

Appendix

What We Have Learned About Gifted Children

30th Anniversary (1979 to 2009)

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GIFTED DEVELOPMENT CENTER

The Gifted Development Center has been in operation since June, 1979, and we have assessed over 5,600 children in the last 30 years. By concentrating totally on the gifted population, we have acquired a considerable amount of knowledge about the development of giftedness. In 1994 to 1995, three noted researchers spent postdoctoral internships assisting us in coding our clinical data to enable statistical analysis: Drs. Frank

Falk and Nancy Miller of the University of Akron, and Dr. Karen Rogers of the University of St. Thomas. Here are some of the highlights of what we have learned so far:

1. Parents are excellent identifiers of giftedness in their children: 84% of 1,000 children whose parents felt that they exhibited three fourths of the traits in our *Characteristics of Giftedness Scale* tested in the superior or gifted range. Over 95% demonstrated giftedness in at least one area, but were asynchronous in their development, and their weaknesses depressed their composite IQ scores.
2. Giftedness can be observed in the first 3 years by rapid progression through the developmental milestones. These milestones should be documented and taken seriously as evidence of giftedness. Early identification of advanced development is as essential as early identification of any other exceptionality. Early intervention promotes optimal development in all children.
3. When parents fail to recognize a child's gifts, teachers may overlook them as well. Rita Dickinson (1970) found that half of the children she tested with IQs of 132 or above were referred for behavior problems and not seen as gifted by their teachers or parents. Parent advocacy is critical for gifted children's emotional and academic growth. GDC's Associate Director, Gilman's (2008a) award-winning book, *Academic Advocacy for Gifted Children: A Parent's Complete Guide*, can guide parents in effectively advocating for their children. *Challenging Highly Gifted Learners* (Gilman, 2008b) is an excellent book for teachers and parents.
4. Children and adults can be assessed at any age. However, the ideal age for testing is between 5 and 8½ years. By the age of 9, highly gifted children may hit the ceiling of the tests, and gifted girls may be socialized to hide their abilities. Unless they are absolutely certain they are right, gifted girls are often unwilling to guess, which lowers their IQ scores.

5. Brothers and sisters are usually within 5 or 10 points in measured ability. Parents' IQ scores are often within 10 points of their children's; even grandparents' IQ scores may be within 10 points of their grandchildren's. We studied 148 sets of siblings and found that over one third were within 5 points of each other, over three fifths were within 10 points, and nearly three fourths were within 13 points. When one child in the family is identified as gifted, the chances are great that all members of the family are gifted.
6. Second children are recognized as gifted much less frequently than firstborns or only children. They often go in the opposite direction of their older siblings and are less likely to be achievement oriented. Even the firstborn identical twin has a greater chance of being accepted in a gifted program than the secondborn!
7. IQ testing in childhood clearly demonstrates the equality of intelligence between males and females. Until the IQ test was developed, most of society believed in the "natural superiority of males." Even now, the fact that most of the eminent are men leads some to believe that males are innately more intelligent than females. On the contrary, we have found more than 100 girls with IQ scores above 180. The highest IQ score on record at our Center was attained by a girl, and four of the five highest scores were earned by girls. However, parents are more likely to bring their sons for assessment and overlook their daughters, and this inequity appears to be getting worse. From 1979 to 1989, 57% of the children brought for testing were male, and 43% were female; whereas 51% above 160 IQ were male and 49% female (see Table A1). In 2008, 68% of the children brought for testing were male and only 32% female, while the distribution in the highest IQ ranges is 60% male and 40% female.
8. Gifted girls and gifted boys have different coping mechanisms and are likely to face different problems. Gifted girls hide their abilities and learn to blend in with other children. In elementary school, they direct their mental energies into

TABLE A1 GENDER DISTRIBUTION ABOVE 160 IQ

	Males Above 160 IQ	Females Above 160 IQ	Total
1979–1989	94	89	183
1990–2009	507	298	805
1979–2009	601	387	988

developing social relationships; in junior high school, they are valued for their appearance and sociability rather than for their intelligence. Gifted boys are easier to spot, but they are often considered “immature” and may be held back in school if they cannot socialize with children their own age with whom they have no common interests.

9. Gifted children are asynchronous. Their development tends to be uneven, and they often feel out-of-sync with age peers and with age-based school expectations. They are emotionally intense and have greater awareness of the perils of the world. They may not have the emotional resources to match their cognitive awareness. They are at risk for abuse in environments that do not respect their differences.
10. This asynchrony is often seen in large discrepancies between index scores on the fourth edition of the *Wechsler Intelligence Scale for Children* (WISC-IV). In these cases, the Full Scale IQ score should *not* be used to select gifted students for programs. Instead, the General Ability Index (GAI), which omits Working Memory and Processing Speed, provides a better estimate of the child’s reasoning ability. The GAI has been endorsed by the National Association for Gifted Children: <http://www.nagc.org/index.aspx?id=375>. Extended norms are now available for the WISC-IV (Zhu, Cayton, Weiss, & Gabel, 2008).
11. The fifth edition of the *Stanford-Binet Intelligence Scale* (SB5) measures mathematical and visual-spatial abilities

better than abstract verbal reasoning abilities. When the SB5 is used for selection of gifted students for programs, the cut-off score for admission should be lowered to 120 IQ. Different scoring options are available for gifted children, including Rasch-ratio scores. The publisher permits the administration of the older version of the *Stanford-Binet (Form L-M)* to assess abstract verbal abilities, especially in exceptionally gifted children, and recommends that it be administered in conjunction with the SB5 so that various scores can be compared (Carson & Roid, 2004).

