Merrimack College

Merrimack ScholarWorks

Community Engagement Student Work

Education Student Work

Spring 2022

Applied Behavior Analysis Services in Public Schools

Bridget Soraghan

Applied Behavior Analysis Services in Public Schools

Bridget Soraghan

Winston School of Education and Social Policy, Merrimack College

2022

MERRIMACK COLLEGE

CAPSTONE PAPER SIGNATURE PAGE

CAPSTONE SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE

MASTER OF EDUCATION

IN

COMMUNITY ENGAGEMENT

CAPSTONE TITLE: Applied Behavior Analysis Services in Public Schools

AUTHOR: Bridget Soraghan

THE CAPSTONE PAPER HAS BEEN ACCEPTED BY THE COMMUNITY ENGAGEMENT
PROGRAM IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF EDUCATION IN COMMUNITY ENGAGEMENT.

Audrey Falk, Ed.D.	*Audrey Falk*	5/1/22
DIRECTOR, COMMUNITY ENGAGEMENT	SIGNATURE	DATE
Sheila McAdams, Ed.M.	*Sheila McAdams*	5/1/22
INSTRUCTOR, CAPSTONE COURSE	SIGNATURE	DATE

Acknowledgments

I would like to acknowledge my parents, Brian and Marilyn Soraghan, and my siblings, Katie and Joey Soraghan for supporting me throughout my time here at Merrimack College, without them none of this would be possible. I would also like to thank Elaine Schwager, Harold Sachs, and Rob Andersen for giving me the opportunity to pursue Division 1 Softball over the past 4 and a half years here. None of this would have been possible without all of the support and encouragement that came from my family, coaches, professors, and friends during the toughest of times. For everyone that encouraged me to pursue my Master's degree, thank you for always believing in me and being there when I needed you the most; I wouldn't be here without you all. Finally, I would like to thank the Winston School of Education and Social Policy for providing me with this wonderful experience to learn and gain an undergraduate degree in 2021 and now a Master's degree in 2022.

Abstract

Children with Autism Spectrum Disorder (ASD) have a very different educational experience than their peers. The process of providing more resources can be beneficial if insurance plans can help families with the cost and coverage. Research findings explain how more resources can help lower socioeconomic families with earlier diagnoses of ASD in their children. Insurance plans and different policies can provide more educational opportunities for those children. Having more coverage on insurance plans will allow more families to seek Applied Behavior Analysis therapy to work with Behavior Technicians. Public school districts can make opportunities available for non-neurotypical students by providing more Board Certified Behavior Analysis therapists in schools. By combining enhanced insurance coverage for therapies as well as developing appropriate programming in public schools, children with ASD could receive a fair and equitable learning experience, as required by the federal Individuals with Disabilities Education Act policy.

Table of Contents

Statement of the Problem

Research in special education, specifically applied behavior analysis (ABA) in public schools in Massachusetts, shows there is a lack of support and resources provided for children and families. With the adoption and subsequent changes in the federal Individual with Disabilities Education Act (IDEA), students that are diagnosed with autism should have the same access to public education as all children. States don't implement IDEA policy in the same manner. Families receive services through their insurance rather than being able to go through their child's school district. Other families have found different ways of funding ABA services. A closer look at Massachusetts public schools and the services that are being offered can change our understanding of how combining insurance funding with IDEA funding can better support students with autism spectrum disorder (ASD).

One in 54 children in the US has been diagnosed with ASD at the age of 4 according to the Center for Disease Control and Prevention (CDC, 2020). With a large number of diagnoses and a continuous rise expected over the upcoming years, increasing the resources for these children is important. Not having the right support and resources can be detrimental to those children who are diagnosed and how they can work on their skill development. Without providing more cost-friendly options for families in schools or through insurance the child's education will be negatively affected.

Applied behavior analysis demands the attention of all educators and families because of the substantial cost it has financially on those who do not get support from insurance (Candon, et., al., 2019). The financial burden this has on families from lower socioeconomic backgrounds can take a toll on these families and it prevents the person with ASD from getting the support and services they need from an early age. Not only does it affect the parents, guardians, and child

but it also can affect other members of the family because the out-of-pocket funds can be financially draining and can cause stress if the family is trying to make ends meet. "State-level insurance mandates that require insurers to cover certain treatments for children's ASD increase the use of and spending on ASD-specific services, but this may result in a larger financial burden for families." (Candon, et., al., 2019) The results from this study show that there are few financial protections for families that had higher levels of spending on ASD-specific services. Once a family reaches their limit with insurance all costs are out of pocket. These cost burdens may mean that children don't get the ABA services they need.

Implementing specific ABA services in public schools can cost the town more money or it can result in other programs being cut or funds being lost. The Individuals with Disabilities Education Act is a US federal law that was put in place for public schools to educate all children, regardless of their capabilities, physically or mentally. However, this law does not explain what the schools need to provide to create opportunities for children with disabilities. John McLaughlin (2017) states that "the investment will pay dividends later." The meaning behind this is if districts or the state invest in the appropriate therapy services in schools, it will pay off in the end with the success that the students are showing after getting the proper help with their education.

Increasing inclusion within the classroom with neurotypical peers and those with ASD can have an impact on learning. Students with ASD can learn different skills from their classmates that they might not have been capable of learning from their Board Certified Behavior Analyst (BCBA). Reinforcers and rewards are very important to children with ASD so using classroom inclusion can help motivate them that particular day.

According to the Massachusetts Department of Education, their board members are working toward changing the availability of ABA services to allow more families to receive this particular therapy that might not have been within financial reach. The state of Massachusetts discusses how to create a plan for insurance coverage that can help with ABA therapy. There should not be a limit on how much service and support is provided to each child, so as a whole, there needs to be a change of more funds or greater availability for those that qualify. Larger amounts of funding and a broader array of services would increase the support for special education programs specifically for children with ASD. (Mass.gov, 2022)

There can be an advantage to having community-based ABA programs within public school systems. According to the Association for Science in Autism Treatment (Weiss, 2020), there is more opportunity for a child who attends public school and receives special education services because they can still attend school with their peers and possibly even their siblings. This outcome for positive opportunities can stem from inclusive classrooms. Having the services in a public school does not take away from the center-based support services and how they help students with ASD but, for some, center-based services are not available. Another benefit is that students with ASD can work with peers and learn skills through partnerships in community-based settings, although, in schools, the special education teachers might not be as qualified in ABA services as the professionals in a center-based location. Altogether, regardless of the differences, being able to receive support from both center-based places and community-based places is not easily accessible for all students with ASD so finding the right balance should be a priority.

