

Gifted and Talented Children: Issues for Pediatricians

Nancy M. Robinson, PhD* and Paula M. Olszewski-Kubilius, PhD†

IMPORTANT POINTS

1. Because of diversity in this population, no precise definition of giftedness exists; types of giftedness can be distinguished by domains and by levels of capability, as well as between specific talents and more general giftedness. Most consider approximately the top 3% to be gifted, but views vary from 1% up to 15%.
2. Parental report usually is reliable; in the physician's office, verbal giftedness may be more obvious than advancement in other domains. Advancement within the first year and early rote learning are unreliable predictors. Testing often is useful but hard to obtain.
3. Educational options for "school house" giftedness vary in degree of advancement, extent, and effectiveness. Fundamental options include a variety of arrangements for both acceleration and enrichment. An optimal match for each child is the goal.
4. Learning disabilities, attention deficit hyperactivity disorder, and underachievement are not incompatible with giftedness.
5. The overall adjustment of gifted children is favorable when compared with nongifted groups, but issues of vulnerability include strained family resources and tensions and, for the child, asynchronous development, feeling "different," issues of establishing independence, intensity and sensitivity, perfectionism, and specific groups at special risk such as girls and disadvantaged minorities.

Giftedness is both similar to and different from other exceptionalities in its implications for the lives of children and families. Unlike other exceptionalities, the prognosis for giftedness is, of course, considerably more positive. Like the others, however, this kind of differentness makes demands on family and community resources and carries risks of psychosocial stress, social isolation, and nonfulfillment of potential. Given society's other pressing needs, those of this group often are brushed aside, even resented; both the life quality of the children and their families and the contribution the children might make in years to come, therefore, can be eroded. All children deserve to love school and to have the opportunity to make the best of their possibilities. Informed and sympathetic pediatricians who are sensitive to the issues involved can play critical roles in promoting healthy development.

*Director, Halbert Robinson Center for the Study of Capable Youth, University of Washington, Seattle, WA.

†Director, Center for Talent Development, Northwestern University, Evanston, IL.

Definitions and Prevalence

Reasoning from the apparent symmetry of the normal curve, professionals sometimes tend to regard giftedness as the mirror image of mental retardation, but this is not a useful model. There is much greater diversity among the highly capable than among the less capable. Indeed, advanced ability is neither restrictive nor defining; gifted children (and their families) are probably more diverse than any other group in our society. For this reason, no standard nomenclature or diagnostic categories exist, and giftedness is very broadly conceived. As stated in a report from the United States Department of Education, *National Excellence: A Case for Developing America's Talent*:

These (gifted) children and youth exhibit high performance capability in intellectual, creative, and/or artistic areas, possess an unusual leadership capacity, or excel in specific academic fields. They require services or activities not ordinarily provided in the schools.

There are a number of working distinctions within the general notion of giftedness. Outstanding general intelligence—advancement in all intellectual domains—once thought

to be the hallmark of giftedness, now is regarded as only one of a number of subtypes. Although measures of ability tend to be correlated across domains, advancement usually is more prominent in one or a few areas. One array of abilities proposed in 1983 by Howard Gardner includes these "intelligences": linguistic, spatial, musical, bodily-kinesthetic, logical-mathematical, intrapersonal, and interpersonal. Some of these abilities, especially the linguistic and logical-mathematical, are involved in what James Gallagher has termed school-house giftedness, or high ability in those domains most involved in academic learning. Another distinction is made between giftedness (as more generalized intellectual ability) and talents, which are potentials for development of expertise in distinctive areas such as music, graphic arts, chess, drama, sports, and the like. Finally, in contrast to the expertise and distinguished attainment of gifted adults, giftedness in children is recognized largely as rapid development and promise (although a few child prodigies perform at levels that would be distinguished in an adult).

Considerably more emphasis usually is placed on giftedness in academic ability than on other areas of exceptional achievement, primarily because of the central role played by schooling in this society. In fact, because everyday school experiences are likely to be such a poor fit for the needs of the gifted child, this emphasis is understandable and even useful.

