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the antecedents of misdiagnosis: when normal behaviors of gifted children are misinterpreted as pathological

Abstract

A patient walks into the physician's office and presents with a unique set of symptoms. To the physician, this is an unknown illness—the symptom presentation is unusual, like nothing he has ever seen before. Despite a thorough search, there is no information about it in the medical journals, and he hadn't heard about anything like it in medical school. He consults with colleagues and finds they haven't seen this either. He wonders, 'What is going on here?' He realizes he is in uncharted territory and attempts to fit the patient's symptomatology into his existing knowledge, finally determining that it is close to Disorder X, but not completely. In the absence of information about the specific situation, the physician uses his current knowledge and framework to explain the situation as best he can.

Does this situation sound unusual? Is this something one might expect? When it comes to gifted children, this situation is often more the norm than the exception. Gifted children come with a set of characteristics that are often unknown to a typical medical or mental health professional because professionals receive little, if any, training about the characteristics, social/emotional development, or special needs of gifted individuals. When a gifted child presents to a professional who has no knowledge of gifted children, it is likely that the professional will fit the presenting behaviors or 'symptoms' into a framework with which he is familiar, perhaps saying that it looks like this disorder or that disorder, but has an unusual presentation that does not fit any diagnostic criteria completely. He may use the Not Otherwise Specified label for the condition, and it is unlikely that the professional will use giftedness as a frame to explain the behavior, due to lack of experience or knowledge about giftedness.

This paper explores and explains much of the inadvertent misdiagnosis of gifted individuals.

Introduction

Of course, having a gifted intellect does not mean the child carries a psychiatric diagnosis, nor does it mean that one is exempt from such diagnoses. However, lack of understanding of the common behaviors and typical expressions of giftedness creates situations like the one described above. The traits and characteristics are misunderstood and, thus, mislabeled or misdiagnosed. It is the authors' belief—based on almost three decades of collective experience as licensed psychologists working with gifted children, parents, and school programs—that this type of misdiagnosis of gifted children is a prevalent phenomenon.

How prevalent is this problem? We simply do not have the research data to say with certainty, but professionals in the field of gifted education concur that it happens with regularity (Webb et al, 2005). The severity of this problem is paramount because, in present day American public schools, any diagnosis often results in medicating a child. When a child is misdiagnosed, he or she will not only receive inappropriate treatment, which may include medication, but he or she will also be deprived of the appropriate interventions that could be provided if the diagnosis were accurate. There is no doubt that medication has its place in the management of behavioral and psychological disorders, and it has helped many children manage difficulties previously beyond their control. However, when medication is incorrectly used to suppress the misunderstood behaviors of gifted children, the practice is inappropriate. When a child is excited about a topic or answers and interrupts to make his point, does he have Attention-Deficit/Hyperactivity Disorder (ADHD)? Although it is possible, unless giftedness is factored into the situation, it is likely that the

behavior will be misunderstood and quickly labeled ADHD. It appears clear to the authors that there is such great misunderstanding and scarcity of knowledge about the typical behaviors of gifted children that their behaviors (traits) are being seen as pathological at ever increasing rates.

The Origins of Misdiagnosis

One might wonder how it is possible for competent medical and psychological professionals to misinterpret the typical behaviors of the gifted child as pathological. The simple answer has to do with a nationwide lack of training about giftedness and its implications. There are very few psychology graduate programs that even mention giftedness in courses on intellectual assessment, let alone provide specific coursework or clinical experience. We know of no medical programs that provide physicians-in-training with even basic information about how giftedness can impact development, and neither author has met a pediatrician, family practitioner, or psychiatrist who received even a lecture about gifted intelligence during their medical training. Discussions with teachers also reveal that most were not offered coursework related to gifted intelligence and best educational practices for gifted individuals during their college education. Some coursework in gifted and talented is offered to teachers who are working on an advanced degree in education, and even then the educator will need to work to find a program with a specific focus on gifted intelligence. This lack of training and knowledge in and of itself too often predisposes gifted children to being severely misunderstood and subsequently misdiagnosed with psychiatric disorders that include ADHD, Bipolar Disorder, Obsessive-Compulsive Disorder and other anxiety disorders, and

Asperger's Syndrome or other pervasive developmental disorders.

