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**MISPERCEPTIONS ABOUT GIFTEDNESS AND DIAGNOSIS OF ADHD AND
OTHER DISORDERS**

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This article was written as an attempt to counter various misconceptions about gifted children, and the likelihood of being diagnosed with a mental health disorder. There is a lot of information passed on through books, journal articles, websites and conferences that can lead to misconceptions. Parents, teachers and mental health professionals have no way of knowing which information is based on research, and which is based on opinion and supposition.

This article reviews some of the research about gifted children and mental health disorders. There are three main issues:

1. The issue of misdiagnosis: Are gifted children being misdiagnosed as having mental disorders like ADHD when they do not?
2. The issue of prevalence: What is the likelihood of a gifted child having a mental disorder like ADHD?
3. The issue of maladjustment: Are gifted children more prone to having particular mental disorders than the average population?

1. The issue of misdiagnosis:

To answer the question about whether gifted children are being misdiagnosed, it is important to examine the actual research data available about gifted children and mental health disorders. For almost 100 years, since Terman's (1925) famous study of 1000 gifted children followed throughout their lifetimes, researchers have found gifted children, in general, to be above average in social and emotional adjustment, as well as advanced in academic areas, such as reading and math. Gifted children studied by Gottfried et al. (1994) in the Fullerton Longitudinal Study, were found to show early intrinsic motivation, superiority in attention, persistence, curiosity, enjoyment of

learning and desire for mastery and challenge. This holds true for the vast majority of gifted children.

As IQ increases, however, there is some evidence that social and emotional adjustment is more difficult, and a lower percentage of these children (above IQ 160) were found to be well adjusted. Hollingworth (1942), in her studies of exceptionally gifted children over 180 IQ, described an optimal level of intelligence, between 120-145, where gifted children were not so different from age peers that they did not fit in. These are generally the children, in fact, chosen as leaders by their more average age peers. In the higher IQ ranges though (160+), gifted children experience enough difference from age peers that they do not fit in with age peers. These children can show less optimal social and emotional adjustment (Hollingworth, 1942). Janos (1983, cited in Janos & Robinson 1985) found that the percentage of highly gifted children (IQ 160+) having psychosocial difficulties was 21%.

While research on gifted children indicates better than average social and emotional adjustment for the vast majority, there is a contingent of writers in the field of gifted psychology who contend that gifted children, in general, have traits that look like those of various mental disorders. Webb et al. (2006) state that:

Many gifted and talented children (and adults) are being mis-diagnosed by psychologists, psychiatrists, pediatricians, and other health care professionals. The most common mis-diagnoses are: Attention Deficit Hyperactivity Disorder (ADHD), Oppositional Defiant Disorder (OD), Obsessive Compulsive Disorder (OCD), and Mood Disorders such as Cyclothymic Disorder, Dysthymic Disorder, Depression, and Bi-Polar Disorder. These common mis-diagnoses stem

from an ignorance among professionals about specific social and emotional characteristics of gifted children, which are then mistakenly assumed, by these professionals to be signs of pathology (p. 1).

Is this true? Do gifted children in general have behavioral and emotional traits that look like symptoms of mental disorders? What is the research that supports this contention? A number of authors suggest, but have no research data to support their contentions, that gifted children are being misdiagnosed, particularly with ADHD (Baum & Olenchak, 2002; Groess et al., 2006; Harnett, Nelson & Rinn, 2004; Nelson, Rinn & Harnett, 2006; Webb et al., 2005, among others).

First of all, there are *no* research studies in the literature that have examined how frequent misdiagnosis is, or if it actually occurs at all. ADHD is the misdiagnosis most often mentioned in published writings in the field of gifted children; yet, no one has done a research study that showed that gifted children are commonly misdiagnosed with ADHD.

Webb and Latimer (1993), in an article that has been widely quoted in the literature, listed the symptoms of ADHD from the DSM-III-R (American Psychiatric Association, 1987) and stated, “almost all of these behaviors, however, might be found in bright, talented, creative, gifted children (Webb & Latimer, 1993, p.2).” They go on to list behaviors that they state are common to gifted children that can be mistaken for ADHD. They have two lists: one compiled from Barkley (1990), and one Webb composed (Webb, 1993, cited in Webb and Latimer 1993). On close examination, the lists are not identical. For example, Webb and Latimer list as Barkley’s (1990) description of ADHD behaviors, “Impulsivity, poor delay of gratification.” The

comparable behavior that might be mistaken for impulsivity is “Judgment lags behind development of intellect” (Webb, 1993, listed in Webb and Latimer 1993). Less mature judgment than one’s level of intellect does not mean the judgment is impulsive, that is, acting without thinking. For example, a gifted child might not weigh the same factors in making a decision as a person of their mental age due to a lack of experience, but the decision would not be at all impulsive.