In conclusion, this particular problem with ABA services in schools is that there aren't many districts or states that have this particular therapy resource available. Also, the process of

receiving support through insurance is not easy. Creating awareness of the different sources of support and services is important for those that require help for their child especially if they are not eligible for insurance-funded services. Providing enough support in the public schools is more appealing to parents because then they know that their child will be able to also work with peers.

Literature Review

The Autism Diagnosis

Autism spectrum disorder (ASD) is a developmental disability that causes various challenges with behavior, communication, and social skills for individuals. The spectrum for ASD is wide-ranging from very gifted to severely challenged which can affect daily lives or have no effect at all. Autism can be diagnosed using different tests and observation which varies from different school districts and is dependent on the individual in question. A diagnosis of ASD is also dependent on the various signs and symptoms that are being displayed (CDC, 2020). The special education laws vary from state to state along with different criteria needed for each child that may require a diagnosis. Research indicates and highlights differences in state eligibility requirements that impact identification rates in each state. (MacFarlane, 2009). Maureen Durkin (2017) discusses how the socioeconomic status of children has played a role in the diagnosis process according to U.S. Census data. Understanding the relationship between socioeconomic status and the ASD diagnosis will help provide services within public schools and understanding how the special education classrooms and teachers could help those students who come from a lower socioeconomic status in the school district (Kehoe, 2015).

Temple Grandin has taught many people of all ages what ASD is exactly and what it is like to have ASD from personal experience. Temple educates others on the struggles that she faced in her education and how she overcame those challenges. She turned to working with cattle and studying animals which, to her, was very easy and natural. She learned how their minds worked and noticed when they would get worked up. To calm them, they would go into a machine that applied pressure. Temple tried it herself and found it very beneficial. She now teaches the importance of pressure to those that may need it while feeling anxious or stressed.

Temple also makes it a point in her teachings to stress that people with autism think very differently. Temple believes the world needs more autistic people because of how unique their thinking is. (Grandin, 2010)

Individualized Education Program

Once a child is diagnosed with ASD, the family then usually goes through a process with the school focused on receiving an Individualized Education Program (IEP) for their child that will help benefit them within the classroom. The IEP is designed to specifically address modifications in instruction, support, and services that will allow the child to fully access the curriculum. Each child benefits from an IEP because they are created around the student's particular strengths and what the student needs in terms of support and services. Designing instruction and services to meet the needs of a student identified with disabilities is required under the federal IDEA policy. IDEA stands for the Individuals with Disabilities Education Act which is a policy that ensures children with disabilities are entitled to a free, appropriate public education to meet their different needs, and prepare them for furthering their education, employment, and independent living. Before this act, individuals with a disability were unable to attend school altogether or were placed in separate classrooms focused on special education. IEPs ensure that the individual receives proper support to benefit their learning, and further their skills. The individualized goals that are developed in this process are targeted to achievement and require documentation of process and services. The IEPs will look different because each child's IEP is unique and the teachers are responsible for providing accurate support that the IEP states are needed. Understanding the different factors of IEPs can help the teachers receive more effective training and professional development that will target different aspects of the IEP (Ruble, et., al., 2010). To further this thought, teachers will benefit from gaining specific training

to work with students who have IEPs so that their work is the most effective it can be for their students. The students who have an IEP require specific support so if the teacher can't cater to this individualized program then there is no benefit to the student.

Education Policy

A specific policy that is important in special education is the No Child Left Behind Act, which was adopted in 2001. The significance of this Act was to hold schools accountable for student achievement. Included in this accountability were students with special education programs in each state. Teachers, requiring such labels as "highly qualified", were linked to the progress of each student. For each state, the adequate yearly progress (AYP) is calculated separately for all the students and all subgroups of students in each school and each school district. The different AYP percentages have created a public relations nightmare for the states, more in particular, the suburban school districts that measure poorly rated under the state measures in contrast to the urban school districts that are highly rated. The provisions of the No Child Left Behind Act (NCLB) have raised several issues for states; there are concerns for students with disabilities, alternative assessments, and out-of-level testing. One of these concerns is how best to measure the achievement of students with disabilities. There are many different issues in regards to the different abilities of the students and how the test scores are reflected or the preparation that is done before the assessment. The different learning abilities of all students will affect the test scores which might not be related to the preparation of the assessment (Goertz, 2005).

Another policy for special education that greatly influences practices in special education is the Individuals with Disabilities Education Act (IDEA) which focuses on ensuring that all individuals with disabilities have the same rights as others, including, in this case, equal access to

education. There is also help in imposing new and strengthened accountability expectations for

students with disabilities along with including their parents to ensure that the children are putting

time into their studies with the help of the parents or guardians (Turnbull III, 2005). IDEA was

passed in 1975 and was originally known as the Education of Handicapped Children Act.

Outside of the educational aspect, IDEA helps implement personal responsibilities which is a

more recent addition to this act in 2004 by President Bush (Greer, 2005). IDEA is very beneficial

for the whole family because it is not only working with the student and their special education

program but it is helping them outside of the classroom with important skills that can be used in

the classroom and at home. IDEA is working to include the parents of the children with

disabilities so that they are a part of the process and are doing what they can do to work with

their children outside of the classroom. (Turnbull III, 2005). The Elementary and Secondary

Education Act, adopted in 1965, was the result of increased concerns of US educators and

policymakers about the poor performance in the public school system, primarily, in low-income

areas. This act speaks to Durkin's (2017) emphasis on working with students in lower

socioeconomic areas and measuring the impact on special education programs in schools

(Kehoe, 2015). The policy is to work with these groups so that there is equal opportunity in the

low-performing schools. (Gottfried, et., al., 2011)