Twelve-year-old Ronald was a model student. He was conscientious and diligent. He followed instructions, assisted teachers, and completed quality work. Teachers simply loved having Ronald in class and wished for 20 more just like him. At home, Ronald respected his father and behaved in his presence. With his mother, however, he argued and refused to do as she instructed. He routinely failed to complete chores, picked on his siblings, and stayed up past bedtime.

Eleven-year-old Ralph showed a similar pattern, but in reverse. He was exemplary at home and in most classes. With one teacher, however, he clashed. He failed to complete work, opted not to turn in completed assignments, and was routinely sent to the office for disrespecting this teacher. Which has Oppositional Defiant Disorder? Or, are they gifted children whose behavior can be explained, though not excused, by their giftedness? Both of these children are indeed gifted, and neither has Oppositional Defiant Disorder. Neither shows the pervasive difficulties necessary to make a formal diagnosis, and both are more likely to respond to therapeutic or educational interventions that address the giftedness as part of the issue. Certainly, these children have maladaptive behaviors that need to be modified, but doing so without an inappropriate pathological label increases the chances of a positive outcome.

Other Reasons for Misdiagnosis

While it is clear to us that misdiagnosis begins with lack of knowledge and training about giftedness and its implications, there are many other facets that play a role. We highlight some of these here.

The 'stigma' of giftedness. Ask anyone if he or she is gifted, and watch the response. It is very uncomfortable to acknowledge one's gifts and talents in public, unless they occur in a socially acceptable domain, like sports or the arts. Acknowledging academic strengths or intellectual accomplishments is seen as arrogant or conceited in our society, yet we continually laud the accomplishments of gifted athletes and actors.

For gifted youngsters, there is stigma associated with talents, particularly when adults engage in thinking that mandates that no child should be treated differently than another. 'Every child should be treated equally,' they think. But, they forget that treating every child fairly does not mean treating every child exactly the same, as all have different strengths, characteristics, and abilities. This occurs in home and professional settings alike. Some parents do not accept that 'being gifted' means anything, and the child is expected to do well despite the fact that his needs are not being met. Some teachers fail to understand the educational implications of giftedness, and mental health professionals do not recognize the impact on development due to the lack of training noted above. Teachers and professionals often think or say, 'If he is so smart, he can solve his problems.'

The views of these important people ultimately reach the child and affect his view of himself. When gifted children are met with lack of acceptance or are stigmatized by the response, they are more likely to deny their own giftedness—refusing to accept a vital part of themselves.

Failing to consider giftedness. Denying giftedness due to stigma can result in this failure, but, on other occasions, intellectual ability is simply ignored. More than one parent has heard 'Let's take giftedness out of

the equation,' from a well-meaning psychologist. You cannot buy pants without knowing the child's height any more than you can deny the role that giftedness plays in one's difficulties. Though intellectual ability or giftedness is not always the cause or even a major contributing factor to a problem, it influences much of what a person does. Not taking a child's IQ into consideration when attempting to determine whether or not that child has a psychiatric diagnosis removes a critical element of that child. Too often, medical and allied health professionals, including pediatric neuropsychologists, state that high intellect has nothing to do with how a child behaves. However, those same professionals recognize that the idiosyncratic behavior of a mentally retarded child is often related to that child's IQ. The DSM-IV also reflects this distinction, as most diagnoses have a mental retardation exclusionary criterion that states the behaviors in question are not a result of limited intellectual ability. Intellectual ability—gifted, average or below average—must be considered in diagnostic decisions and treatment planning for maximum positive effect.

Failing to account for twice-exceptionality.

