

Access to Arts Education for Autistic Students in Massachusetts

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Abstract

The Individuals with Disabilities Education Act (IDEA) mandates that every disabled student must receive a free and appropriate public education meeting the standards of their state's educational agency. Autistic students receive tailored accommodations and goals under IDEA through an Individualized Education Plan (IEP) developed by their caregivers and special education team members. Little is known regarding the manifestation of arts education in autistic students' special education, despite considerable evidence demonstrating benefits of multiple arts education disciplines on a range of developmental domains. The following thesis characterizes parents of autistic children's perception of arts education and the implementation of arts education in autistic children's IEPs. Parents (N=28) of autistic students aged 3-22 years in the state of Massachusetts submitted their child's IEP and completed an online survey describing their family characteristics, satisfaction with the IEP process and arts education access, and the social responsiveness symptoms of their child. IEPs were coded for evidence of access to arts education, student interest in the arts, and use of arts to support other areas of learning or development. Findings suggest that arts education access does not meet policy standards, despite parents' belief that the arts are a valuable area of learning. Recommendations for future research, policy, and practice are described.

Key words: autism, neurodiversity, disability, special education, arts, arts education, music, music education, policy

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Tables

Table 1

Percent of Public Schools Offering Arts Education in a Nationally Representative Sample

(Parsad & Spiegelman, 2012)

Arts Discipline	Elementary Schools		Secondary Schools	
	1999-2000	2009-2010	1999-2000	2008-2009
Visual Arts	87%	83%	93%	89%
Music	94%	94%	90%	91%
Drama	20%	3%	14%	12%
Dance	20%	4%	48%45%	0%

Table 2*Participant Demographics*

Participant Type	Parent 1		Child		Parent 2	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age (years)	43.4	8.2	10.3	5.1	45.9	7.1
Gender	<i>n</i> =28	%	<i>n</i> =28	%	<i>n</i> =24	%
Woman	26	92.9	8	28.6	2	8.3
Man	1	3.6	18	64.3	22	91.6
Non-Binary	1	3.6	1	3.6	0	0
Chose not to identify	0	0	1	3.6	0	0
Transgender*	1	3.6	1	3.6	0	0
Race	<i>n</i> =28	%	<i>n</i> =28	%	<i>n</i> =24	%
American Indian or Alaska Native	0	0	0	0	0	0
Asian	3	10.7	3	10.7	3	10.7
Black or African American	0	0	0	0	1	3.6
Hispanic, Latino, or Spanish	3	10.7	3	10.7	1	3.6
Middle Eastern or North African	1	3.6	0	0	0	0
Native Hawaiian or Other Pacific Islander	0	0	0	0	0	0
White	17	60.7	17	60.7	18	64.3
Some other race, ethnicity, or origin	1	3.6	1	3.6	0	0
Multiple races	3	10.7	7	25.0	1	3.6
Chose not to identify	0	0	0	0	0	0
Yearly Household Income	<i>n</i> =27	%				
Less than \$25,000	3	10.7				
\$25,000 to \$34,999	1	3.6				
\$35,000 to \$49,000	1	3.6				
\$50,000 to \$74,999	3	10.7				
\$75,000 to \$99,999	4	14.3				
\$100,000 to \$149,000	5	17.9				
More than \$150,000	19	35.7				

* Participants were able to identify as transgender in addition to other gender categories

Table 3*Parent Reported Access to the Arts by Setting*

	Total	%	Setting					
			In School	Outside school		At home		Other
				Free	Paid	Family	Private Tutor	
Visual Arts	9	42.86%	9	0	1	3	0	0
Music	17	80.95%	16	0	3	2	0	0
Drama	1	4.78%	1	0	0	0	0	0
Dance	3	14.28%	1	1	1	0	0	0
None	3	14.28%						
Total*	21	100%						

*Of the 28 participants in this study, 7 completed the project before arts survey questions were added to the protocol, therefore only 21 participants have reported data regarding settings of arts access.

Table 4*Arts Access*

	N	%
No mention of arts	18	64.3%
Arts checked off as an accommodated area of curriculum	10	35.7%
Goals or objectives specifically support arts education	0	0%

Table 5*Arts Interest*

	N	%
No mention of arts	16	57.1%
Arts mentioned as an area of interest	7	25.0%
Arts described as an area of strength	5	17.9%

Table 6*Crosstabulation of Arts Access and Arts Interest*

			Arts Interest			Total
			No mention	Arts mentioned as an interest	Arts described as a strength	
Arts Access	No mention of arts	Count	13	4	1	18
		Expected Count	10.3	4.5	3.2	18.0
		Standardized Residual	.8	-.2	-1.2	
	Arts checked as an area of curriculum	Count	3	3	4	10
		Expected Count	5.7	2.5	1.8	10.0
		Standardized Residual	-1.1	.3	1.7	
Total	Count		16	7	5	28
	Expected Count		16.0	7.0	5.0	28.0

Table 7*Chi-Square Analysis of Arts Access and Arts Interest*

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	6.43 ^a	2	.04
Likelihood Ratio	6.49	2	.04
Linear-by-Linear Association	6.12	1	.01
N of Valid Cases	28		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is 1.79.

Table 8*Descriptive Statistics of Child Age and SRS-2 Score*

Variable	<i>n</i>	Min	Max	Mean	SD	Skewness ^a	Kurtosis ^b
Child Age	28	3	21	10.25	5.09	.34	-.45
SRS-2 Score	28	.8	2.03	1.43	0.33	.05	-.49

^aSkewness standard errors: .441; ^bKurtosis standard errors: .858

Table 9*Exploratory t-Test Results Comparing Arts Access Groups*

Logistic Parameter	No Mention of Arts		Arts checked as an area of curriculum		<i>t</i> (26)	One- sided	Two- sided	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		<i>p</i>	<i>p</i>	
Child Age	9.72	5.78	11.20	3.62	-.73	0.24	0.47	-.29
SRS-2 Score	1.35	.28	1.59	.36	-1.98	.03	.06	-.78

Table 10*Arts Access via IEPs by Gender Groups*

			No mention of arts	Arts checked as an area of curriculum	Total
Child Gender	Girl	Count	5	3	8
		Expected Count	5.2	2.8	8.0
		Standardized Residual	-.1	.1	
	Boy	Count	12	6	18
		Expected Count	11.8	6.2	18.0
		Standardized Residual	.1	-.1	
	Total	Count	17	9	26
		Expected Count	17.0	9.0	26.0

Table 11*Exploratory t-Test Results Comparing Arts Interest Groups*

Logistic Parameter	No Mention of Arts		Arts described as an interest or strength of the child		<i>t</i> (26)	One-sided <i>p</i>	Two-sided <i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Child Age	9.13	4.94	11.75	5.10	1.37	.09	.18	.52
SRS-2 Score	1.46	.31	1.40	.36	-.41	.34	.68	-.16

Table 12*Arts Interest Documented in IEPs by Gender Groups*

			No Mention	Arts Mentioned as an Area of Interest	Arts Described as a Strength	Total
Child Gender (Binary)	Girl	Count	2	4	2	8
		Expected Count	4.6	2.2	1.2	8.0
		Standardized Residual	-1.2	1.3	.7	
	Boy	Count	13	3	2	18
		Expected Count	10.4	4.8	2.8	18.0
		Standardized Residual	.8	-.8	-.5	
	Total	Count	15	7	4	26
		Expected Count	15.0	7.0	4.0	26.0

Table 13*Arts As Support*

	N	%
No use of arts to support objectives	22	78.6%
Arts activity listed to support an objective	6	21.4%
Arts therapy or curriculum used to support other areas of development	0	0%

Table 14*Exploratory t-Tests Comparing 'Arts as Support' Groups*

Logistic Parameter	No use of arts to support objectives		Arts activity listed to support an objective		<i>t</i> (26)	One-sided <i>p</i>	Two-sided <i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Child Age	11.09	5.22	7.17	3.31	-1.74	.05	.09	-.80
SRS-2 Score	1.45	.32	1.39	.37	-.37	.36	.72	-.17

Table 15*Crosstabulation of 'Arts as Support' and Child (Binary) Gender*

			Arts As Support		Total
			No use of arts to support objectives	Arts activity listed to support an objective	
Child Gender (Binary)	Girl	Count	6	2	8
		Expected Count	6.2	1.8	8.0
		Standardized Residual	-.1	.1	
	Boy	Count	14	4	18
		Expected Count	13.8	4.2	18.0
		Standardized Residual	.0	-.1	
Total	Count		20	6	26
	Expected Count		20.0	6.0	26.0

Table 16*Crosstabulation of 'Arts Access' and 'Arts as Support'*

			Arts As Support		Total
			No use of arts to support objectives	Arts activity listed to support an objective	
Arts Access	No mention of arts	Count	14	4	18
		Expected Count	14.1	3.9	18.0
		Standardized Residual	.0	.1	
	Arts checked as an area of curriculum	Count	8	2	10
		Expected Count	7.9	2.1	10.0
		Standardized Residual	.1	-.1	
Total		Count	22	6	28
		Expected Count	22.0	6.0	28.0

