyperlexic (i.e., could read words that were very difficult to pronounce, but could not understand the meaning) because she could read almost any word presented to her at an early age, but people questioned whether or not she could understand what she read. Once Jane was tested formally, it was discovered that her reading skills were still considered advanced for a student in her grade. This is not always the case. Another student, whom we will refer to as “Bill” read everything that he could get his hands on about dinosaurs. He was constantly using complex

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words in sentences that related to dinosaurs, and his eagerness for learning more was extreme. However, once Bill was tested, it was discovered that his reading comprehension skills were actually similar to grade-level expectations, especially when he was asked to make inferences and provide explanations about genres such as fiction or poetry. In some cases, these difficulties are so severe that they require a diagnosis and intervention. This can only occur if there is a comprehensive assessment, which allows for a thorough evaluation and interpretation of cognitive and academic strengths and weaknesses.

Recommendations to Enhance Reading Achievement and Enjoyment

- Often, twice-exceptional students, particularly those with ASD, have intense interests in particular areas. Allow students to pick books and/or reading materials in their area of interest and engage them in conversations related to what they have read. This can be an effective strategy in working with students with SLD in reading, because they may be more willing to put forth extra effort when reading high interest material.
- Proficient readers who are twice-exceptional may want to focus only on reading non-fiction books because of the more literal, factual nature of the material. For these students, encourage them to read more diverse genres in their areas of interest.
- Sometimes, abstract concepts can be difficult for twice-exceptional students. Keep this in mind when suggesting reading material to the student in order to maintain his or her level of confidence in reading ability.
- Gifted students with ASD, ADHD, or a SLD in reading may not read as rapidly as one might expect. Therefore, provide adequate time for the completion of reading tasks and focus on comprehension and enjoyment over speed to ensure that these pitfalls are not encountered.
- It is also important to note that some exceptional readers with ASD will do nothing but read, which may interfere with skill development in other academic areas and can serve to socially isolate the child even more. Therefore, it may be helpful to pair the gifted/ASD student with another student who has similar interests and assign them the same reading material to discuss together. That way the student can work on social skills development while pursuing an area of high interest.
- Students' difficulties in generalizing information can also be very frustrating for educators who teach material that the student does not incorporate into the next day's lesson. It is important to provide informed feedback that reinforces the behavior and statements designed to indicate the behavior is appropriate when the student does generalize. It is also important to review or provide clear guidelines for how to incorporate the previous day's material.
- Text-to-speech software can be a useful tool for students with reading difficulty. The center for assistive technology on campus, ICATER (additional information available at the following URL: <http://www2.education.uiowa.edu/centers/icater>), provides university-based licenses for Read and Write Gold, which is a good example of this technology.

Math

As with reading, math skill development can be quite variable among twice-exceptional students. Students diagnosed with SLD in math or with ADHD often have difficulty with speeded problem solving, such as “timed math tests.” Just as many educators assume that students with ASD have more advanced word-reading skills than reading comprehension skills, educators also may assume that students have advanced skills in math computation relative to their understanding of math concepts. This is not always the case and can lead to faulty programming, which is one reason why formal testing is so important. Often, when the results of testing are reviewed, it is discovered that the student’s understanding of math concepts is advanced for his or her grade level.

Recommendations to Enhance Math Success and Enjoyment

- When students are highly able in mathematics, it is especially important to present advanced-level material. This is exactly the purpose of many student programs for gifted/talented students. Nevertheless, some students may need additional individualized attention because their skills are more developed than those of other students in the class.
- Twice exceptional students may be ready to grasp complex material, yet might need a little more time to do so than their talented peers, and reviewing previously learned material may be frustrating. An effective way to accommodate these contradictory needs is to present new material, but let the student take his or her time to process the new information. In this way, challenging material is provided to all students, but the amount and exposure duration is individualized to meet each student’s cognitive processing needs.
- Because twice-exceptional students may focus on a single aspect of math, it will be important to offer a broad perspective of math concepts throughout the course. Another way to think about this is to encourage students to explore various aspects of math outside their comfort zone. For example, a student who is intrigued with fractions might be presented with material that extends the use of fractions to other areas of mathematics.

Cognitive Processing Speed and Multi-Tasking

Cognitive processing speed refers to the speed at which an individual can perceive and process incoming information. The ability to process information rapidly is essential to success in nearly all academic domains. For example, studies of reading comprehension show a strong connection between the speed at which one reads (i.e., an individual perceives the written word and registers that the word has been perceived) and the ability to comprehend what one has just read. In this case, processing speed is referring to the ability to quickly scan, recognize, and encode text into something meaningful. Of note, many students who are diagnosed with SLD, ASD or ADHD have deficits in processing speed that may be in direct contrast to their high verbal ability. The paradox of very high verbal ability and slower processing speed can be extremely frustrating for both the student, who feels the pressure to complete tasks as quickly as peers, and for teachers, who must wait for the student to finish tasks before moving on with the other members of the class who have already finished.

Multi-tasking requires rapid cognitive processing; therefore, it is another area that can create frustration and lead to avoidance of the task altogether. For example, if students are nearing completion of a written activity and the teacher orally presents new directions to keep them moving along, the twice-exceptional student may have trouble processing the new directions while trying to complete the activity.

Recommendations for Accommodating Slower Cognitive Processing Speed

- Allow time in class for students to think through their answer before responding.
- Important facts and deadlines should be written on the board.
- Allow students extended time to complete in-class tasks.
- Avoid timed tasks.

Students with ASD or ADHD experience time differently and may easily lose track of the passing minutes. When timed tasks are unavoidable, provide gentle verbal and/or nonverbal reminders of the time that remains. Some students may find a beeper or egg timer to be helpful. To avoid distraction for others, a note on the student's desk indicating the remaining time can act as a less intrusive reminder.

- Verbally praise persistence on tasks.
- Use visual diagrams to enhance the lecture.
- Make available a copy of the teacher's outline prior to class.

Written-Language, Writing, and Fine-Motor Coordination

Written expression and handwriting are primary difficulties for many twice-exceptional students. These difficulties can include poor letter formation, lack of understanding of grammar rules, or difficulty transferring thoughts into writing. Oral language skills are precursors to written language skills. In fact, strong language skills are among the reasons that many high ability students with ASD are not initially diagnosed with the disorder. Not only do these students acquire oral language skills at an early age, but also these skills are typically exceptional in comparison to their same-age peers. Therefore, it would be natural to expect that students with strong oral language skills would be highly successful in the area of written language. However, the level of success often does not match the level that would be predicted from their earlier exceptional verbal development. This discrepancy may be due to challenges with fine motor and cognitive processing skills, which can interact to work as a double barrier to successful written language.

Fine-motor coordination is a skill that is often taken for granted. Yet, fine-motor coordination is vitally important to writing and drawing tasks, detailed lab work, or use of new tools in science projects. In all of these areas, the interaction of fine-motor coordination and cognitive processing speed is vital to successful output.

Fine-motor difficulties for some students are manifested through poor quality handwriting and seemingly general carelessness, which may or may not be related to difficulty gripping a pencil or pen.

Students with ASD or SLD in written language tend to have slow, labored, and unorganized writing. It can be frustrating for a teacher to observe that a highly verbal student with extensive knowledge about a specific subject area produces written work that is disorganized and may appear to be carelessly done. Sloppy penmanship may be perceived as a sign of carelessness and/or poor quality

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work. These problems, as previously mentioned, are the manifestations of the fine-motor difficulties combined with slower cognitive-processing speed. Many times, students with these difficulties elude writing altogether to avoid negative comments and/or feelings about inadequate work, which often can lead to frustration and embarrassment.

Recommendations to Accommodate Difficulties in Writing, Written Language, and Fine-Motor Coordination

- Model the fine-motor activity—especially for very young students.
- Offer an assortment of different pens and pencils so students can find the one that is most comfortable.
- Allow use of print or cursive—whichever is most comfortable.
- Allow students to share notes, lessening the stress of rapid note taking.
- Provide copies of class notes.
- Use large graph paper for math calculations in order to help with number alignment.
- Allow the use of computers to complete writing assignments, and use assistive technology, such as voice-recognition software (e.g., Dragon Naturally Speaking) if the mechanical aspects of writing are too difficult.
- If a student's writing is slow or labored, allow extra time to complete assignments.
- Have students record their response first and then produce written output based on their recording.
- Intersperse required writing assignments with activities that allow the student to write about their special interests.
- Encourage the idea of writing drafts and proofreading so that students can focus on the content first and the mechanics second.
- Reduce assigned tasks that may have extraneous writing activities.
- Emphasize quality over quantity in written assignments.

Gross-Motor Skills

In addition to fine-motor difficulties, many twice-exceptional individuals, especially those with ASD, also exhibit weaknesses with gross-motor skills (i.e., simple movements of the large-muscle groups). While such skills can range greatly in children who are diagnosed with ASD, it is not unusual to see children with ASD involved in accidents, such as knocking things over and bumping into other people, more regularly than their peers who do not have ASD.