Chase was a profoundly gifted child with ADHD. Educationally, he was well placed in an advanced curriculum with older students. His disorganization, however, was more pronounced when the expectations were higher than those typically expected for a child his age. In an age-level class, he would have been able to handle the curricular and organizational expectations easily. Once his curriculum was advanced to meet educational needs, his problems were exposed and additional modifications were needed to address his twice-exceptionality. Without training, educators and mental health professionals might have concluded that Chase was misplaced and eliminated the proper curriculum instead of accommodating for the weak areas.

There is no doubt that some gifted children can and do have a learning issue or a psychiatric illness, though there is no conclusive evidence that these problems are more common among the gifted than any other group. Gifted children and adolescents with psychiatric problems or learning disabilities are labeled twice- or multi-exceptional. When both giftedness and limiting conditions are present, intervention must address both areas to yield the most positive results. Some improvement may be seen by intervening in one area, but optimal functioning is unlikely unless both areas are targeted.

In late-elementary school, Ethan was experiencing a period of depression related to his school situation—he was frustrated due to an inappropriate curriculum. He was also demonstrating attention difficulties. Initially, school officials thought a child could not be gifted and also have an attention disorder—'It must be one or the other,' they thought. Once identified as gifted, he was served with appropriate educational strategies and some improvement in mood was noted, though attention problems persisted. After evaluation by a professional trained to work with gifted students, Ethan's attention difficulties were identified and appropriate treatment with stimulant medication was provided in addition to ongoing curriculum modifications.

Ethan progressed well through school, and was about to graduate from high school when the family contacted the psychologist again. Ethan's half-brother Mark, a seven-year-old finishing second grade, was experiencing difficulties managing his emotions in school. School officials expressed concerns about possibilities such as ADHD and Bipolar Disorder. Previous consultation with school officials and mental health professionals failed to take into account Mark's giftedness and its role, focusing solely on the difficulties.

Mark, like his half-brother, is a twice-exceptional youngster, and improvement would only be seen by addressing both areas—giftedness and impairment. Mark's diagnosis of Intermittent Explosive Disorder—an impulse control disorder resulting in aggressive, emotional meltdowns—indicated that the school's suspicions were incorrect. The frequency, pervasiveness, and severity of behavior were not present to diagnose either ADHD or Bipolar Disorder. Had the parents simply consulted a local professional, it is likely that Mark would quickly have been placed on a powerful medication, which may have produced some positive results, but would not have addressed the root of his difficulties.

With a focus on misdiagnosis, we can sometimes forget that difficulties also arise when giftedness is assumed to be the only factor affecting the problem and the difficulties or weaknesses are not addressed to the extent needed. That is, the focus on giftedness obscures the twice-exceptional issues.

Eleven-year-old James was referred by his parents due to concerns about possible depression. He was highly intelligent, yet struggling in school. He was liked by all of his teachers except the one who taught the gifted pullout—she did not appreciate his questions about her way of teaching. Evaluation revealed a moderate depressive episode. With modifications to his curriculum along with supportive therapy and targeted cognitive-behavioral interventions, James' mood improved. Addressing the gifted piece did create positive changes.

When the school year ended, eliminating a major stressor, the family took a collective sigh of relief. Unfortunately, James' compromised coping skills had not been strengthened enough to handle additional

stressors. When his father was diagnosed with a treatable cancer, a friend unexpectedly moved away, and his sibling had an accident, James experienced a more significant episode of depression. The stressors overwhelmed him and the focus on giftedness as the predominant factor had not allowed proper intervention to address the depression to the extent needed.

