

## “Are the Majority of Children With Autism Mentally Retarded?”

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To make a significant contribution to our scientific knowledge, a research project has to meet two crucial criteria. First, it must pose a testable hypothesis to an important issue. Second, it must rigorously apply appropriate scientific methods to test this hypothesis. Dr. Edelson’s project not only met these criteria, but also added another important ingredient. Namely, it challenges a long-held and often quoted “belief” (read, “accepted fact”) that the majority of autistic persons are mentally retarded.

The author’s careful analysis of all the relevant literature reveals how studies reporting clinical and even “empirically based” impressions are flawed, and how nonscientifically supported “impressions” that the “vast majority” of individuals with autism are also mentally retarded morphed into “accepted doctrine.”

Mental retardation is a comprehensive, descriptive term. Our current knowledge of the syndrome and the autistic spectrum can help explain the language and cognitive deficits formerly ascribed to mental retardation.

Based on our years of clinical practice and research on autism, we concur with the author’s conclusion that “it seems prudent to obtain additional empirical evidence before making any definitive conclusions regarding the prevalence of MR in children with autism.” We have stated a similar opinion in our forthcoming book *Understanding the Nature of Autism and Asperger’s Disorder* in a section entitled “IQ and Autism.”

Dr. Edelson thoughtfully explains several likely reasons for the origin and perpetuation of the unsubstantiated association of autism and mental retardation; here we wish to emphasize two crucial factors. First, the identification of mild and subclinical forms of autism led to an expanding definition of the phenotypes and established a broader diagnostic category. Second, our new understanding of abnormal programming of brain development in autism has modified our understanding of what we mean by IQ in individuals with autism.

A glance at the history of medicine reveals that whenever a new syndrome or disease is described in the medical literature, the most serious cases are portrayed. They then become the templates for diagnosis and research. Recall that a “heart

attack” was initially described as “crushing substernal pain radiating down the left arm, shortness of breath, and death.” Diabetes was, “you drank a lot, urinated a lot, lost weight, and died.” Now, of course, we know there are mild heart attacks that go undiagnosed and there are cases of diabetes that are relieved by simple dietary changes.

And so it was with autism. Kanner’s original cases (Kanner, 1943), we now know, had the most severe form of autism, and they became the templates for diagnosis for the next 20-plus years. These cases met the diagnostic criteria for mental retardation in use at that time because their cognitive and social development was so far behind schedule.

Contrast Kanner’s cases with the adults we identified in a 1994 study. They had some symptoms of autism as children, and yet as adults they married, had children of their own, and remained undiagnosed. They came to our attention when we were studying their children with autism (Ritvo & Ritvo, 1994).

Today, there is a consensus in the field that autism is a spectrum disorder, with Kanner’s cases representing the most severe and those with Asperger’s disorder representing the mildest (subclinical) form (Segal, 1996). The majority of the mild cases do not meet criteria for mental retardation. Rather, they are amenable to standard tests of IQ, and they function clinically with IQ scores ranging from borderline to superior. In fact, in a 12-year prospective study we found that 50% of children who began in the middle-IQ group had moved to the high-IQ group 12 years later (Freeman, Ritvo, Rhabbar, Yokota, & Ritvo, 1991).

Thus, the discovery and counting of mild, high-functioning, and subclinical cases of autism in future prevalence surveys will help the next generation of clinicians and researchers to avoid perpetuating the pejorative and prejudicial stereotype that the vast majority of children with autism are also mentally retarded.

Second, we wish to emphasize that over the past 2 decades there has been an exponential explosion of knowledge about the cause(s) and developmental neuropathology underlying autism. Many studies have documented characteristic devel-

opmental disturbances of brain growth and signal processing in individuals with autism. We have hypothesized that these spurts and lags of brain development are caused by abnormal micro-RNA genes. These genes contain the blueprints that direct brain development and neuronal interconnections (Ritvo, 2005).

When the blueprint is very abnormal, as with Kanner's serious cases, patients looked clinically "mentally retarded" because they lacked the ability to process symbolic thinking due to delayed maturation of cognitive and language centers in the brain. In mild autism these brain centers are less seriously delayed and "mental retardation" is not likely to be apparent. In Asperger's disorder and subclinical cases, the delays are so mild the issue of mental retardation is not germane.

Let us state this last point in other words. It is our belief (underline *belief*—based on our years of clinical experience and research in the field) that autism and IQ are genetically determined independent variables. At conception, children with autism have a normally distributed chance of being anywhere on the continuum of IQ, from retarded to genius. However, for individuals to express endowed potential their brains have to have adequate symbolic and language processing.

In conclusion, we wish to compliment Dr. Edelson for asking an important question and providing a scientifically convincing answer. Hopefully, her request for more extensive and objective research in this area will come to pass.

#### ABOUT THE AUTHORS

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