It is also common for children with ASD to walk and run with an ungraceful appearance, often characterized by a lack of arm swing and impaired balance. Children with ASD and who are awkward may be teased and embarrassed, creating a reluctance to participate in sports or physical activities involving running and jumping. This is also true of sports and activities that require throwing and catching, as children with ASD frequently struggle with throwing accuracy and timing necessary for catching. This is particularly unfortunate considering that most popular sports usually involve these skills. It should also be noted that while some children tend to learn imitation of movement rather quickly, children with ASD are less likely to be able to imitate others' movement patterns. Thus, it can be especially frustrating for a teacher, coach, or residential assistant to teach such a child through demonstration of physical movements (e.g., modeling how to kick a soccer ball).

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The main recommendation for concerns about gross-motor deficits relates to the professional's need to be sensitive to the student's feelings when in group settings by not placing him or her in situations that may result in embarrassment. For example, if the child is having difficulty with a particular gross-motor skill or activity, do not ask him or her to perform that skill in front of peers, or modify the activity for all participants so that the motor skills necessary for the task are within the ability range of all students.

Characteristics and Behaviors of Twice-Exceptional Students

The following section addresses some important considerations for instructors working with twice-exceptional students.

Most programs for gifted/talented students share the goal of providing challenging academics in a supportive learning and social environment. Indeed, a strong social aspect is a major component of the learning environment. With this in mind, it is of utmost importance for professionals to be informed about the nature of twice-exceptionality and the socially challenging situations that may arise. Such information is necessary to prevent both inappropriate expectations of performance based on the student's cognitive abilities and misinterpretation of the student's behavior as deliberate or malevolent.

Following is a sampling of characteristics (see Attwood, 2007; Silverman & Weinfeld, 2007) that you may (or may not) observe in twice-exceptional students. Please note that the characteristics are not an exhaustive listing; rather, they provide an example of what may be observed in gifted students. Please note that the characteristics are not an exhaustive listing; rather, they provide an example of what may be observed in gifted students, especially those with ASD. Following the descriptions are recommendations that might be useful when or if a student demonstrates any of these emotional or behavioral presentations.

Social Characteristics

For twice-exceptional students, especially those with ASD, social awareness is an area that requires special attention. For example, whereas many students with ASD are self-described "loners," they may feel an intense desire to make friends and have a more active social life but lack the skills necessary to make these desires a reality. Other social difficulties may also be observed, such as:

- Social behavior that seems developmentally immature;
- Difficulty reading social cues, such as how to adjust one's behavior depending on the situation;
- A perceived lack of empathy or emotional interest in others (e.g., no reaction to a person's misfortune or fortune);
- Difficulty forming friendships with classmates;
- Trouble accepting and offering feedback;
- Lack of ability to censor comments. For example, the student may vocalize his or her views about the physical qualities of a teacher without realizing that these comments may hurt the teacher's feelings;
- Difficulty understanding the need for personal space;
- Use of a raised voice during periods of stress and/or frustration;
- Trouble understanding and/or following the rules of social games during free time.

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Recommendations for Enhancing Social Skills

As a student program professional, we encourage you to cultivate students' social awareness at every opportunity—inside and outside the classroom. In situations that are socially problematic for twice-exceptional students, particularly those diagnosed with an ASD, you may find that there is a discrepancy between the student's perceptions about a situation and the perceptions of others. These differences need to be made explicit for the student so that he or she can learn from these situations and attempt to apply new skills in the future.

In your professional role, you may not necessarily be in a situation to improve a students' social skills, but you could be helpful in decreasing social stressors and increasing positive social interactions. For example, it may be helpful to arrange for a student to sit near a group of students at lunch and during free time so that opportunities to cultivate social interactions are present. Offer encouragement and recognition for all attempts made at engaging others socially.

In many cases, twice-exceptional students may need specific instructions as to how to relate to other students. This means that a general comment such as, "Why don't you go sit next to Marcos today at lunch?" is not as helpful as a comment such as, "After you get your tray at lunch, go sit in the chair next to Marcos and see if he wants to talk about his favorite part of this morning's class."

It is also important to identify specific opportunities in which the student can interact with peers. In these situations, the student can observe and learn from the language and social skills of those around him or her. It may be helpful to match the student with peers who have similar interests to give him or her "common ground" on which to start a conversation and perhaps build a friendship. What is nice about summer enrichment programs is that students typically self-select courses they take; therefore, classes will be filled with students who have similar interests, giving the student with ASD opportunities to talk and make friendships with like-minded peers.

Many twice-exceptional students, especially those with ASD, lack important social skills that would not only help them make and keep friends but would also have a positive effect on their academic progress. For example, listening skills are vital in the classroom as well as in social situations, but may be a challenge for students who get caught up in their own interests to the extent that they may have trouble focusing on what others are saying or the material being presented in class. If this happens in your classroom, it may be helpful for you and the student to develop a cue (e.g., an agreed-upon word or signal) to regain the student's focus.

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Language and Communication Characteristics

Many gifted students with social difficulties possess communication styles that set them apart from their peers. Some examples of what you may observe include:

- Trouble applying social rules in conversation, such as what topics to select, changing topics, or providing background to help the unfamiliar listener;
- Having a hard time using and understanding facial and other nonverbal expressions that communicate emotion, or understanding how non-literal forms of communication, like teasing, irony, sarcasm, or humor, are used;
- Little to no conversational participation in group discussion or excessive talk that seems off topic or devoid of others' perspectives;
- Rarely reciprocating pleasant comments or greetings (e.g., fail to respond when you say, "It is great to see you this morning!");
- Being literal in the interpretation of instructions given by the teacher (i.e., unable to "read between the lines");
- Using a pedantic conversational style ("The Little Professor").

Recommendations for Addressing Language and Communication Difficulties

As a student program professional, it is important to remember that you typically will not be in a position to change the student's style of communicating. However, you can set up a positive environment where the student will feel accepted and heard.

For example, it may be helpful to let the student know when he or she is talking about a topic with which you are not familiar and that you will need more background to be better able to converse. Or, the student could be paired with a peer who has a similar interest so that they can share past-times and experiences. Sometimes, students may also need prompting to remember that what may be an interesting or relevant topic to them may not be to the listener.

It is important to realize that the student likely will not respond like his/her peers to gentle teasing and humor. Because these students have often been the subject of bullying, it will be vital to monitor peer interactions to ensure that bullying is not occurring and that the student is not in a situation where his/her communication style is being used against him/her. It would also be helpful to point out to the student situations in which gentle teasing and humor are being used so that misunderstanding does not occur.

When a student takes a risk and contributes to group discussion, praise the student for his/her efforts. Conversely, when a student seems to be monopolizing group discussion, inform the student prior to the start that it will be important for you to hear all students' perspectives so you will be calling on multiple students to contribute. When providing instructions, use a straightforward and direct style. Ensure that students understand what is expected of them by having them repeat back what was said.

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Behavioral Characteristics

There are several behavioral characteristics that may be present in twice-exceptional students. Some of these include, but are not limited to:

- Failure to decipher private versus public habits or to engage in personal hygiene needs (e.g., the student who picks his/her nose or does not take showers);
- Absence of relaxation or recreational activities;
- Limited or unusual clothing preferences;
- Intense sensory sensitivities (touch, sound, light, color, odor, taste);
- Self-stimulatory actions, often to reduce anxiety, stress, or express pleasure;
- Self-injurious behaviors when frustrated;
- Sleep disturbance
- Easily distractible
- Strict adherence to rules and routines (unable to finish one task before starting another one; trouble with change);
- Trouble understanding the importance of details depending on the situation;
- Difficulty understanding when a task is actually “finished”;
- Anger or behavioral problems related to unexpected changes in routine or behavior.

Recommendations for Supporting Behavioral Difficulties

As a student program professional, you may find that some twice-exceptional students exhibit behaviors that can be problematic in and out of the classroom. Several behavioral management techniques may be of assistance, depending on the particular student’s specific needs. Typically, the emergence of a behavior problem is a signal that the student is experiencing stress. If so, consider removing the student from the source of the stress and allowing him/her to go to a safe place. If available, involve staff with expertise in behavior management to identify in advance locations that can serve such a purpose. When possible, it may be helpful to have a comforting object or person available to help calm the student, or to engage the student in a familiar and enjoyable activity.

You may also find that a twice-exceptional student may experience behavioral difficulties during “down times.” To avoid problems during these occasions, plan ahead to find out what activities and areas the student is interested in and be prepared to make specific suggestions about things the student should do. This might include playing cards, reading a book, listening to music with headphones, or playing on a computer. For students with ADHD, you may need to regularly check in with the student to ensure adequate understanding of class directions. These “check ins” can also help serve as reminders to the student to maintain on-task behavior.

There may be cases where a child’s behavior seems to require specific, program-wide guidelines to deal with the issues whenever they arise. If you feel that a behavioral intervention plan would be helpful to you, we recommend that you bring this to the awareness of program staff very early so that an individualized plan can be developed. When possible during intervention planning, the consultation of psychologists, graduate students, and other professionals with specialized training in behavior management and twice-exceptionality is recommended. Whatever guidelines are determined should be discussed with the student in an explicit, rule-governed fashion, and everyone involved with

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the student should be aware of the plan so that consistency across staff, settings, and situations is maintained.