Figures

Figure 1

Bronfenbrenner's Ecological Systems Theory (adapted from Bronfenbrenner, 1978)

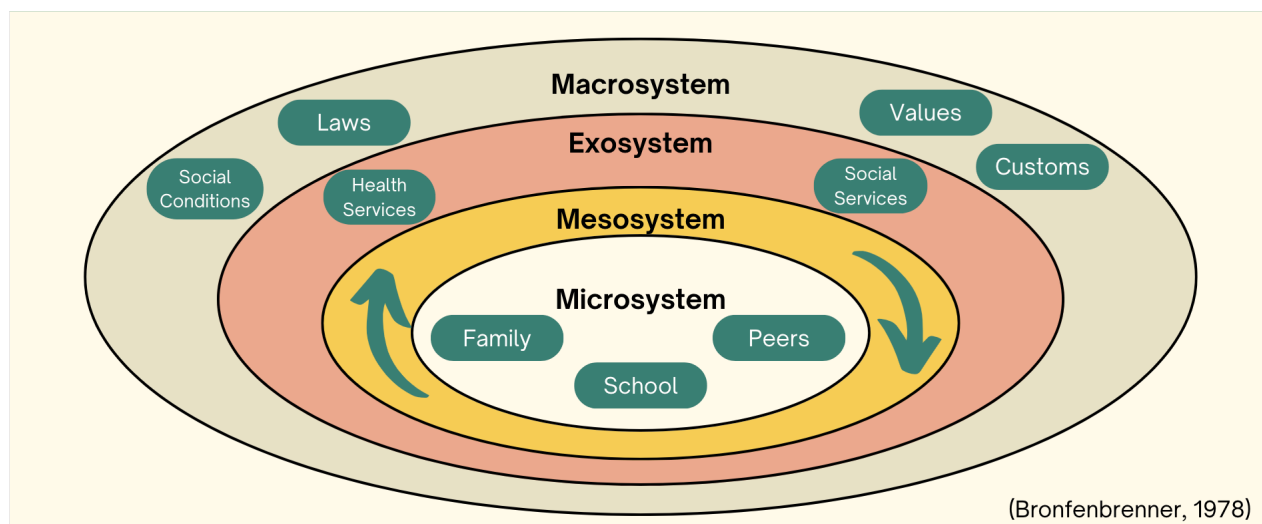
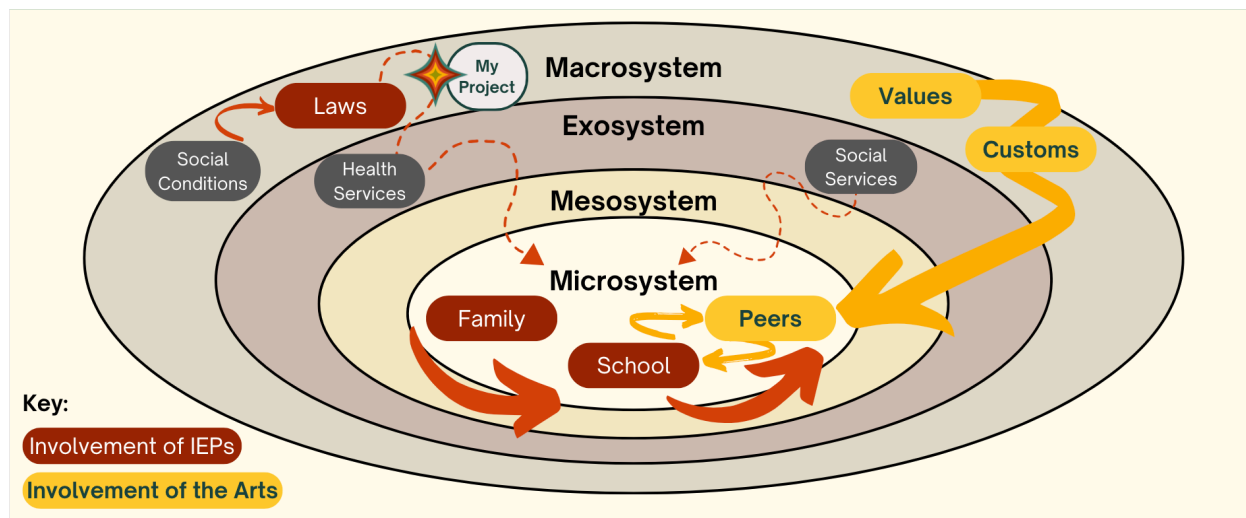


Figure 1

Bronfenbrenner's Ecological Systems Model, with Proposed Involvement of IEPs and Arts Learning



Access to Arts Education for Autistic Students in Massachusetts

Autistic students have long encountered barriers to accessing an appropriate, equitable education. The Individuals with Disabilities Education Act (IDEA)—enacted in 1975 and reauthorized most recently in 2001—has significantly improved education accessibility by nationally mandating that disabled students be included in public education (“A History of the Individuals With Disabilities Education Act,” n.d.). To tailor these federal protections to individual students, the law establishes Individualized Education Programs (IEPs) as the primary means of establishing educational goals, accommodations, and specially designed instruction to be delivered to students by their districts (Individuals with Disabilities Education Act, 2004).

Current research indicates that IEPs fall short at upholding a high-quality education in many areas, but no data exist describing how they support students’ access to arts education. The arts may be an especially important area of learning for autistic students due to their demonstrated beneficial impacts on sensory integration, cognition, academic achievement, social emotional learning, and possibly even career opportunities. Massachusetts’ own curriculum framework reinforces the notion that arts are a significant and relevant part of the education of all students (Craven et al., 2019). Since IDEA guarantees a free and appropriate public education that meets the curriculum standards of the disabled student’s state, Massachusetts IEPs should (in theory) be supporting autistic students’ access to these domains of arts education. This project will characterize the implementation of arts education policy and practices through IEPs while describing parent perspectives on the relevance and importance of arts education.

Background

IDEA and Individualized Education Plans (IEPs)

Students with disabilities, including autistic students, rely on the services guaranteed by IDEA to access educational services. Under IDEA, disabled students have the right to a free appropriate public education, which is defined individually by an IEP for each child who qualifies. Free appropriate public education includes special education and related services provided to students free of charge to fulfill the standards of each state's educational agency. These services must be provided in the least restrictive environment possible, which means that disabled students must be educated with their non-disabled peers to the "maximum extent appropriate" (Individuals with Disabilities Education Act, 2004, Section 34 CFR S 300.114(a)(2)(i)). The subjectivity of what constitutes an "appropriate" amount of inclusion leads to great variability in how the Least Restrictive Environment provision is implemented in schools, but interpreting this element of the policy with a focus on the child's capabilities may help maximize the supports children receive to access an equitable education (Lim, 2020). When it was introduced in 1975, the policies under IDEA were the first to recognize disabled students' right to an education, and the first to mandate their inclusion in school systems. In the decades since, IDEA has been reauthorized and built upon to uphold and uplift disabled children's learning opportunities (Individuals with Disabilities Education Act, 2004).

IDEA may be a landmark piece of legislation in supporting educational accessibility, but it cannot adequately capture the diverse needs of all the disabled students it protects. This function is served by IEPs— the individual documents tailored to each child describing the supports they receive under IDEA. IEPs delineate the educational goals set by an education team for a student each year as well as the specially designed instruction and accommodations to the general curriculum that empower them to reach those goals (Individuals with Disabilities Education Act, 2004). These documents are generally drafted by members of a child's special

education team and approved by their parent(s) or guardian(s). The educational goals in an IEP may support the child in their academic work or in social, emotional, or physical development. Accommodations and specially designed instruction vary widely from child to child and even among areas of learning for a single child; some children may need substantially separate classrooms, while others can access the general curriculum if, for example, allotted extra time for assessments or sensory-friendly learning materials. Importantly, IEPs can provide children with access to related services to their education, including therapeutic interventions (such as speech, occupational, or physical therapies) and recreational learning activities. Ultimately, the collection of accommodations and services provided under IDEA's provisions via IEPs can look very different depending on the child's diagnosis and their personal learning needs.

Autistic students may require a vast and varied range of supports to combat accessibility barriers and they therefore benefit from many distinct services protected by IDEA. In the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), autism is characterized by differences in social communication and restrictive, repetitive behaviors which may manifest in strict adherence to routines, fixated areas of interest, and/or differences in sensory processing and regulation (American Psychological Association, 2013). While some students with co-occurring intellectual disability may need significant support or a separate environment to complete academic tasks, others will have little to no difficulty accessing the academic curriculum of their grade level alongside their neurotypical peers. Regardless of intellectual ability, many autistic students need support with scheduling, planning, sensory regulation, requesting help, and navigating the social landscape and norms of the classroom. Autistic students' differences in sensory processing and executive function can impact their daily living skills, including essential habits for success in a general education classroom designed for

neurotypical learners. Because differences in social communication are fundamental to the autism diagnosis, autistic students are often given additional socioemotional learning supports to access the neurotypical social world. Social skills that may be considered implicit for neurotypical children may be taught explicitly as part of autistic students' special education curriculum. Autistic children may also have educational needs outside of social development and communication skills, such as motor and coordination needs, but professionals are less likely to provide supports for autistic students in these areas (Van Herwegen et al., 2019).