Using medication as a diagnostic tool. Just because someone responds to a medication does not necessarily mean that a diagnosis is accurate. Stimulants, ranging from caffeine to amphetamine, as well as stimulant medications such as Ritalin and Adderall, can increase focus and attention, and many people respond positively to small amounts. As a result, some stimulant medications may be prescribed as performance enhancers rather than to address concerns (Ruff, 2005). Anecdotal evidence shows that many people visit one of the myriad neighborhood Starbucks each day, sometimes multiple times, for their 'pick-me-up dose.' Thus, a self-confirming bias can occur when psychiatric medication is used to reach a diagnostic conclusion. You will not hear a physician say, 'I am not sure if your arm is broken, but let's put a cast on anyway. If it is better in 6 weeks when we take it off, we'll know it was indeed broken.' A patient would most certainly be skeptical upon hearing that. Unfortunately, when it comes to psychiatric medication in general, and stimulants in particular, parents do sometimes hear an equally concerning comment, 'Take this stimulant, and if it works, we will know he has ADHD.' Consider this example:

A gifted child displays affective dysregulation in response to agitating situations or frustration with repetitive learning. The child is taken to a psychiatrist because a teacher or other parents suggest significant issues. The

psychiatrist makes a preliminary diagnosis of Bipolar Disorder and prescribes Depakote or Tegretol, medications originally used as anti-seizure medications, which have side effects including cognitive slowing, fatigue, and listlessness. The medications do indeed flatten the expression of emotions and even some of the affective asynchrony of the gifted child. When the parent attends a follow-up visit with the psychiatrist and reports that the child's behavior has improved and the affective outbursts have decreased, the psychiatrist is now convinced of the diagnosis.

Prescribing medication as a diagnostic tool lacks specificity and creates the possibility of a false positive response because changes in behavior may have more to do with side effects than accuracy in diagnosis. Medications are indeed effective for many, but it is important to address the root cause of the behaviors—which can only be determined through comprehensive assessment—so that medication can be used most appropriately.

Insurance influences. The impact of changing mental health insurance practices on the process of diagnosis and treatment cannot be overlooked. As anyone who has dealt directly with managed care plans can say, the time allowed for the diagnostic process is limited as a cost-saving measure. That is, when a mental health professional would like to administer testing that may determine whether or not a child has a particular disorder, the insurance company may limit the professional to only one covered hour for a diagnostic interview, or perhaps one covered hour for further testing. Having limited time means that the professional cannot perform a comprehensive evaluation of the child and his difficulties, let alone measure his intellect. Completing an accurate and robust assessment of intellect alone usually requires at least two hours, and

much more time is usually needed to evaluate disorders like ADHD or Bipolar Disorder. However, insurance companies with an eye toward cost containment suggest that a checklist can be sent home with a parent in lieu of full and comprehensive evaluation by a trained clinician. Checklists, while cost effective, provide a limited view of a child and his behavior, sometimes from a skewed perspective. For instance, the teacher of an energetic gifted child may think that child has ADHD. The teacher easily can read between the lines of the checklist to endorse the items that will facilitate that diagnosis. The goal may be for the child to receive a prescription for Ritalin to improve classroom behavior. While checklists provide a single point of data, or perhaps two points, they lack the specificity and ability to contextualize the behavior, which is very important in differential diagnosis of complex disorders in children. Cost containment policies of the insurance company can inadvertently lead to misdiagnosis of a gifted child.

Citing the school's responsibility, insurance companies often compound the problem by declining testing directed at measuring a child's intellect. Unfortunately, with limited or non-existent funding for gifted services, schools lack the proper resources to individually test gifted children, while most of the available resources are directed at special needs children with limited cognitive functioning or severe learning disabilities. Additionally, many parents do not have the wherewithal to navigate the procedures of the public school system, and they simply cannot afford testing by a private psychologist. Most at risk within this scenario are families of low socioeconomic status and children for whom English is a second language. As a result, appropriate testing gets omitted from the evaluation, increasing the risk of misdiagnosis and improper treatment.