Parents of all student participants are required to complete health forms. These forms are the ideal place for parents or guardians to identify environmental factors that are likely to cause their child distress. A careful review of the forms will be helpful in taking steps to minimize or eliminate these issues before the week begins. For example, the student may be sensitive to certain sounds; therefore, this student may benefit from wearing headphones during individual work time to eliminate possible distractions. Other students may be sensitive to fluorescent lights, so placing the student near a window, if available, may help.

Many twice-exceptional students, particularly those with ASD, have intense interests that may result in social and communication problems. However, these interests can be used in a positive way. For example, an interest can be used to grab attention in particular subject areas. If a student is fascinated with baseball statistics, use this interest to teach him/her about fractions and decimals or find books that feature baseball players with impressive statistics.

Many students with ASD also have an adverse reaction to change; thus, a new learning environment or program can be extremely stressful to the student. Students would benefit from having a written schedule where each component of the day is outlined. Once a routine is established, he or she may become anxious if it is changed or if the setting is altered. It is imperative to make the student aware in advance of changes that are likely to cause distress (e.g., a changed field trip, shortened break time, etc.). In all likelihood, the twice-exceptional student will take longer to adjust to any changes than it would take his/her peers, so discuss the transition with him/her before informing the whole group, and be patient if the student does not understand right away.

In our one-on-one and group work with twice-exceptional students, we have noticed several times that it is difficult for students to generalize what is learned outside of classroom, group therapy, or individual therapy setting.

Students' difficulty generalizing information can also be very frustrating for educators who teach material that the child seems to grasp, yet loses the ability to relate it to the next day's lesson. Repeating information, such as directions for an assignment, may not always be necessary for typical gifted students, but it may be necessary to the success of these twice-exceptional students.

Social Stories as an Intervention

Social Stories is an intervention that introduces potentially challenging or confusing topics and situations to students by presenting the information from the perspective of the child or adolescent. These short stories are most often written for students with difficulties in social functioning and communication, which are central characteristics of students with ASD. The purpose of Social Stories is to help the student learn appropriate ways to react to social situations or to highlight positive achievements.

The following eight Social Stories introduce topics and situations that students in enrichment programs may encounter. Some are presented in check-list format and others are in paragraph form. We have kept them general so that they can be

Section II:

Addressing the Paradox: Developing Strengths and Accommodating Difficulties

Weekday Schedule

7:00-7:30 AM Wake up! Students are responsible for setting their own wake-up time. Early risers may want to get together to do some early morning exercise or read quietly in the residence hall.

7:00-8:30 AM Breakfast—All meals will be served in the newly renovated Burge Dining Hall. You will have a choice of hot entrees, fruit, juices, cold cereal, and an assortment of breads.

8:30-8:45 AM Morning Meeting—A daily meeting for announcements.

9:00-12:00 PM Morning Academic Session

12:00-1:00 PM It's back to Burge Hall for lunch where you will have the choice of hot entrees, a complete line of vegetarian entrees, soup, sandwiches, and a complete salad bar.

1:00-4:00 PM Afternoon Academic Session—This early afternoon period usually involves additional academic class work. Sometimes the afternoon session is reserved for class projects, special workshops, lectures, exhibits, field trips, and other activities.

5:00-6:30 PM Dinner is served in Burge Dining Hall. A complete line of vegetarian entrees is served along with a variety of other meal choices.

6:30-9:30 PM Evening Activity—Most evenings include special events ranging from arts performances and special guest speakers to student activities and games. Some programs have a mandatory study period during this time. The times of these activities will vary. Check the daily schedule located on your RAs door for details.

10:00-10:30 PM Curfew—All students must be on their floors by the time designated for their individual program unless directly involved with an activity scheduled by the program staff.

11:00 PM Bed Check or Lights Out—Students must be in their own rooms ready for bed check if they are junior high students, or in their rooms getting ready for bed if they are high school students. If you want to go to bed earlier, please feel free to do so.

11:30 PM Lights Out for High School Programs—You may be used to staying up later, but with the busy schedule you will need your sleep. RAs will do bed checks promptly at 11:30 PM for the high school programs.

tailored to the individual student in various ways, such as incorporating the child's name, interests, or particularly troubling situations. Also it is important to know that students who attend summer programs range in age from early elementary to high school. Therefore, some stories will not be appropriate for the specific child or adolescent with whom you are working. In these cases feel free to modify the story so that it is age-appropriate and fits with your student's needs.

For more information on Social Stories, including how to construct them on your own, see Carol Gray's *The New Social Story Book* (2000 edition), published by Future Horizons, Inc.

Introduction to Programs

1. This summer I am going to a special Program for gifted students.
2. Programs are different than school. At Programs I can learn about specific topics that interest me.
3. Sometimes I will be in a classroom for 3 or 4 hours learning from a teacher and at other times I will participate in fun activities outside of the classroom.
4. There will be many other students at the Programs. Some of the students will have the same interests as I. Some will not be interested in the same things that interest me. I can learn new things from other students, even those who do not share my interests. I can do this by listening to them and asking them questions about what they like to do.

Checking My Schedule

1. The Daily Schedule is a list of times and locations for each of the activities that I will be participating in for that day. On the left side of this page is an example of a general weekday daily schedule:
2. I will receive my Daily Schedule each morning from my Resident Assistant.
3. Each day before my classes start I need to check my Daily Schedule.
4. My Daily Schedule will not be the same as all of the students in the program. It may not even be the same as that of my roommate.
5. My Daily Schedule might change every day so I should look at it daily.
6. I should pay attention to the times listed on the schedule because they will tell me when the activity starts. I can check a clock or wear a watch to know the time.
7. I should also pay attention to the location of the activity so that I know where to go and can estimate how long it will take. It may take as long as 5 minutes to get to an activity, so I need to start walking earlier than the start time listed in my Daily Schedule.
8. If I have any questions or if I do not understand the schedule then I should ask a Resident Assistant for help before classes start.

Section II:

Addressing the Paradox: Developing Strengths and Accommodating Difficulties

9. My Daily Schedule will help me get to the places I am supposed to be at the correct times so that I will have a good time at summer camp. It will also help me remember all our activities so I can tell my family and friends about them later.

Eating in the Cafeteria

1. When I attend a residential program for gifted kids at the *Belin-Blank Center*, I will eat breakfast, lunch, and dinner in the Cafeteria.
2. The Cafeteria is called the *Burge Dining Hall*.
3. I will have lots of choices of what to eat in the Cafeteria. For breakfast, there will be hot entrees, fruit, juices, cold cereal, and breads. For lunch, there will be hot entrees, vegetarian entrees, soup, sandwiches, salad bar, and deserts. For dinner, there will be choices similar to what there was at lunch.
4. I will fill up my plate one time and only get as much food as I can eat in the Cafeteria. I will make sure to only get one dessert.
5. I get to chose where I sit in the Cafeteria. I can eat with a staff person or a classmate.
6. After I am finished eating in the Cafeteria, I will put my tray in a designated area. My Resident Assistant can show me where if I am confused.
7. I will not bring food out of the Cafeteria.

Taking Care of Myself

Sometimes people get dirty or sweat a lot and they start to look dirty or smell funny. Other people might not want to be around me if I look dirty or smell funny. Every day that I am at the program I need to make sure that I am clean and smell good. It is a good idea to take a shower or bath every day and to use soap to clean off any dirt. I should also wash my hands whenever they are dirty and before I eat food.

Other things need to be cleaned as well. Clothes can become dirty and smell funny, so I should wear a clean set of clothes each new day. My teeth need to be brushed every day too so that they are clean and my breath smells good.

I might become sick while I am at my program. When I am sick I may spread germs to other people and make them sick and other people do not want to be sick. If I become sick I should tell my resident assistant or my teacher. If I feel fine but have a cough I should cover my mouth with my hand or cough into the middle of my arm when I feel like coughing. I should wash my hands each time I cough or sneeze into them.

Section II:

Addressing the Paradox: Developing Strengths and Accommodating Difficulties

Personal Space

1. Sometimes people need Personal Space. This means that I should not get too close to them.
2. Getting too close to someone or invading his or her Personal Space may upset that person or make them feel uncomfortable.
3. To keep good Personal Space, I can always give a high-five, thumbs up, or a handshake to others, but I should not hug someone else or invade his (her) Personal Space.
4. I should also make sure that there is enough Personal Space between me and my friend. When I give other people their Personal Space they will not feel upset or uncomfortable.

In the Classroom

1. When I go to summer programs I will be Learning in a Classroom.
2. There will be many other students in the Classroom.
3. My teacher will help us Learn new things.
4. When the teacher is talking I will try to be quiet and listen so that I can Learn.
5. Teachers like it when the students use an inside voice in the Classroom and when they listen to what is being said.
6. If I want to say something in the Classroom or if I have a question for the teacher I will raise my hand so that the teacher knows that I would like to talk. When the teacher calls my name I will know that it is my turn to talk.
7. I have to remember that other students may also raise their hands to talk in the Classroom so I may not be the first person the teacher calls on. This is okay.