Generally, IEPs for autistic students do not reach the quality recommendations laid out by IDEA, nor is their quality consistent with best practices set out by the National Research Council (Ruble et al., 2010). When IEPs are not in step with evidence-based best practices, students miss out on meaningful services and receive less support for their educational needs. In one sample, only 9% of IEPs recommended extended school year as a service for the child, despite the National Research Council's assertion that this full-year educational services are appropriate for most autistic children (Ruble et al., 2010). Oftentimes, missing out on services in school forces families to look elsewhere for adequate support, despite both the guarantees made by IDEA that services be included in a child's public education and the barriers preventing families from accessing resources outside the school environment. In the United States, an individual is on average 13 miles from the nearest therapeutic resource for autism, and 83.86% of the 3142 US counties surveyed in one study completely lack diagnostic resources (Ning et al., 2019). The result is that only some families are ultimately able to access resources that the school fails to provide. Where autism resources are sparse, schools have the power (and the duty) to bridge the gap between families and the services they need.

The Arts and Autism

Arts education is an important component of the general education curriculum that autistic students access through IDEA. Disciplines as varied as dance, visual arts, drama, music, and media arts have been studied in depth among general education students, and their impacts are clear: the arts positively impact both children's academic achievement and their personal development. These benefits are found both in research on arts education curricula and in research on arts-based therapies, despite the different learning outcomes in these two disciplines. When looking specifically at arts learning among autistic students, the research becomes sparse. We must look to existing data regarding how artistic learning affects neurotypical children and reconcile these findings with any existing data (or lack thereof) describing the arts' effect on autistic youth to fully characterize the impact of the arts in this population.

Sensory Impact. Unlike many other areas of development, sensory regulation and integration is better understood among disabled students than among neurotypical learners. Though the research base is limited, it is widely accepted that art-based processes and educational practices can be used to support autistic students in regulating sensory needs and developing motor skills (Alter-Muri, 2017). Impacts of the arts on children's sensory experiences are usually captured in parent- or teacher-report studies. For instance, teachers observing and participating in dance and movement therapy in their special education classrooms report that their students enjoy and are soothed by the sensory tools used in these classes (Devereaux, 2017). In the absence of any large-scale studies on the relationship between arts education and sensory processing skills, current educational practices indicate that arts education spaces are viewed as opportunities for students to engage with and fulfill their sensory needs during the school day.

Cognitive Impact. Among general education students, the cognitive benefits of arts education have been widely studied, particularly through the lens of academic achievement. These benefits can be seen from a remarkably early age: one dramatic play curriculum has been shown to positively impact the executive functioning skills of pre-school aged children (Fleer et al., 2022). During the elementary years, writing achievement increases among students who are randomly assigned to participate in additional arts learning experiences, compared to their peers who are not offered additional arts learning (Bowen & Kisida, 2023). In grades 7 and 8, participation in arts electives predicts better grades and higher math and reading test scores (Winsler et al., 2020). These studies demonstrate researchers' increasing focus on academic achievement rather than basic cognitive skills as children get older, but still capture the positive impacts a variety of arts learning disciplines may have on many cognitive tasks. Unfortunately, the rigor with which neurotypical children's cognitive development has been studied in the context of arts education has yet to be replicated with autistic students; little is known about what impacts the arts may have on autistic children's cognition, nor how these may differ from their neurotypical peers.

Social Impact. Social and emotional development outcomes are among the best studied for both neurotypical and autistic children engaging in arts-based interventions. Presenting children with more opportunities to engage with the arts may coincide with greater access to important social and emotional learning environments (Farrington et al., 2019). This is well supported by research on arts engagement among neurotypical students. Children who participate in music activities have fewer difficulties in their peer relationships than children who do not partake in performing arts activities (Archbell et al., 2020). A randomized controlled trial found that increasing students' arts learning experiences resulted in fewer disciplinary infractions and

greater emotional empathy; elementary school students furthermore show gains in cognitive empathy after participating in additional arts curriculum (Bowen & Kisida, 2023). Perhaps because social and emotional development differences are typical of an autism diagnosis, some studies have specifically examined outcomes in these developmental domains after autistic students' participation in the arts. The most replicated outcome appears to be that arts engagement— in a variety of disciplines— supports autistic students' play with their peers. Creative dance activities have been observed to have a positive impact on autistic children's development of complex and interactive play (Nelson et al., 2017). After a theatre-based intervention, autistic children engage in significantly more group play with new peers and experience significantly less trait (persistent) anxiety (Ioannou et al., 2020). These studies indicate that arts education fosters positive social interactions among autistic and neurotypical children alike.

Higher Education and Career Outcomes. An effective arts education may encourage children to be more engaged in higher education or career opportunities, regardless of whether these aspirations fall within an arts industry. One randomized control trial of elementary school students found that those participating in increased arts learning demonstrated greater school engagement and college aspirations compared to a control group (Bowen & Kisida, 2023). Even at this early age, the arts may be seen as a positive influence on neurotypical children's post-secondary educational goals. No such research currently is available describing arts education's influence on autistic children's higher education goals. In the absence of data originating at the student level, it may instead be useful to look at arts industry professionals and examine how autistic people are represented in arts careers after their education. In one UK-based sample of performing artists, 1% had a clinical diagnosis of autism, and 4% had significantly elevated

autistic traits (Buckley et al., 2021). This finding suggests that a substantial number of autistic students had sufficiently positive experiences in arts education to begin an arts career—and were successful in maintaining that career. Though arts education has demonstrated benefits on a range of social and emotional skills for autistic people in childhood, its role in preparing autistic young adults for a career in arts industries or other fields merits more study.

Arts Education Policy

The rights outlined in IDEA guarantee children's access to special education (including instruction in classrooms and other settings) and related services (which include a variety of therapies, health services, and recreation) (Individuals with Disabilities Education Act, 2004). Speech, occupational, and physical therapies are known to be included in IEPs as a provided service during the academic week (Ruble et al., 2010); there is no such certainty about the utilization of arts-based therapies in schools. Arts education and art-based therapies fall within the services covered by IDEA, yet in some districts students receiving special education are enrolled in arts education at about half the rate of their peers without disabilities (Winsler et al., 2020). Students who are rated by their teachers at four years old as having lower social skills, poorer behavior, weaker fine motor skills, or less developed language skills are less likely to be enrolled in arts electives in middle school (Winsler et al., 2020). All these areas may be domains of greater need for autistic children, which suggests that the odds of autistic children accessing the arts later in life are stacked against them as early as their preschool years.

National Trends in Arts Education. To contextualize the state of arts education under IDEA, it is important to consider how arts education is being implemented in general education curriculum at the national scale. The Every Student Succeeds Act has empowered some states to increase their arts education funding, while others have not leveraged the full power of this

policy (Mullen & Wolf, 2018). Recent changes in national assessment plans have also limited the amount of data available about students' arts learning (Sparks, 2019).

The National Center for Education Statistics most recently reported on public elementary school arts offerings in the 2009-2010 academic year; the most recent report for secondary school offerings was in the 2008-2009 academic year. The results from their report are summarized in Table 1. In their nationally representative sample, the percentage of public schools offering visual arts, dance, or drama decreased substantially at both elementary and secondary school levels between 2000 and 2010. Their findings indicated that most public schools offered visual arts and music, but relatively few offered dance or drama (especially at the elementary level). A replication of this study examining changes in arts offerings from 2010 to today would be necessary to further illuminate the current national landscape of arts education, but these data certainly suggest a downward trend in arts offerings in recent decades (Parsad & Spiegelman, 2012).

In 2016, the National Assessment of Educational Progress (NAEP) in visual arts and music surveyed a nationally representative sample of 8th-grade students to further characterize students' perceptions of arts education. This study revealed that less than half of students sampled (40% of students with disabilities, 43% of students without disabilities) had taken a visual arts class that school year. Similarly, nearly half of the students (47% of students with disabilities, 46% of students without disabilities) reported that they did not take a music class. Interestingly, this survey also addressed arts learning that took place outside of school: 13% of all students had taken a visual arts class outside of school, 35% played a musical instrument on their own, and 14% took private lessons. When looking at only disabled students, the percentages of students taking classes outside of school rose to 20% for visual arts and 15% for

music lessons. Overall, the 2016 NAEP report suggests that the rate of student participation in arts courses doesn't currently match the rate at which these courses are offered in public schools, that patterns of participation may differ between disabled and non-disabled students, and that students may supplement their arts participation in school with learning opportunities outside the school environment (U.S. Department of Education, 2016).