In a situation as complex and fluctuating as the definitions of giftedness, prevalence rates can be specified only arbitrarily. Some authors maintain that distinguished "omnibus" ability is precious and unusual, but that a great many children possess specific talents that will go undeveloped unless recognized, valued, and encouraged. With respect to academic giftedness, a generally accepted rule of thumb is that 3% of children should be regarded as gifted although some authorities include as many as 15% and others as few as 1%. Such distinctions are purely arbitrary.

trary; there is no true cutoff between giftedness and nongiftedness. The shape of the normal curve helps to clarify the picture: A score selecting the top 1% is more than twice as far above the mean as one selecting the top 15%.

Prevalence of academic giftedness clearly differs across socioeconomic groups, with higher proportions of gifted children apparent in middle- than lower-class families. Possible genetic factors aside, the time, energy, opportunities, and expectations provided by middle-class parents are more favorable to academic ability than are those of more stressed, lower-income parents whose own educational backgrounds usually are more limited and more negative in tone. Therefore, it is especially important to discover and nurture children of high ability from lower-income homes.

There have been no long-term studies of children identified during the preschool years, but studies of children identified as intellectually advanced in elementary school reveal that, as a group, in adulthood they remain significantly ahead, achieving at relatively high levels of compe-

tence. What is true for the group, however, will not be true of all individuals. Opportunities for schooling and mentoring as well as economic and social conditions such as changes in the roles of women significantly affect such outcomes, as do individuals' own social skills and determination. Advanced intellectual abilities in childhood presage at least the potential for high achievement in adulthood. The fate of specific talents in domains such as music, chess, or sports is even more variable and more dependent on the social value placed on that talent, on opportunities for expert instruction, and on the child's own dedication to the area of talent.

Identification

What evidence can a pediatrician use to judge whether a child's development is unusual? Table 1 lists some of the characteristics commonly associated with school-house giftedness, although no single child is likely to exhibit them all.

Parental report is a good place to start. Even parents of quite young children can be surprisingly accurate in their appraisals, especially in

domains in which skills are emerging and informal age norms are well known (eg, early language, reading, and number knowledge). In our experience, mothers are more likely to take seriously their children's advanced development, while fathers, who more often think of giftedness as very unusual, may describe even very bright and talented children as "not really gifted."

Children's behavior in the pediatric office sometimes, but not always, reveals their advanced development—least often, of course, when they are worried or ill. Experienced pediatricians, with their extensive normative knowledge, are in an especially strategic position to recognize advancement. Verbal advancement may be easiest to spot; other domains are harder to observe. Although there are no brief standardized measures of sufficient validity to measure children's abilities accurately, it may be useful to provide informal opportunities for children to display problem-solving skills, motivation and persistence on tasks such as puzzles or games, and language skills (reading books, talking about themselves, describing an event). For school-age children, pediatricians may inquire about report cards and school-administered standardized tests. Questions about children's at-home behaviors, such as breadth and depth of reading and writing activities, self-directed interests or projects, or handling responsibilities typical of an older child, might reveal clues to advanced abilities.

Gifted children who are economically disadvantaged and/or from minority cultures are less likely to be identified at school and can be more difficult for pediatricians to recognize. Cultural attitudes about how to behave with professional adults and language barriers may mask children's curiosity, verbal expression, and other behaviors that otherwise could suggest giftedness. Views on intelligence, achievement, schooling, and the display of particular abilities vary by cultural/ethnic group, so that not only the children but their parents may need encouragement to reveal these matters.

Early motor milestones generally are not correlated with giftedness, and some early learning—especially

TABLE 1. Characteristics of Gifted Children

- | |
|---|
| • Asynchrony across developmental domains |
| • Advanced language and reasoning skills |
| • Conversation and interests like older children's |
| • Insatiable curiosity; perceptive questions |
| • Rapid and intuitive understanding of concepts |
| • Impressive long-term memory |
| • Ability to hold problems in mind that are not yet figured out |
| • Ability to make connections between one concept and another |
| Interest in patterns and relationships |
| Advanced sense of humor (for age) |
| •• Courage in trying new pathways of thinking |
| • Pleasure in solving and posing new problems |
| • Capacity for independent, self-directed activities |
| • Talent in a specific area: drawing, music, games, math, reading |
| • Sensitivity and perfectionism |
| • Intensity of feeling and emotion |

rote learning, such as counting or body parts—may not be a valid index. Infants who have high scores during the first year on the Bayley Infant Scales have not proved to be particularly advanced in the long term, although by toddlerhood, high scores combined with parent report can be more effective predictors. Competent reading before school entrance (see Jackson and Roller, 1993) generally indicates above-average mental ability, although not necessarily the highest degree of giftedness, and is predictive of continued advancement in reading comprehension and other school subjects. However, many very bright children do not read early, even though they generally acquire skills rapidly once they begin.