Lack of Diagnostic Thoroughness. The medical and psychological professions have numerous diagnostic tools at their disposal. Too often, limited assessment is used when determining whether or not a gifted child actually suffers from a psychiatric illness. There are many reasons thorough evaluations are not conducted, such as insurance mandates or the philosophical approach of the professional. Physicians simply do not have the time to engage in thorough evaluation of mental health and behavioral issues, since their focus is on the primary medical care of their patients. Of course, if the physician or mental health professional does not know to look for giftedness as a possible explanation, he will see no reason to factor it into the diagnostic process, resulting in truncation of the assessment phase.

These abbreviated processes may result in reaching diagnostic conclusions after a brief interview with the child, by only interviewing the parents, or through use of a few simple behavior checklists. Too often, the failure to use available tools affects the process of determining the origin of a child's difficult behaviors. Physicians do not rule out heart disease based on a checklist or an interview with the patient's mother; they use proper tools. Most patients simply would not allow a physician to take such shortcuts even if the insurance company did not approve the appropriate test. Unfortunately, parents too often forego a formal evaluation for their child's problem behavior because insurance companies limit a psychologist's ability to use all of the tests necessary to make an accurate diagnosis. The following fictional vignette illustrates the difficulty with making hasty conclusions without fully evaluating the patient or situation.

A cardiologist enters the examination room where his patient is waiting. The profusely

sweating patient informs the cardiologist that his left arm aches, he is short of breath, his ankles are slightly swollen, and he has chest pain characterized by a burning sensation. The physician acts on the symptoms and immediately goes into cardiac arrest treatment mode. The symptom presentation seems clear and he does not listen to the patient's heart or even ask questions to rule out the symptoms as being related to anything other than heart failure. Therefore, he fails to find out that the patient ran fifteen miles to the office, did thirty left arm push-ups while waiting in the examination room, and then rapidly consumed a hoagie. Relying solely on the observable symptoms, and not asking the key questions or using available diagnostic tools to rule out that the patient is having a heart attack, the medical intervention may inadvertently harm an otherwise healthy patient. The physician renders a false positive diagnosis. The incorrect diagnosis then causes a misapplication of otherwise appropriate interventions as the physician treats the patient's symptoms without considering their origin. The possibility for a catastrophic outcome is exponentially increased.

While it is quite unlikely that such a scenario would occur in real life, the physician's misdiagnosis is clear when all of the data are taken into account and the proper frame of reference is used. Similarly, the misdiagnosis of gifted children results from the teacher's, the school's, the physician's, or the psychologist's frame of reference when all data are not considered. Certain diagnoses may be considered at the exclusion of others, depending on belief systems and training. False positive diagnoses for learning or emotional problems are rendered when outcome behaviors are the sole basis for the diagnostic conclusions, as opposed to determining the cultural, situational, or brain-based

antecedents. Inaccurate diagnosis can lead to compulsory—and perhaps even harmful—intervention, similar to historical accounts of trephining a hole in the head of a patient with a seizure disorder in an attempt to release 'demons.'

Poor diagnostic thinking. Another contributing factor in misdiagnosis of gifted children is poor diagnostic thinking, which can be an offshoot of a lack of thoroughness. The old saying, 'One swallow does not make a summer,' means that one should not generalize fact from a single incident—to reach broad conclusions from minimal data is poor diagnostic thinking. Consider the following example:

An overzealous postdoctoral student in clinical psychology was evaluating a young child. Previously that day, the child had been given a travel size bottle of Purell hand sanitizer. Being a young child with an active fantasy life, he began pretending that germs were everywhere and that everyone must use the Purell. When the evaluation was over for the day, and without scoring any test data, the postdoctoral student went to the waiting area and proudly proclaimed to the child's mother that based on the observed behavior the child had Obsessive-Compulsive Disorder (OCD). When the child returned the next day to complete the evaluation, he was out of Purell and was observed licking the assessment table, indicating that the child was not compulsive about germs and that the Purell had simply been a novel toy for a day.

