

Comments on Mika's Critique of Hartnett, Nelson, and Rinn's Article, "Gifted or ADHD? The Possibilities of Misdiagnosis"

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The Hartnett, Nelson, and Rinn 2004 study indicates that diagnostic confusion between ADD/ADHD and giftedness exists, and that research on medication practices is warranted. Mika disagrees, saying that there is no empirical evidence of misdiagnosis of gifted children as having ADD/ADHD. We disagree with Mika's logic, and describe evidence that suggests that such misdiagnosis does occur, with possible concurrent risks.

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We were very pleased to see the excellent research performed and published by Hartnett, Nelson, and Rinn (2004). The study was well planned and informative, and the conclusions were thoughtful and appropriately cautious. This research provides empirical evidence of the difficulty in differentiating ADD/ADHD from giftedness, and makes an excellent case for factoring giftedness into the differential diagnosis equation when the initial impression or complaint is "ADD" or the more vague description of "attention problems." Accurate diagnosis—of giftedness, ADD/ADHD, or both—is the only route to appropriate treatment. This study suggests that knowledge, or at least awareness, of giftedness is necessary to even begin to make those distinctions, affirming the adage in medicine: "What you do not know, you do not recognize."

Response to Mika

We are, frankly, puzzled by Elizabeth Mika's comments on the study and conclusions. Maybe the problem is a misunderstanding of "empirical evidence." Empirical evidence can be either experimental or experience based; therefore Mika's logic is faulty in her criticisms of the original article and the issues concerning misdiagnosis of ADHD.

First, she states, "there is no empirical evidence proving the existence of the problem of misdiagnosis of giftedness for ADHD" (Mika, 2006, p. 237) and then concludes that therefore there is no problem. An absence of data would indicate only that one cannot answer the question, not that there is no problem. However, some data do exist that point to a problem. There is experiential (observational) empirical evidence in the literature, and the Hartnett, Nelson, and Rinn (2004) study is experimental empirical evidence that such confusion exists.

Mika equates absence of evidence with evidence of absence. Granted, there is a limited amount of research on misdiagnosis issues, but that does not mean that there is no problem. Research rarely precedes the raising of a question. Hopefully the concerns raised by Hartnett, Nelson, and Rinn (2004) will prompt further inquiry. Parenthetically, it seems odd that the DSM-IV-TR would make a point of identifying "high intelligence" in an understimulating academic environment as a differential diagnostic issue that must be ruled out for ADHD if the writers of the DSM-IV-TR did not regard intelligence as a potential factor (American Psychiatric Association, 2000, p. 91).

The experience-based empirical evidence, such as the long valued medical tradition of publishing case reports, has not yet been embraced by the gifted education community. There are a number of reasons for this, not least of all that there is no gold standard for definitive diagnosis. Nevertheless, the issue of differentiating between gifted and ADHD has been in the literature for over 10 years, and has made it into many books. If one looks, there are numerous anecdotal reports scattered throughout the literature, mostly as vignettes. Many individuals in the field of giftedness have encountered this issue of differentiation between ADHD and gifted behaviors in their practices. Comparison tables showing how the criteria for ADD/ADHD should be scrutinized to rule out giftedness are published (e.g., Lind, 1996).

Unfortunately many cases of misdiagnosis are not brought to light. One of the authors of the present article can attest that her highly gifted son was "diagnosed" with ADD at least five times, though she knew, as his mother and as a pediatrician, that he did not meet the criteria. These "diagnoses" were based on teacher and parent checklists and office observation. They came from one neurologist, one developmental pediatrician, one psychologist, and at least two teachers. He was denied admission to a private school based on a teacher's off-the-cuff diagnosis of ADD. Luckily she was able to get him referred for testing by a neuropsychologist who reported that her son had excellent powers of attention, even with dull tasks. The neurologist/psychiatrist he saw subsequently retested him to confirm this for himself.

The DSM-IV-TR makes the point that Attention Deficit Disorders are supposed to be diagnoses of exclusion because attention can be compromised by mood and anxiety disorders, psychotic processes, lack of academic challenge, sleep disorders, learning disabilities, traumatic brain injury, movement disorders, seizures, or simple refusal to attend. During the usual 15 minutes allotted per patient, even the most dedicated pediatrician cannot begin to comply with the diagnostic requirements of the DSM-IV-TR. Yet the ADHD diagnosis cannot be given without having ruled out each of those

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disorders; the standard is deliberately quite high since the ADHD diagnosis often means the end of the inquiry. The U.S. Department of Education (1994) has historically held the same standard mandating that all other possible causes of behavior are ruled out before a student is designated ADD.