Massachusetts Arts Education Policy. State governments are responsible for enforcing and building upon the policies set out by the federal government, including federal education legislation like IDEA and the Every Student Succeeds Act. Following the federal government's recognition of the arts as an essential component of a well-rounded education, the Arts Framework published by the Massachusetts Department of Education in 2019 delineates curriculum standards by grade in music, visual arts, dance, theatre, and media arts for all primary and secondary school students (Craven et al., 2019). The framework specifically highlights employability, contribution to civic life, and success after high school as outcomes of an education that includes the arts. For each grade and artistic discipline, the state establishes a series of content standards to be achieved by the end of the academic year, aligned to the artistic practice within that discipline. Students are given specific goals to support their expression of artistic intentions, participation in arts presentation and performances, and comprehension of the arts' impact in culture and history at large. These content standards leave flexibility for local government and individual educators to determine specific vocabulary and technical skills for their students to achieve while providing clear goals of artistic learning.

Among the ten guiding principles of this framework is the assertion that "an effective arts education program is inclusive; all students participate and benefit" (Craven et al., 2019, p. 17). In the first appendix, the framework authors outline how special education students may be

supported in achieving the content standards for each grade. They name “individualized instruction” and the “related services, supports, and accommodations” found in IEPs as key tools to support arts education access (Craven et al., 2019, p. 67). According to the guiding principles, IEP goals should be developed specifically to support arts standard achievement. By including these statements about applying IEPs to arts curriculum, the state curriculum framework implicates federal policy as a vehicle to successfully bring state-level standards into the classroom. Above all, the arts framework asserts that high expectations should be maintained for the education of all students, and that access to the arts supports students’ development via different modes of learning. The framework effectively captures the importance of the arts for disabled students— and, by extension, autistic students— and points to other existing policies that reinforce the application of arts curriculum standards in special education.

Under the Every Student Succeeds Act, the state of Massachusetts is expected to follow an accountability plan marking its progress towards equitable “well-rounded” education that includes the arts (Mullen & Wolff, 2018). Data and publications delineating Massachusetts students’ participation in and access to the arts are sorely needed to adequately explain whether these policy goals are being met for Massachusetts students, both those involved in special education and those in the general education curriculum. At the time of publication of this thesis, no assessment of the Arts Framework’s implementation has been published.

Stakeholder Perspectives. Stakeholders such as parents and teachers may also play a role in arts education access, but their involvement in patterns of access is very poorly understood. Little information is available regarding parents’ understanding of arts education, their opinions on arts education policies, or their support of their child’s participation in the arts. Though the nuances of parents’ involvement merit further research, parent and community

support is significantly related to funding, instructional time, and hiring of arts specialists in national samples of school arts education (Miksza, 2013). Further study of parents' views on arts education may help uncover why their involvement seems to bolster support for arts education in the school environment.

While arts teachers generally agree that arts education standards are important to uphold for disabled students, they rarely do so successfully in practice. In a national sample of arts teachers, 96% agreed that artmaking is important to disabled children, but far fewer reported accommodating or adapting their curriculum to include disabled students (Coleman et al., 2015). Though most art teachers do not report regular use of assistive technology in their classrooms, they do report a willingness and an interest in further training on disability and assistive technology (Coleman et al., 2015). This is made challenging when there is not enough collaboration among school personnel to support disabled students in all curriculum areas. While most art teachers receive IEPs with general accommodation information, they also report a lack of support and training from special education personnel, with a quarter of respondents claiming to have rarely or never collaborated with a special education teacher to support their disabled students' learning (Coleman et al., 2015). The responsibility to train arts teachers in working with disabled students doesn't fall exclusively on special educators—the training and licensure processes for arts educators should include support for teaching disabled students.

Close examination of arts educators' personal attitudes towards autistic students reveals that education about autism and integration with the family system are key to their experiences. A study of private music educators in Hong Kong found that teachers with more knowledge about autism had more positive perceptions of autistic students (Au & Lau, 2021). Some interviewees preferred not to teach autistic children with “emotional problems”, and one

specifically mentioned the importance of parents understanding and supporting a slow, collaborative learning process (Au & Lau, 2021). These comments indicated that when arts educators are given the tools to understand autism and feel supported by parents, they enjoy teaching autistic students. In turn, teachers who primarily have experience in special education can benefit from exposure to the arts. Educators who observed and participated with their special education students in a dance and movement therapy class environment reported that it helped them focus and calm themselves (Devereaux, 2017). Even in the limited amount of literature describing teacher perspectives on the intersection of autism and the arts, it seems that both arts educators and special educators benefit when autistic students have access to the arts.

There is much that remains uncertain regarding autistic students' access to arts education. Currently, no data are available characterizing the inclusion of arts education in IEPs or in special education curriculum. Parent, teacher, and student perspectives on the arts in special education contexts are similarly under-researched. We don't truly know how federal and state policies are interacting to support autistic children's participation in the arts, nor how the demonstrated benefits of the arts are being leveraged to support other areas of learning. With such significant gaps in the scientific literature surrounding accessibility, utilization, and stakeholder opinions of the arts in the education of autistic students, there is much left to explore to truly comprehend the landscape of arts education under IDEA. The lack of structural support and accessibility data for arts education (despite its demonstrated developmental benefits) is best understood by examining the systems that maintain these accessibility barriers.

Theoretical Model: Bronfenbrenner's Ecological Systems Theory

To contextualize the importance of IEPs in accessing arts education, this study is grounded in Bronfenbrenner's ecological model of child development (Bronfenbrenner, 1978;

see Figure 1). This theory asserts that children's development is influenced by several concentric spheres of ecological influence: the microsystems, comprised of the parents, school, peers, and other environments that engage directly with the child; the mesosystems, which connect different components of the microsystem; the exosystems, which indirectly influence the child by impacting the microsystems; and the macrosystem, which consists of the culture, laws, current events, and other large-scale factors that underlie the child's life experience. Each level of this system directly or indirectly impacts the child, and many influence each other—for instance, the macrosystem holds some influence over all the lower-level systems, including the developing child. The child in turn is an active agent in these environments and may influence their own ecological systems.

For this project, both IEPs and arts education are conceptualized as forming critical links between the developing child and their ecological systems. The IEP acts as a bridge between the parents, the school, and the macrosystem-level legal rights that are guaranteed to disabled students in the United States. Parent and school interactions in the mesosystem, such as a yearly IEP meeting, have a significant impact on the services children receive. While IEPs occasionally support students in accessing therapies through exosystem-level health services, the school still emerges as the most impactful microsystem for the child to access resources, including arts education. By looking at parent's views of arts education as well as IEP documents, this project will gain insight on the ways arts education manifests in multiple microsystems, the mesosystem, and in the macrosystem of educational policy. Likewise, arts education can foster interactions with peers (an important microsystem throughout children's social development) while exposing children to macrosystem-level cultural customs and values.

This model justifies the relevance of IEPs and arts education and highlights the gap in knowledge explored by this project. As Figure 2 shows, IEPs may link many different ecological systems, as may the arts, but at this stage many of these connections are merely theoretical. Bronfenbrenner's theory may help us imagine how arts education may better connect autistic students to their peers and to a wider culture, or how IEPs bring autistic students' protected rights into their daily lives, but it cannot demonstrate to us how these processes unfold. As it stands, we do not know whether the macrosystem-level guarantees made by IDEA and the standards made by the state of Massachusetts truly are manifesting in the child's school through IEPs, nor do we know if parents are facilitating (or are interested in facilitating) the enforcement of this policy. Examining IEPs will reveal whether the suspected connections truly exist between macrosystem-level policies and microsystem-level parents and schools, and in turn if they are triggering the connections among systems facilitated by the arts.

Current Study

The present study addresses these gaps by investigating how arts education is supported by IEPs and accessed by autistic students in the state of Massachusetts. There is substantial support in scientific literature for the beneficial impacts of arts education. The Arts Framework published by the Massachusetts Department of Education in 2019 delineates curriculum standards by grade in music, visual arts, dance, theatre, and media arts for all primary school students, as well as specific suggestions on how to extend arts education to disabled students (Craven et al., 2019). Federal policy further reinforces the right of autistic and disabled students to access arts education by guaranteeing an education that meets the standards of the child's state. Despite the clarity in educational policy and scientific literature regarding the significance of arts education, we have no way of knowing how these policies are being applied and whether

autistic children are indeed accessing the arts. Perhaps more pressingly, we have little understanding of how parents—the most immediate advocate in many autistic children’s educational experience—perceive the importance of arts learning. This project will endeavor to characterize how arts education is acknowledged and supported in autistic students’ IEPs, how arts are used to support socioemotional and other IEP goals, and whether parents perceive a need for arts education.

The following thesis will seek to answer three key questions through qualitative analysis of parent survey responses and quantitative coding of IEP characteristics:

1. How do parents of autistic children characterize their child’s need for arts education?
2. How do IEPs reflect the Massachusetts Department of Education’s arts curriculum standards?
3. How do schools utilize arts education practices to support children’s learning and development?

