

**Part I**

I've grown up surrounded by education. My mother is a bilingual speech therapist at a school in Upper Manhattan so I've seen the cogs and gears within the New York City public school system. However, my older brother is the one who sparked my interest in education and education policy. He started out with a public school education but by the time he reached high school he transferred to a private school specializing in an education for students with special needs. Subjected to repeated misdiagnosis, my brother was not correctly diagnosed with Autism Spectrum Disorder, specifically Asperger's syndrome, until he dropped out his first year of college.

As a middle school student I never fully understood the diagnoses my brother received nor what they entailed. I remember being caught off guard by his Asperger's diagnoses- experiencing the confusion of not knowing whether he was autistic or not, not understanding the concept of a spectrum of disorders. I couldn't make sense in my head of how my brother, who seemed so high functioning, had a disorder that I had only seen in extremes. So I began educating myself on Autism Spectrum Disorder with hopes of understanding Asperger's and how the spectrum worked- and how his diagnosis would affect us for the rest of our lives.

Along with this new knowledge came a sort of curious frustration as well. How could my brother, who came from a relatively well off family well-versed in education, go through eighteen years of his life without a correct diagnosis? If this could happen to him, what would happen to families of lower socioeconomic statuses? Families that knew nothing about learning disabilities and autism? With the influx of autism awareness, it seems as though the diagnostic would be streamlined by now. However, my brother's experience left me dubious of this. So

when I was faced with the opportunity to delve into research my sophomore year at the Bronx High School of Science, I took it as my chance to give back to the autism community.

Despite having conducted most of my research in the comfort of my own home or at Mark Alter and Jay Gottlieb's offices at the Steinhardt School at New York University, the process was anything but easy. The first hurdle was learning how to use SPSS software (which seemed to be from the prehistoric age of computational statistics). The second was sifting through disorganized government data as I spent hours trying to merge datasets. The final obstacle was making sense of it all. It's difficult to remember that when you're looking at a sea of data the numbers are actually children, each with an individual story. There's always so much room for interpretation so inferences must be taken seriously. Especially in the social sciences, numbers are never a tell-all.

Nevertheless, my work was incredibly rewarding. Beyond the fact that I yielded significant results, I knew I had given back to a community that I'll be tied to for the rest of my life. Research is more than just padding for a resume or a way to rack up accolades- it's a means of expressing your passions through seeking out problems and then finding solutions. I look back on the three years I spent going through numbers, reading background data, and stressing out over my computer crashing or not having enough storage- and I don't regret any of my time spent on this project. While I'm not set on studying learning disabilities or even going into research as a career I still take pride in my contribution to the autism and learning disability community. I take pride in knowing that I made a difference.

## **Part II**

My research project, *Learning Disability and Autism Prevalence in New York State: The Effects of Common Core State Standards Adoption, District Resource Need, and Urbanization*, zoned in on factors that might affect a student's diagnostic process. In theory, the diagnostic process should be fundamentally the same for all students who attend a New York State public school. However, after reading background research, it became clear that factors such as access to diagnostic resources or socioeconomic status might change how a student is diagnosed. I looked at the diagnostic process in three key parts.