Although some information can be found in the literature, published empirical data are sparse. Gifted children are rare, so it follows that data about them are scarce. However, if more practitioners write up case reports, more journals will print them, and a body of data would be accumulated about misdiagnosis, as it has been for rare conditions in medicine. Such data then justifies further research.

Second, Mika asserts that there are no data to indicate that gifted children are unnecessarily medicated. This assertion is likewise inaccurate. Granted, there are no experimental data to date on this question because the issue of misdiagnosis has not yet received much attention, but there are other data. For example, there are letters reported to the National Foundation for Gifted and Creative Children documenting cases of drugging gifted children to make them more docile (Friedel, 1997). There are also numerous anecdotal reports shared by parents of gifted children on various ListServes, as well as conversations among practitioners. Again, publication of more case reports would grow the literature base and promote more research.

The Hartnett, Nelson, and Rinn (2004) study indicated that diagnostic confusion between ADD/ADHD and giftedness exists, and their study logically leads to the conclusion that research on medication practices is warranted. The authors of the newly published *Misdiagnosis and Dual Diagnoses of Gifted Children and Adults* (J. T. Webb, Amend, N. Webb, Goerss, Beljan, & Olenchak, 2005) agree. The clinical observational and testing data from their own practices do indicate that (a) inaccurate diagnoses of ADHD do occur in gifted children—and occur commonly, (b) these children are sometimes unnecessarily medicated, and (c) that children may respond as well, or better, to curricular modifications or a more appropriate educational environment than to medication.

Third, Mika suggested that there are no negative effects from stimulant medication. There is substantial research indicating that each of the medications used for ADHD in children has side effects, many of which are not trivial. Stimulant drugs are associated with higher rates of later depression, can initiate or exacerbate tic disorders, and can even provoke thought disorder in individuals with that predisposition. Stimulant medications are scheduled drugs, meaning they are recognized by the FDA as having an addiction risk.

Children's brains are also in the midst of physical growth and development well into their late 20's. We do not know the effects on neurodevelopment when medications are taken for a decade or more of childhood. We know even less about the effects when medications are given to very young children. Brain-imaging studies in humans and neuropsychological studies in nonhuman animals have shown that repeated drug use causes disruptions in the brain's highly evolved frontal, response inhibition, planning cortex, which regulates cognitive activities such as decision-making and memory (Carpenter, 2001).

Any time medication is used inappropriately there are two negative consequences—the presence of side effects, and the absence of appropriate therapy. There is also the possibility that we are crudely tampering with the neural development of a child, despite having only an emerging understanding of the brain.

Finally, in the field of genetics there is a term “genetic heterogeneity,” meaning there are individuals with indistinguishable signs and symptoms whose underlying genetic defects

differ from one another. Put another way, different physiologic problems may lead to similar clinical pictures. Sorting out the underlying causes is essential if we are to find specific and effective therapies. There are numerous examples of this phenomenon in clinical medicine. ADHD and giftedness may manifest with similar problem behaviors, but the cause and the cure are completely different. Mika is correct when she notes the behaviors in the Hartnett, Nelson, and Rinn (2004) vignette are not “characteristics” or “evidence” of giftedness, but we would argue that the behaviors could reflect giftedness as an underlying cause of the behaviors.

Mika is also correct when she notes that our best guesses at diagnoses should take into account the entire picture: thoughts, behavior, context and environment, past history, medical condition, and functionality. What the research by Hartnett, Nelson, and Rinn (2004) shows us, taken together with numerous articles describing the clinical experience of thoughtful professionals, is that intelligence is an important part of the diagnostic picture, but—due to lack of awareness or knowledge about giftedness and its implications—is a part not likely incorporated by many clinicians in their diagnostic thinking.

Research Today

All science begins with observation, leads to experimentation, and eventually concludes with understanding. The Hartnett, Nelson, and Rinn (2004) study takes the issue of misdiagnosis from observation to experiment, and thus advances our understanding of ADHD and giftedness. This study also indicates that simply being aware of giftedness as an underlying cause of symptoms increases the probability the diagnosis will be explored more carefully by clinicians.

