The Advocate

Volume 28
Number 1 *Spring-Summer 2023*

Article 3

May 2023

Effects of State-Level Funding Systems on Identification Rates of Students with Autism Spectrum Disorders

Michelle Powers
Augustana University, michellepowers57006@gmail.com

Brad Uhing
Augustana University, brad.uhing@augie.edu

Recommended Citation

Powers, Michelle and Uhing, Brad (2023) "Effects of State-Level Funding Systems on Identification Rates of Students with Autism Spectrum Disorders," *The Advocate*: Vol. 28: No. 1. https://doi.org/10.4148/2637-4552.1178

Effects of State-Level Funding Systems on Identification Rates of Students with Autism Spectrum Disorders

Abstract

Identification rates of children with autism spectrum disorders (ASD) have been increasing since the year 2000, while federal special education funding has remained stagnant. Researchers gathered data from states related to individual state funding systems, per pupil spending and identification rates of students with ASD to determine if state spending or special education funding methods affected identification rates of students with ASD. While specific funding methodology did not predict rates of identification or PPS, a correlational analysis of individual state PPS and ASD identification rates did have significant results. Spending amounts per pupil corresponded to rates of identification for ASD.

Keywords

Autism, funding systems, IDEA

Effects of State-level Funding Systems on Identification Rates of Students with Autism Spectrum Disorders

Michelle Powers, Augustana University
Michelle Powers is an assistant professor in the Sharon Lust School of Education at Augustana University in Sioux Falls, SD.
Brad Uhing, Augustana University
Brad Uhing is an associate professor in the Sharon Lust School of Education at Augustana University in Sioux Falls, SD.

Introduction

The Individuals with Disabilities Education Act (IDEA) requires all states to establish and implement systems for identification of all students who are potentially in need of special education services (IDEA, 2004a). The mandate, known as "child find" is translated by states into educational rules and policy. This requires every state to ensure they have functioning systems for referring and identifying potential students in need of special education.

IDEA provides 13 disability categories under which an eligible student may receive special education (IDEA, 2004b). The category of autism spectrum disorders (ASD) has emerged as a significant area of need under IDEA. Based on 2017-18 child count data, ASD was the fourth largest group of students receiving special education services, according to the National Center on Educational Statistics (NCES) (2020b). The 2017-18 child count reported 710,000 students, ages 3-12, in the ASD category (NCES, 2020a).

The federal government provides a minimal amount of funding to implement IDEA. According to the National Council on Disability (2018), the federal allocation has remained largely stagnant, hovering around 16% of the estimated costs of special education services. This leaves states to fund most special education costs, resulting in a myriad of approaches to funding (Ahearn, 2010; Griffin, 2015). Increased budget demands have resulted in recent recommendations to change special education funding formulas as a technique to leverage available funds (Griffin, 2015; Krausen et al., 2020). As states attempt to scale up to meet the rising number of students with ASD, questions exist about the various funding systems and the rate at which students with ASD are identified for special education. This study sought to determine if state funding systems predicted identification rates of students with autism spectrum disorders and/or per pupil spending (PPS). The relationship between special education funding formulas and per pupil spending (PPS) was also examined.

Analysis of State Funding Systems

Ahearn (2010) examined all 50 states to identify patterns in special education funding mechanisms. She grouped state systems categorically, but noted the unique implementation seen based on the state of origin. Updating the work of Ahearn (2010), the Education Commission of the States (Parker, 2019) and EdBuild (2020), both presented special education funding

organized by categories. These funding categories include single student weights, multiple student weights, resource-based (allocated), census based, (partial) reimbursement, block grant and high-cost special education funding. Each funding categories utilizes different methods of allocation, based on systems reacting to various aspects of student need and/or disability (student weight) amount of services (resource based) cost of services (reimbursement, high cost), total student numbers (census based) and funding based on prior spending (block grants). In some states, funding systems are a hybrid design, combining categories to disperse dollars (EdBuild, 2020).

The most common funding mechanism seen was multiple student weights, which aligns funding amounts with various student and programmatic cost factors (Parker, 2019). EdBuild reported parallel results, noting the disability and services typically provided the direction for funding under multiple student weight allocations (2020). Both Parker and EdBuild noted the ability of each state to design their own systems for special education funding.