What is the research evidence that the ADHD symptoms listed in Webb and Latimer (1993) as common to gifted children are really found in gifted children?

If a child has ADHD, it would be expected that the child would exhibit inattention, impulsivity, distractibility and hyperactivity to varying degrees depending on the type of ADHD. These are symptoms listed in DSM-III-R and DSM-5 (American Psychiatric Association, 1987; 2013) as symptoms of ADHD. Children with ADHD also exhibit deficits in executive functions (Barkley, 1997; Brown, 2000). The executive functions are those aspects of performance that allow for learning and doing. For example, focusing and shifting attention, planning tasks, getting started on tasks, sustaining effort, completing tasks and managing obstacles and frustration are all executive functions.

Since writers such as Webb et al. (2005); Webb, Gallagher & Kuzujanakis, (2012) and others list the symptoms of ADHD as common among gifted children, we would expect that tests that specifically measure these behaviors (inattention, hyperactivity, impulsivity, etc.), as well as executive functions, would make gifted children without ADHD look like average children with ADHD. That is, gifted children without ADHD would score higher in impulsivity, inattention, distractibility, and

hyperactivity than average children without ADHD, who, of course, would not have measureable symptoms of ADHD.

Research studies of gifted children without ADHD have shown their ability to self-regulate and concentrate (the opposite of impulsivity and inattention) to be superior to that of average children without ADHD (Calero et al., 2007), that is, they were more attentive and less impulsive. Gifted children were superior to average children in mental attention capacity, cognitive inhibition (the opposite of impulsivity) and speed of processing (Johnson et al., 2003). On tests of executive functions, gifted children without ADHD showed superior ability when compared to average children without ADHD (Arffa, 2007). The gifted children scored like older children on executive function skills. For example, on a test of learning the underlying principle of how to sort cards, gifted children were superior to average children (Tanabe et al., 2012). Thus, gifted children without ADHD do not show the deficits in attention, inhibition, distractibility, performance speed or executive functions that are shown by children with ADHD, and these are *not* traits of giftedness.

Studies of gifted children with ADHD compared to gifted children without ADHD have shown that gifted children with ADHD score lower than gifted peers without ADHD on FSIQ, Working Memory and Processing Speed on the Wechsler Intelligence Scale for Children, as well as on tasks of inhibition. Thus the gifted children with ADHD scored lower on tasks that measure attention, speed, and ability to inhibit responding (Radisavljevic 2011). On tasks of executive functioning, such as planning and organization (Dillon et al., 2013), and verbal memory (Hanratty, 2013), when gifted children with ADHD are compared to average children with ADHD, both groups show

deficits on tests of executive function, attention, distractibility, and impulsivity as expected, but gifted children had higher scores than average children with ADHD (Chae et al., 2003; Mahone et al., 2002; Radisavljevic et al., 2009). The higher scores of gifted children with ADHD were not as high as those of gifted children without ADHD, but were higher than the scores of average children with ADHD. For some tasks the scores of gifted children with ADHD were average. Higher scores, in the average range, can lead unaware clinicians to conclude that gifted children do not have executive function deficits and attention problems when, in fact, they do. It is the discrepancy between their potential and how they perform on the attention, inhibition and executive function tasks that matters. The gap between an IQ of 130 and average performance (SS 100) is larger than the gap required for diagnosis for average children (FSIQ 100 vs. SS 80), and can be as impairing.

Others have found that ADHD in both gifted children and adults to be persistent and problematic (Antshel, 2008; Antshel et al., 2007; Katusic et al., 2011). There is little reason to think that traits of ADHD are common in gifted children without ADHD, or that ADHD is being misdiagnosed in gifted children.

2. The issue of prevalence.

Prevalence is the measure of frequency. There have been few specific studies of the prevalence of mental disorders in gifted children. Certainly gifted children can have mental disorders, but do they occur at a frequency that is similar to those of more average children?

The prevalence of various mental disorders in the general population is known. For example, the prevalence of ADHD in the general population is currently about 9%

(Akinbami et al., 2011). Chae et al. (2003) found that 9.4% of their gifted children (Korean) received diagnoses of ADHD using the T.O.V.A. and parent and teacher checklists. However, that is not the same as saying that the prevalence of ADHD in the gifted population is 9%. To find the prevalence of ADHD in gifted children, one would need to do a study that would involve a large sampling of gifted children across different geographical areas, socioeconomic levels and ethnicity. No one knows the prevalence of ADHD in the gifted population because no one has done such a study; however, there is no reason to think that there are more or fewer gifted children with ADHD than average children. In fact, research on the mean IQ of children with ADHD has found that, over the range of IQs from below average to above average (including IQs above 140), the IQs of people with ADHD were normally distributed, that is the IQs fit the bell curve for intelligence (Kaplan et al. 2000).