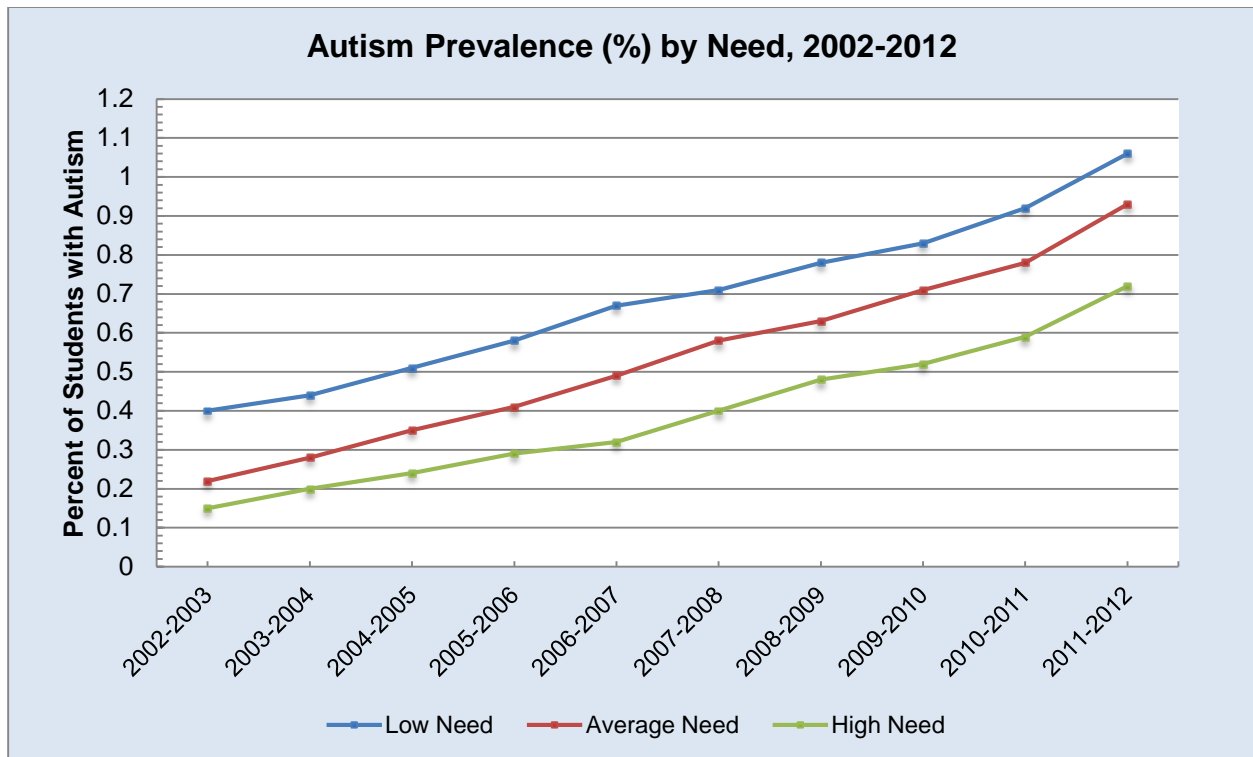
First was the adoption of Common Core State Standards (CCSS). The theory behind CCSS impacting a student's diagnosis stemmed from the idea of incentives. Recently, the emphasis put on students' standardized test scores as a measure of schools' and teachers' accountability has increased pressure for students to receive high marks on such exams. Furthermore, schools can face sanctions if students consistently score poorly on state exams. However, when looking background research it came to my attention that teachers and schools could avoid such sanctions through loopholes in the diagnostic process. For example, students with certain disabilities can be considered to pass a state exam at a lower test score. Other disability diagnoses can exempt students from taking a state exam altogether.

With this information at hand, I hypothesized that the adoption of CCSS would cause an increase in the rate of learning disability and autism diagnoses (in New York State, autism spectrum disorder (ASD) is just categorized under autism as an umbrella term). Of course, these diagnoses could not just come out of nowhere. Since autism is used as an umbrella term, students with more mild cases of ASD receive the same exemptions from state exams, as do students with full-blown autism. Furthermore, the method of disability diagnosis used makes it relatively easy to rediagnose a student with a learning disability with autism (even though they may not have a

severe case of ASD). In other words, I hypothesized that educators were diagnosing students who consistently scored poorly on state exams with disabilities to avoid facing sanctions.

However, this hypothesis was proved wrong. After 2010 when CCSS were enacted, the rate of learning disability and autism prevalence remained the same. This, however, means good news as educators are not using the diagnostic process to avoid facing sanctions for poorly-scoring students on state exams.