This example highlights the important responsibility medical and psychological diagnosticians assume on a daily basis. People are complex beings, and generating diagnoses based on a single point of data is irresponsible. Identifying OCD, as in the example above, or labeling a child with Asperger's syndrome because the child is

overly-interested in something like Pokémon, is simply thoughtless, inappropriate, and unethical. There is more to a child than one behavior or one focused interest. A child must be viewed within the context of how they were raised, their family, their school behavior and performance, their social behavior, their neuropsychological functioning, and their intellect. Although this process takes more time and is more expensive initially, the odds of rendering a false positive diagnosis are significantly reduced, which likely saves money over the long-term.

School influences.

Eight-year-old Samuel was reading at eighth-grade level when he was referred for evaluation. He was described by teachers as frequently off-task and prone to daydreaming, though most adults who knew him outside of school described him as mature and interesting. The lack of challenge for Samuel in school was creating a child who appeared to have attention problems. With idle time in class, Samuel acted his age and often left the teachers puzzled as to how someone could be so 'mature' in some situations and so 'immature' in others. An under-challenged eight-year-old's behavior is not often the most adaptive behavior in the classroom and can be quite annoying. Samuel's behaviors caused teachers to suspect ADHD.

Can a chronically under-stimulated eight-year-old realistically be expected to sit at his desk with his hands folded in his lap? A bored child will act his age, regardless of his intellect. Imagine an adult being placed back into the second grade and being taught multiplication or another skill she mastered years ago. She would most certainly stare out the window, fidget, or doodle. In our experience, it is often the situation that elicits the inappropriate behavior and not the will

of the child. Managing the situation will manage the behavior. Consider the following case of a brilliant five-year-old boy:

Haruki was referred for a psychological evaluation by his very prestigious private school. His math teacher complained that Haruki goofed off in math class and became angry when redirected to his work. He questioned his teacher, he would not do his class work, and he would not do his homework. His mother stated Haruki loved math and was doing algebra with his father most evenings. She also stated Haruki was a well-behaved child who respected his elders.

A comprehensive pediatric neuropsychological evaluation revealed, among other things, that Haruki had a very superior Full Scale IQ of 137 and his Quantitative Reasoning skills were four standard deviations above the mean! He did not have any diagnosable disorder. Haruki simply did not like coloring the giant number six blue, an assignment repeatedly given by the math teacher. When the testing results were provided to the school's headmaster, he scoffed and said, 'All of our children are gifted; besides, what will the other parents say if we move Haruki ahead in math?' Clearly, he did not appreciate the depth of Haruki's talent and refused to acknowledge the situational aspects of the child's behavior.

The Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition-Text Revision (DSM-IV-TR; American Psychiatric Association, 2000) mentions advanced intellectual development once. The reference is in the differential diagnosis section under ADHD, where it states 'Inattention in the classroom may also occur when children with high intelligence are placed in academically **understimulating environments.**' (p. 91.) Thus, when intellect and its impact on behavior are not considered in the diagnostic

process, the likelihood of misdiagnosis increases.

Haruki and Samuel do not have ADHD. They are brilliant youngsters who could benefit from differentiated educational services and accelerative options. For each child, once their curriculum was adjusted, their 'symptoms' of ADHD rapidly dissipated. Unfortunately, Haruki had to attend a new school to get these services.

No matter how smart a child is, they generally display their feelings with behavior. A five year old child is not going to proclaim, 'I am feeling a bit underwhelmed and disheartened by my current predicament,' when they are feeling unchallenged. Instead, their behavior may become agitated and volatile. Unfortunately, it is easier for a school to say that something is wrong with the child rather than something is right with the child and wrong with the system's response.

Environmental factors. Hurricane Katrina wreaked havoc on New Orleans and its residents. Such an event could hardly be overlooked by mental health professionals working with patients from that region. However, there are many other less dramatic environmental factors that impinge on the life of gifted children, affect behavior and performance, and are overlooked by consulting professionals. Unless these factors are taken into consideration, misdiagnosis is likely. For example, bullying, which is '...a repeated and/or chronic pattern of hurtful behavior involving intent to maintain an imbalance of power,' (Haber, 2007, p. 11) affects gifted children greatly due to the emotional sensitivity and overexcitability many experience (Peterson & Ray, 2006). Even the slightest negative comments, let alone chronic maltreatment, can affect a gifted child deeply and may contribute to

their sense of difference and not fitting in with peers. Depression may be the consequence of such chronic feelings.