12. Creative children, culturally diverse children, mathematically talented children, children with attention deficits, highly gifted children, learning disabled children, and underachievers often are visual-spatial learners who require different teaching methods. Visual-spatial learners usually think in pictures or rely on “sensing” or feeling, whereas auditory-sequential learners usually think in words. Typical educational strategies are a better match for auditory-sequential learners than for visual-spatial learners. We have developed methods of identifying this learning pattern and effective strategies for teaching visual-spatial learners (Silverman, 2002). Our *Visual-Spatial Identifier* can be used with entire school districts or classes, as well as individually. Please visit www.VisualSpatial.org for free information about strategies for teaching visual-spatial learners.
13. Gifted children have better social adjustment in classes with children like themselves. The brighter the child, the lower his or her social self-concept is likely to be in the regular classroom. Social self-concept improves when children are placed with true peers in special classes.
14. Perfectionism, sensitivity, and intensity are three personality traits associated with giftedness. They are derived from the complexity of the child’s cognitive and emotional development. According to Dabrowski’s theory, these traits—related to overexcitabilities—are indicative of

potential for high moral values in adult life. The brighter the child, the earlier and more profound may be his or her concern with moral issues. But this potential usually does not develop in a vacuum. It requires nurturing in a supportive environment.

15. About 60% of gifted children are introverted. Approximately 75% of highly gifted children are introverted. Introversion correlates with introspection, reflection, the ability to inhibit aggression, deep sensitivity, moral development, high academic achievement, scholarly contributions, leadership in academic and aesthetic fields in adult life, and smoother passage through midlife; however, it is very likely to be misunderstood and “corrected” in children by well-meaning adults.
16. Mildly, moderately, highly, exceptionally, and profoundly advanced children are as different from each other as mildly, moderately, severely, and profoundly delayed children are from each other, but the differences among levels of giftedness are rarely recognized.
17. There are far more exceptionally gifted children in the population than anyone realizes. Approximately 18% of the 5,600+ children we have assessed in the last 30 years are exceptionally gifted, with IQ scores above 160 IQ. As of January 1, 2009, we found at least 988 children above 160 IQ, including 281 above 180 IQ and 87 above 200 IQ. We have entered massive data on 241 of these children—the largest sample in this IQ range ever to be studied (K. Rogers & Silverman, 1997). Only two comprehensive studies have been published to date on children in these ranges. Leta Stetter Hollingworth (1942) found 12 children above 180 IQ between 1916 and 1939 and Miraca Gross (1993/2004) studied 60 Australian children with IQ scores above 160.
18. Many cases of underachievement are linked to chronic early ear infections (nine or more in the first 3 years), with residual effects of auditory-sequential processing deficits

- and attentional problems. Spelling, arithmetic, handwriting, rote memorization, attention, and motivation to do written work are all typically affected.
19. Gifted children may have hidden learning disabilities. Approximately one sixth of the gifted children who come to the Center for testing have some type of learning disability—often undetected before the assessment—such as central auditory processing disorder (CAPD), difficulties with visual processing, sensory processing disorder, spatial disorientation, dyslexia, attention deficits, and Asperger Syndrome. Giftedness masks disabilities and disabilities depress IQ scores. Higher abstract reasoning enables children to compensate to some extent for these weaknesses, making them harder to detect. However, compensation requires more energy, affects motivation, and breaks down under stress or when the child is fatigued.
 20. Twice exceptional children and visual-spatial learners usually have at least one parent with the same learning pattern. Visual-spatial learners and children with dual exceptionalities tend to get smarter as they get older and often become successful adults.
 21. Difficult birth histories, such as long labor, heads too large for the birth canal, four or more hours of Pitocin to induce labor, emergency C-sections, cords wrapped around any part of the infant's body, and oxygen at birth, can lead to sensory processing disorder (SPD). Parents, teachers, and pediatricians should be alerted that the critical period for ameliorating sensory-motor deficits is from birth to age 7. When gross or fine motor weaknesses are seen, pediatric occupational therapy should be sought immediately, rather than waiting for the child to "outgrow" the problem.
 22. Giftedness is not elitist. It cuts across all socioeconomic, ethnic, and national groups (Dickinson, 1970). In every culture, there are developmentally advanced children who have greater abstract reasoning and develop at a faster rate than their age peers. Though the percentage of gifted

students among the upper classes may be higher, a much greater number of gifted children come from the lower classes, because the poor far outnumber the rich (Zigler & Farber, 1985). Therefore, when provisions are denied to the gifted on the basis that they are "elitist," it is the poor who suffer the most. The rich have other options.

23. The more egalitarian gifted programs attempt to be, the less defensible they are. Children in the top and bottom 3% of the population have atypical developmental patterns and require differentiated instruction. Children in the top and bottom 10% of the population are not statistically or developmentally different from children in the top and bottom 15%, and it is not justifiable to single them out for special treatment. More and more school districts are realizing this in this new millennium, and are providing in-depth services for those who need them the most. Self-contained, multiage programs for the gifted and radical acceleration are gaining in popularity.