Prevalence Rates of ASD

While funding mechanism vary across the states, consistent rapid growth in identification rates of ASD has been documented. The Centers for Disease Control (CDC) Autism and Developmental Disabilities Monitoring Network (ADDM) has tracked prevalence rates of ASD for the past two decades, while conducting research on this significant trend (CDC, 2023). In 2000, the prevalence rate was 1 in 150, but by 2023, this figure had become 1 in 36 children identified with ASD across the United States (CDC, 2023; Maenner et al., 2020). Boys continue to be identified at 3 times the rate of girls, however, the gap seen in racial and ethnic differences between White, Black and Asian or Pacific Islander and Hispanic children has closed (CDC, 2023).

Aligned with ADDM data is the federal count of children with autism in special education. States are required to conduct an annual child count of students identified with autism to the Office of Special Education Programs (OSEP) in the U.S. Department of Education. A review of the year 2000, reflects 1.8 out of every 1000 school children was identified with autism. By 2017, the same data reflected 12.7 out of every 1000 children as having autism and receiving special education services (CDC, 2023).

Financial Impact

The rise in prevalence rates for children with autism (CDC, 2023; NCES, 2020a) presents a variety of issues, including the funding of needed services. The rapid increase in students identified on the autism spectrum potential has economic impact in terms of the demand for scaling up service models, as well as training and securing providers to meet the increased demand (Chambers et al., 2004).

With minimal federal funding provided, the costs associated with educating a student with autism are substantial for states (Chambers et al., 2004). Scull and Winkler (2011) highlighted the significant increase in the number of students identified on the autism spectrum from state

reporting and discussed variances in how states reported and reflected their identified students. They suggested spending per pupil in special education was twice the spending of general education students and urged more research into data collection on spending. An overall cost estimate for supporting an individual with ASD throughout the course of their life was predicted to be approximately $1.4 million with special education being one of the largest expenses during childhood (Buescher et al., 2014). In a literature review of 50 studies, Rogge and Janssen (2019) concluded education represented most of the costs incurred in serving individuals with ASD. They also observed severity of need was a factor in higher costs, with expenditures being as much as 175% of the cost of regular education (2019).

Early intervention for students with autism has been shown to reduce the cost of educating a student with ASD by over $19,000 per year (Cidav et al., 2017), although issues of access to appropriate therapies and insufficient coverage by insurance and Medicaid are barriers to effective implementation (Autism Speaks, 2021, Leslie, 2017; Parish et al., 2012). Placing children with ASD into the school settings without needed early intervention services elevates costs for special education services (Cidav et al., 2017; Leslie, 2017).

DSM-5 Changes

In addition to rising educational costs, changes in criteria for diagnosis of ASD also has influence on how states identify students with autism. In 2013, the American Psychiatric Association (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM) completed a 14-year process to update their technical manual, resulting in the most recent edition (DSM-5). The DSM-5 represented a significant shift from the prior criteria (APA, 2000) in the diagnosis of autism spectrum disorders (APA, 2013b). The APA noted the revised criteria was intended to improve diagnosis practices, without resulting in an impact on the identification rate (2013a). According to the APA, the use of a single category, rather than subcategories, was intended to capture the existence of the disorder beginning in early childhood, as compared to focusing identification on school-age children. APA offered commentary that “most children with DSM-IV PDD diagnoses will retain their diagnosis of ASD using the new criteria "(2013, pp.1-2).

Since 2013, several studies have analyzed the implementation of the new criteria and found results indicating many individuals previously diagnosed were more likely to go undiagnosed (Bent et al., 2017; Mason et al, 2015; Smith et al., 2015; Yaylaci & Miral, 2017). Although these studies appear to suggest rates of identification under the ASD category should be experiencing a decline; national data reflects the opposite.

Study Rationale and Purpose

Current prevalence rates of identification for the autism spectrum disability category reflect significant changes over the past two decades, placing increased demands on special education service systems which receive minimal federal funding (National Council on Disability, 2018). Revised DSM-5 criteria were expected to have a neutral effect on identification rates however, the current data reflects a continuous pattern of growth (APA, 2013a). As states scale up efforts to meet the demand of students with ASD, funding systems will undoubtedly be reconsidered and potentially adjusted to stretch state dollars as far as possible.

The purpose of this study was to determine if special education state funding systems predict the identification rates of students with autism spectrum disorders and/or per pupil spending (PPS). The relationship between special education funding formulas and per pupil spending (PPS) was also examined.