Theory

Urie Bronfenbrenner created the ecological theory in education with the different

structures that create a framework for a child's learning or educational experience. "Ecological

systems theory is useful for explaining how educational or social structures affect individual

students" (Ruppar, 2017). The key student characteristics that are associated with the different

characteristics that are considered are race and age, disability label, and learning behavior

characteristics. Students with these different characteristics get a specific placement that will set them up for a successful education regardless of their disability. Schools work to place students with disabilities in the classroom with appropriate teacher support and resources. Within the microsystem, various factors influence students' day-to-day access to general education. Integrating students with ASD into classrooms is important for them to interact with their neurotypical peers. Special education teachers are the ones that influence their students' access to general education and possibly classroom inclusion. Continuous work with their students allows more opportunities. However, if schools don't have board-certified behavior analysts on hand it can make students with ASD transition more slowly. The mesosystems have inner relations between multiple microsystems that influence a child's mesosystem (Bronfenbrenner, 1994). With different inter-relations, a child can have social influences which can impact IEP team decisions. The exosystem has different structures that make up this level. A teacher's decisions and education can influence the student. With a separate system of education for special education, teachers can create a barrier for their students with disabilities. The macrosystem can be defined as the blueprint of the other structures in the system. With special education being guided by federal policy there are decisions and choices already put in place. The IDEA helps guide an individual's education based on their particular needs. The chronosystem is when changes are being made in the other systems. Changes in special education programs affect the students' education. Students with ASD struggle with change when it hasn't been in their daily routines. This can be a hurdle for the teachers and students to work with and can take time. Working with the transitions can be beneficial with the progress being made or it can be detrimental depending on how well the students with ASD react to the change.

Gwen Hardy (2011) discusses the Component Display Theory and Conditions of Learning which both include elements to learn from both hands-on and verbal experiences. Hardy also explains how the structure of both of these theories is similar and helpful for the students to follow during the learning process. With these theories, the particular teacher can teach lessons based on how students will learn the information and material the best. Teachers, especially special education teachers, can apply various learning theories so that their students can get the most out of their learning experience. Hardy (2011) also explains that the National Board for Professional Standards encourages teachers to discover their own beliefs in teaching theories. Component Display Theory (CDT) was introduced in 1983 by David Merrill and was intended to work alongside Reigeluth's Theory which goes along with macro elements in learning. "CDT is independent of the macro strategy, the delivery system, or the management system used to implement that instruction. In other words, a given micro strategy, as specified by CDT, can be used with a wide variety of subject matters and content organizational schemes with virtually any delivery system, and with a wide variety of different techniques for managing the instruction" (Merrill, 1983, p. 284). Merrill's theory can be useful for teachers in special education programs so that they have guidance on creating lesson plans that will help the students learn to the best of their ability. The premise of this theory is not limited to how lessons will be set up but it has wide implications on how students will learn from their teachers. This benefits students with ASD because, for students across the spectrum, student learning styles need to be taken into consideration which this theory does a good job of targeting. "However, CDT is designed to facilitate instructional design, and not just to be an academic theory to promote research" (Merrill, 1983, p. 300). Unlike other theories, CDT is intended to be put into practice and not just used as a guide for the classroom.

Early Intervention

Public schools must create equal opportunities for all students to learn skills that will allow them to find a job after completing school. This sets up students for success rather than squander their educational opportunities. According to Michael L. Hardman (2008), education has traditionally had a utilitarian approach but, with students with disabilities, this approach was potentially not possible due to developmental delays and changing curricular priorities. One major concern in light of the accountability movement is that expectations are lowered for students with disabilities, resulting in poor academic achievement. Failure to change expectations, however, may mean that students with disabilities might not meet the general curriculum achievement standards. (Hardman, et., al., 2008). One methodology often used for students diagnosed with ASD is applied behavior analysis therapy (ABA). ABA has proved successful with students with ASD and, thus, inadvertently allowed for more opportunities for growth in special education classrooms. Other individuals have been diagnosed with ASD and they require behavioral health services which are now starting to become a bit more accessible. Currently, there are federal funding streams for young children from funding programs such as the IDEA, Medicaid, local education agencies, and private health insurance that have allowed for an increase in the therapies available to ASD students both in the home and at school. There are also a few states that have created special scholarship programs that can help fund a child's educational development for any school the parents choose, which can also be a relief for those particular parents. Over the years, there has been a constant push for insurance coverage and benefits that can be offered to more people.

Expanding insurance coverage would be more inclusive and address the needs of those in lower socioeconomic areas or that come from low-income families. (Harvey, 2010). There are

socioeconomic status-related differences in child language before school that are predictive of subsequent verbal ability, receptive and spoken language, and academic achievement assessed on standardized tests in Kindergarten through grade 3 (Walker, 1994). There is a lack of support for students who may face communication barriers due to ASD, and require an adult to work directly with them. Without this support, students with ASD are at risk of equal opportunities to comprehend the curriculum. Implications are discussed in terms of stability of performance on language and academic performance measures of children who enter school with different early language learning experiences and whether there is a need to consider early intervention at home or school. Being able to have this option of early support for students means they would need to have insurance coverage. Those without insurance, particularly those from low-income neighborhoods, are not often afforded this option. (Walker, 1994)

School Resource Programs for ASD

Using Applied Behavior Analysis (ABA) is a useful tool for working with students with ASD because it uses a repetitive educational strategy. Many educators and researchers have explained how useful and effective this has been for students and their progression with ASD. Incorporating this use of education in schools for students with ASD would be targeting a way of learning that would be benefiting them and helping them learn skills that neurotypical students are learning in their classrooms. However, the use of ABA is implemented by Board Certified Behavior Analyst therapists which many schools don't have in the building all day. These professionals typically move around to different schools in the districts to observe and analyze potential students who may need ABA services (Kehoe, 2015).