I hypothesize that, through written survey responses, parents will express that they see both the importance and the positive impacts of arts education; at the same time, I predict that IEPs will demonstrate little to no inclusion of arts education, and therefore will fail to support state arts curriculum standards or to use arts practices in support of other educational goals. The answers to these three questions will illuminate the state of arts education for autistic students and highlight parents’ perceptions of how to improve arts education accessibility. With this information, I will establish whether state and federal policies are—in the eyes of parents—being fulfilled, and summarize recommendations on how to improve autistic students’ access to arts education in the future.

Method

The current study was performed as part of the IEP Project, designed by Dr. Eileen Crehan and Dr. Melinda Macht-Greenberg at Tufts University. At large, the IEP Project examines the quality of IEP services and IEP satisfaction for autistic students using parent surveys and coded IEP data.

Positionality & Community Involvement Statement

As a researcher, my interests in both autism and in arts education are informed by personally significant experiences. Though I am not autistic, I have a close autistic family member and therefore grew up with a very close relationship to special education. I was involved in special education services starting in elementary school as a peer for social groups and speech practice, and I have had a keen interest in special education services ever since. My involvement with arts education began when I was in middle school as I started taking theatre classes and came to see them as a neurodiversity-affirming space. I began teaching in arts education environments at 14 years old and continued to build relationships with neurodivergent students who seemed to thrive in artistic environments.

The research study described in this thesis was guided by a Community Advisory Board of parents, autistic self-advocates, and other stakeholders in the education of autistic children. Their expertise was essential in determining what constructs to examine, how best to structure our research procedure, and what recruitment tactics will foster meaningful connections with parents of autistic children. In line with their recommendations and with current research regarding the preferences of autistic people (Amanda et al., 2023), this thesis will use identity-first language when referring to autistic individuals.

Participants

To be eligible for the IEP Project, participants must be the parent or legal guardian of a child with an Autism Spectrum Disorder diagnosis between the ages of 3 years and 22 years 6 months, and their child must have an IEP. If the child is between ages 18 and 22 years and the parent is not their legal guardian, the child's consent must be obtained prior to the parent's participation. Because this thesis specifically analyzed the alignment of IEPs with Massachusetts state curriculum standards and educational policy, only participants with IEPs from a Massachusetts school district were included in the present analysis. Families were recruited via public posting of flyers, direct communication with parent groups such as Special Education Parent Advisory Council (SEPACs), participation in events and conferences to distribute study information, and advertisement via social media, with the goal of attaining 30 participants. Ultimately, 28 parents completed the project and submitted a Massachusetts IEP. Table 2 shows the demographic characteristics of these participants.

Procedure

Participants accessed the study via an online survey, where they completed an eligibility screening and verified informed consent. They were then offered the option to continue participating via an online survey or to be mailed a paper copy of the study materials. Parents completed their participation in the project by responding to these survey instruments and either uploading their child's most recent IEP to a secure Box folder, mailing the IEP to the Crehan Lab, or digitally signing a release form allowing the study team to retrieve the child's IEP directly from their school. Completion of the questionnaires was estimated to take about 20 minutes per participant. This procedure was approved as Study 00000518 by Tufts University's Social, Behavioral, and Educational Research Internal Review Board.

Measures

The instruments used in this project include a demographics and IEP satisfaction questionnaire, the Social Responsiveness Scale- Second Edition (Bruni, 2014), and a coded metric examining data directly from IEPs.

Demographics and Satisfaction Questionnaire

The demographics questionnaire was created for this project and asked parents to share family characteristics such as parent and child ages, ethnicity, gender, marital status, and income. The satisfaction survey was also developed specifically for the IEP Project and asked parents to reflect on their opinions of their child's educational services through both quantitative ratings (numbers 1 through 7) and open-ended qualitative responses. This survey also featured questions that enabled the parent participant to characterize their child's arts education experiences. In total, this questionnaire contained 67 questions (all of which were optional).

SRS-2

The Social Responsiveness Scale, 2nd Edition (SRS-2), is a 65-item scale completed by a parent that describes their child's behavioral symptoms associated with clinical and educational diagnoses of autism. The scale was developed to capture "deficits in social behavior" associated with Autism Spectrum Disorder in children ages to 18 years, in alignment with DSM-4 and DSM-5 diagnostic criteria. Parents rate various items asking about their child's social behavior on a Likert style 0-3 scale, where 0 is "Not True" and 3 is "Often true." The sum of all item scores is taken, with some items reverse-coded to reflect opposite values, to give the child's SRS-2 score. According to past assessments of this instrument, children diagnosed with Autism Spectrum Disorder or its DSM-IV equivalents (Autistic Disorder, Asperger's Syndrome, Pervasive Developmental Disorder- Not Otherwise Specified, and Pervasive Developmental Disorder) have a mean score of 106.6 on the SRS-2 based on the sum of all items, while children

without these diagnoses average 24.6 points on the scale (Bruni, 2014). The interrater reliability coefficient of the scale is 0.77 when tested across parent and teacher reports, and it is both 92% sensitive and 92% specific to Autism Spectrum Disorder (Bruni, 2014).

In the present study, the SRS-2 was completed online by each parent participant to characterize their child's behavioral profile. The mean of the sum of all completed items (after reverse coding the appropriate items) was used for all analyses in the present study to account for the fact that all survey items were optional.

IEP Data

Data coded from the participant's child's IEP were used to measure three categorical variables, "Arts Access", "Arts Interest", and "Arts as Support." Ruble et al.'s (2010) IEP quality coding scheme served as the model for all IEP coding in this project. The full IEP was examined to ensure that no data relating to arts education were missed.

"Arts Access" measured the extent to which the IEP supported the child's access to arts education and was grouped with the following values: 0 = no mention of the arts in the IEP; 1 = arts checked off as an accommodated area of curriculum; 2 = goals or objectives are specifically given to support access to the arts. In this coding plan, a 2 would only be given to an IEP that described educational goals or tools being made available to the student with the explicit intention of fostering achievement of arts curriculum standards. The information coded in this variable was primarily found in Part A (General Curriculum) and the Measurable Annual Goals section of the IEP.

"Arts Interest" measured the extent to which a child's personal interest in artistic activities was described in their IEP, grouped with the following values: 0= no interest in the arts mentioned; 1= arts mentioned as an area of interest; 2= interest in the arts specifically labeled or

described as a student strength. When present, this data was generally found in the Student Strengths and Key Evaluation Results section of the IEP.

“Arts as Support” measured how arts were utilized to support other goals in special education and was quantified as follows: 0 = no mention of arts; 1 = arts activities listed as support for an objective; 2 = arts therapy or curriculum used to support an educational goal or objective. Using this coding plan, a value of 1 was given for an any unstructured artistic behavior performed without artistic intent to support another area of development (for instance, drawing to practice fine motor skills). A value of 2 would only be coded for the use of specific, structured arts therapies or arts curriculum engagement to support other areas of development. This information was usually found in the Measurable Annual Goals and Service Delivery sections of the IEP.

Analysis Plan

Question One

To address the first question (how do parents of autistic children characterize their child’s need for arts education?), qualitative data from parent satisfaction surveys will be summarized and reported. Parents’ perspectives on how children are accessing arts education and how their access could be improved will be examined for recurrent terms and themes to highlight common shared experiences and synthesize parent recommendations.

Question Two

The second question regarding IEPs’ fulfillment of Massachusetts curriculum standards will be addressed by summary quantitative data, specifically with the coded Arts Access data. Descriptive analyses of Arts Access variable were used to report the frequency with which students are provided access to the arts via their IEPs. Further exploratory analyses were

conducted to examine whether this access was related to child characteristics such as Arts Interest and child gender using chi-square testing. Differences in child age and mean SRS-2 scores across Arts Access groups were also explored using t-tests.

Question Three

Analyses of IEP objectives also answer the third core question of this thesis by revealing how often schools employ arts education practices to support special education. The frequency of each coded category in the Arts as Support metric will establish how often arts education practices are being applied to support the general or special education curriculums. Exploratory analyses were conducted to further characterize which students are most likely to have arts activities implemented in support of other developmental goals: relationships between Arts as Support and Arts Access and child gender (respectively) were examined using chi-square testing, and differences in SRS-2 scores and child age across Arts as Support groups were assessed with t-tests.

Results

Question One: Parent Perspectives on Arts Education

Seventy-five percent of participants responded to the survey questions regarding arts education access. Of those who answered arts education survey questions, 80.95% of participants endorsed that their child participated in some form of music education, making this the most frequently accessed discipline of arts education. Visual arts were the second most accessed with 42.86% of parents claiming their child participated in visual arts education. Very few parents indicated that their child received dance (14.28%) or drama education (4.78%). Some 14.28% of participants indicated that their child did not receive any arts education. Table 3 shows the frequency with which participants reported access to different disciplines of arts education, and

the settings where this education was received. The school was by far the most common environment for accessing arts education, particularly for visual arts, music, and drama education. Dance was the only form education that was most often accessed outside school.

