

The Data on ADHD and IQ didn't speak for itself, but is it beginning to?

The phrase "the data speaks for itself" is problematic in some studies of psychological conditions because of a lack of understanding of said conditions and the causes, or for a Data Scientist, "Domain Knowledge". Such bias can affect diagnosis and treatment of neurodivergent (ND) conditions such as Autism Spectrum Disorder (ASD), Attention Deficit Hyperactivity Disorder (ADHD) and Obsessive-Compulsive Disorder (OCD). Here I'll focus on data from studies on ADHD and, more specifically, the differences in diagnosis rates across "IQ" or brain size ranges. I quote IQ in such a way here as there is debate on the validity of IQ assessments as a definitive measure of intelligence, including similar critiques of the assessment of it as that of ADHD, in that factors such as race and gender bias affect scores.

Corrigan and Whittaker (2017) requested retraction of a study on ADHD and IQ stating "*Lancet Psychiatry*, a UK-based medical journal, recently published a study titled *Subcortical brain volume differences in participants with attention deficit hyperactivity disorder in children and adults: A cross-sectional mega-analysis*. According to the paper's 82 authors, the study provides definitive evidence that individuals with ADHD have altered, smaller brains. But as the following detailed review reveals, the study does not come close to supporting such claims."

Further contrary evidence to their claims includes one recent study which found that "Children with a high IQ and ADHD showed a pattern of familiarity as well as cognitive, psychiatric and behavioural features consistent with the diagnosis of ADHD in children with average IQ. These data suggest that the diagnosis of ADHD is valid among high IQ children." (Antshel *et al*, 2007). Moreover, Vidal Milioni *et al* (2017) noted that "Our data provide support for the hypothesis that high IQ in adults with ADHD improves the performance on EF (Executive Function) activities, which may lead to problems in establishing a precise diagnosis from objective neuropsychological measures."

This provides an explanation of the differences in diagnosis rates at an earlier age for ADHD among high IQ individuals. Previous misunderstandings of this data discrepancy have shaped, and continue to shape, assessments for the condition. This confirmation bias provides a major hurdle in addressing diagnoses in high IQ children, for which diagnosis is often an incredibly positive, validating experience, greatly raising a person's self-awareness and self-esteem. As such, further research into and focus on improving diagnosis rates in high IQ/ more intelligent ADHD children and adults seems to be the appropriate solution, as well as educating people more on this.

Bibliography:

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