3. The issue of maladjustment: Are gifted children at higher risk for some mental disorders? Webb et al (2005) stated that “There are disorders, such as existential depression, or anorexia nervosa, that are more likely to occur among certain groups of gifted children and adults” (p. xxxiii). Others, such as Mahoney (1980, cited in Neihart 2002) and Seeley and Mahoney, (1981, cited in Neihart 2002) suggested that due to issues of vulnerability such as heightened awareness and arousal, as well as feelings of social alienation and rejection, gifted children are more vulnerable to delinquency. Webb et al. (2012) stated, “...there is strong clinical support that some disorders occur more often in gifted children, adolescents, and adults – for example, perfectionism, anorexia, obsessive-compulsive behaviors and existential

depression” (p. 14). Far from there being strong clinical support, there is actually a paucity of research.

What does being at higher risk mean? It means there is a greater likelihood or chance of developing the disorder than in the general population. To assess risk, the prevalence of the disorder in the general population, and in a large sample of the target group, is needed. Many studies have a very small number of subjects and may select those subjects nonrandomly. This is important because random selection using a large population is what determines how likely it is that findings are true.

Another aspect has to do with how the information is interpreted. Because a higher percentage within a study group has a disorder does not mean that the group as a whole is at greater risk. For example, Larson et al. (2011) reported a prevalence of 8.2% for ADHD in their large sample. Of these children with ADHD, the risk of having Tourette Syndrome was 11%. Spencer et al (1998) found that 81% of the children with Tourette’s Syndrome have ADHD. Thus, the risk of having Tourette’s Syndrome, if one has ADHD, is around 11%, not 80%. Therefore, care must be taken not to assume greater risk because a particular population with a disorder shows a higher than expected percentage of a certain group, such as gifted people, within its ranks.

For anorexia nervosa, Dally and Gomez (1979) explored characteristics of a group of 120 young women (ages 11-19+) who presented at their hospital in the UK in the 1970’s. Most of these adolescents were from very high-income families with parents in the professions (medicine, law, teaching, etc.) or business. The IQs of the anorexic adolescents were higher than average, with 78% over IQ 120. Having an IQ in the superior or higher range (over 120) is not unexpected with parents with advanced

degrees. Thus, this study was biased towards higher IQs. In more recent studies, anorexia is no longer found predominately at upper socio-economic levels. When people with anorexia nervosa from all socio-economic groups are studied, the average IQ is slightly higher than average. For example, Lopez, et al. (2010) did a meta-analysis (used statistics to study the findings of all the studies together) of 16 studies and found that the mean IQ ranged from 96.5 to 117.6 with an average IQ over all studies of 5.9 points above average. Of the 16 studies, 6 had mean IQs in the high average range (111-117).

Blanz et al. (1997) studied adolescents and found that the anorexic group had a mean IQ of 116.5, while the mean IQ of the bulimic group was 114.0. For their study, they had eliminated all adolescents with IQs below 85, which may have skewed the mean IQ to a somewhat higher level.

What might be concluded from these studies is that people with anorexia or other eating disorders are likely to have average or higher IQs. It does not mean that gifted children are at higher risk for eating disorders. To state that gifted children have a greater than average risk, one would need to know the prevalence of eating disorders in the gifted population. In fact when gifted adolescents were compared to average students on body dissatisfaction (a problem common to people with eating disorders), gender, type of student (gifted or typical), overall overexcitability, and social coping, the factors of overexcitability, gender and social coping ability were related to body dissatisfaction, but giftedness was not. There was not a higher percentage of gifted students among the group with the most body dissatisfaction (Stevens, 2013).

When one examines specific groups of gifted students, that is, gifted dancers from Taiwan, the prevalence of eating disorders (anorexia, bulimia, and nonspecific

disorders) is increased above that of nondancers (Tseng et al., 2007). There may be an added risk of developing anorexia nervosa for gifted dancers, or perhaps dancers in general, but there is no proof that it is likely to be a general risk factor for gifted children.

Searches of the literature about OCD and high IQ or giftedness produced few studies. Greisberg (2005) found in 6-12 year olds with OCD, an elevated verbal IQ with poorer performance on visual memory. The author, however, did not describe the extent of the elevation, or whether any of the children were gifted. Grisham et al. (2011) found that for adults with OCD, one of the risk factors in childhood was a *lower* than average IQ. There is no clear correlation between IQ and OCD and no clinical evidence that gifted children are at higher risk for the disorder.

For depression, research has indicated that younger gifted children showed less anxiety and depression than average children, and for adolescents, there was no difference between gifted and average groups (Davis, 1996). Martin et al. (2010), in their meta-analysis of studies of giftedness and mental health disorders, found no higher levels of depression, anxiety or suicidal ideation among gifted children when compared to average children.