Parents were also asked to rate their child's experience of any arts education they had accessed, to comment on why they had chosen that rating, and finally to describe any settings or resources that might support their students' ability to access and participate in arts education. The complete written responses to these questions are displayed in Tables 1 and 2 of the Appendix to this document.

Generally, parents reflected positively on their children's arts education. When asked to rate their child's arts education experiences on a scale from 1 (very negative) to 7 (very positive), the mean rating was at least slightly positive (greater than 4) for all arts disciplines. Visual arts received the least positive rating from parents, with a mean score of 4.33 (SD = 1.65, n = 9); a score of 4 would translate to "neither negative nor positive" on this rating scale. Music education received a mean rating of 5.29 (SD = 1.57, n = 17). Very few parents indicated that their child had received drama (n = 1) or dance education (n = 3), but those who did rated these disciplines very highly, with scores ranging from 5 to 7 on the rating scale (somewhat positive to very positive).

The explanations for these ratings varied greatly from parent to parent. Across arts disciplines, many parents affirmed that their child held genuine interest in the arts. Eleven comments stated that their child "enjoys" or "loves" their arts education, mostly in support of a positive rating. Neutral to negative ratings were often explained by accessibility barriers. Three comments mentioned "motor skills," stating that their child's relatively poor fine motor skills pose a barrier in the arts education environment. Additionally, five comments indicated that the

child had inconsistent access to arts education due to lack of exposure, attendance, or arts offerings in current or recent school environments. Teachers seemed to be a salient factor in arts education from the parents' perspective, as parents justified both positive and negative ratings with descriptions of the teacher's efficacy. Ten comments mentioned the child's teacher or school staff; of these, four described teachers as contributing to a negative experience of arts education, five were positive, and one was neutral.

Parents were also asked what would support their child's access to arts education. Among the fifteen responses to this question, multiple parents commented on the role of teachers, instructional style, and educational setting in supporting the accessibility of their child's arts curriculum. Two comments suggested that more support from teachers and school staff would benefit their child. A diverse range of accessible settings were suggested by different parents: two comments suggested accessible after-school programs, two comments favored a small-group model, and two comments specifically mentioned "inclusion" or "inclusive" programs that would allow their child to work with their peers. Lastly, some parents provided specific ideas regarding instruction and classroom resources to support their child's arts education access. Two comments indicated that "broken down instruction" would help their child engage with course material, and two comments suggested that sensory tools or sensory-friendly adaptations would support their child's access to the arts.

Question Two: Arts Access via IEPs

Sufficient IEP data was available for all 28 participants to be grouped in the Arts Access, Arts Interest, and Arts as Support variables. For Arts Access (see Table 4), 18 of the participant IEPs were coded with a score of 0 (no mention of the arts) while 10 were coded with a score of 1

(arts mentioned as an area of curriculum). No IEPs received a score of 2, which would have indicated that goals or objectives were specified to support arts curriculum.

Description of the arts as an area of interest or strength for the child were coded separately into the Arts Interest variable (see Table 5). Sixteen IEPs did not mention the arts among the child's interests or strengths (coded with a score of 0), seven mentioned the arts as an area of interest (coded with a score of 1), and five specifically described an arts discipline as an area of strength for the child.

Relationship of Arts Access and Arts Interest

First, the Arts Access and Arts Interest groups were examined to see if there was any relationship between having an interest in the arts documented in the IEP and ultimately having accommodations to support arts education. Since Arts Access and Arts Interest are both categorical variables, a chi-square test was used to examine their relationship. A cross-tabulation of these two variables (Table 6) reveals that there is at least one individual in each possible combination of groups, though only 16.67% of group combinations had over five individuals. This distribution of individuals in groups is sufficient to conduct a chi-square analysis, but its results should be interpreted cautiously given that there are very few individuals in most groups.

Pearson's Chi-Square for these variables (Table 7) resulted in a significant value of 6.43 ($df = 2, p = 0.04$). The effect size of this finding was large, with a Cramer's v of 0.48 ($p = 0.04$). Examining the cross-tabulation of Arts Access and Arts Interest, the difference between observed and expected variables is most significant for students who had arts both checked as an area of curriculum and described as an area of strength in their IEP (the standardized residual for this cell was 1.7). While it is important to recall that this analysis meets typical assumptions for a chi-square analysis weakly at best, this finding suggests that students who are described as

having an artistic area of strength in their IEP are more likely than would be expected due to chance to have the arts checked off as a curriculum area in that IEP (and vice versa).

Characteristics Examined Through Exploratory Analyses

Child Age. Child Age was calculated as the number of years between the child's date of birth and the date that their IEP went into effect. Descriptive statistics for this variable can be found in Table 8. The mean age of child participants was 10.25 years, with a standard deviation of 5.09 years. A histogram of the Child Age distribution approximates a bell curve, and its P-P plot shows a mostly linear trend consistent with a normal distribution. The skewness and kurtosis statistics for Child Age each have a value less than twice that of their respective standard errors, further reinforcing that the distribution of this variable is approximately normal. Neither the histogram nor the box plot of this distribution reveal any apparent outliers, and all Z-scores fell between -2 and 2, suggesting that there are no significant outliers. Based on this screening, I concluded that Child Age follows an approximately normal distribution and has few (if any) outliers, making this variable a strong candidate for t-tests examining differences in Child Age across Arts Access and Arts Interest groups.

SRS-2 Score. Data from the SRS-2 were also examined to determine whether any relationship exists between children's arts education and their behavioral symptoms of autism. To account for any missing data (as all survey questions were made optional in this procedure), the SRS score composite was calculated by reverse-coding certain items as indicated by Bruni et al (2014) and then taking the mean of all items after reverse-coding. According to the test review of the SRS-2 scale, a total score of 59 or greater indicates at least "mild" symptoms indicative of autism while a total of 76 or greater would indicate clinically significant "severe" symptoms of autism (Bruni, 2014). Therefore, a mean SRS-2 score composite (as is used in the current study)

of 0.91 or greater would indicate at least “mild” symptoms and a composite of 1.17 or greater would be considered severe.

The descriptive statistics and figures related to SRS-2 score can be found in Table 8. The mean SRS-2 score of this sample was 1.43 (SD = .33), and the scores appear to follow an approximately normal distribution. The P-P plot shows a linear trend consistent with a normal distribution. Neither the skewness nor the kurtosis are significant as both values are less than two times their respective standard error values. Outliers were examined visually using a histogram and box plot and by using Z-scores; all Z-scores fall between -2 and 2, and no apparent outliers were detected on the histogram or box plot. Because the data for this variable are continuous, approximate a normal distribution, and appear to have no outliers, it appeared to be suitable for conducting t-test analyses to examine differences in SRS-2 score across Arts Access and Arts Interest groups.

Child Gender. Exploratory analyses of the relationship between the child’s gender and their access to or interest in the arts was also examined. Given that all variables involved in these analyses are categorical, it became apparent that chi-square analysis would be the most suitable to examine this relationship. Chi-square tests are typically performed under the assumption that there is at least one member in each possible combination of groups; therefore, any gender group with fewer than two members was excluded from these analyses to examine trends among the remaining majority of participants. Twenty-six participants (8 girls and 18 boys) were therefore included in any exploratory analyses of differences across gender groups.

Differences in Child Characteristics among Arts Access Groups

Arts Access and Child Age. Differences in child age across Arts Access groups were examined using an independent samples t-test (Table 9). Levene’s Test for Equality of Variances

was not statistically significant ($F = 2.28, p = 0.14$), therefore equal variances can be assumed for this analysis. Because the Arts Access groups are independent and the normality of the outcome variable Child Age has already been established, the equality of variances confirms that all assumptions have been met for an independent samples t-test. The t-test result was insignificant, indicating that there are no significant differences in Child Age among Arts Access groups ($t(26) = -.73$, two-sided $p = .47$).

Arts Access and SRS-2 Score. Differences in the child's SRS-2 score among the Arts Access groups were examined using an independent samples t-test (Table 9). Levene's Test for Equality of Variances was not statistically significant ($F = 1.67, p = .21$). The normality of SRS-2 Score, the independence of the Arts Access groups, and the equality of variances across groups all support standard assumptions for conducting a t-test. The t-test had a value of -1.979 and was marginally statistically significant (two-sided $p = .058$, one-sided $p = 0.029$), demonstrating a possibly meaningful difference of mean SRS-2 scores between students who have access to arts education included in their IEP and students who do not. The mean difference estimate was -.243 with a standard error of .123, meaning that the mean SRS-2 score was approximately .243 lower in the group not accessing arts education compared to the group accessing arts education through their IEP. Cohen's d for this t-test was -.78, demonstrating a large effect.

Arts Access and Gender. Differences in Arts Access among gender groups were examined using a chi-square analysis. A cross-tabulation of these variables reveals that there is at least one individual in every possible combination of groups, supporting the minimum assumptions for a chi-square analysis (Table 10). The chi-square ultimately revealed no significant differences from the expected number of girls and boys in each Arts Access group ($\chi^2 = 0.04, p = 0.84$).