School identification efforts usually are undertaken in conjunction with selection for special services, where such exist. Requirements vary widely, but most include a group test of mental ability or academic aptitude as well as a group achievement test. Some districts use these as screening measures and assess fewer children individually. Behavioral ratings by teachers and parents and/or measures of "creativity" (usually originality or fluency of ideas) sometimes are added but given less weight. Cutoff scores may vary according to the proportion of children to be admitted. Such methods may miss some children who should be included, such as those who are advanced in only some domains. The wise pediatrician is familiar with procedures in the local school district and stands ready to assist parents in constructive negotiations with schools.

Psychological assessment can be a helpful adjunct in describing children's ability and achievement when there are specific issues to address. Testing may, for example, be helpful in assessing eligibility for a special program or for early school entry, exploring the possibility that a child's boredom or misbehavior in school is the product of an underchallenging program, identifying learning disabilities, and the like. Appropriate measures will be determined by the questions addressed, but at minimum will tap relevant domains of ability and academic achievement. It is well to remember, however, that although

many extraneous factors such as performance anxiety or poor examiner-child rapport can produce invalidly low test scores, only a child of high ability will earn high scores relative to age norms.

Not every psychologist is an experienced tester, and few have had much experience with gifted children. Before making a referral, be sure that the psychologist is prepared. Public schools seldom provide special assessment by a school psychologist to gifted children, a service readily available for children who have other kinds of exceptionalities. If the school cannot make suitable referrals, inquiries can be made through local hospitals, state psychological associations, or the state office supervising educational programs for gifted children. For children who have special-

Parents of gifted children can be encouraged to enrich what they read to their children, to arrange special excursions, to play more sophisticated games, and above all to follow their children's leads and avoid direct academic instruction unless the child is eagerly engaged.

ized talents such as in music or art, expert teachers or professionals are likely to be the best judges.

Multistate talent searches are conducted throughout the United States by university-based centers that invite students who previously have had high scores to take nationally administered above-age tests. Seventh graders may take the SAT or ACT; fifth and sixth graders, the EXPLORE (American College Testing Bureau) or PLUS (Educational Testing Service) test. Talent search centers all offer summer programs as well as a variety of other informational and instructional programs.

Questions Parents Are Likely to Raise

Most of the questions that parents of gifted children bring to pediatricians relate to educational decisions, learning or behavior problems, and parenting patterns.

EDUCATIONAL OPTIONS FOR THE SCHOOL-HOUSE GIFTED

By far the most frequent questions from parents about their gifted and talented children relate to educational options. Sometimes parents sense that their children are bored, underchallenged, and unhappy. (For a number of reasons that may need sorting out, boredom also is a complaint of many nongifted children.) Under such conditions, some bright and curious children engage in a variety of misbehaviors or become irritable and depressed. Some children consciously decide to hide their giftedness to be more like their age peers. Seeking solutions in the schools, parents may be labeled "pushy" or critical and may need help in negotiation and problem-solving.

Because of diversity in the levels

and patterns of giftedness as well as in emotional maturity, social skills, and motor skills; because community resources and school programs differ so much; and because of differences in family priorities and resources, no single set of solutions comes close to fitting all gifted children. Yet, a basic guideline is helpful in choosing among options: The Principle of the Optimal Match. At any time, there is an optimal level of instruction that captures a child's readiness to learn. Only if children are engaged in learning at a level appropriate to their ability and skills, a level for which they are just about ready, is real development likely. Significant learning involves stretching one's mind. Children who are over- or underchallenged learn very little.