When I am Upset

When I attend a program I will participate in many activities in and out of class. Some activities may be easy and some activities may seem difficult. When things seem difficult people sometimes get frustrated or angry. Everyone gets angry at one time or another. People can also get angry at other people.

When I get angry it is NOT okay to hit, push, or yell at other people. Instead I will have several good options. One option is to ask my teacher or resident assistant for help. If I am in the classroom, another option is to tell my teacher that I need “a break” from class for awhile and I can go to the quiet place that I identified with my teacher. The quiet place is a room where I can go to calm down and feel better. I can talk with a staff member in the quiet place about what happened. I should only use the quiet place when I feel it is necessary.

Section II:

**Addressing the Paradox:
Developing Strengths and
Accommodating Difficulties**

Finding Someone to Help

At the programs I will meet many students and adults. Sometimes it is hard to remember everyone’s name and recognize everyone’s face. If I am in trouble or if I am lost I should look for an adult wearing a white t-shirt with the word STAFF written on the back. That person is a safe person who can help me with my problem or show me where to go. If I cannot find a person wearing the STAFF t-shirt, I should find another adult and tell that person who I am and what I need help with.

Conclusion to Sections I and II

Section I of PIP-2 was preceded by a **figure** that graphically presented research results highlighting the paradox of twice-exceptionality. This figure was followed by an extensive discussion of the intersection between giftedness and disabilities such as ADHD, SLD, and ASD. Section I concluded with three case studies that were included to help the reader feel connected to the real people who are the motivation for PIP-2. In Section II, we tried to describe the unique learning and behavioral characteristics of gifted students who have these diagnoses. Because your time with the students in programs is relatively short, we have emphasized the recommendations for academic and social accommodations by highlighting their headlines in gold. Section III includes the appendices, an extensive list of resources, and an annotated bibliography. We hope that you will find the final section to be as informative as Sections I and II.

The Paradox of Twice-Exceptionality

*Packet of Information
for Professionals –
2nd Edition (PIP-2)*

Section III Appendices



A Brief History of Gifted Education

Federal Definition of Giftedness

A Brief History of Gifted Education

The Role of the Marland Report

For more than three decades, the federal definition of giftedness has served as the dominant basis for the definition of giftedness that is used in school settings in most states. This definition came from the first national report on gifted education, Education of the Gifted and Talented, which was a product of an effort initiated in 1972 by U.S. Commissioner of Education, S. P. Marland. The report, often referred to as the Marland Report, is credited with giving gifted education national stature by emphasizing the need for programming as well as by suggesting that a failure to meet the academic needs of gifted students would place them at risk for psychological difficulties. However, validation of gifted students' needs for specialized programming was the extent of the report's impact, because it did not include legislation leading to significant rights for gifted students, their parents, or their teachers.

Gifted Education Programs

Shortly after the release of the Marland Report, gifted education programs appeared throughout the nation's schools. Many of the programs were developed according to the Enrichment Triad Model (Renzulli, 1976), which is the core of Renzulli's Schoolwide Enrichment Model (SEM). Because an enrichment model aims to provide a comprehensive menu of challenging opportunities, it is understandably attractive to many educators who want to provide a broad spectrum of gifted-education opportunities to their students. In addition, most enrichment programs use an identification system that features above-average achievement (based on grade-level tests), creativity, and motivation. The first step to participation in an enrichment-focused program often is an evaluation of the student's performance on a nationally-normed, grade-level achievement test. The next step often involves the student taking a group-administered ability test, such as the Cognitive Abilities Test (CogAT). A more comprehensive discussion of general cognitive ability is provided in [Section II](#).

The Myth of Giftedness as a General Attribute

Although an enrichment model is an effective intervention for many gifted students; ironically, for gifted students with a disability, the model's emphasis on high general achievement and demonstrated motivation may inadvertently exclude from participation in the school's gifted program those gifted students who have learning difficulties, behavioral problems, or social-skill deficits.

An enrichment model has also resulted in a myth that giftedness is very general in its nature. Although we are not sure how this myth originated, even in the most respected school systems its impact is obvious by the global or general approach of gifted-student identification systems and subsequent programming. While scholars have demonstrated that most individuals are not equally talented in the variety of talent areas that are typically addressed in educational settings (e.g., verbal, quantitative, musical, and leadership; see the Marland Report definition of giftedness on the next page), schools continue to base entry into gifted education programs on global or composite standardized test scores.

Because of these practices, there is a denial of the enormous diversity of talent that exists among gifted students. For example, educators may assume that all gifted students love school, read well, process information quickly, or are able to

complete work or learn new material independently. Professionals who adhere to this particular myth usually are not open to the possibility that a student can be gifted even though he or she does not process information quickly. These are often the same people who believe that gifted students do not require any special intervention because they will “make it on their own.”

The above description of enrichment programs begs the following question: Is the generally gifted approach the only way to find and develop programs for gifted students?

Federal Definition of Giftedness

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 differential educational programs and/or services beyond those provided by the regular school program in order to realize their contribution to self and the society.

Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination:

1. General intellectual ability
2. Specific academic aptitude
3. Creative or productive thinking
4. Leadership ability
5. Visual and performing arts
6. Psychomotor ability*

It can be assumed that utilization of these criteria for identification of the gifted and talented will encompass a minimum of 3 to 5% of the school population.

*This was later removed.

Disability Categories of
Individuals with Disabilities
Education Act (IDEA)

Explanation of Federal Protections
for Students with Disabilities

504 Plans •

Individualized Education •
Plans (IEPs)

The Fourteen Individuals with Disabilities
Education Act (IDEA) Disability Categories for
Children Aged 3-21

1. Autism (A required category for reporting beginning in 1992)
2. Deaf/Blindness
3. Deafness
4. Emotional Disturbance
5. Hearing Impairment
6. Intellectual Disability
7. Multiple Disabilities
8. Orthopedic Impairment
9. Other Health Impairment
 - ADHD falls in this category
10. Specific Learning Disability, which includes the categories of:
 - Oral expression.
 - Listening comprehension.
 - Written expression.
 - Basic reading skills.
 - Reading fluency skills.
 - Reading comprehension.
 - Mathematics calculation.
 - Mathematics problem solving.
11. Speech or Language Impairment
12. Traumatic Brain Injury
13. Visual Impairment
14. Developmental Delay

Children Aged 3–9

As noted in this link, the term “developmental delay” can be used for children aged 3 through 9. Specifically, the term is employed if an individual has developmental delays in one or more of the following areas: physical development, cognitive development, communication development, social or emotional development, or adaptive development¹.

Explanation of Federal Protections
for Students with Disabilities

Students with disabilities are afforded specific rights under IDEA, which can typically be categorized into an Individualized Education Program (IEP) and 504 plans. Though both IEPs and 504 plans protect the rights of individuals with disabilities, they operate in different ways in an educational setting.

Explanation of Individualized Educational Programs (IEPs)

The IEP specifies for each individual the explicit disability-related needs and the way in which the educational setting must meet the needs. The IEP is a formal

Disability Categories of
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acknowledgment that the student's diagnosis results in an individualized need to establish the program of instruction, which includes goals and objectives that are evaluated annually to determine the effectiveness of the plan. The plan is written and must be agreed upon by parents. There is some federal funding for services offered to children with an identified disability. An IEP focuses on a written plan detailing intervention strategies for the student.

Explanation of a 504 Plan

A 504 Plan refers to a section of the Americans with Disabilities Act (1990) that prohibits discrimination against individuals based upon his or her disabilities. It offers protections in a school setting that are similar in nature to protections provided by Section 504 of the Vocational Rehabilitation Act of 1973. A 504 Plan is much less precise than an IEP. If a student has an IEP, it will supersede the 504.

In essence, the 504 specifies the accommodations that are needed to ensure that the student has access to an appropriate education. These are accommodations that may structure the environment or the mode of instruction to assure that the student has an optimal learning experience. The suggestions that were presented in Section II are more typically found in 504 Plans.

Finally, the 504 Plan does not require a written plan that is agreed to by parents. As well, 504 Plans do not include funding for the services.

Subtle but Important Differences Between IEPs and 504s

Not all students who have disabilities require specialized instruction. For students with disabilities who do require specialized instruction, the Individuals with Disabilities Education Act (IDEA) controls the procedural requirements, and an IEP is developed. The IDEA process is more involved than that of Section 504 of the Rehabilitation Act and requires documentation of measurable growth. For students with disabilities who do not require specialized instruction but need the assurance that they will receive equal access to public education and services, a document is created to outline their specific accessibility requirements. Students with 504 Plans do not require specialized instruction, but, like the IEP, a 504 Plan should be updated annually to ensure that the student is receiving the most effective accommodations for his/her specific circumstances.