Method

To conduct this study, states were grouped according to the reimbursement model of special education funding used. The types of funding formulas reflect the groupings used by the Education Commission of the States (Parker, 2019) and EdBuild (2020). State funding formulas included: *Single Student Weight, Census-Based System, Resource Allocation Model, Reimbursement System, Block Grant, High-Cost Students System,* and *Multiple Models*. States using Multiple Reimbursement Models were grouped together. They included Alaska, Arizona, Florida, Maine, Massachusetts, New Hampshire, New Jersey, Rhode Island, Vermont, West Virginia, Illinois, Montana, South Dakota, Minnesota, and Wisconsin.

Rates of identification of students with ASD for 2016 and PPS were collected through online data sources for all 50 states. After being grouped according to the funding formula used by the state, the average ASD identification rate and PPS rate were calculated for each respective special education funding formula.

Data Sources

ASD Rate

To determine ASD identification rates for each state, two sources of data were collected. The numerator was calculated using the United States Department of Education Office of Special Education Program 2016 child count data for ages 3-21 for students identified under the category of ASD. The denominator was calculated using data from the National Center for Education Statistics (NCES) enrollment in public elementary and secondary schools. The NCES table was updated in March 2019 to include the most recent data available from fall 2016. To calculate ASD identification rate, the numerator was divided into the denominator to get a percentage value.

Per Pupil Spending (PPS)

Data for 2016 PPS were obtained from the Governing website, which summarized total PPS by state (Manzanetti, 2020). PPS data included non-personnel expenses and was a combination of instructional and support services spending.

Special Education Funding Formulas

Seven special education funding formulas were used for this study, and an eighth reimbursement category was created to represent states that use multiple funding models called, “Multiple Reimbursement Models.” States that used Multiple Reimbursement Models were not included in

each individual funding formula to avoid skewing the data. Funding formulas for each state are presented in Table 1 and each funding formula is described below.

Table 1

Reimbursement Model by State

Reimbursement Model	States Using Model
Multiple Student Weights	CO, GA, IN, IA, KY, NM, OH, OK, PA, SC, TX
Single Student Weight	LA, MD, MO, NV, NC, ND, OR, WA
Census-Based System	AL, CA, ID
Resource Allocation Model	DE, HI, MS, TN, VA
Reimbursement System	KS, MI, NE, WY
Block Grant	UT
High-Cost Students	AR, CT
Multiple Reimbursement Models*	AK, AZ, FL, ME, MA, NH, NJ, RI, VT, WV, IL, MT, SD, MN, WI

**Multiple Reimbursement Models refers to states using more than one model for reimbursement.*

Multiple Student Weights

The Multiple Student Weights (MSW) system is a formula that assigns funding to a student based on factors related to the severity and type of disability. In this formula, a school district would receive funding for the severity of the disability as well as the type of disability (e.g., ASD).

Single Student Weight

The Single Student Weight system allows school districts to receive funding on a per student basis. Regardless of the severity or type of disability, a district receives funding based on the number of students identified with disabilities.

Census-Based

The Census-Based system operates under the assumption that each school district in a state has roughly the same percentage of students who require special education services. Funding is provided to school districts based on the size of the district, with the assumption of percentage of disabilities used as the primary indicator of necessary funding.

Resource Allocation Model

The Resource Allocation Model provides resources, not funding dollars, to school districts based on the number of identified students requiring special education services. States using the Resource Allocation Model provide teachers, support staff, and additional services staff (e.g., Speech-Language Pathologist) to provide services for the students.

Reimbursement System

The Reimbursement System model allows school districts to submit special education expenses to the state, and the state determines if they will reimburse all or a portion of the expenses that have been submitted.

Block Grant

The Block Grant model provides funding from the state to be used for special education services. This model may be calculated based on spending in the previous year.

High-Cost Students

The High-Cost Students system allows states to provide funding based on the number of high-cost students in the district. This system is often coupled with another funding model to off-set the costs of special education services up to a certain threshold.

Multiple Reimbursement Models

The Multiple Reimbursement Models category accounts for states that use multiple funding models based on the funding formulas used above. For example, the state of South Dakota uses both the Census-Based system and Multiple Student Weights system to fund special education services, in addition to having a system for funding high-cost students or programs.