There have been studies completed that measure the effectiveness of ABA services from the beginning of the sessions and how speech has developed over the sessions. It is very common

for students with ASD to struggle with speech and communication. Speech generating devices

(SGD) is a potential solution for students who are not verbal or do not possess effective

communication skills. In one study, there were 61 minimally verbal children with autism from

the ages of 5 to 8 years old. The group was randomly split, with one group receiving a speech

device and one group not having one for 6 months and then a 3-month follow-up. There were 2

stages within the intervention. During stage 1, all of the students received 2 sessions of ABA per

week for 3 months. In the second stage, the intervention is adapted to those with the device and

those without it. Results from this study show that there were improvements in spontaneous

communication by using the speech-generating device from the beginning of therapy sessions

with the primary aim of learning speech during the time with a behavior technician. From the

secondary aim of the research, the results showed that adaptive intervention with slow

responders led to better post-treatment outcomes (Kasari, et., al., 2014). Minimally verbal

school-aged children can make rapid gains in various skill areas with the use of a speech-

generating device. The downside to the speech-generated devices is that typically the devices

that are given out and paid for by insurance are the ones that are much nicer and have more

features that are very beneficial. The devices that are given out in schools by the district are

typically low-end and don't offer many features (Kasari, et., al., 2014).

An alternative way to work with students with ASD in a classroom, if ABA is not

available, is to work together with their neurotypical classmates. This can help the students with

ASD to make connections and improve their communication skills while also allowing them to

feel included in the classroom activity. While working with other peers, the students can use

their SGD to help with communication skills and they can learn how to apply what they have

used on their SGD directly with their peers. From the neurotypical side, students can learn to

help the students with ASD, strengthening their communication skills at the same time. Results from a study show that there is an increase in communicative acts among students with ASD because they are working with their peers. (Trottier, et., al., 2011)

Insurance

Federal education policy, specifically NCLB, has had an impact on special education classrooms. It strengthened the standards approach to education while also establishing the concept of a federal accountability system. The states would then receive funds from the Department of Education. With support coming from the federal government, they have access to particular goals and standards that are set in place within the school districts. In regards to IDEA, there is a concern that even though students with disabilities have access to a solid education, there is not a set guarantee that they will have equal opportunities in the working world after they complete school.

Healthcare tends to be very expensive and coverage tends to range dependent on the specific insurance plan that families have. There also are insurance companies that don't cover ABA services. If parents can't afford the services, their children can't receive the support they need. Creating more options that are cost affordable for ABA services in lower socioeconomic areas would allow more families to get help for their children. Medicaid is the largest public payer of behavioral health services but the information on accessing it is lacking. The utilization of the services and data recorded on the frequency of use can be beneficial as a means of support for a child with ASD. With more states moving towards managing care approaches for the Medicaid programs, the service information is also critical. Having the correct medical information on what insurance coverage is needed for certain healthcare plans can be accessible for those states and schools which would be able to see how the insurance

companies would be able to work and help cover the cost of ABA services (Ruble, 2005).

There can be a limitation on funding for different special education services, particularly in

public schools, based on different insurance plans. Public school districts are enticed by

funding associated with private health care or Medicaid as a means of subsidizing special

education services. This has the potential to help both families but there are pros and cons. The

school districts use different third-party sources which have oftentimes been unsuccessful and

have also cost the school districts excessive money, incurring costs for families without

insurance coverage. Finding a key balance to help the families and the school districts in cost-

effective ways will be beneficial in regards to supporting the needs of students with disabilities.

(Rogers, 1994). Over time, there have become more resources and funding mechanisms for the

services of Board Certified Behavior Analysts (BCBA) who work directly with students with

ASD. Having access to BCBAs in public schools will allow more opportunities for those with

ASD to get the support and resources that are needed for their learning experience. With proven

results on how ABA has benefited clients, having a BCBA in schools can help justify more

funds for the program because of how effective the service is for students and families.

Creating a plan of multiple visits either in a week or a month can be budgeted into a financial

plan, supporting third-party funds along with financial planning for the families. Putting

together this plan to work in public schools would help benefit the families and also the

students because they would be receiving services in school and could also work with a BCBA

outside of school as well which could help save money for families and the surrounding school

district. (Brown, et., al., 2021).

Access to ABA therapy with a BCBA is affected by the different socioeconomic areas

that families come from. Typically, the highly affluent neighborhoods receive better access to

healthcare support and healthcare coverage. However, families coming from lower

socioeconomic neighborhoods have less access to ABA services and healthcare, race-ethnicity

and healthcare insurance coverage are negatively related to this access. Creating more

opportunities for BCBAs to get involved in urban areas that might need the services would

allow equal opportunity for the children with ASD. Taking the time to improve the geographic

access will allow more ABA services and accessibility to families. (Yingling, et., al., 2021)

Data Memo

Diagram 1

*Having Applied Behavior Analysis in Public Schools*
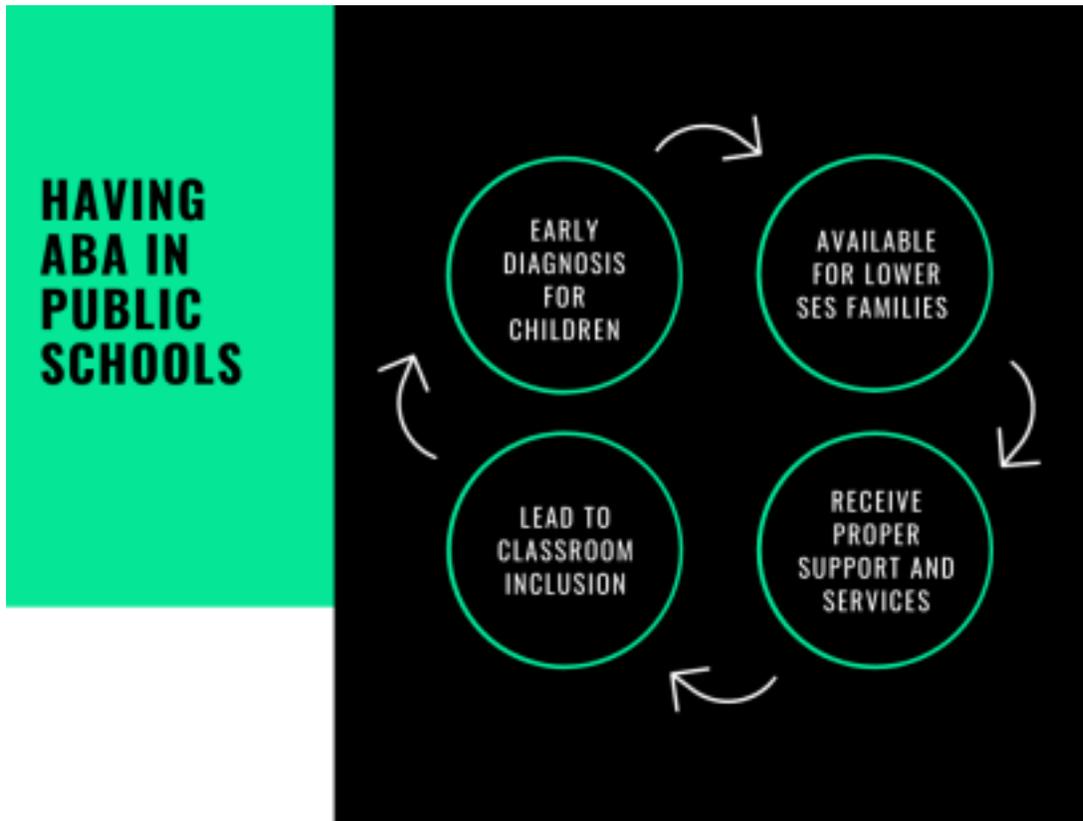
ABA in public schools will benefit not only students with ASD but it will help lower