References

1. https://docs.google.com/viewer?a=v&q=cache:vWuBBU4VrscJ:nichcy.org/wp-content/uploads/docs/gr3.pdf+&hl=en&gl=us&pid=bl&srcid=ADGEESiU6FcWuaWbcHEGVAt2XN-fRmHx1ixhYxjC4JZ9zgPDJMH-OXdt6T28DlIpTxJV4YgO7QKBEeXwYSgEYj7a7YB-cxYsVDJ1eugj6jS_zirhoBCno7KOIvxvvPRDYSGCpOwfBjLU&sig=AHIEtbQ9U3TXVz5nReF4YVNrLVzo4_082w
2. <http://www.aacld.org/thelaw/504plans.html>.

The Talent Search Model

**Comprehensive Assessment –
Why it Matters**

**The Assessment Process at the
Belin-Blank Center’s Assessment
and Counseling Clinic**

Annotated Bibliography

The Talent Search Model of Gifted Identification

There is a system for gifted education programming that has existed since the early 1980s, when programs for high-ability students first were offered through university settings. Typically presented as a benefit of participation in university-based talent searches (Lupkowski-Shoplik, Benbow, Assouline, & Brody, 2003; Olszewski-Kubilius, 2004), these programs are almost entirely outside of the K–12 domain (Assouline & Lupkowski-Shoplik, 2012). The talent-search model for discovering academic talent is a two-step process, and the first step, as with an enrichment model, often emanates from the student’s performance on a nationally-normed grade-level achievement test; however, this is the only point at which the talent-search programs resemble the enrichment programming. So, while enrichment usually serves as the basis for the majority of pull-out programs for gifted students in the K–12 setting, the talent-search model serves as the basis for university-based programs; and thus, these two kinds of programs operate in a parallel gifted world (Assouline & Lupkowski-Shoplik, 2012). Because these two programs rarely intersect, it is not uncommon for students to qualify for university-based programs, yet not qualify for their school’s gifted program.

Belin-Blank Center programming is more aligned with a talent development/university-based talent-search model. For many students, this approach can help not only to discover a need for additional academic challenge, but also to help establish clear modifications that provide the necessary challenge. Further, the talent-search model provides a unique and complementary perspective on traditional methods of gifted identification, student achievement.

Comprehensive Assessment — Why It Matters

Evaluation of gifts/talents and disabilities is a complex process, and requires a comprehensive assessment that is tailored to identifying the student’s specific particular impairments and academic strengths. Because an accurate diagnosis drives the formulation of appropriate recommendations, it is critical to gather information from every area that could be affected by the student’s disability. Therefore, specialized training in the assessment of disabilities, as well as a thorough understanding of giftedness are necessary qualifications for professionals who evaluate students who are suspected to be twice-exceptional.

Comprehensive assessment has been demonstrated to be necessary to identify both the strengths and areas of challenge that growth within twice-exceptional students exhibit (Assouline, Foley Nicpon, & Doobay, 2009; Assouline, Foley Nicpon, & Whiteman, 2010). Relying on brief or screening assessments to make a diagnosis may increase risk of inaccurate diagnostics or insufficient identification of academic strengths. Further, comprehensive assessment is necessary to avoid mistaking a student’s combination of strengths and weaknesses as a balanced average profile, which misses both the need for increased challenge as well as appropriate accommodation and interventions to address learning or mental health diagnoses.

The Assessment Process at the Belin-Blank Center's Assessment and Counseling Clinic

The Assessment and Counseling Clinic (ACC) is dedicated to providing clinical services to gifted and talented students, their families, and school personnel. These services include, but are not limited to: identification of ability levels, determination of psychological and educational needs, assistance with adjustment and emotional difficulties, and outreach and consultation services.

The ACC is staffed by highly trained professionals with experience in working with gifted individuals from various backgrounds and a wide variety of concerns. The entire staff works in collaboration with Belin-Blank Center Director, Susan Assouline, Ph.D., a well-known expert in the field of gifted education. In addition to expertise in gifted education, Dr. Assouline is a certified school psychologist. The ACC is comprised of several professionals: a full-time licensed psychologist, Dr. Alissa Doobay; a full-time clerical support staff member, Ms. Nancy Whetstine; and advanced practicum students from the school psychology and counseling psychology program. Other faculty from the College of Education participate in clinic activities. Dr. Megan Foley Nicpon, associate professor of counseling psychology, supervises practicum students and consults with clinic staff on research and assessments. ACC staff also includes Dr. Volker Thomas, PhD, a licensed marriage and family therapist in the College of Education who supervises advanced doctoral students who work with ACC families.

Although the ACC has established itself as a leader in assessment and counseling for gifted individuals, more recently the ACC has developed a one-of-a kind focus on services for and research with twice-exceptional students. Of particular importance are a variety of services available to twice-exceptional students whose disability is ASD.

Assessment

In addition to the ACC's psychoeducational assessments to determine levels of ability and educational achievement, members of the ACC have completed extensive training in the use of autism spectrum diagnostic instruments considered the "gold-standard" in the field. Additional assessment in the areas of social-emotional development, adaptive functioning, and behavior are included in the assessment process, which culminates in a written report with interpretation of the assessment results and individualized recommendations to improve the student's social, psychological, and educational well-being.

Individual and Group Counseling

Dr. Doobay and Dr. Foley Nicpon supervise doctoral-level counseling students and facilitate individual counseling sessions for twice-exceptional students at the ACC. Individual counseling sessions typically focus on helping students cope with adjustment and emotional difficulties that accompany their twice-exceptionality. Doctoral-level counseling, marriage and family therapy, and school psychology students who are supervised by Dr. Thomas facilitate group counseling sessions for gifted students with co-existing disabilities who fall into specific age ranges. These sessions are primarily focused on developing social skills and relationships.

Appendix C

The Talent Search Model

**Comprehensive Assessment –
Why it Matters**

**The Assessment Process at the
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and Counseling Clinic**

Annotated Bibliography

Consultation

The ACC offers consultation to students and their families on a variety of topics; some examples include acceleration planning, decision-making for college, and second opinions regarding diagnosis. In addition, consultation can include dialoguing with teachers and school administrators to advocate for optimal services for our clients.

Research

In 2005, the Belin-Blank Center, in partnership with the Iowa Department of Education, was awarded a competitive federal Jacob K. Javits grant to study twice-exceptional students. This research is focused on establishing best practices for discovering twice-exceptional students and providing evidence-based recommendations that are relevant in schools. Since being awarded the Jacob K. Javits grant, research involving twice-exceptional students has greatly expanded at the BBC and across the nation. The Annotated Bibliography provides an introduction to the exploration of characteristics of twice-exceptional students.

The Talent Search Model

Comprehensive Assessment –
Why it Matters

The Assessment Process at the
Belin-Blank Center's Assessment
and Counseling Clinic

Annotated Bibliography

Assouline, S., Foley Nicpon, M, & Dockery, L. (2012). Predicting the academic achievement of gifted students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 42(9), 1781-1789.

Assouline, S., Foley Nicpon, M, & Doobay, A. (2009). Profoundly gifted girls and autism spectrum disorder: A psychometric case study comparison. *Gifted Child Quarterly*, 53(2), 89-105.

Annotated Bibliography

Abstract: We are not well informed regarding the ability-achievement relationship for twice-exceptional individuals (very high cognitive ability and a diagnosed disability, e.g., autism spectrum disorder [ASD]). The research question for this investigation (N = 59) focused on the predictability of achievement among variables related to ability and education in a twice-exceptional sample of students (cognitive ability of 120 [91st percentile], or above, and diagnosed with ASD). We determined that WISC-IV Working Memory and Processing Speed Indices were both significantly positively correlated with achievement in math, reading, and written language. WISC Perceptual Reasoning Index was uniquely predictive of Oral Language test scores. Unexpected findings were that ASD diagnosis, Verbal Comprehension Index, and forms of academic acceleration were not related to the dependent variables.

Abstract: A case study of the psychometric characteristics of two profoundly gifted girls, one with autism spectrum disorder (ASD) and the other without ASD, is used to describe the nuances and subtleties most relevant in understanding the relationship between extreme giftedness and social difficulties. Through the presentation of the results from psychoeducational and psychosocial assessments, we demonstrate how data from a comprehensive evaluation can distinguish between the manifestation of extreme giftedness and concomitant social impairment indicative of ASD. Comparison of the assessment results highlights the relevance of cognitive and achievement information as well as the need for specific measures to diagnosis ASD. The girls demonstrated virtually identically superior cognitive and achievement performances. However, an in-depth analysis of additional measures, especially those specific to ASD, indicates that information about adaptive behavior and executive functioning can reveal important distinctions that are helpful in understanding the need for unique interventions specific to ASD.

Assouline, S., Foley Nicpon, M., & Whiteman, C. (2010). Cognitive and psychosocial characteristics of gifted students with written language disability. *Gifted Child Quarterly*, 54(2), 102-115.