Acceleration and Enrichment

Table 2 lists some educational options in different communities. The practice of acceleration presents material more advanced than the standard grade-level fare; that of

TABLE 2. Educational Options for Gifted Children

AGE LEVEL	ACCELERATION	ENRICHMENT
Early childhood	Part-day older class Early school entrance	Parent activities
Elementary school	Diagnostic test-prescriptive teaching Cross-grade grouping Multiage classroom Self-contained class Grade-skipping	In-class "compacting" and extension Cluster grouping All-school enrichment Pull-out program Clubs, contests, summer classes
Secondary school	Grade-advanced courses Correspondence courses IB credit by examination Summer credit courses Advanced Placement courses Distance learning classes Math-science high schools Dual college enrollment Early college entry	Honors classes International Baccalaureate Boarding schools Special interest clubs Contests

enrichment adds content to supplement and extends the depth, breadth, and challenge of the curriculum. Another distinction can be made between basic or fundamental educational adaptations and complementary adaptations. Fundamental adaptations make a significant change in the child's 6-hours-a-day, 180-days-a-year school experience. Complementary adaptations such as club activities, contests, or summer programs can be useful but cannot do the job alone.

Early Childhood Fundamental Educational Options

Few communities offer preschools or kindergartens for gifted children. Often, informal adaptations work best, such as mixed-age classes or Montessori preschools that permit children to advance at their own pace. If parents are not already doing so (and many are), they can be encouraged to enrich what they read to their young children, to make occasions for special excursions, to play more sophisticated games, and above all, to follow the children's leads, but to avoid direct academic instruction unless the child is eagerly engaged.

Early entrance to kindergarten or first grade, if permitted by the district, should be considered for children whose birthdays are within a few months of the cutoff, whose

social-emotional and fine motor skills will be at least equal to average in the grade they will enter, and whose intellectual and preacademic skills are a bit more advanced. In some communities, early entrance (or grade-skipping) is the major option, but will only compensate for the rapid development of a markedly gifted child for a short time. (See chapter by Robinson and Weimer in Southern and Jones, 1991.)

Middle Childhood Fundamental Options

Five types of options can be found at the elementary level. Grade-skipping or double promotion may be an excellent accelerative choice for mature children who spontaneously choose older friends. In multiage classrooms, children can enter the younger grade and exit early with older classmates. For children advanced in some but not all subjects, cross-grade grouping can be arranged by having children work part-day with an older class.

In-classroom enrichment or advancement, while difficult to maintain, is most common. After determining that children already have mastered material to be taught, a teacher can extend the curriculum by alternatives such as working ahead in the text, doing special projects, using computer tutorials, etc. One alterna-

tive, the diagnostic testing prescriptive teaching model, follows careful individual assessment with more advanced work taught by teachers/mentors. A few districts employ master teachers who consult with regular classroom teachers, secure materials, and teach occasional in-class lessons themselves. Cluster grouping places several bright children in one classroom rather than dispersing them, so that they can work together. Yet, even with the best-intentioned teachers, in-class adjustments are hard to make in light of the increasing numbers of children who have other kinds of special needs in inclusive classrooms.

Pull-out programs or resource rooms provide specialized programming for groups of gifted children from 1 hour per week to as much as half-time. Because the children come from several classrooms or schools that have diverse curricula, pull-out programs tend to be enrichment or advanced-enrichment models. Another enrichment model is the Revolving Door or All-School Enrichment model, in which many children are offered brief, add-on experiences, with the more interested/advanced children pursuing more coherent and demanding activities for a portion of the school year.

Finally, self-contained or specialized classrooms for gifted children are, in many ways, the easiest to

arrange and the least expensive alternatives other than grade-skipping. They permit more advanced curricula throughout the school day and the kind of intensive, in-depth teaching that is matched to the children's developmental level. This approach is favored by most gifted-education specialists.

Secondary-school Options

Secondary school options generally are accelerative, although some advanced enrichment programs exist. Among the latter might be included both honors classes taught at grade level and the International Baccalaureate (IB) high school program, which follows a prescribed curriculum concentrated during the junior and senior years. Students who elect to take optional IB examinations also may earn college credits.

Accelerative options include advanced courses, high-school or college correspondence courses, courses beamed by satellite, or fast-paced summer courses. Advanced Placement college-level courses are taught in high schools; college credit may be awarded after national AP examinations. College preparatory boarding schools are a possibility. Many states offer simultaneous or dual enrollment in college and high school; college courses are credited at both levels. State-sponsored math-science schools and a few special programs offer early college entrance opportunities. Finally, students meeting college entrance requirements may find that high school graduation is not mandatory.