financial burdens for families in lower socioeconomic areas. Students will also benefit from the

proper support and services that are provided by BCBAs in the classroom. Students that come

from lower socioeconomic backgrounds might not get a diagnosis until later on in life but with

BCBAs in schools, they will be able to get early diagnosis and resources. There is an increase in

the number of children being diagnosed with ASD so having in-school resources will only

benefit children and improve their educational experience. Over time, with students with ASD

show improvement, they can then be a part of the classroom with their peers which will allow for more classroom inclusion.

Diagram 2

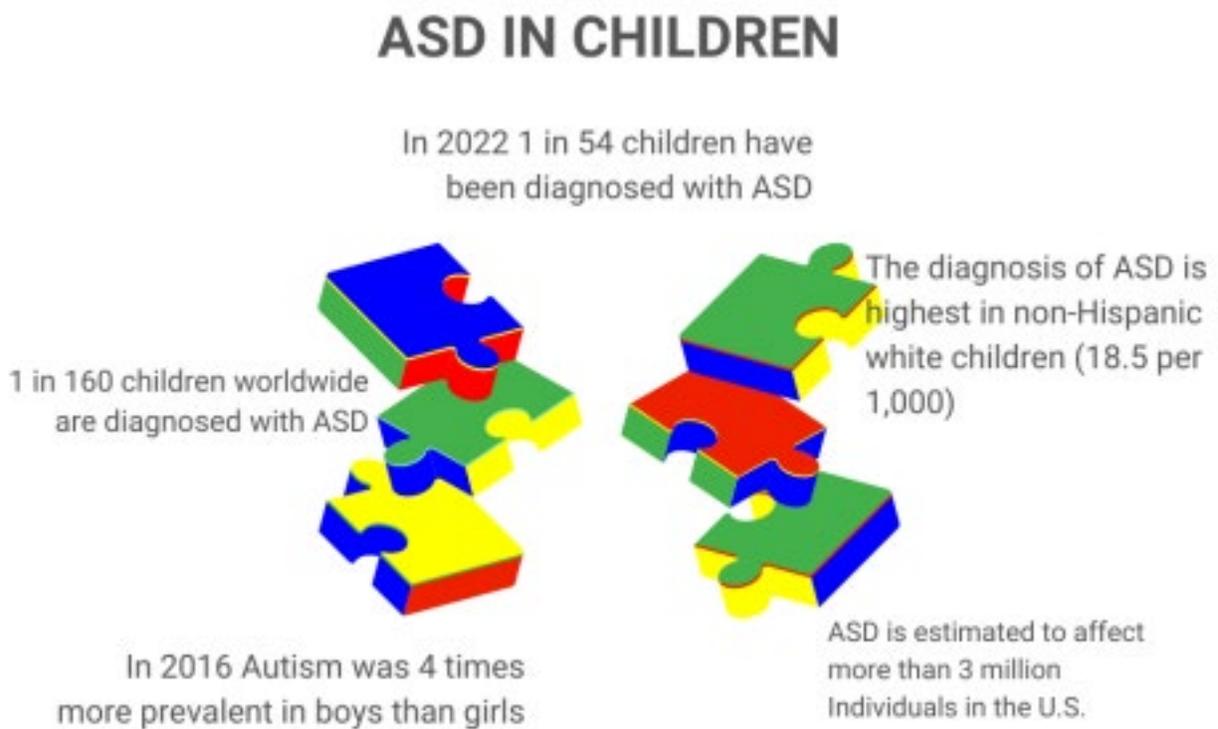*Costs for Children with Autism Spectrum Disorder*
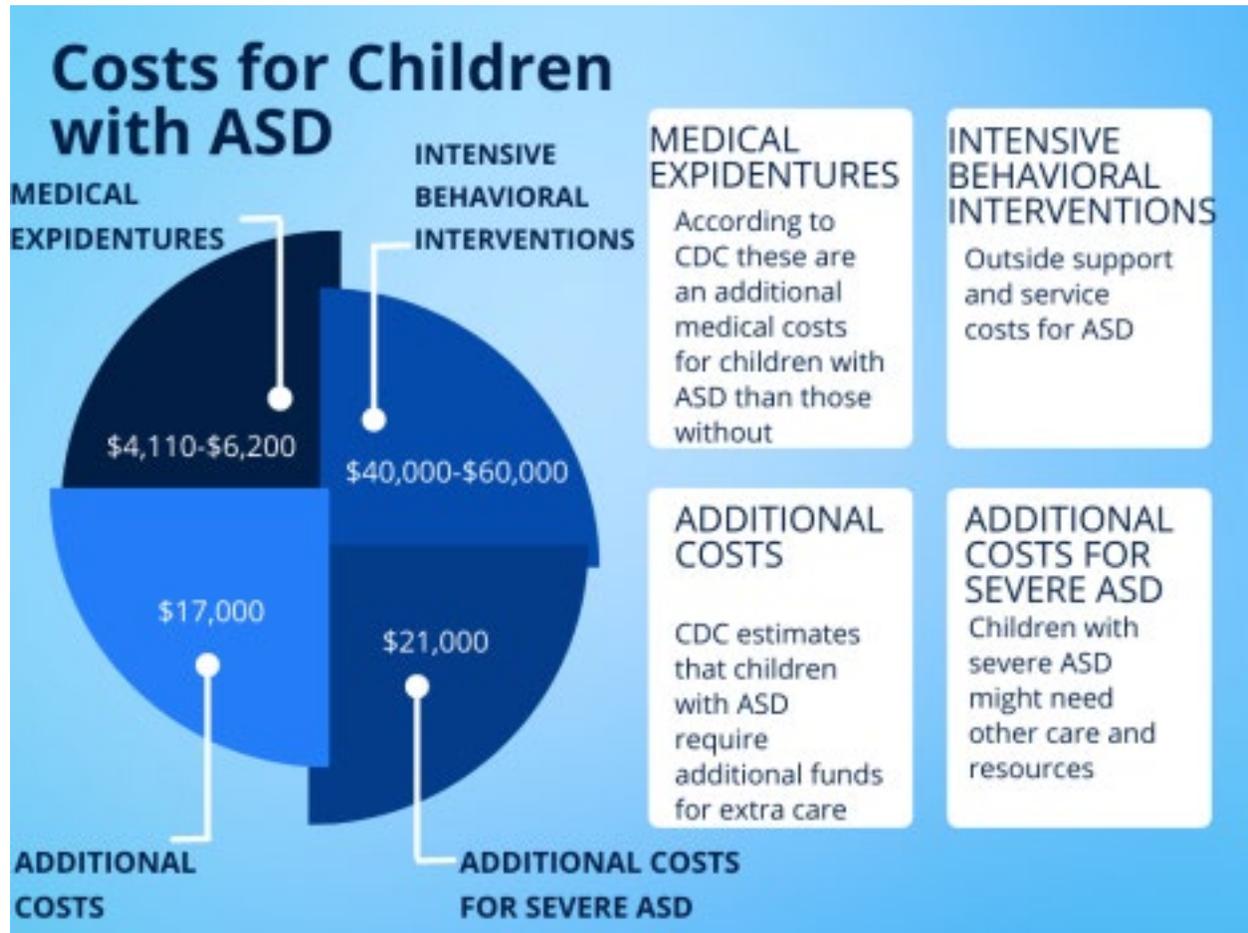
A child with ASD will require more medical costs than a neurotypical child which can cause hardships for families, especially those who are from a lower socioeconomic area. State insurance has mandates that are associated with a 16% increase in board-certified behavioral analysts. In Massachusetts, coverage includes, but is not limited to, ABA and non-dedicated