Abstract: Gifted and talented students who also have a specific learning disability (SLD) are typically referred to as twice-exceptional and are among the most underserved students in our schools. Previous special education laws promoted a wait-to-fail approach; therefore, gifted students with SLD often were overlooked because their average academic performance was not “failure” enough. The flip side to this was the fact that students’ giftedness, as measured by general ability tests, often was masked by average, yet relatively weak, academic achievement. They were not only waiting to fail, they were failing to flourish. The authors present the data gathered from 14 gifted students with SLD, specifically a disorder of written expression. Students were determined to be gifted if they earned a score of 120 (Superior) on the Verbal Scale of a cognitive ability test. They were considered to have a written language disability through an evaluation of their written language skills. The average Verbal IQ for the group was close to a standard score of 130, whereas the average Written Language Score was close to a standard score of 99. In addition to the cognitive profile for these students, the authors obtained measures of their psychosocial functioning. On average, parents, teachers, and students reported typical adaptive behavior, yet group elevations also were present on several clinical scales. The authors’ main conclusion is that a comprehensive assessment plays a critical role in (a) determining whether a student is twice-exceptional, (b) identifying the possibility of psychosocial concerns, and (c) developing educational recommendations. Putting the Research to Use: The results from our empirical study suggest that only through a comprehensive evaluation, which includes both individualized achievement and ability tests and allows for an analysis of the performance discrepancy between the two, is it possible to discover cognitively gifted students with a disorder of written expression. Diagnostic/identification procedures that do not include a comprehensive evaluation place gifted students at serious risk for “missed” diagnosis and ultimately, missed opportunity for intervention. The missed diagnosis arises from the observation that their written work is average relative to that of their peers. Equally important is the concern that some very capable students may be over-looked for screening for gifted programming because their achievement is average. Educators of students who appear to have high verbal ability while simultaneously demonstrating difficulty completing written assignments—and may even appear to be lazy or unmotivated—have a responsibility to further investigate the students’ difficulties and strengths.

Assouline, S., Foley Nicpon, M., & Whiteman, C. (2011). Cognitive and psychosocial characteristics of gifted students with written language disability: A reply to Lovett’s response. *Gifted Child Quarterly*, 55(2), 152-157.

Abstract: Reply by the current authors to the comments made by Benjamin J. Lovett on the original article. Our article describing the characteristics of gifted students with a specific learning disability (SLD) in written language was criticized for emphasizing an ability achievement discrepancy as an indication of a written language disability and for not ruling out alternative explanations for the observed difficulties. The three primary alternative explanations include measurement error, (lack of) motivation, and/or past experiences. In our reply, we offer extensive evidence that refutes these alternative explanations. The critique also offers an interpretation, which we determined to be inaccurate, of our data; therefore, we correct the misinterpretation. We conclude with a confirmation of our original findings: identification of gifted students with specific learning disabilities requires a comprehensive psycho-educational evaluation that includes an examination of the cognitive profile generated from individually-administered tests of ability and achievement. In combination with a psychosocial profile that addresses behavior, self-concept, interests, and motivation, educators have the necessary information to guide them in identifying and developing the unique talents of gifted children with SLD.

Assouline, S. & Lupkowski-Shoplik, A. (2012). The talent search model of gifted identification. *Journal of Psychoeducational Assessment*, 30(1), 45-59.

Assouline, S., & Lupkowski-Shoplik, A. (2011). *Developing math talent: A comprehensive guide to math education for gifted students in elementary and middle school (2nd ed.)*. Waco, TX: Prufrock Press.

Assouline, S., & Whiteman, C. (2011). Twice-exceptionality: Implications for school psychologists in the post-IDEA 2004 era. *Journal of Applied School Psychology*, 27(4), 380-402.

Attwood, T. (2007). *The complete guide to Asperger's Syndrome*. London: Jessica Kingsley Publishers.

Abstract: The Talent Search model, founded at Johns Hopkins University by Dr. Julian C. Stanley, is fundamentally an above-level testing program. This simplistic description belies the enduring impact that the Talent Search model has had on the lives of hundreds of thousands of gifted students as well as their parents and teachers. In this article, we compare the Talent Search model to school-based models of gifted education. The comparisons are both broad and narrow. Broad contrasts are made in the discussion of the historical impetus, whereas specific differences are presented in the discussion of numbers of students served and costs. Bridging the Talent Search model and K-12 gifted education models is addressed. Assessment information from Talent Search above-level testing offers valuable information for parents and teachers and recommendations for advocacy are presented. Finally, we highlight major findings from Talent Search research emphasizing that Talent Search research has made a significant contribution to our understanding of gifted and talented students. We conclude with a strong endorsement to recognize the founder of the Talent Search model, Julian C. Stanley, by referring to the impact of the Talent Search model as the Julian Stanley Effect.

Abstract: This text offers a focused look at educating gifted and talented students for success in math. The book offers a comprehensive approach to mathematics education for gifted students of elementary or middle school age. The authors provide concrete suggestions for identifying mathematically talented students, tools for instructional planning, and specific programming approaches. The second edition features topics such as strategies for identifying mathematically gifted learners, strategies for advocating for gifted children with math talent, how to design a systematic math education program for gifted students, specific curricula and materials that support success, and teaching strategies and approaches that encourage and challenge gifted learners.

Abstract: Increased awareness of twice-exceptional students is important for all educators and psychologists; however, for school psychologists, improved understanding of twice-exceptionality will enhance their unique role in assessing twice-exceptional students and in recommending appropriate interventions in schools. In this article, the authors address giftedness and disability as separate topics and then connect them as they relate to twice-exceptionality. The authors explore twice-exceptionality in 3 separate case studies, with a specific focus on attention-deficit/hyperactivity disorder, autism spectrum disorder, and specific learning disability. The article includes a discussion of the Individuals With Disabilities Education Act 2004, specifically as it relates to specific learning disability and giftedness. The authors conclude with 10 recommended practices that include the importance of a comprehensive evaluation to understand a student's strengths and weaknesses as well as the critical nature of differential diagnosis as a foundation for making recommendations for intervention.

Abstract: *The Complete Guide to Asperger's Syndrome* is the definitive handbook for anyone affected by Asperger's syndrome (AS). It brings together a wealth of information on all aspects of the syndrome for children through to adults. Drawing on case studies and personal accounts from Attwood's extensive clinical experience, and from his correspondence with individuals with AS, this book is both authoritative and extremely accessible. The chapters examine: causes and indications of the syndrome; the diagnosis and its effect on the individual; theory of mind; the perception of emotions in self and others; social interaction, including

Attwood, T. (2007). *The complete guide to Asperger's Syndrome*. London: Jessica Kingsley Publishers.
(continued)

Bashe, P. R., & Kirby, B. L. (2001). *The OASIS guide to Asperger Syndrome: Advice, support, insight, and inspiration*. New York: Crown.

Berninger, V. W., & O'Malley May, M. (2011). Evidence-based diagnosis and treatment for specific learning disabilities involving impairments in written and/or oral language. *Journal of Learning Disabilities*, 44, 167-183.

friendships; long-term relationships; teasing, bullying and mental health issues; the effect of AS on language and cognitive abilities, sensory sensitivity, movement and co-ordination skills; and, career development. There is also an invaluable frequently asked questions chapter and a section listing useful resources for anyone wishing to find further information on a particular aspect of AS, as well as literature and educational tools. Essential reading for families and individuals affected by AS as well as teachers, professionals and employers coming in contact with people with AS, this book should be on the bookshelf of anyone who needs to know or is interested in this complex condition.

Book Description: Asperger Syndrome has become an increasingly common disorder. One in 300 individuals may have AS—exhibiting characteristics such as average to high intelligence, obsessive behavior, intense special interests, and difficulty dealing with everyday social situations—and it is now more prevalent than childhood cancer and Down's syndrome.

As the mother of a boy diagnosed with AS in 1994, Barbara Kirby found scant resources and support. She developed the internationally renowned OASIS (Online Asperger Syndrome Information and Support) Web site in 1995 to help other parents find the information they need. She teamed up with Patricia Romanowski Bashe, now co-owner of OASIS and herself the mother of a son with AS, to write *The OASIS Guide to Asperger Syndrome*, which has become the standout authority in the field and a must-have for this growing audience.

Now Bashe and Kirby have crafted a fully revised edition of this comprehensive resource for parents, teachers, therapists, and anyone who knows or works with someone with AS. In addition to discussing what AS looks like and how parents can guide their unique child through the social, emotional, and intellectual challenges of growing up, this edition includes new developments made in AS research over the past four years, new thinking on diagnosis and evaluation, the latest approaches to medication and social skills development, and tips on navigating the maze of interventions, therapies, and special education. The authors know firsthand the joys and frustrations of raising children with AS, and they share their own experiences as well as those of dozens of parents facing the same issues.

Filled with practical information and emotional support, this is the most complete and authoritative guide available. Whether your child has been diagnosed or troubling symptoms are just becoming apparent, this book will point you in the right direction as you face the particular challenges of loving and raising a child with Asperger Syndrome.