Procedure

For this study, data were collected from all 50 states. Several data points were not available for the District of Columbia, Bureau of Indian Affairs, Northern Mariana, American Samoa, Guam, Puerto Rico, and the United States Virgin Islands, resulting in their exclusion from the study. Additionally, Wisconsin was included in the study despite child count data being unavailable.

Data for each state were transferred to excel tables based on their funding formula or use of Multiple Reimbursement Models. ASD rates and PPS were calculated for each state, and mean scores were calculated for each funding formula.

Data Agreement

Data agreement was reached by independent review of the data collected for this study. The data collection was aggregated from source websites and placed into Excel spreadsheets by the first researcher. The second researcher did a check of the data placed into the spreadsheets for

accuracy. Overall, no errors were identified by the 2nd reviewer. A second review of data was conducted by the first researcher and confirmed the presence of no errors or omissions.

Data Analyses

Mean ASD Identification Rate and Mean PPS

States were divided into one of eight categories according to the reimbursement model they used to fund special education. For each of the eight categories, mean ASD identification rates and mean PPS were calculated for each special education funding model.

Comparison of Special Education Reimbursement Model versus ASD Identification Rate and PPS.

A one-way ANOVA was performed to determine the effect of reimbursement model on ASD identification rate, and the effect of special education reimbursement model on PPS. Data were analyzed using SPSS (Statistical Package for the Social Sciences).

State-Level Correlation of ASD Rate and PPS

A Pearson Product Moment Correlation was used to determine if a relationship existed between ASD identification rate and PPS. For this analysis, state-level data were used to determine if a state's ASD identification rate correlated with a state's PPS. Data were analyzed using SPSS (Statistical Package for the Social Sciences).

Grouped State Comparison of Mean PPS and Mean State ASD Identification Rate

States were divided into two groups for an additional comparison of states who rank in the top half of all states in PPS versus states who rank in the bottom half of all states in spending per pupil. States that were ranked 1-25 in spending were placed into group 1, while states ranked 26-50 in spending were placed into group 2. The two groups were compared on aggregate mean rates of ASD identification.

Results

The purpose of this study was to determine if state special education funding systems predict the identification rates of students with autism spectrum disorders and/or per pupil spending (PPS). The relationship between special education funding formulas and per pupil spending (PPS) was also examined.

Mean ASD Identification Rate and Mean PPS

Mean ASD identification rate and mean PPS are reported in Table 2. The results indicated that states using the Multiple Reimbursement Models formula had the highest ASD identification rate, while states using the High-Cost Students and Single Student Weight formulas evidenced the second and third highest ASD identification rates, respectively. The top three formulas used

to identify ASD were also the top three models in average PPS, although it should be noted that High-Cost students had the highest average PPS, but only the second highest ASD identification rate.

Table 2

Mean ASD Identification Rate and Mean Per Pupil Spending by Reimbursement Model

Reimbursement Model	ASD Identification Rate	Average Per Pupil Spending (PPS)
Multiple Reimbursement Models	1.41%	$13,326
High-Cost Students	1.34%	$14,402
Single Student Weight	1.29%	$12,676
Census-Based System	1.21%	$9,296
Resource Allocation Model	1.17%	$11,481
Multiple Student Weights	1.07%	$10,411
Reimbursement System	1.04%	$12,592
Block Grant	0.90%	$6,953

* Note: Multiple Reimbursement Models data does not include OHI Identification Rate for Wisconsin due to the data being unavailable

Comparison of Reimbursement Model versus ASD Identification Rate and PPS

Results of the one-way ANOVA are reported in Table 3. Results indicated that special education reimbursement model did not predict either ASD identification rate or PPS.

Table 3

The relationship between special education reimbursement model, ASD identification rate, and PPS.

	Special Education Reimbursement Model	
Variable	*F*	*Sig.*
ASD Identification Rate	*.740*	*.640*
PPS	*1.543*	*.179*

**Sig. at p < .05*

State-Level Correlation of ASD Rate and PPS

The Pearson-Product Moment Correlation between ASD rate and PPS is reported in Table 4. The relationship between the rate of ASD and PPS was examined at the state level. Results indicated the relationship between ASD rate and PPS was statistically significant (r = .406, p = .004), indicating that the rate of ASD was correlated with the amount of PPS for the state.

Table 4

Pearson-Product Moment Correlation of ASD Identification Rate and PPS.