augmentative and alternative communication devices. However, the coverage is dependent on

the availability of federal funds. Even though insurance offers coverage, oftentimes limits are

reached and families then have to dip into their funds for their child.

Diagram 3

ASD in Children

ASD IN CHILDREN

In 2022 1 in 54 children have
been diagnosed with ASD

1 in 160 children worldwide
are diagnosed with ASD

The diagnosis of ASD is
highest in non-Hispanic
white children (18.5 per
1,000)

In 2016 Autism was 4 times
more prevalent in boys than girls

ASD is estimated to affect
more than 3 million
Individuals in the U.S.

Many children are being diagnosed with ASD each year and this number is expected to

continue to increase. Schools need to be understanding of what services can support these

children. While considering the rates across the country, creating resource opportunities for the

targeted populations can help lower costs for families and make insurance coverage more

possible. To address the growing need, changes must be made to improve insurance coverage

and costs, as well as services available in public schools.

Recommendations & Implications

Although implementing various ABA services in public schools can cost the town more money which can result in other programs being affected potentially, other solutions can help ensure the support students with ASD deserve. An increase in classroom inclusion for particular students, that would be appropriate and beneficial, could be a step in the right direction for a solution. Also having the use of a speech-generating device for ASD students can help with classroom inclusion along with other ABA therapy services that possibly are needed. This can be beneficial for many reasons, the first being, that it can be individualized, and can target what the student is learning and involves their skill levels. The student can be working with their teacher on the computer and be doing the activities that will target their curriculum. A second benefit can be a reward after the student completes tasks in their ABA programming. These rewards are a critical motivator for task completion. Limiting the use of the computer to that of a reward is crucial so that the privilege doesn't get taken advantage of. Many times, however, there can be challenges with the use of technology between teachers and students which can affect learning. There could be problems that come from using technology, such as, the student becoming completely dependent on it rather than it helping them with their speech. Instead of them working on practicing different words or phrases they might just go right to the device. The behavior support staff will want to try and avoid that potential situation by guiding them to try and communicate the best they can without the device and include alternative be supports. The student must be able to learn from the teacher but if there is the constant use of technology then they start to struggle with learning from the teacher's style (Campigotto, 2013).

Controversies are inevitable when it comes to different views and especially in schools where teaching styles may range within the special education department. The current

curriculum that is being taught across the country in special education classrooms has many differences among the services and the academics that are offered to students with disabilities. The teaching of the different curricula throughout the state to students with ASD prompts hurdles with learning electronically. However, there are programs such as Visual Communication Analysis (VCA) that can make electronically learning and teaching effective. One benefit of Visual Communication Analysis (VCA) is that students with disabilities have improved their functional communication skills. VCA is used in severe special education classrooms and allows them to learn independently. Considering the IDEA and NCLB Act, using VCA helps reach the common goal of equal access to education while still adhering to the individuals' needs (Shkedy, et., al., 2021). Despite having individualized plans, it is important that students are somewhat on the same track and that their goals are achieved that are set for them.

The IDEA helps ensure free appropriate public education for those with disabilities in the least restrictive environment which also mandates the access and services for students, including access to devices and technology if part of the individual education program. Integrating more use of technology in the classroom for all the students to ensure proper accommodations for any student can help teachers support the needs of all students. Teachers can learn to have peers work together, along with students with ASD, to help each other improve skills that they might not be learning from just the teacher. Kaori Nepo (2017) argues that there is an immediate need for policy and system changes that can help improve the overall education services for all students (Nepo, 2017).