The existence of all these options should make it clear that active advocacy can create a better, if not optimal, match for every gifted child in every community. Many parents are unaware of the array of choices.

FOSTERING THE DEVELOPMENT OF THE TALENTED CHILD

Families play a central role in developing children's talents, serving as initial teachers, and gradually centering activities and purchases on the child's interest areas to fuel his or her curiosity and motivate playful exploration. As the interest becomes established, parents seek more serious

instruction from teachers and expert mentors and shift their own roles to managers. In some fields, contests take on central importance, and parents create a network of supportive relationships with other parents and children, professionals, and institutions (conservatories, camps, schools, museums) related to the talent field. During adolescence, management of the social network transfers to the talented individual, although family support remains of great importance.

Assisting in the development of a talented child demands an extraordinary commitment of time and energy. Clearly, family dysfunction or insta-

Assisting in the development of a talented child demands an extraordinary commitment of parental time and energy.

bility due to substance abuse, psychiatric illness, or enduring stress from poverty will affect parents' ability to garner appropriate resources for a talented child. Parents must transport to lessons or classes, interact with teachers, attend competitions, monitor homework and practice, and access opportunities. In the face of such demands, their own work often suffers, a double cost because special lessons, programs, and materials often are very expensive. Other family members, too, contribute by relinquishing parental attention and resources. For the child who is extremely talented, an entire family may relocate from an inauspicious community to one offering richer resources. Understandably, the pressures on the child to succeed are a significant stressor. The child who is the center of such efforts must internalize a focus and commitment on the area of talent if all this is to work. Parents sometimes actually describe another sibling as being more talented but less committed and, therefore, less worthy of their investment. Furthermore, the maturation of the talented child into an adult performer is fraught with hazards, and the early promise may not be fulfilled.

LEARNING DISABILITIES

For all the same reasons that other children experience unevenness in

acquiring academic skills—genetic background, prematurity or other prenatal or postnatal factors, or gaps in instruction—gifted children also may demonstrate these problems. Often, they escape detection because the children use compensatory strategies to achieve at about grade level but considerably below the level possible, with a resultant loss of confidence and zest for school. Some gifted children read well but have trouble remembering the narrative; some have trouble with calculations but do well with story problems or vice versa; spelling may be disordered; or the children may write poorly and reluctantly. Whatever the problem.

remediation should be attempted and facilitation instituted (eg, use of calculators, audiotapes, or computers). Children otherwise capable of excellence often will become seriously discouraged by lack of success with academic skills and "turn off" irreparably.

ACTIVITY LEVEL: HIGH-ENERGY OR ADHD?

One of the most frequent differential diagnoses pediatricians are called on to make today is that between attention deficit hyperactivity disorder (ADHD) and other high-energy behavior. This issue is even more prominent with gifted children, whose high-intensity, high-curiosity behavior, often exacerbated by lack of challenge in the classroom, may mimic ADHD and prove highly exasperating to teachers as well as to parents. On the other hand, true ADHD is not incompatible with high ability. As with other children, the pediatrician's office is far from an ideal setting for making this diagnosis. Detailed parental report together with classroom observation by a school psychologist can be helpful, as can scales such as the Connors or the Child Behavior Checklist. (See McNerny's and Gilbride's articles on developmental testing in *Pediatrics in Review*, September 1995.)

UNDERACHIEVEMENT

Underachievement in gifted children is all the more dramatic and tragic because their potential is so great. It is a very frequent problem, sometimes presenting as apathy or depression, sometimes as refusal to do or turn in assignments, sometimes as frank rebellion. The usual array of causes for underachievement should be considered, including all the family issues and children's areas of vulnerability discussed below, subtle learning disabilities, and ADHD. Lack of school challenge can erode the self-confidence that comes only

taining and paying for children's schedules of special classes and contests, this group of parents faces legitimate demands on their own resources and those available for other family members. The adversarial relationships that all too often develop between home and school, as parents try to negotiate adaptations for their children with school personnel who themselves are overtaxed and unwilling or unable to recognize or meet the children's needs, also take their toll. Gifted children who lack friends of their own mental age may look to their parents for companion-

responsibility. It becomes their job to create (and pay for) accommodations with a system not designed for their children and to deal with service providers, including educators, who see their children from different and often less sympathetic perspectives.