Koenen et al. (2009) found lower than average IQ in childhood was associated with depression, anxiety and schizophrenia in adulthood, while higher than average IQ was associated with mania. There is evidence based on a large-scale study of Swedish children that those at both the top, and at the very bottom of the achievement scale in school are at higher risk for bipolar disorder in adulthood (MacCabe et al. 2010). Adult men in Sweden, who were admitted to psychiatric hospital settings for bipolar disorder,

were found to have either elevated or extremely low IQs (Gale et. al 2013). Missett (2013) found that there is an association between high IQ and mania but not depression.

Thus, far from there being strong clinical support for the contention that gifted children are at increased risk for some mental disorders, there is only some support for an association between bipolar disorder and very high (or very low) IQ. This is not the same as saying that gifted children are, as a group, at increased risk.

What about delinquency? One study found that a high percentage (18%) of the adolescents in their study showed signs of giftedness (Harvey & Seeley, 1984). Does this mean then that gifted adolescents are at greater risk? Other studies cast doubt on that. For example, a higher IQ (high average or better) appears to have a protective factor against the development of antisocial behavior in students at high risk (Kandel et al., 1988). Mears and Cochran (2013) found that the relationship between IQ and the risk of criminal offending was curvilinear, that is, at both the low and high end of the IQ scale, the risk of offending was lower. Lajoie and Shore (1981) found fewer than expected gifted among delinquents. Thus, the overall prevalence of delinquency among gifted children and youth is not known, and there is no evidence that the gifted are at greater risk.

Thus, in general, the risk of developing a mental a disorder or committing a criminal offense, as far research shows, is not any higher for gifted children. For children with specific risk factors, higher IQs may be related to the likelihood of developing bipolar disorder.

What Do Gifted Children Need Clinicians To Know?

Gifted children need a careful evaluation of their strengths and weaknesses, a profile of how they function in different situations, including in the clinician's office. Care must be taken to ascertain what the home environment is like because for some gifted children, symptoms of ADHD are masked at home. The child is able to spend the majority of time doing self-selected activities, high in interest or stimulation (such as computer games), and little else is demanded. Thus, parents may not see ADHD symptoms at home. Symptoms may be more evident in community activities such as sports, church or after school group activities. Input from the school is needed, especially the circumstances under which symptoms are most and least marked.

Like other children with ADHD, gifted children with ADHD can focus on material of interest, material that is highly stimulating, novel material, and material that is personally relevant (Brown, Reichel & Quinlan 2011; Lovecky, 2004). Their school performance is erratic as tasks fluctuate in these elements. At home they can hyperfocus on tasks of their own choosing for hours (Kalbfleisch 2000, cited in Kaufman et al. 2000). Thus, evaluating the child on tasks that other gifted children can perform but are moderately boring is necessary.

It is especially important to look at the underlying demands of tasks that the gifted child is not performing. Gifted children with ADHD often say that they could do tasks if they wanted to, but choose not to do them (including written work and homework). They say the work is too boring, and that they will only do "challenging" work they like (they define what is challenging). They say they already know all the work, so why do it? They also refuse to do tasks they consider "babyish," even if other gifted children will do these tasks. Underneath these justifications are often hidden

deficits in attention and executive functions that make schoolwork difficult to produce. “Can’t do” and “won’t do” can be tied together for gifted children with ADHD. Also, the low level of intellectual stimulation in the average classroom makes it difficult for gifted children with ADHD to focus on these less stimulating tasks (Lovecky, 2004).

To diagnose ADHD in gifted children, detailed developmental, behavioral and school histories, behavioral observations over several sessions, having the child participate in both challenging and boring activities in the clinician’s office, and formal assessments provide valuable information on what may be underlying the child’s issues.

Gifted children deserve a good analysis of why they are having problems in school and/or at home. Clinicians should recognize that for gifted children, the greater danger is *not* that they will be misdiagnosed, but that those with ADHD and other mental health disorders will not be diagnosed at all in the mistaken belief that all their negative behaviors can be attributed to their giftedness and boredom in school. By the time the symptoms become so overwhelming that the child is failing, it can be difficult to get the accommodations and remediations needed.

Clinicians also need to be aware that gifted children with ADHD, Asperger Syndrome and other mental disorders are as much in need of accommodations that build on their gifted abilities, as they need remediations that develop weaker areas. Gifted children and adolescents with ADHD, ASD, anxiety disorders, OCD, bipolar disorder, and learning disabilities are gifted and don’t lose the commonalities they have with gifted children who are not disabled. Clinicians need to be aware of those unique needs so they can help gifted children and adolescents develop their full potentials.

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