Educational leaders work to create inclusive educational spaces for all types of learners. This will require training for teachers so that they can properly provide the right resources for the classroom to benefit all the students and their learning needs. Creating training opportunities for

educators to work with special education students will allow them to learn about the Educational

Leadership Constituents Council Advanced Programs in Educational Leadership Standards

which they may not have been fully familiar with if they weren't educating students with

disabilities. This program goes into more detail or resources on how to support students with a

disability that isn't necessarily required for all teachers. Going through the training will only

benefit teachers in the long run because they will be able to work more with all students and not

feel limited. This skill set makes students in K-12 special education programs feel embraced and

included in their schools (Pazey, 2013).

Since ABA therapy is not always offered in schools and many districts don't have access

to BCBAs regularly, teachers need help working with students with ASD. Teachers often are

trained on how to teach neurotypical students before starting their job but they don't receive

extensive training for students with ASD. This is the perfect opportunity for BCBAs to host

workshops educating teachers on how they can help their students and what they should do in

case a problem arises. BCBAs can come in with registered behavior technicians and can go over

basic principles, such as long-term generalized maintenance, and competency-based approaches.

These pieces of training can be done in larger groups so that the teachers can work together to

learn new ways of teaching and create a more inclusive classroom for all students. (Forte, 2018).

In special education, there are paradoxes and dilemmas that researchers face while trying

to create an inclusive learning experience. Practitioners are also working to seek socially just

education systems within a democratic society. Artiles (2003) concludes that unless researchers

and practitioners surface their assumptions about difference, as well as culture and space, the

special education field will continue to perpetuate the silences that threaten the educational and

life needs of historically marginalized students. Artiles (2003) argues educators should be the

voice of their students who might be at a disadvantage and can't vouch for themselves. This being said, educators must be the voice for their students when it comes to their education and knowledge to stand up for what is right when they might not be able to advocate for themselves. (Artiles, 2003). Teachers may recognize that their students with ASD might not be getting the full support they need because there aren't BCBAs available to work with them or they don't have materials that can help them succeed. The teachers then need to help advocate for those students to try and help them receive the full opportunity of learning like their neurotypical students in the classroom.

Bedford, MA has a program in the public school system that works to support students with ASD. The program is called "The Bridge Program." This program is a safe, therapeutic environment supporting the academic, behavioral, and social/emotional needs of students. The service and support cater to students who have had difficulty making progress in a fully inclusive classroom. These services can be helpful to students with ADHD and ASD. The range of this particular service can be more targeted for the students' specific needs. Special education teachers and general education teachers, as well as trained teaching assistants, collaborate to provide targeted support, monitor progress, and assist in the implementation of accommodations and modifications (Bedford Public Schools, 2022). This can be a model for other schools in various districts around the state. There is no mention of requiring insurance from the families, which can be helpful to those who are in a lower socioeconomic group that may not be able to afford an alternate service for their child.

The school district has another program called, "SAIL 1" which is a separate program that serves students from preschool to age 22 with educational needs due to ASD and other related disabilities. (Servicing students until the age of 22 is required by law for students with

disabilities who don't reach the required graduation benchmarks in the same time period as their

neurotypical peers.) This particular program has highly structured, individualized programs that

are based on ABA principles and procedures that also include the same service that is offered by

a behavior technician found at private ABA centers. These different programs within the

Bedford, MA school district are beneficial for those who cannot afford ABA services outside of

school or those who don't have access to it in their home towns.

      "SAIL 2" is another program in the school district that differs from "SAIL 1" by being

more of an inclusive model program. This means it caters to students in preschool through grade

12. The program works with students in general learning settings and classrooms. The students

are still getting support as they learn with their peers. These three programs help set the Bedford,

MA school system apart from others because they can reach families without personal costs so

that the children can get the support they need without parents feeling stressed about finances.

References

A comparative look at School-Based and Center-Based ABA programs. (2020, October 27).

Association for Science in Autism Treatment. https://asatonline.org/research-

treatment/clinical-corner/a-comparative-look-at-school-based-and-center-based-

aba-programs/

ARTILES, A. (2003). Special education's changing identity: Paradoxes and dilemmas in views

of culture and space. *Harvard Educational Review*, *73*(2), 164–202.

https://doi.org/10.17763/haer.73.2.j78t573x377j7106

Basics about autism spectrum disorder (ASD) | NCBDDD | CDC. (2020, March 25). Centers for

Disease Control and Prevention. Retrieved March 31, 2022, from

https://www.cdc.gov/ncbddd/autism/facts.html

Bridge program | Bedford public schools. (2022, January 1). Bedford Public Schools. Retrieved

January 26, 2022, from https://www.bedfordps.org/district/continuum-

services/pages/bridge-program

Brown, K., Rosales, R., Brown, M., & Flora, S. (2021). The use of a brief treatment package to

increase session note completion in an ABA agency. *Journal of Organizational

Behavior Management*, *41*(4), 305–318.

https://doi.org/10.1080/01608061.2021.1922125

Campigotto, R., McEwen, R., & Demmans Epp, C. (2013). Especially social: Exploring the use

of an iOS application in special needs classrooms. *Computers & Education*, *60*(1),

74–86. https://doi.org/10.1016/j.compedu.2012.08.002

Candon, M. K., Barry, C. L., Marcus, S. C., Epstein, A. J., Kennedy-Hendricks, A., Xie, M., &

Mandell, D. S. (2019). Insurance mandates and Out-of-Pocket spending for

children with autism spectrum disorder. *Pediatrics*, *143*(1).

https://doi.org/10.1542/peds.2018-0654

Causton-Theoharis, J., & Theoharis, G. (2008). Creating inclusive schools for all students. *The
School Administrator, 65*, 24–25.