Parenting gifted children, like parenting other children, works best when parents are "authoritative" (in terms described by Diana Baumrind) rather than either too authoritarian or too laissez-faire and when children's independence and achievement are fostered by high expectations in the context of warm support (see Csikszentmihalyi, Rathunde, and Whalen, 1993). In their efforts to be conscientious and helpful, parents sometimes unwittingly assist gifted children in "taking control" of the family by engaging in endless negotiations rather than setting reasonable limits; by failing to define roles of "parent" and "child"; by excusing children from normal family responsibilities because of increased demands for lessons, practice, or study; by centering family life on the talented children; or by giving them undue decision-making power because of their high intelligence. Paradoxically, dependency on others may be fostered in gifted children by their parents' efforts to help them develop to the full extent of their potential. Often parents so overschedule their children with after-school activities that they have little opportunity to learn to manage their own time.

Finally, nongifted parents or even gifted parents who have limited education face special problems in nurturing gifted children. Some parents were conditioned by negative childhood experiences to distrust the schools. They may lack basic information with which to navigate service systems, especially resources for financial assistance and the extended system of college and graduate or professional schools. Even more importantly, parents who are less bright than their children may conclude too readily that they cannot understand their "nerdy" children and/or that they have little to offer as parents, thereby depriving the children of the strong and loving relationships they need. Such parents deserve extra support, guidance, and respect

In their efforts to be conscientious, parents may unwittingly assist gifted children in controlling the family by engaging in endless negotiations rather than setting reasonable limits.

from mastering something difficult and can produce poor to nonexistent study habits. Such habits are distressingly difficult to overcome later when an appropriate challenge comes along. An optimal match is essential from an early age.

Potential Issues in Families That Have Gifted and Talented Children

The research on families that have gifted children, although sparse, is generally positive with regard not only to education and socioeconomic status, but to intactness and other indices of family function. There is some intriguing indication that adults who achieve eminence later tend to be oldest or only children and to have experienced significant family stresses such as the early death of a parent, but these findings do not characterize the families of the usual population of gifted children. Nevertheless, having a gifted child in a family can create issues to which the concerned pediatrician needs to be alert.

RESOURCES

Having a gifted child requires extra time, energy, and financial resources. From answering the pleas of the preschooler for one more story or one more answer to a question, to main-

ship. Parents may feel exhausted and frustrated by their lack of time for each other, their other children, and themselves and yet feel guilty for these "illegitimate" emotions.

FAMILY TENSIONS

Having an intellectually gifted or talented child can exacerbate normal tensions—marital or financial—that otherwise would be easier to handle. The less committed parent may resent the lack of attention or disagree with priorities (eg, relocating to a more favorable school district). Occasionally, parents focus time and energy on the talented child because they feel their own gifts were unnurtured or because they feel guilty for not having lived up to their own potential. Occasionally, too, one parent "colludes" with the child, making the other an outsider. In the process, a talented child may feel burdened with parental dreams of success and pressured for high achievement. Sometimes a sibling is asked to make unusual sacrifices, although being the sibling of a gifted child generally seems to have a positive effect, with parents tending to see assets in all their children.

Similar to parents of children who have other exceptionalities, parents of gifted children have to deal with others' perceptions that their child's differentness is the parents' "fault" and

from professionals and the collaboration of mentors who can strengthen the family's efforts and pride in their children's accomplishments.

Vulnerabilities of Gifted and Talented Children

On the whole, groups of gifted children repeatedly are found to be mentally and emotionally healthy and to possess many winning personality characteristics. In play interests, attention span, sense of humor, and even fears, they tend to resemble older individuals. Contrary to the commonly accepted stereotype, they tend to be popular and to have friends. Overall, the picture is one of mental health and psychological stability.

ASYNCHRONOUS DEVELOPMENT

Within this overall positive picture, however, gifted individuals also tend to have some characteristics that make them vulnerable to emotional distress. One of these is asynchronous development. Social, emotional, and intellectual development often proceed at different rates. A 4-year-old may be able to think, read, and do math like an 8-year-old but display the emotional reactions of a child her age. She may have difficulty finding playmates who enjoy the reading and writing games she enjoys. And because she can articulate concepts that are unusual for her age, parents and teachers may expect her to act more maturely than she can to frustration, separation, or disappointment.