		ASD	Per Pupil Spending
ASD ID Rate	Pearson's r		.406
	p-value		.004**
Per Pupil Spending	Pearson's r		
	p-value		

***p < .01*

Grouped State Comparison of Mean PPS and Mean State ASD Identification Rate

The results of states ranked 1-25 in spending per pupil (Group 1) versus states ranked 26-50 in spending per pupil (Group 2) are summarized in Table 5. For Group 1, the ASD identification rate was 1.42%. Group 2, in contrast, evidenced an ASD identification rate of 1.01%, which is a 33.7% difference between the two groups. The results indicate that the states ranked 1-25 in PPS identified students with ASD at a higher rate than states ranked 26-50 in PPS.

Table 5

ASD Average Identification Rates for States Ranked 1-25 v. 26-50 in PPS.

Per Pupil Spending (PPS) Rank	***ASD Average Identification Rate***
States Ranked 1-25 in PPS	*1.42%*
States Ranked 26-51 in PPS	*1.01%*

Discussion

The rate of identification for students on the autism spectrum have grown exponentially over the past 20 years (CDC, 2023). Scaling up to the meet the needs of a large group of newly identified students and their families, while working with limited federal funding, has seen policy advisors advocate for states to revisit their special education funding systems as one way to address the uptick in spending (Griffin, 2015; Krausen et al., 2020). As Ahearn (2010) noted, state funding systems are as unique as the states themselves. Variances observed in state funding methodologies support the concept that states use these mechanisms to manage expenditures, based on the minimal federal funding impacting most states (Greene & Forster, 2002; Mahitivanichcha, K. & Parrish, T., 2005a; Morrill, 2018). This study explored the potential impact state special education funding models and per pupil spending may or may not have on the rate of identification of students with ASD.

The funding approaches used most frequently, Multiple Student Weights (11 states) and Multiple Reimbursement Model (15 states) comprised over half of all the states in the study. Both models employed differentiated funding amounts based on varying factors, such as levels of perceived disability need, as well as high costs of students. A review of the twelve states using the Multiple Reimbursement model indicated 5 states used a combination of Multiple Student Weights with another method of funding (Parker, 2019). The consistent use of this weighted approach implies states equate funding amounts to perceived severity of educational needs of students as an equitable, or minimally, logical approach to funds distribution.

In adopting this approach, states using a differentiated model of funding present an expectation of meeting perceived needs based on eligibility categories. Eligibility categories, however, are not comprehensive in capturing all identified students, as students may have ASD but are reported in another category. While ASD can be identified by age 3, not all school teams may be pursuing specific categorical identification of preschool-aged children, relying instead on the category of developmental delay for eligibility purposes. The variances across the states in terms early identification processes, as well as those states choosing to expand the developmental delay category up to age 9 (IDEA, 2004b), have the potential to impact identification rates, notably if higher funds are secured with an autism label. These factors are variables in studying the identification rates of students with ASD based on federal child count data.

Across all funding models, a comparison of autism identification rates and average PPS revealed inconsistencies. For purposes of analysis, Block Grants was removed as this model represented only 1 state (Utah), leaving a difference of only 0.37% in the percentage of identification between highest and lowest models ASD rate. Per pupil spending was spread out across the various models with no clear patterns emerging. States using Multiple Reimbursement Models had the highest average rate of identification for ASD; however, the average PPS ($13,326) closely resembled the Reimbursement System model ($12,592), which had the lowest ASD identification rate. These comparisons do not reveal any consistent trends in funding models and rates of identification for autism spectrum disorders.

In further analysis of special education spending models, ANOVA statistical analysis results failed to predict either identification rate of students with autism or state PPS. While specific funding methodology did not predict the number of students with ASD or per pupil spending, spending per pupil was found to positively correspond with higher and lower rates of identification for ASD. Implications of these results infer states spending more per pupil in education may result in higher rates of students identified with autism.

This finding was further supported when viewing state PPS and identification rates in an aggregate manner. All states were divided into two groups, representing the highest and lowest spending per pupil along with their average identification rates for ASD. The group of 25 states representing the highest per pupil spending identified students with ASD at a much higher rate as compared to those states with the lowest PPS. This again implies states dedicating more funds to education can expect to have a greater chance of identifying more students with ASD.

For families and school professionals, per pupil funding emerged as the hidden variable in the special education process. IDEA mandates that every state must find all eligible students, but until every state spends an equal amount on education, school systems will continue to be unequal in their abilities to deliver effective systems which ensure appropriate evaluation and determination of the need for special education.