Differences in Child Characteristics among Arts Interest Groups

For all t-tests relating to Arts Interest, all IEPs that received a coded score greater than 0 were grouped together. Therefore, the following t-tests compare children whose IEPs had no mention of the arts (coded 0) with children whose IEPs mention arts as an area of interest or strength (coded 1 or 2). All t-test results relating to Arts Interest are displayed in Table 11.

Arts Interest and Child Age. Differences in Child Age across Arts Interest groups were examined using an independent samples t-test (Table 11). Levene's Test for Equality of Variances was not statistically significant ($F = .01, p = 0.99$), therefore equal variances can be assumed for this analysis. Because the Arts Interest groups are independent and the normality of the outcome variable Child Age has already been established, the equality of variances confirms that all assumptions have been met for an independent samples t-test. The t-test result was insignificant, indicating that there are no significant differences in Child Age among Arts Interest groups ($t(26) = 1.37$, two-sided $p = .18$).

Arts Interest and SRS-2 Score. Differences in the child's mean SRS-2 score among the Arts Interest groups were examined using an independent samples t-test (Table 11). Levene's Test for Equality of Variances was not statistically significant ($F = .27, p = .61$). The normality of SRS-2 score, the independence of the Arts Interest groups, and the equality of variances across groups all support standard assumptions for conducting a t-test. The t-test was insignificant, indicating that there are no significant differences in mean SRS-2 scores between children whose IEPs do not mention any interest in arts and children whose IEPs refer to arts as an area of interest or strength ($t(26) = -.41$, two-sided $p = .68$).

Arts Interest and Gender. Differences in Arts Interest among gender groups were examined using a chi-square analysis. A cross-tabulation of these variables reveals that there is at

least one individual in every possible combination of groups, supporting the minimum assumptions for a chi-square analysis (Table 12). The chi-square ultimately revealed no significant differences from the expected number of girls and boys in each Arts Interest group ($\chi^2 = 5.12, p = 0.08$).

Question Three: Arts As Support for Other Areas of Learning

Table 13 shows the coded outcomes for Arts as Support: 22 IEPs (78.6%) received a score of 0 on this variable, and 6 IEPs (21.4%) earned a score of 1 for using an arts-based activity to support some other developmental goal. Because no IEPs utilized arts therapy or curriculum to support other areas of development, no IEPs received a score of 2 for Arts as Support.

Exploratory Analyses

Exploratory analyses were conducted to examine differences in child characteristics across Arts as Support groups, using the same variables examined for Arts Access and Arts Interest. One additional analysis was conducted examining the relationship between Arts as Support and Arts Access.

Arts As Support and Age. Differences in Child Age among the Arts as Support groups were explored using an independent samples t-test (Table 14). Levene's test for equality of variances was insignificant ($F = .96, p = .34$), supporting the assumption of equal variances. Because the outcome variable Child Age is normally distributed and has no outliers, the Arts as Support groups are independent, and the variances of the groups are approximately equal, all standard assumptions are met for an independent samples t-test. The t-test was insignificant, though its p-value could be interpreted as marginally significant ($t(26) = -1.74$, two-sided $p =$

.094, one-sided $p = 0.047$). If this result was indeed significant, it would have a large effect (Cohen's $d = -.799$).

Arts As Support and SRS-2 Score. Differences in SRS-2 score among the 'Arts as Support' groups were explored using an independent samples t-test (Table 14). Levene's test for equality of variances was insignificant ($F = .16, p = .69$), supporting the assumption of equal variances. Because the outcome variable SRS-2 is normally distributed and has no outliers, the Arts as Support groups are independent, and the variances of the groups are approximately equal, all standard assumptions are met for an independent samples t-test. The t-test ultimately revealed no significant difference in SRS-2 scores between children whose IEPs did not use arts to support other learning objectives and children whose IEPs applied an arts activity to support another learning objective ($t(26) = -.37, \text{two-sided } p = .72$).

Arts As Support and Child Gender. A cross-tabulation of Child Gender and Arts as Support was constructed to examine the feasibility of a chi-square analysis for these variables (Table 15). There was at least one individual in every possible combination of groups, meeting the minimum requirements for a chi-square test. Ultimately, no significant differences were found between the expected and observed numbers of individuals in each cell ($\chi^2 = .02, p = 0.88$). This suggests that there is no significant relationship between a child's gender and their likelihood of having arts activities listed as support for another educational objective in their IEP.

Arts As Support and Arts Access. A cross-tabulation of Arts Access and Arts as Support was constructed to examine the feasibility of a chi-square analysis for these variables (Table 16). There was at least one individual in every possible combination of groups, meeting the minimum requirements for a chi-square test. Ultimately, no significant differences were found between the expected and observed numbers of individuals in each cell ($\chi^2 = .02, p = .89$).

This suggests that there is no significant relationship between an IEP's acknowledgment of arts as an area of curriculum and their inclusion of arts activities to support other learning objectives.

Discussion

At large, the hypotheses posed for each core question of the current thesis were supported by the collected data. My hypothesis that parents would express a belief that the arts were important and positively impactful was somewhat supported by their written responses, which reflected overall positive experiences of arts education and ideas of how to improve arts accessibility. Data examined directly from IEPs further supported the second and third hypotheses of this study, as less than half of IEPs documented that children were receiving accommodations to access the arts or were using arts activities to support other learning objectives. The exploratory analyses generally indicated that the lack of support for arts education was consistent for most autistic students in this sample, though possible differences in SRS-2 scores and age among students who are accessing the arts merit further study.

Access to Arts Education via IEPs

Implications of IEP Data

Most children had no mention of the arts as a curriculum area in their IEP. Just over one third of participants had arts checked off as an accommodated curriculum area in Section A of the IEP; no participants had goals or objectives supporting arts education access. The number of students receiving any support via IEPs for their access to the arts is higher than I hypothesized, but the fact that nearly two thirds of students in this sample had no evidence of arts access in their IEPs still ultimately indicates that Massachusetts education policy standards are not consistently being applied for all students. It is worth noting that these data were coded to reflect any accommodation applied to any arts subject, so the students identified as receiving

accommodations in their arts curriculum in this study may still not be receiving them in all arts disciplines, or their accommodations may not meet all their access needs. Additionally, no students had any goals supporting their education in the arts, despite this being a recommendation in the Massachusetts Arts Curriculum Framework (Craven et al., 2019). These data represent a significant shortcoming in supporting autistic students' fulfillment of Massachusetts core curriculum standards— an educational right which is protected under IDEA.

Less than half of IEPs mention the arts as an area of interest or strength for the child. This is especially interesting because parents who reported their child accessed the arts generally rated their child's arts experience positively. This suggests that students who like the arts do not necessarily have it acknowledged as an interest in their IEP. Interests and strengths can help guide the child's goals, so it's important that the arts are documented there by the IEP team.

Implications of Exploratory Analyses

Relationship Between Arts Access and Art Interest. The idea that documenting an interest in the arts helps guide access to the arts is potentially supported by exploratory analyses. Children with a documented interest in the arts may be slightly more likely than expected based on chance to also have arts checked off as an area of curriculum, based on the significant chi-square result in this sample. This finding must be interpreted conservatively given weaknesses in the chi-square analyses (namely the small group sizes and overall sample size), but its large effect lends credibility to the idea that documenting interest in the arts may support arts access. Parents and advocates should encourage their IEP team to document their child's interest in the arts, and further research with a larger sample should be conducted to confirm this finding.

Differences in Behavioral Symptoms Between Access Groups. The current analysis also found a possible relationship between students' behavioral symptoms associated with autism

and their access to arts education. The difference in mean SRS-2 scores between students who are and are not accessing arts education via their IEP was marginally statistically significant and large in effect: SRS-2 scores were significantly higher among students who had accommodations to support their access to the arts than among those who did not. This indicates that students with accommodations for arts curriculum documented in their IEP may have more “severe” social and behavioral symptoms associated with autism than those without measures written into their IEP to support arts access. This finding must be interpreted conservatively given its marginal significance and the constraints of this sample, but its large effect and significant one-sided p-value imply that the relationship of behavioral symptoms and arts access merits further study.

The potential explanations for this relationship are unclear, as it contrasts prior literature indicating that students with greater behavioral challenges receive less arts education than their peers (Winsler et al., 2020). It is possible that there is a service gap in the current sample for students with lower SRS-2 scores. Following this assumption, students who do not appear to have as severe symptoms based on how teachers perceive their behavior may not be offered as comprehensive accommodations (even if more comprehensive accommodations would support their education access). Behavioral symptoms are only one area where students may need support, but it may be that students with other accommodation needs are overshadowed by those who have clear, observable behavioral symptoms. Alternatively, perhaps students with higher SRS-2 scores more urgently need accommodations in their IEP to access arts curriculum, and this difference in scores among arts access groups is representative of who truly needs supportive accommodations to access the arts. We cannot determine a causal relationship between these variables using the present analysis and further research would be needed to more clearly

establish why the relationship found in this project among SRS-2 scores and arts education access through the IEP exists.