Abstract: Programmatic, multidisciplinary research provided converging brain, genetic, and developmental support for evidence-based diagnoses of three specific learning disabilities based on hallmark phenotypes (behavioral expression of underlying genotypes) with treatment relevance: dysgraphia (impaired legible automatic letter writing, orthographic coding, and finger sequencing), dyslexia (impaired pseudoword reading, spelling, phonological and orthographic coding, rapid automatic naming, and executive functions; inhibition and rapid automatic switching), and oral and written language learning disability (same impairments as dyslexia plus morphological and syntactic coding and comprehension). Two case studies illustrate how these differential diagnoses can be made within a conceptual framework of a working memory architecture and generate treatment plans that transformed treatment nonresponders into treatment responders. Findings are

Berninger, V. W., & O'Malley May, M. (2011). Evidence-based diagnosis and treatment for specific learning disabilities involving impairments in written and/or oral language. *Journal of Learning Disabilities, 44*, 167-183. (continued)

Foley Nicpon, M., Assouline, S., Schuler, P., & Amend, E. (2011). Gifted and talented students on the autism spectrum: Best practices for fostering talent and accommodating concerns. In J. Castellano & A. Frazier (Eds.), *Special populations in gifted education: Understanding our most able students from diverse backgrounds* (pp. 227-247). Waco, TX: Prufrock Press.

discussed in reference to the importance of (a) considering individual differences (diagnosis of impaired hallmark phenotypes) in planning and evaluating response to instruction and modifying instruction when a student is not responding; (b) recognizing that teaching may change epigenetic gene expression at one stage of schooling, but not the underlying gene sequences that render individuals still vulnerable as curriculum requirements increase in nature, complexity, and volume in the upper grades; and (c) using evidence-based diagnoses of specific learning disabilities that are consistent across states for free and appropriate education K to 12 and for accommodations throughout higher education and professional credentialing.

Abstract: We report preliminary results from comprehensive assessments of the initial group of 18 gifted and talented students with co-occurring autism spectrum disorder (ASD). Our sample originally included 19 students who were referred by their parents because of a possible ASD diagnosis. Of these, 18 (16 boys and 2 girls) were diagnosed with ASD in our clinic. Of the 18 students with ASD, 14 were in elementary school, two in middle school, and two in high school; their ages ranged from 6-17. As previously stated, a comprehensive evaluation is required for accurate diagnosis of both gifts and disabilities. Therefore, all 19 participants were administered a battery of tests that were designed to identify areas of academic and cognitive strength, and social-emotional needs, as well as confirm or rule out a diagnosis of ASD. The Wechsler Intelligence Scale for Children-Fourth Edition, the Woodcock-Johnson Tests of Achievement-Third Edition, the Vineland Adaptive Behavior Scales, Second Edition, the Autism Diagnostic Interview-Revised, the Autism Diagnostic Observation Schedule, the Behavior Assessment System for Children, Second Edition, and the Piers-Harris Children's Self-Concept Scale, Second Edition were administered. Preliminary results from the Iowa Twice-Exceptional Project demonstrated that a comprehensive assessment needs to be the first step toward identifying strengths and areas for growth in a gifted and talented student with ASD. For example, among our group of students, there are distinct, large differences within their academic, ability, and adaptive functioning profiles that have ramifications for educational interventions. Additionally, it has become clear that a comprehensive, developmental assessment must be completed with both the student and the parent or the primary caregiver so that interventions can be individualized to match each student's needs. Lastly, there seems to be common behavioral and emotional patterns that are observed by parents and teachers; yet, students often do not have similar self-perceptions. Although interventions always need to be tailored to the individual student, some general suggestions can be made for optimizing the twice-exceptional student's educational experience. Examples of accommodations in various areas of functioning that could benefit a gifted and talented student with ASD are provided.

Foley Nicpon, M., Allmon, A., Sieck, R., & Stinson, R. D. (2011). Empirical investigation of twice-exceptionality: Where have we been and where are we going? *Gifted Child Quarterly*, 55(1), 3-17.

Foley Nicpon, M., Assouline, S. G., & Stinson, R. D. (2012). Cognitive and academic distinctions between gifted Students with autism and Asperger syndrome. *Gifted Child Quarterly*, 56(1), 77-89.

Foley Nicpon, M., & Doobay, A., & Assouline, S. (2010). Parent, teacher, and self perceptions of psychosocial functioning in intellectually gifted children and adolescents with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 40(8), 1028-1038.

Foley Nicpon, M., Rickels, H., Assouline, S., & Richards, A. (2012). Self-esteem and self-concept examination among gifted students With ADHD. *Journal for the Education of the Gifted*, 35(3), 220-240.

Abstract: Gifted students with coexisting disabilities, also known as twice-exceptional, are increasingly recognized in America's schools. This increasing awareness needs to be met with equal enthusiasm for empirical investigation into the identification and treatment needs of this group of students. In this article, a 20-year review of the empirical literature examining twice-exceptionality, specifically gifted students with learning disabilities, attention deficit hyperactivity disorder, or autism spectrum disorder, was conducted. Research strongly suggests that gifted students can have a coexisting disability and that comprehensive, individualized approaches toward diagnosis are necessary. Less is known about effective treatments and interventions that simultaneously highlight strengths and accommodate for areas of growth. Future research directions are offered that ideally will encourage scholars to discover more about effective diagnostic and intervention techniques for this very important group of gifted learners.

Abstract: The cognitive and academic profiles of high ability students with autism spectrum disorder were examined. Inclusion criteria were a diagnosis of autism (high functioning) or Asperger syndrome and at least one ability and/or achievement index standard score of 120 or above. Results indicated that despite the restricted range of cognitive abilities, students diagnosed with Asperger syndrome had significantly higher Verbal Comprehension Index scores than did students diagnosed with autism. However, students with autism had significantly higher scores on tests of math fluency and written expression than did students with Asperger syndrome. Implications for assessment, diagnosis, and intervention are discussed.

Abstract: Parent, teacher, and self-perceptions of 54 high ability students with autism spectrum disorder (ASD) were assessed through administration of the Behavioral Assessment Scales for Children, Second Edition. Parent reports resulted in clinically elevated scores on the Atypicality, Attention Problems, Depression, Hyperactivity, Withdrawal, Activities of Daily Living, Adaptability, and Social Skills subscales, and teacher reports resulted in clinically elevated scores on the Atypicality, Depression, Withdrawal, and Adaptability subscales. Self-report scores were in the average range. Parents and teachers of adolescents reported greater adaptability and fewer symptoms of atypicality than parents and teachers of children. Psychosocial functioning appears impacted in high ability students with ASD and developmental differences in severity may exist.

Abstract: Intellectually gifted students with attention-deficit/hyperactivity disorder (ADHD) face unique academic and social challenges, yet little research has been conducted with this population. The purpose of this study was to examine the self-esteem and self-concept of intellectually gifted children with and without a coexisting diagnosis of ADHD. Data were gathered from 112 children, aged 6 to 18, identified as having high cognitive ability (IQ of 120, 91st percentile, or above); 54 participants also met diagnostic criteria for ADHD. Despite having similar IQs, gifted students with ADHD had lower scores on measures of self-esteem, behavioral self-concept, and overall happiness than gifted students without a comorbid diagnosis. Among all participants, children had higher reported overall happiness than adolescents. Professionals working with gifted students with ADHD should be aware of the potential for coexisting self-esteem difficulties and, if warranted, address these issues in educational and clinical environments.

Gillham, J. E., Carter, A. E., Volkmar, F. R., & Sparrow, S. S. (2000). Toward a developmental operational definition of Autism. *Journal of Autism and Developmental Disorders*, 30(4), 269–278.

Grigorenko, E. L., Klin, A., Pauls, D. L., Snft, R., Hooper, C., & Volkmar, F. R. (2002). A descriptive study of hyperlexia in a clinically referred sample of children with developmental delays. *Journal of Autism and Developmental Disorders*, 32, 3–12.

Lovecky, D. V. (2004). *Different minds: Gifted children with AD/HD, Asperger Syndrome, and other learning deficits*. London: Jessica Kingsley Publishers.

Abstract: Traditional approaches to diagnosing autism emphasize delays in communication and socialization. Traditional diagnostic schemes typically list symptoms (e.g., lack of eye contact), but provide little guidance on how to incorporate information about developmental level in making a diagnosis. Because standardized measures of adaptive behavior can provide information about children's communication, socialization, and other behavior relative to their age, they may be useful tools for diagnosing autism. This study investigated the ability of the Vineland Adaptive Behavior Scales to identify children with autism. Vineland scores and measures of intellectual functioning were obtained for children with autism, PDDNOS, and other developmental disorders (DD). Discriminant function analyses indicated that the autism and combined nonautism (PDDNOS and DD) groups could be differentiated on the basis of socialization, daily living skills, and serious maladaptive behaviors. Socialization alone accounted for 48% of the variance in diagnosis. Using regression analyses derived from a large normative sample, adaptive behavior scores were predicted from chronological age (CA) and mental age (MA). Socialization scores in the autism group were substantially below the level predicted from CA or MA. An index derived from the ratio of actual to predicted socialization scores correctly classified 86% of both autism and nonautism cases. Findings suggest that comparison of obtained Vineland socialization scores to those predicted by CA or MA may be useful in clarifying the diagnosis of autism.