Limitations

A lack of discrete data aligned to special education costs was a limitation in this study. An extensive search for costs exclusive to services for students with disabilities yielded no consistent source of data across the states for this study. The availability of per pupil data was limited to overall spending, versus being specific to special education. Rogge and Janssen (2019) noted this factor in their literature review of ASD costs. Another limitation of the study was the variability of data, collected from states including Wisconsin and Nebraska, whose data was either missing or unavailable. Nebraska did not provide data for children, ages 3-5, which could contain any number of students with ASD. Wisconsin did not have identification data available, however, the state PPS was included in the state rankings and averages.

Recommendations for Future Research

In looking to future research in this area, a concentrated study of state tax structures, and state legislative considerations for funding special education are warranted. An analysis of states that have formally revisited their funding mechanisms in response to seeking cost savings and/or reduction of need may further outline why states fund at the rates they do, and why identification rates are higher or lower than surrounding states. Another aspect to be researched is the potential influence of socio-economic factors at the state and local level and the funding mechanism utilized on a per state basis. The multiple model approach used by many states reflect a variety of beliefs about effective methods of special education funding. By considering various combinations of funding approaches, research may identify various combinations which impact identification rates. Studying the age of identification is another area of potential research. The age at which students with ASD are provided special education interventions may yield more information regarding the overall identification rates of individual states and may be analyzed to determine if there is a correlation to funding rates.

Conclusion

In considering the recently revised DSM 5 criteria for identification of students on the autism spectrum, and the defined process in IDEA for identification of students, general uniformity in identification rates would be an expected outcome. The analysis of child count data, paired with PPS, reveals a wide variance in identification of students with autism. One point which has emerged most clearly is per pupil spending on education in general correlates significantly with the identification rate of students with autism. States investing more dollars into education in general can expect to see comparable increases in the identification of students with autism.

Congress intended states to continually seek to "find" and serve all students who have disabilities and are in need of special education (IDEA, 2004a). States are tasked with this mandate, while attempting to make equitable funding decisions with minimal financial support from the federal government. Nonetheless, fulfilling the mandate of IDEA is the commitment and responsibility for all states accepting federal dollars. The funding a state dedicates to its education system directly impacts schools and ultimately families, in their capacity to meet these mandates. When districts and schools are divided into "have and have not", the very real potential is the denial of appropriate identification and services under IDEA for students on the autism spectrum.

References

Ahearn, E. (2010). Special education: State funding formulas. Project Forum, National Association of State Directors of Special Education, Alexandria, VA.

American Psychological Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders (4th ed., text revisions),* Washington, D.C.

American Psychological Association. (2013a). Autism Spectrum Disorders [fact sheet]. https://www.psychiatry.org/psychiatrists/practice/dsm/educational-resources/dsm-5factsheets

American Psychological Association. (2013b). *Diagnostic and Statistical Manual of Mental Disorders (5th ed.),* Washington, D.C.

Autism Speaks (2021). Accessing comprehensive health care. https://www.autismspeaks.org/advocacy-priorities-accessing-comprehensive-health-care

Buescher, A.V., Cidav, Z., Knapp, M., & Mandell, D.S. (2014). Costs of autism spectrum disorders in the United Kingdom and the United States. *JAMA Pediatrics*, 168(8), 721-728. https://doi.org/10.1001/jamapediatrics.2014.210

Centers for Disease Control and Prevention (2023). Autism data visualization tool [Prevalence estimates over time]. https://www.cdc.gov/ncbddd/autism/data/index.html

Centers for Disease Control and Prevention (2020b). Data and statistics on autism spectrum disorder [Fact sheet].

Cidav, Z., Munson, J., Estes, A., Dawson, G., Rogers, S., & Mandell, D. (2017). Cost offset associated with Early Start Denver Model for children with Autism. *Journal of the American Academy of Child and Adolescent Psychiatry*, 56(9), 777–783. https://doi.org/10.1016/j.jaac.2017.06.007

Chambers, J., Perez, M., Socias, M., Shkolnik, J., & Esra, P. (2004). Educating students with disabilities: Comparing methods for explaining expenditure variation. Report of the Special Education Expenditure Project. U.S. Department of Education, Office of Special Education Programs.