Asynchronous development can be exacerbated when so much energy and time is devoted to the development of the area of talent that other aspects of growth are neglected. Special activities and lessons may leave little time for other interests or the development of social skills. As they grow older, adolescents and adults may experience emotional stress and turmoil and the feeling of being out of balance and out of "sync" with others of their age.

FEELING DIFFERENT

Children who feel "different" may believe that no one their age thinks like they do or about the things that

interest them. Many yearn to share the same concepts of loyalty and intimacy that they seek in best friends. Often they think that there is something wrong with them and want desperately to be "like everyone else."

Some children work so hard at this goal that they forsake their talents. A key to ameliorating these feelings is to help children to find others who are their true peers and share their interests and capabilities. Books that have gifted children as heroes can help a little, but real children are much better. In some contexts, older children can be their friends, but contact with other gifted children of the same age is one of the major benefits of special programs in schools, summer programs, and special interest groups.

Because of their sensitivity, gifted children may be especially attuned to their parents' desires for them and constantly try to meet their parents' standards rather than their own.

Gifted children who are most at risk for general social development, loneliness, and social isolation are those who have very high intelligence quotients (IQs)—above 160. This level of ability is so rare that it is extremely difficult to find peer groups and friends who have similar interests. Parents of such children must work hard to find opportunities for these children to experience positive social relationships.

ESTABLISHING INDEPENDENCE

The families of gifted individuals tend to be very child-centered, which sometimes interferes with normal developmental processes of individualization. The children may become overly dependent on adults for assistance with decisions and feel incapable of forming or trusting their own judgments. They avoid taking risks and are capable of seeing so many options that they fear making mistakes and obsess over decisions such as college and career. A few parents unconsciously exacerbate such dependency by consistently blaming others for their children's problems, seeing the children as victims of

unsympathetic teachers and classmates rather than as capable of developing successful ways to cope. Such families often need professional help in reinterpreting their roles.

INTENSITY AND SENSITIVITY

Emotional sensitivity and intensity often are cited as characteristic of gifted individuals, especially the highly gifted and highly creative. Gifted individuals report that they experience their emotions very strongly and react to many situations that go unnoticed by others or evoke only mild reactions. In addition, they may be very sensitive to the feelings of others as well as to criticism and injustice. An 8- or 9-year-old who is saddened by third-world poverty may

be considered odd by other children, teachers, and even parents and may feel rejected. Some of this apparent sensitivity is the product of asynchronous development, that is, advanced concepts coupled with age-appropriate emotional controls. Although these characteristics can fuel creativity, helping individuals to see matters in unusual and original ways, they also can be the source of distress if children are not taught how to cope with them.

PERFECTIONISM

Some degree of perfectionism in the sense of high goal-setting is beneficial to achievement, especially if motivated by the desire to exceed one's previous performance or accomplishment. Studies of high achieving adults invariably find high aspirations as well. But perfectionism also can be debilitating, particularly when it is motivated primarily by a fear of failure or a desire to please others and is accompanied by excessive self-criticism and an inability to celebrate one's accomplishments. Perfectionism can be observed even in young children. It is the root of

underachievement for some students and can be severe enough to warrant psychological counseling.

Perfectionism in gifted children is not hard to understand. They often are accustomed to learning almost effortlessly and performing at a high level in class without much work. They can conceive of high standards by which excellence is judged and often are exposed to advanced skills because they have older friends. In addition, because of their sensitivity, gifted children may be especially attuned to their parents' desires for them and constantly try to meet their parents' standards rather than their own.

GROUPS AT RISK

Several groups of gifted individuals are especially at risk for underdevelopment of talents and abilities. One of these is females. Typically, fewer girls are identified for gifted programs, especially in middle and high school. Girls achieve at higher levels in school until adolescence, when boys achieve higher than girls. Boys take more advanced high school classes and are more likely to be accelerated; girls are more likely to "turn off" to achievement. The problem is complex. Gifted girls face many obstacles, including the bias of parents and teachers that can result in lack of encouragement or even discrimination, the competitive attitudes of male classmates, and the paucity of female role models. Many adolescent girls lower their aspirations because they fear the social isolation they believe accompanies high achievement.