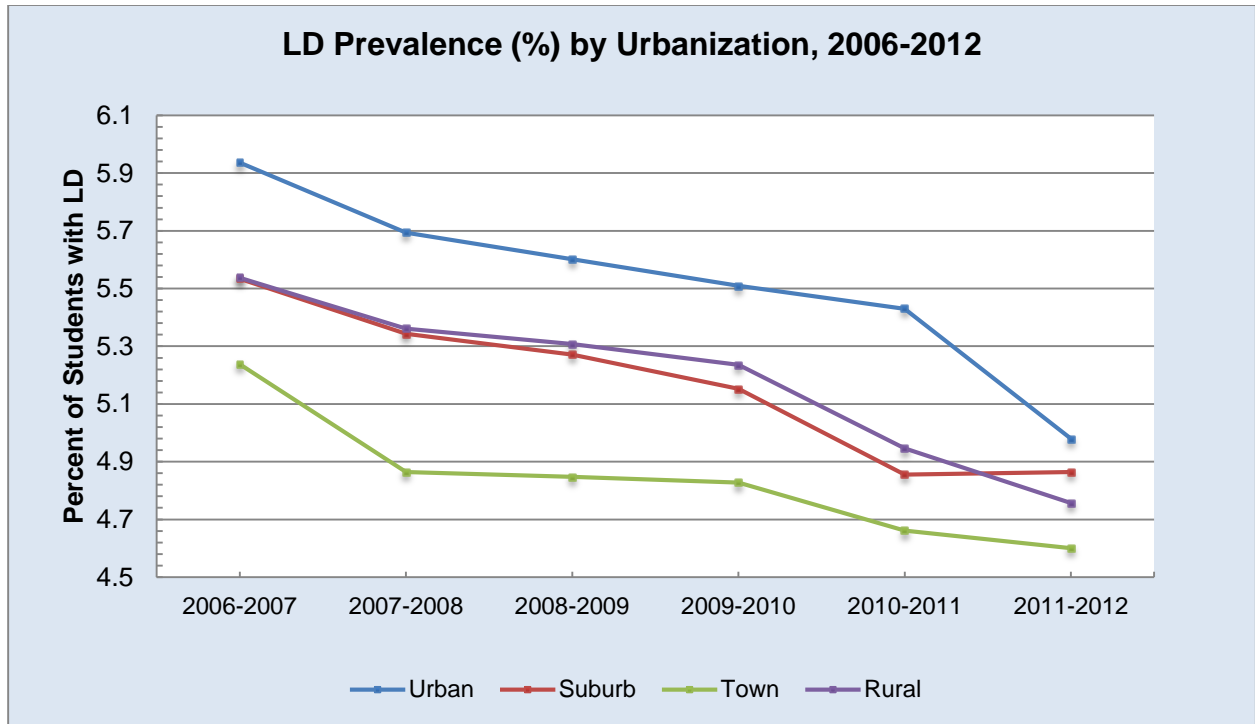
My research also examined district resource need, a measure of school districts' financial standings. High need school districts, such as New York City, tend to have overcrowding as well as a consistent lack of funding. While the lack of funding is not consistent across all schools in a district it is a generally prevalent issue. I hypothesized that high need school districts would have a higher prevalence of both learning disabilities and autism. However, as is shown in Figure 1 (below), the opposite was true. From 2002-2012, low need school districts consistently had the highest prevalence of autism (the graph for learning disabilities is excluded as the differences in prevalence based on district resource need were not as drastic).