Abstract: In this study, we evaluated the incidence of hyperlexia in a clinically referred sample of 80 children with developmental delays. Based on hypotheses previously formulated in the literature, the study investigated the frequency of hyperlexia among boys and girls, the incidence of hyperlexia in children with Pervasive Developmental Disorders (PDD)-spectrum compared with non-PDD diagnoses, the range of IQ and of various cognitive skills in children with and without hyperlexia, and the developmental outcomes of children with and without hyperlexia. The results revealed no significant differences in the frequency of hyperlexia in girls compared with boys. However, the frequency of hyperlexia was significantly elevated among children with PDD compared with children with non-PDD diagnoses. The range of IQ and other cognitive skills and the developmental outcomes of children with hyperlexia were comparable to those of children without hyperlexia.

Description: Recognizing the different levels and kinds of giftedness, this book provides an insight into the challenges and benefits specific to gifted children with attention difficulties. Explaining why certain children are gifted and how giftedness is manifested, each chapter on a specific topic addresses the relevance for children with AD/HD, autism and Asperger Syndrome. Lovecky guides parents and professionals through methods of diagnosis and advises on how best to nurture individual needs, positive behavior and relationships at home and at school.

Neihart, M. (2000). Gifted children with Asperger's Syndrome. *Gifted Child Quarterly*, 44(4), 222–230.

Rogers, S. J., Cook, I., & Meryl, A. (2005). Imitation and play in Autism. In F. R. Volkmar, R. Paul, A. Klin & D. Cohen (Eds.), *Handbook of autism and pervasive developmental disorders* (5–42). New Jersey: John Wiley & Sons.

Shepard, S., Foley Nicpon, M., & Doobay, A. (2009). Early entrance to college and advanced academics: Comparisons across the first semester of enrollment. *Journal of Advanced Academics*, 21(1), 40–57.

Silverman, S. M., & Weinfeld, R. (2007). *School success for kids with Asperger's Syndrome*. Waco, TX: Prufrock Press.

Sparrow, S. S., Pfeiffer, S. I., & Newman, T. M. (2005). Assessment of children who are gifted with the WISC-IV. In A. Prifitera, D. H. Saklofske, & L. G. Weiss (Eds.). *WISC-IV: Clinical use and interpretation*. Burlington, MA: Elsevier Academic Press.

Abstract: Asperger's Syndrome is a pervasive developmental disorder characterized by deficits in social communication and by repetitive patterns of behaviors, or interests. It is observed in some gifted children. The author proposes that gifted children with Asperger's Syndrome may not be identified because their unusual behaviors may be wrongly attributed to either their giftedness or to a learning disability. The article discusses ways in which Asperger's Syndrome might be missed in gifted children and proposes guidelines for differentiating characteristics of giftedness from characteristics of Asperger's Syndrome.

Description: This book chapter describes the imitation and play behaviors of children diagnosed with an autism spectrum disorder. It is part of a behavioral section of a larger book on autism and other pervasive developmental disorders.

Abstract: This study compared self-report ratings of self-concept before and after the first semester of college among a group of 21 early entrance college students. The measures included a general demographic questionnaire and the Piers-Harris Self-Concept Scale, 2nd edition (PH-2). Results indicated that students maintained their overall level of self-concept following their first semester of college. Mild increases in self-concept were noted in the domains of Physical Appearance and Attributes, as well as Happiness and Satisfaction. Overall, mean group scores on the PH-2 total and subtest self-esteem measures were in the average range, both before and after the participants' first semester of college. This is a positive finding that points to this group of students' generally positive impressions of their behavior, intelligence, physical appearance, popularity, feelings of anxiety, and overall happiness. These findings offer additional support that academic acceleration among gifted students is not related to decreases in self-concept.

Description: Hundreds of thousands of children face life with Asperger's syndrome, a mild form of autism spectrum disorder that affects a child's language and social skills. Kids with Asperger's have average to above-average intelligence, but often have obsessive interests, are socially awkward, and do not understand the subtleties of language and conversation. With concentrated effort on the part of parents and educators, these children can begin to overcome the difficulties of this disorder and find success in school and life. *School Success for Kids with Asperger's Syndrome* covers topics such as recognizing and diagnosing Asperger's syndrome, addressing the needs of students with Asperger's, implementing successful practices in the classroom, working with the school system, and providing interventions in the home to help develop needed skills.

Description: This is a brief section within a manual for uses of a common intellectual assessment tool, the WISC-IV. The section addresses how to use the WISC-IV in the identification of intellectual giftedness.

Volkmar, F. R., & Klin, A. (2005). Issues in the classification of Autism and related conditions. In F. R. Volkmar, R. Paul, A. Klin & D. Cohen (Eds.), *Handbook of Autism and Pervasive Developmental Disorders* (5–42). New Jersey: John Wiley & Sons.

Webb, J. T., Amend, E. R., Webb, N., Goerss, J., Beljan, P., & Olenchak, F. R. (2005). *Misdiagnosis and dual diagnoses of gifted children and adults: ADHD, Bipolar, OCD, Asperger's, Depression, and other disorders*. Scottsdale, AZ: Great Potential Press.

Description: The authors provide clinical and research considerations in the diagnosis and identification of autism spectrum disorders. This chapter is in a larger book addressing many facets of autism spectrum disorders.

Description: Our brightest, most creative children and adults are often being misdiagnosed with behavioral and emotional disorders such as ADHD, Oppositional-Defiant Disorder, Bipolar, OCD, or Asperger's. Many receive unneeded medication and inappropriate counseling as a result.

Physicians, psychologist, and counselors are unaware of characteristics of gifted children and adults that mimic pathological diagnoses. Six nationally prominent health care professionals describe ways parents and professionals can distinguish between gifted behaviors and pathological behaviors.

**Web Sites for Professionals Who
Work with Individuals with ASD**

**Web Sites for Parents and
Families of Individuals with ASD**

**Web Sites Specifically for
Individuals with ASD**

Web Sites for Professionals Who Work with Individuals with ASD

<http://www.med.umich.edu/yourchild/topics/autism.htm>

University of Michigan Health System webpage on Autism Spectrum Disorders. This is a terrific page full of helpful information on spectrum disorders as well as links to many other sites and resources.

<http://medicine.yale.edu/childstudy/autism/index.aspx>

Yale Developmental Disabilities Clinic/The Yale Child Study Center webpage, which offers information on current research being conducted, as well as links to other informational websites.

<http://www.autism.com>

The Center for the Study of Autism (CSA) provides information about autism to parents and professionals, and conducts research on the efficacy of various therapeutic interventions.

<http://www.aspergersyndrome.org>

Asperger Syndrome Coalition of the United States is a national nonprofit organization committed to providing the most up-to-date and comprehensive information on social and communication disorders, with particular emphasis on Asperger syndrome.

<http://www.colour-se7en.co.uk/autism.html>

This site includes wonderful tips for persons working with individuals, as well as information to better understand the mind of the individual.

<http://aspergerlife.com/ideas-that-work>

This page includes several articles aimed at helping in the school or education setting.

<http://www.aspergersyndrome.org/Articles/Understanding-the-Student-With-Asperger-s-Syndrome.aspx>

This page has an article titled “Understanding the Student with Asperger’s Syndrome: Guidelines for Teachers,” which includes tips and possible accommodations for AS students.

<http://www.aspergersyndrome.org/Articles/Tips-for-Teaching-High-Functioning-People-with-Aut.aspx>

This page includes an article titled “Tips for Teaching High-Functioning People with Autism” with excellent tips for working with AS students.

<http://www.aspergersyndrome.org/Articles/Girls-With-Social-Deficits-and-Learning-Problems-.aspx>

This page includes an excellent article titled with case studies on girls with autism.

**Web Sites for Professionals Who
Work with Individuals with ASD**

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**Web Sites Specifically for
Individuals with ASD**

Web Sites for Parents and Families of Individuals with ASD

<http://www.autismspeaks.org>

Autism Speaks is a national organization that promotes advocacy, research, and education for individuals and families with autism.

<http://www.snichol.freemove.co.uk/asperger.htm>

This is a wonderful page put together by the father of an AS child.

<http://www.aspergersyndrome.org/Articles/Especially-for-Grandparents-of-Children-With-Asper.aspx>

On this page is an article written by a former journalist who is also the parent of a child with AS. It's meant to be shared with grandparents in the hopes that they'll better understand our children.

<http://www.autism-society.org>

This is the website of the Autism Society of America, which is aimed at promoting opportunities for persons with autism spectrum disorders and their families.

Web Sites Specifically for Individuals With ASD

<http://www.wrongplanet.net/>

Wrong Planet provides an online community and resources for those with Asperger Syndrome.

<http://www.asperger-advice.com/asperger-teens.html>

This is a web page that provides information about the challenges faced by many teens with HFA.

<http://www.angelfire.com/amiga/aut>

Personal website of individuals with AS, including biographies and discussions of important aspects of life with AS.

<http://ask-an-aspie.blogspot.com/>

On this page an individual with AS writes about his experiences.