Tristan, a victim of bullying at his school, began failing classes he had previously loved. He had been identified as gifted years before, and was always 'happy-go-lucky.' As the bullying increased, his mood turned and depression was identified. When he began lashing out at others, Bipolar Disorder was considered. It was not until a perceptive school counselor recognized the effect bullying was having on Tristan that he was accurately diagnosed and treated for the situational depression resulting from the environmental influences.

Other school issues, such as peer relationships, gifted education services or lack thereof, and the overall level to which a student's curriculum meets her needs affect a gifted child's adjustment (Neihart, 1999). Adjustment issues that cause negative behavioral or emotional outcome complicate the picture, and the problem is further obfuscated when high intellect is not identified or factored into the child's overall way of being.

Developmental Factors. Genetic, gestation, birth, and developmental histories provide important information about children. Developmental and familial factors are often the first clues to giftedness. What is the educational and professional lineage the child comes from? Aside from regression to the mean, smart people tend to have smart children. However, even very bright and talented parents will deny the possibility of giftedness in themselves and their children. The authors have met many professionals who did not think they were bright—"I just worked hard," they say—and were shocked to find out their child's gifted intellect.

Gifted children often reach developmental milestones earlier than other children. They often walk, talk, and count before most. Physicians with knowledge of giftedness can point parents in the right direction. However, if these factors are not considered, misdiagnosis can occur. For example, it is not uncommon for gifted children to teach themselves to read. But, even precocious reading can be misinterpreted as pathology when professionals call it 'hyperlexic' and assume the child cannot possibly understand what she is reading.

Other developmental milestones may lag behind the more advanced abilities, and this asynchronous development is common among gifted children. Even though some skills lag behind, such as handwriting legibility, it does not necessarily mean a fine motor deficit is present, particularly when the child in question also plays Mozart Sonatas on the piano.

Situational Factors. The context of any behavior will provide a background that helps paint the picture of an individual. Take, for example, the following vignette paraphrased from Steven Covey's (1989) teaching about paradigm shifts.

You see a man on the subway and his four children are climbing over the seats, moving excessively about the car, and generally disrupting the passengers. What do you think about this person? Is he a bad parent? Is he disengaged? Does he not care about his kids or the other passengers? In conversation, he acknowledges that they are returning home after the funeral of his wife, the mother of the children, and he simply does not have the emotional wherewithal to more actively manage the children. Does your perception of this person change? Perhaps, with context, you can better understand the man's

situation and his lack of response to the children's behavior.

Without the context, the man's behavior can easily be viewed incorrectly. Of course, the situation described above is a low frequency event, but it leads one to think about the myriad ways the context of a situation affects one's behavior. Would you want a psychologist observing and evaluating your behavior at your holiday office party? What about your Saturday night bowling league or poker game? Would you want your child's 'diagnostic picture' taken during his birthday party or an afternoon at Chuck E. Cheese™? Of course not. These situations represent one aspect of a person's life, and it is easy to see how extrapolating from one situation is inappropriate.

Although these scenarios are far-fetched, gifted children are sometimes viewed in only one context or situation when a diagnosis is rendered. Take, for example, the child who was diagnosed with an attention disorder based on his lack of attention in reading class. He simply did not pay attention and was placed on medication to correct this. The medication was not effective because the child did not have an attention disorder; he was, instead, reading several years above his grade placement and had no interest in the material the class was reading. Curriculum modifications solved the problem. The context was not considered in the diagnosis, and misdiagnosis occurred. Until an accurate contextual understanding was determined about this child and the ADHD diagnosis rescinded, the child inappropriately received medication and did not receive effective academic accommodations.