EdBuild. (2020, October 14). FundED: National policy maps. http://funded.EdBuild.org/national#special-ed

Greene, J.P. & Forster, G. (2002). Effects of funding on special education enrollment. Civic report No. 32. Center for Civic Innovation, Manhattan Institute, New York, NY.

Griffin, M. (2015). The progress of educational reform: A look at funding for students with disabilities. *Education Commission of the States*, 16(1), 1-6. https://files.eric.ed.gov/fulltext/ED560999.pdf

Individuals with Disabilities Education Act. (2004a). 34 C.F.R § 300.111 Child find. [IDEA regulations] https://sites.ed.gov/idea/regs/b/b/300.111

Individuals with Disabilities Education Act. (2004b). 34 C.F.R § 300.8 Child with a disability. [IDEA regulations] https://sites.ed.gov/idea/regs/b/a/300.8

Krausen, K., Caparas, R., Ripma, T., & Willis, J. (2020). *Strategic resource allocation for the 21st century: How state leaders can address the silent recession*. WestEd. https://www.wested.org/resources/strategic-resource-allocation/

Leslie, D. L. (2017). Understanding the costs of autism services. *Journal of the American Academy of Child and Adolescent Psychiatry,* 56(9), 727-728.

Maenner, M.J., Shaw, K.A., Baio, J., Washington, A., Patrick, M., DiRenzo, M., Christensen, D.L., Wiggins, L.D., Pettygrove, S., Andrews, J.G., Lopez, M., Hudson, A., Baroud, A., Schwenk, Y., White, T., Robinson Rosenberg, C., Lee, L., Harrington, R.A., Huston, M., Dietz, P.M (2020). Prevalence of Autism Spectrum Disorder among children aged 8 years. Autism and Developmental Disabilities Monitoring Network, 11 sites, *United States, Morbidity and Mortality Weekly Report Surveillance Summary*, 69(4)1–12. http://dx.doi.org/10.15585/mmwr.ss6904a1external icon

Mahitivanichcha, K., & Parrish, T. (2005a). Do non-census funding systems encourage special education identification? Reconsidering Greene and Forster. *Journal of Special Education Leadership*, 18(1), 38-46.

Manzanetti, Z. (2020, December 16). Education spending per student per state education https://www.governing.com/finance/education-spending-per-student-by-state.html.

Morrill, M. S. (2018). Special education financing and ADHD medications: A bitter pill to swallow. *Journal of Policy Analysis and Management*, 37(2), 384-402. http://dx.doi.org.augie.idm.oclc.org/10.1002/pam.22055

National Center on Education Statistics. (2020a). Fast facts: Students with disabilities. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=64

National Center for Educational Statistics. (2020b). The condition of education: A letter from the Commissioner. https://nces.ed.gov/programs/coe/indicator_cgg.asp

National Council on Disability. (2018). Broken Promises: The underfunding of IDEA. National Council on Disability, Washington D.C.

Parish, S.L., Thomas, K.C., Rose, R., Kilany, M., & Shattuck, P.T. (2012) State Medicaid spending and financial burden of families raising children with autism. Intellectual and *Developmental Disabilities*, 50(6), 441–451. https://doi.org/10.1352/1934-9556-50.06.441

Parker, E. (2019, December 16). 50 state comparisons: Special education funding. Education Commission of the States. https://www.ecs.org/50-state-comparison-k-12-special-education-funding/

Rogge, N., & Janssen, J. (2019). The economic costs of autism spectrum disorder: A literature review. *Journal of Autism and Developmental Disorders*, 49(7), 2873-2900. http://dx.doi.org.augie.idm.oclc.org/10.1007/s10803-019-04014-z

Scull, J., Winkler, A.M.Thomas B. (2011). Shifting trends in special education. In Thomas B. Fordham Institute. Thomas B. Fordham Institute.

Smith, I.C., Reichow, B., & Volkmar, F.R. (2015). The effects of DSM-5 criteria on number of individuals diagnosed with autism spectrum disorder: A systematic review. *Journal of*

Autism and Developmental Disorders, 45(8), 2541-2552. http://dx.doi.org.augie.idm.oclc.org/10.1007/s10803-015-2423-8

Yaylaci, F., & Miral, S. (2017). A comparison of DSM-IV-TR and DSM-5 diagnostic classifications in the clinical diagnosis of Autistic Spectrum Disorder. *Journal of Autism and Developmental Disorders*, 47(1), 101–109.