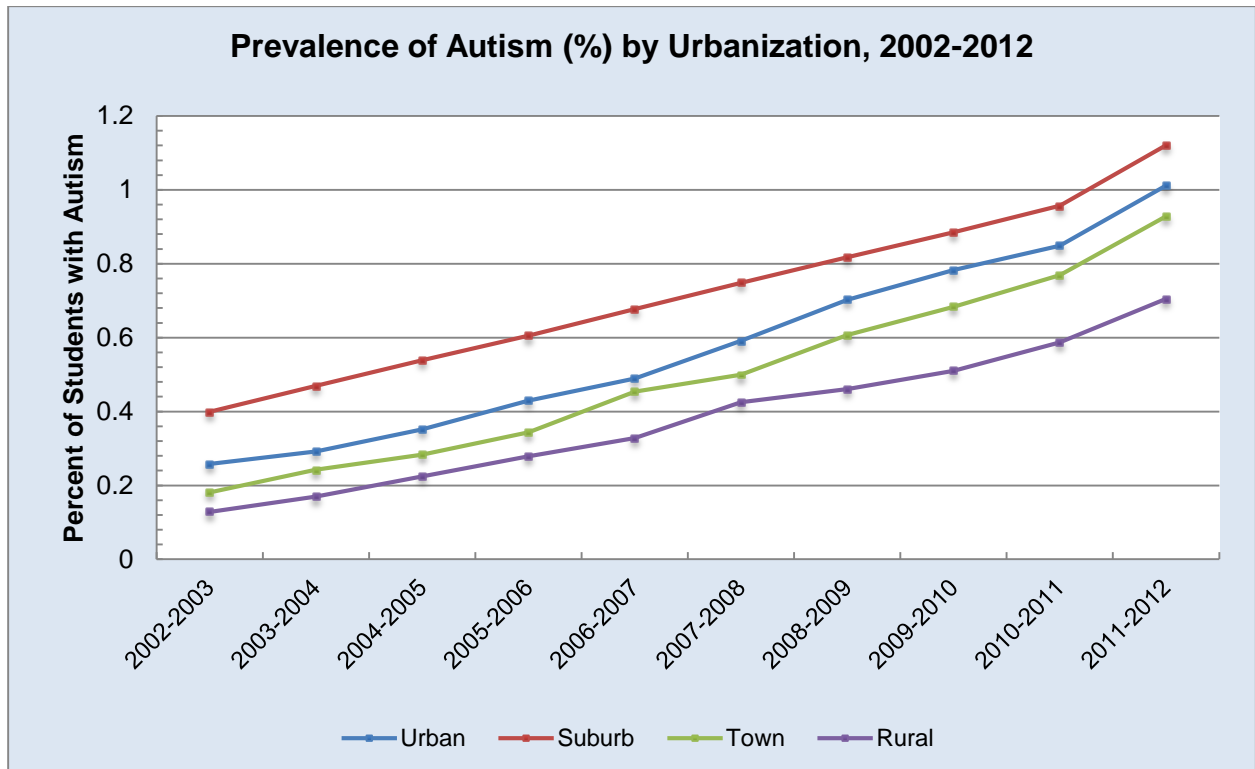
**Fig. 1** The percent of students with autism by need, 2002-2012.

These results point to the conclusion that varying economic factors have a large impact on students' diagnostic processes. While there is no single known cause for autism, the disparities in prevalence shown above are much more likely due to differences in *how* students are diagnosed rather than what their actual learning disability is. In other words, autism prevalence should be relatively the same across school districts of all levels of need.

Similar results were found when comparing learning disability and autism prevalence across school districts of different levels of urbanization. It was hypothesized that both learning disabilities and autism would be more prevalent in urban school districts due to better access to diagnostic resources. While this held true for learning disabilities, autism was actually most prevalent in suburban districts (see Figures 2 and 3 below). Autism was consistently least prevalent in rural school districts while learning disabilities were consistently least prevalent in town districts.



**Fig. 2** The percent of students with LD by urbanization, 2006-2012.



**Fig. 3** The percent of students with autism by urbanization, 2002-2012.

These results lead to the conclusion that school districts' socioeconomic statuses are directly tied to both students' diagnostic processes as well as resulting diagnosis. While all public schools in New York State are required to use the same set of diagnostic materials, there are some factors that cannot be accounted for which also offer possible explanations for the aforementioned results. For example, overcrowding in urban school districts makes it more difficult to both correctly diagnose and treat students. Similarly, urban school districts are more likely to be populated with students who do not speak english as a first language. This further difficults the diagnostic process. On the other hand, urban school districts also tend to have a higher concentration of specialists both in and out of the public school system. While rural school districts may not tend to be as overcrowded as urban school districts, it is likely that the diagnostic resources available are less plentiful.

While none of these explanations can concretely explain the disparities in the prevalences of both autism and learning disabilities across school districts of varying socioeconomic status, it is highly unlikely that these disparities are a coincidence. Ultimately, the results demand further research regarding the relationship between school districts' socioeconomic statuses and the diagnostic process.