At the heart of Mika's objections is the longing for hard science and facts in a nascent field of knowledge. Empirical (though not necessarily experimental) evidence is the only kind of evidence we have in our attempts to understand the workings of the mind and the associated behavior.

Empirical evidence is based on experiments or experience. In the hierarchy of scientific inquiry, empirical evidence is barely a step away from pure observation, the foundation of science. In the hard sciences, anecdotal observation alone is considered unreliable information upon which to base a conclusion. Systematic observation (case reports) is slightly more credible, and experimental data are better still. However, in applied sciences, like medicine, accumulated experience is sometimes the only information available. Currently, in the fields of psychology, psychiatry, education—and indeed any field which tries to fathom complex human behavior or thought—empirical evidence, sometimes from accumulated experience, is all we have. Thus, in these fields, there are no “facts” in the strictest sense of the word.

The Future

The greatest obstacle between clinicians and accurate behavioral diagnoses is the absence of a gold standard for any disorder of the mind. Scientists are currently exploring functional brain imaging in an effort to advance our understanding of these disorders, but we are still far from having the tools we would need to make accurate diagnoses by these methods.

As an example, we theorize that the superficial symptoms shared by giftedness and ADHD may be the result of an imbalance between cortical and subcortical function. However, until

We can measure such things, the theory will remain untested. In the meantime, we, like all other practitioners, muddle through and do the best we can, occasionally reminding ourselves that we do not know much.

"To pretend to know when you do not know is a disease." — Lao Tzu

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Conferences

10th Conference of the European Council for High Ability (ECHA)
September 13-16, 2006
Lahti, Finland
<http://www.ortra.com/echa/>

Australian Association for the Education of Gifted and Talented (AAEGT) Biennial Conference
September 27-29, 2006
Fremantle, Perth, Western Australia
<http://www.gifted2006.org.au/>

Mississippi Association for Gifted Children (MAGC)
September 28-29, 2006
Jackson, MS
<http://www.msms.k12.ms.us/MAGC/conference.htm>

Kansas Association for Gifted, Talented, and Creative (KGTC) Conference
October 8-10, 2006
Lawrence, KS
<http://www.kgtc.org/Conference.htm>

Florida Association for the Gifted (FLAG) Conference
October 13-14, 2006
Daytona Beach, FL
<http://www.flagifted.org/announcements.htm>

Ohio Association for Gifted Children Annual Conference
October 15-16, 2006
Columbus, OH
<http://www.oagc.com/Conferences/conference.php>

Missouri Conference on Gifted Education
October 15-17, 2006
Tan-Tar-A at Lake of the Ozarks, MO
<http://dese.mo.gov/divimprove/gifted/workcon2k2.html>

New England Conference on Gifted and Talented Education
October 20-21, 2006
Warwick, RI
<http://www.necgt.org/>

West Virginia Association for the Gifted & Talented (WVAGT) Conference
October 20-21, 2006
Charleston, WV
<http://www.wvgifted.org/page2.html>

Minnesota Council for the Gifted and Talented (MCGT) Annual Conference
October 21, 2006
St. Paul, MN
<http://www.mcgt.net/>

Advocacy for Gifted and Talented Education in New York State
October 26-28, 2006
Rochester, NY
<http://www.agateny.com/pressrelease.html>

National Association for Gifted Children (NAGC) 53rd Annual Convention
November 1-5, 2006
Charlotte, NC
<http://www.nagc.org/CMS400Min/index.aspx?id=35&annCon>

Gifted and Talented Education Council 2006 Conference
November 10-11, 2006
Calgary, Alberta, Canada
<http://www.gtccouncil.com/>

TAGT Professional Development Conference
November 15-18, 2006
Austin, TX
<http://www.txgifted.org/conferences/2006%20Annual%20Conference/2006AnnualConference.html>

New Jersey Association for Gifted Children (NJAGC)
March 16-17, 2007
East Brunswick, NJ
<http://www.njagc.org/index.php?module=Pagesetter&func=viewpub&tid=7&pid=0>

Pennsylvania Association for Gifted Education (PAGE)
April 19-21, 2007
Pittsburgh, PA
<http://www.penngifted.org/>

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