Component display theory (David Merrill). (2018, November 30). InstructionalDesign.Org.

https://www.instructionaldesign.org/theories/component-display/

Commonwealth of Massachusetts. (2022). *Resources for families — Autism*. Mass.Gov.
Retrieved April 24, 2022, from https://www.mass.gov/service-details/resources-
for-families-autism

Education. (2008). New Hampshire Family Voices. Retrieved October 27, 2021, from

https://nhfv.org/how-we-can-help/autism-center/education/

Forte, S., Dorsey, M. F., Weiss, M. J., Palmieri, M. J., & Powers, M. D. (2018). Exploring issues
of generalization and maintenance in training instructional aides in a public
school setting. *Journal of Behavioral Education*, *27*(4), 435–460.

https://doi.org/10.1007/s10864-018-9304-0

Goertz, M. E. (2005). Implementing the no child left behind act: Challenges for the states.
Peabody Journal of Education, *80*(2), 73–89.

https://doi.org/10.1207/s15327930pje8002_5

Gottfried, M. A., Stecher, B. M., Hoover, M., & Cross, A. B. (2011). Federal and state roles and
capacity for improving schools. Technical Report. *RAND Corporation*.

Grandin, T. (2010, February 24). *The world needs all kinds of minds*. TED Talks.

https://www.ted.com/talks/temple_grandin_the_world_needs_all_kinds_of_minds
?language=en

Greer, M. (2005, April). An alternative IDEA. *Monitor on Psychology,* 36(4).

        http://www.apa.org/monitor/apr05/idea

Hardman, M. L., & Dawson, S. (2008). The impact of federal public policy on curriculum and

        instruction for students with disabilities in the general classroom. *Preventing*

        School Failure: Alternative Education for Children and Youth, *52*(2), 5–11.

        https://doi.org/10.3200/psfl.52.2.5-11

Hardy, G. (2011, December 21). *Learning Theories and Special Education*. A Child With Needs.

        http://www.achildwithneeds.com/education/learning-theories-and-special-

        education/

Harvey, A. C., Harvey, M. T., Kenkel, M. B., & Russo, D. C. (2010). Funding of applied

        behavior analysis services: Current status and growing opportunities.

        Psychological Services, *7*(3), 202–212. https://doi.org/10.1037/a0020445

MacFarlane, J. R., & Kanaya, T. (2009). What does it mean to be autistic? Inter-state variation in

        special education criteria for autism services. *Journal of Child and Family*

        Studies, *18*(6), 662–669. https://doi.org/10.1007/s10826-009-9268-8

McLaughlin, J. (2019, April 1). Why model autism programs are rare in public

        schools. *Spectrum*. Retrieved March 23, 2022, from

        https://www.spectrumnews.org/opinion/viewpoint/model-autism-programs-rare-

        public schools/

Mohamed, A. H. H. (2018). Attitudes of special education teachers towards using technology in

        inclusive classrooms: A mixed-methods study. *Journal of Research in Special*

        Educational Needs, *18*(4), 278–288. https://doi.org/10.1111/1471-3802.12411

Kasari, C., Kaiser, A., Goods, K., Nietfeld, J., Mathy, P., Landa, R., Murphy, S., & Almirall, D.

    (2014). Communication interventions for minimally verbal children with autism:

    A sequential multiple assignment randomized trial. *Journal of the American*

    Academy of Child & Adolescent Psychiatry, *53*(6), 635–646.

    https://doi.org/10.1016/j.jaac.2014.01.019

Kehoe, M. (2015). *The Effectiveness of Applied Behavior Analysis.* Fischer Digital Publications*.*

    https://fisherpub.sjfc.edu/education_ETD_masters/307

Nepo, K. (2016). The use of technology to improve education. *Child & Youth Care Forum*,

    46(2), 207–221. https://doi.org/10.1007/s10566-016-9386-6

Pazey, B. L., & Cole, H. A. (2012). The role of special education training in the development of

    socially just leaders. *Educational Administration Quarterly*, *49*(2), 243–271.

    https://doi.org/10.1177/0013161x12463934

Rogers, J. J. (1994). Is special education free? *Remedial and Special Education*, *15*(3), 171–176.

    https://doi.org/10.1177/074193259401500305

Ruble, L. A., Heflinger, C. A., Renfrew, J. W., & Saunders, R. C. (2005). Access and service use

    by children with autism spectrum disorders in medicaid managed care. *Journal of*

    Autism and Developmental Disorders, *35*(1), 3–13.

    https://doi.org/10.1007/s10803-004-1026-6

Ruppar, A. L., Allcock, H., & Gonsier-Gerdin, J. (2016). Ecological factors affecting access to

    general education content and contexts for students with significant disabilities.

    Remedial and Special Education, *38*(1), 53–63.

    https://doi.org/10.1177/0741932516646856

Shkedy, G., Shkedy, D., Sandoval-Norton, A. H., Fantaroni, G., Montes Castro, J., Sahagun, N.,

    & Christopher, D. (2021). Visual communication analysis (VCA): Implementing

    self-determination theory and research-based practices in special education

    classrooms. *Cogent Psychology*, *8*(1).

    https://doi.org/10.1080/23311908.2021.1875549

Trottier, N., Kamp, L., & Mirenda, P. (2011). Effects of Peer-Mediated instruction to teach use

    of Speech-Generating devices to students with autism in social game routines.

    Augmentative and Alternative Communication, *27*(1), 26–39.

    https://doi.org/10.3109/07434618.2010.546810

Turnbull, H. R. (2005). Individuals with disabilities education act reauthorization. *Remedial and

    Special Education*, *26*(6), 320–326.

    https://doi.org/10.1177/07419325050260060201

Walker, D., Greenwood, C., Hart, B., & Carta, J. (1994). Prediction of school outcomes based on

    early language production and socioeconomic factors. *Child Development*, *65*(2),

    606–621. https://doi.org/10.1111/j.1467-8624.1994.tb00771.x

Yingling, M. E., Ruther, M. H., Dubuque, E. M., & Bell, B. A. (2021). Impact of county

    sociodemographic factors and state policy on geographic access to behavior

    analysts among children with autism spectrum disorder. *Administration and

    Policy in Mental Health and Mental Health Services Research*, *48*(6), 1105–1114.

    https://doi.org/10.1007/s10488-021-01120-y