Another group at risk for underdevelopment are minority students who are economically disadvantaged. Those who live in poverty rarely have the resources for talent development, and within their communities, high achievement may be considered "acting white" or standing out to an unacceptable degree that is counter to the cultural identity. Often, gifted minority children adopt identities, such as clowning or acting less able, to bridge the worlds of their school and home/community. Pediatricians will be on firmer ground in identifying behavioral indices of giftedness if they are familiar with cultural attitudes, beliefs, and practices of the child's ethnic group; if needed, local

school personnel or medical colleagues may be helpful. Special efforts to identify talented minority students as early as possible are critical, as is assistance with obtaining appropriate mentors, services, and programs. Indeed, pediatricians may need to become active advocates for economically disadvantaged minority children whose parents may be daunted by the tasks involved in developing their children's abilities. Serving as liaison with schools and building and maintaining a referral list of educators, psychologists, and community organizations that provide assistance to families is vital to linking children with needed services. In this way, physicians provide emotional support and incentive to both parents and children in bringing advanced abilities to fruition.

Conclusion

The wise pediatrician is as attuned to advanced development as to other exceptionalities and is as ready to help families and children cope with the unusual demands they face. Although many families of gifted and talented children are doing well and

their children are thriving, many others need help and advocacy. Early intervention can be highly effective in these families. They usually are able to use resources well, but they need and deserve the resources.

SUGGESTED READING

- Bloom BS, ed. *Developing Talent in Young People*. New York, NY: Ballantine; 1985
- Colangelo N, Davis GA, eds. *Handbook of Gifted Education*, 2nd ed. Needham Heights, Mass: Allyn & Bacon; 1996
- Csikszentmihalyi M, Rathunde K, Whalen S. *Talented Teenagers: The Roots of Success and Failure*. Cambridge, UK: Cambridge University Press; 1993
- Jackson NE, Roller CM. *Reading With Young Children*. Research-Based Decision Making Series, No. 9302. Storrs, Conn: National Research Center on the Gifted and Talented; 1993
- National Excellence: A Case for Developing America's Talent*. Washington, DC: Office of Educational Research and Improvement, US Office of Education; 1993
- Southern WT, Jones ED, eds. *The Academic Acceleration of Gifted Children*. New York, NY: Teachers College Press; 1991
- VanTassel-Baska JL, Olszewski-Kubilius P, eds. *Patterns of Influence on Gifted Learners: The Home, the Self, and the School*. New York, NY: Teachers College Press; 1989

PIR QUIZ

5. A mother believes her 3-year-old son to be precocious. Her husband is not particularly impressed. The best evidence of giftedness from history is that the boy:
 - A. Can say numbers 1 to 50.
 - B. Plays board and card games.
 - C. Prefers solitary play.
 - D. Recites the alphabet.
 - E. Walked at 8 months of age.
6. A shy, sensitive 6-year-old girl has been assessed as gifted by standardized testing and the observations of her parents and teachers. Honoring the principle of optimal match, the best and, in many ways, easiest educational alternative, if available, to arrange is:
 - A. Boarding school.
 - B. Double promotion.
 - C. Home schooling.
 - D. Self-contained classroom.
 - E. Summer programs.
7. The parents of a moderately gifted 5-year-old boy ask for anticipatory guidance regarding potential future challenges at school. The problem least likely to surface is:
 - A. Academic underachievement.
 - B. Adversarial relationships with teachers.
 - C. Boredom.
 - D. Disruptive classroom behavior.
 - E. Lack of friends.
8. The parents of a gifted 5-year-old boy ask for anticipatory guidance regarding potential future challenges this child may present at home. The problem least likely to require special attention is:
 - A. Capacity to nurture nongifted children.
 - B. Commitment of parental time and energy.
 - C. Differences in parental perceptions and feelings.
 - D. Expense of providing special educational experiences.
 - E. Limit-setting.
9. The positive attributes of gifted children may be accompanied by certain vulnerabilities. A gifted child is least likely to be vulnerable because of:
 - A. Asynchronous development.
 - B. Avoidance of risk-taking.
 - C. Emotional insensitivity.
 - D. Feelings of being different.
 - E. Perfectionism.