The Costs of Misdiagnosis

As you can see, giftedness complicates the diagnostic picture, creating many questions worthy of consideration in the process. The potential for misdiagnosis is exponentially increased when intellect is not considered, and there are many negative outcomes for the gifted child being misdiagnosed with a psychiatric disorder that does not exist.

Pathology becomes the focus and strengths are ignored when a psychiatric disorder is incorrectly diagnosed and treated without understanding the impact of the child's giftedness. The child may deny his giftedness, or worse yet, understand his normal way of being as pathological. Imagine being told that your greatest abilities were actually the result of a mental impairment—what you saw as strength, you now see as pathology. The inaccurate label can lead a child to define himself by that label, in the same way a person with a chronic illness may inaccurately see himself as the disorder, or somehow less of a person. He may fail to see the positive aspects of himself, choosing instead to focus only on those negative diagnostic features.

When giftedness is denied or ignored, the gifted individual is deprived of the opportunity to learn the value of their intellect or how to integrate it into their understanding of who they are. Without understanding, the child fails to take responsibility for their intellect and cannot use it as an explanation or change agent for their behavior, resulting in behavior that is considered 'awful' when gifted behaviors are pathologized. How can someone appreciate their intellect and associated behaviors if they are told that they are pathological? It chips away at one's self. Understanding that behaviors are typical for gifted individuals will certainly aid adjustment, self-

acceptance, and, ultimately, development. Without such understanding, low self-esteem and decreased motivation for achievement as well as depression are possible outcomes.

When misdiagnosis occurs, it affects the family as well as the individual. Parents are taught that their child has a mental disorder as opposed to being brilliant. Perhaps they are told that they are bright, but will never be able to use their talents because of the pathology. Mental illness, real or perceived, has great consequences for a family's interactions. Behaviors change, relationships transform, observations become skewed, and interactions adjust to account for the new pathological explanation. When giftedness is used to explain—but not excuse—behavior, both the individual and family can evolve by embracing strengths and positive characteristics as opposed to pathological ones, while simultaneously teaching the child how to take responsibility for their behavioral expressions.

Not only does misdiagnosis lead to inappropriate treatment, but it also decreases the likelihood of the child receiving treatment that may help. Consider the future of a highly gifted child whose intellect is never factored into making an incorrect diagnosis of Bipolar Disorder. It is highly likely that the child is going to be prescribed medications with significant side effects like cognitive slowing and fatigue. Interventions to address the giftedness or educational needs will not be provided, and any curriculum or program changes in the school setting are likely to address the deficits caused by the 'disorder' rather than any strengths or talents the student may also possess. Not only does the child receive treatment he may not need, he also misses the benefit of interventions that may help.

The misdiagnosis and inappropriate intervention may also create problems in the future. For example, years later as an adult, that same individual may be completing health insurance paperwork at a professional job. When the young adult endorses a history of Bipolar Disorder, it may limit the spectrum of health insurance products for which they are eligible. Or, they may be questioned about their history when they attempt to join the Peace Corps or serve their country in the military.

Diagnostic accuracy is the key to appropriate intervention. Both misdiagnosis and missed diagnoses carry significant consequences. The focus of this paper is on misdiagnosis, not missed diagnoses, which are equally problematic. Only with increased knowledge about the special needs of gifted individuals and thorough diagnostic procedures can accurate conclusions be reached and appropriate interventions implemented.

Future Directions

The need for quantitative research on the prevalence of misdiagnosis and qualitative research on its antecedents is paramount. Without this, we cannot measure with certainty the impact of misdiagnosis. Additionally, training about the special needs of gifted individuals will be helpful for all medical, mental health, and educational professionals involved with gifted and talented children and their families. Even basic information about the special needs of this population can substantially decrease many of the difficulties discussed here, just as basic information about characteristics improves a teacher's ability to identify and serve gifted students

in the educational setting (Clark, 2002; Siegle & Powell, 2004).

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