Insignificant Exploratory Analyses. No other child characteristics were found to have any significant relationship with arts access or arts interest. This suggests that the lack of documented access to the arts is a consistent problem in the special education of autistic students, and that there are few individual factors impacting access in the current sample. The dearth of significant findings may be a feature of the small sample size, which limited between-groups comparative analyses. The demographic characteristics of the present sample are not representative of all autistic children and their families in Massachusetts. With these limitations in mind, the equitably poor access to arts education demonstrated in the present study inhibits the discovery of other identity-specific barriers to arts access, though these might become apparent through further research with larger and more diverse participant samples, or through interventions addressing barriers specific to autistic identity.

Use of the Arts to Support Other Areas of Learning

Few students in this sample had language in their IEPs that used the arts to support their achievement of other educational goals. Of the 28 students surveyed, only 21% had any objectives in their IEP where arts activities were used to help the student reach or measure a developmental goal, and none had arts-based therapies or curriculum provided as a related service. This supports my hypothesis that IEPs would generally fail to utilize arts practices to support other areas of development, and highlights a potential gap in opportunities provided to autistic students. Beneficial impacts of the arts on socioemotional development and academic achievement have been found in many research studies over the past decade, both in studies of typically developing children and in interventions targeted for autistic students. Special educators

should consider leveraging arts education practices in support of their students' social, communication, and academic goals, and should explore the possibility of providing arts-based therapies to students as a related service under IDEA.

Implications of Exploratory Analyses

Exploratory analyses of factors impacting the use of arts as support for other objectives were limited by the small number of students who had documentation of arts supporting non-artistic learning capacities. There was one borderline significant interaction of the Arts as Support categorical variable and the child's age at IEP implementation: children with arts activities listed as support for another area of learning were generally younger than those who had no arts as support for other areas of development, with a large effect size. This finding is unsurprising, as arts courses are more integrated into early childhood and elementary education curriculum, whereas arts courses often become elective in middle school and high school environments. It is possible that efforts to increase use of arts education to support other developmental domains will be more feasible in elementary education environments, but the current data suggests that older students may be more likely to miss out on arts-based learning opportunities. Given that this finding is only borderline significant but large in effect, further research should explore the possible relationship between autistic children's age and their use of arts-based supports for diverse areas of learning and development.

Parent Perspectives on Autistic Students' Arts Education

Parent Reports of Access to Different Arts Disciplines

Parents in this study reported varying levels of arts access across arts disciplines for their autistic child. In our sample, music was the most accessed area of arts education, followed by visual arts, with very few students receiving dance or drama education. While more information

is needed about the rates of arts education access for general education students in Massachusetts, the distribution of access reported by our sample somewhat paralleled prior studies of nationally representative samples. In the National Center for Education Statistics' 2010 report on the arts offerings of a nationally representative sample of schools, music and visual arts were also the two most frequently offered disciplines of arts education. Our data deviated from previous trends in that theater arts education was the least accessed in our sample, despite being more frequently offered than dance in public schools (Parsad & Spiegelman, 2012). The disparity between the percentage of students accessing arts education in the present study and the percentage of public schools offering arts education may indicate that autistic students are not fully empowered to participate in their schools' arts curriculum. Alternatively, it is possible that the availability of arts curriculum in Massachusetts is not accurately represented by national samples of public schools. Further research on the arts education landscape in Massachusetts public schools would be needed to assess whether the access rates reported by parents in this study represent equitable levels of access compared to neurotypical students.

Arts Education Settings. The present study specifically asked parents where their child accessed the arts. While some reported that their child received their education via private instruction or community programming, the vast majority stated that their child accessed the arts in school. This suggests that the school environment may be the most impactful setting to target when intervening on children's arts education access: if most autistic students (according to parent report) are already receiving some form of arts education in school, then the most students will be reached if improvements are made in this environment. Furthermore, because arts education resources in at least visual arts and music disciplines are already present in most public schools, the infrastructure already exists to deliver arts education curriculum in this setting.

Access to the arts outside of school, such as private music lessons or community-based visual arts lessons, was lower in our parent-reported measures than in prior research on a nationally representative sample of 8th graders (U.S. Department of Education, 2016). This may indicate that there is less infrastructure for arts education outside the school environment in Massachusetts than there is at the national level, or the wide age range of the current sample may lead to different extracurricular arts offerings than are available for eighth grade students. Regardless, the current data suggest that leveraging public education resources will most effectively support autistic children's access to arts education.

Contributors to Positive and Negative Experiences

When asked to rate the quality of their child's arts education experience, parents generally reflected positively on their autistic child's arts learning. Many parents expressed that their child enjoyed or benefitted from participating in the arts, while some shared that their child was not given the right environment to succeed in arts learning. Teachers emerged as a salient factor in positive and negative parent reflections on arts education, with multiple parents naming the teaching staff as either beneficial or detrimental to their child's learning experience. This hints at the importance of teacher training and professional development in working with special education students: it's possible that teachers with more comprehensive training were better able to contribute to the autistic child's positive experience of arts education. Parents reinforced this idea in their suggestions of how to support their child's access to arts education, where they specifically recommended providing improved teacher training, a variety of arts education settings within and outside the school environment, and adapted instruction and materials. These suggestions echo those of art teachers working with disabled students in prior studies, who report that they are not adequately trained to provide accommodative instruction styles or use adaptive

technology with their disabled students (Coleman et al., 2015). Integrating special education topics into the training requirements for arts teachers and incentivizing collaboration among special education and arts education staff may help address some of these gaps in knowledge.

Integrating with the Ecological Systems Theory (Bronfenbrenner, 1978)

The theoretical model for this study, based on Bronfenbrenner's Ecological Systems Theory (1978), posited that IEPs should help ensure that macrosystem-level laws are being observed in children's microsystems at school. IEP data in the present study instead indicated that students are generally not receiving support to access the arts, despite its status as a core area of curriculum in the state of Massachusetts. Parent responses further suggested that there is a breakdown in mesosystem-level communications between parents and schools, as parents report that arts educators are not always equipped with the right curriculum or adaptive tools for their child's needs. At the same time, parent responses did not demonstrate any awareness that their desired accommodations and adaptations to arts curriculum could be requested and documented through their child's IEP. This ultimately indicates that while there are improvements to be made in the mesosystem, the larger problem may be a lack of awareness in the school and family microsystems of the macrosystem-level policies, such as IDEA, that may be useful in obtaining supports for autistic children. Thankfully, promoting discussion of the arts in the mesosystem at IEP meetings may help ensure arts education access and therefore reconstruct some connections to macrosystem-level laws: children whose interest in the arts was documented in their IEP by teachers and parents were more likely to receive accommodations supporting their access to arts curriculum. In short, both IEP and parent response data revealed significant weaknesses in the connections among systems impacting children's development, but parents and educators

themselves have the power to strengthen these connections when writing their autistic child's IEP.

Policy Implications

Both the parent-reported data and the analyzed IEP data in this study present critical, urgent implications regarding state and federal education policy. At the federal policy level, the current data indicate a lost opportunity to leverage IDEA to support students' access to the arts. When asked for suggestions of what would improve their child's access to the arts, parents' recommendations were generally achievable under the provisions of IDEA. For instance, they specifically identified increasing options for arts learning environments and supplying adapted curriculum and tools in arts classrooms as key steps to increase arts accessibility for their child. Under IDEA, IEPs can provide related services, which explicitly include recreational learning and outside therapies (Individuals with Disabilities Education Act, 2004). Parents may advocate for their child to receive adaptive arts education (similar to the much more common adaptive physical education) or arts-based therapies under the Related Services provision of IDEA. Similarly, other related services such as occupational therapy could be made available to support arts education during the school day. Adapted instruction and technology are achievable in general education arts classrooms if arts curriculum areas are checked off in Part A of the IEP, indicating that other accommodations already documented in the child's IEPs should be applied to arts classes. Adding IEP goals that specifically provide support to arts education would further ensure that the child is supported in meeting state arts educational standards. All these advocacy opportunities currently exist under IDEA, but data from this study indicate that parents and possibly IEP teams are not aware of these options.

More pressingly, the current data suggest a possible failure to support disabled students' educational rights under IDEA. In Massachusetts, the arts are considered a core area of curriculum, and an arts curriculum standards are documented in the state Arts Framework (Craven et al., 2019). IDEA mandates that children are empowered to access an equitable education meeting the standards of their state (Individuals with Disabilities Education Act, 2004). Based on these policies, it's the obligation of the school to ensure that arts are somehow accounted for in the IEP process for students in Massachusetts. While not every school will have the same arts offerings, true compliance with IDEA would provide autistic students with comparable arts education to their peers in the least restrictive appropriate environment. For some students, that might mean full inclusion in their school's visual arts and music class, whereas for others that may mean providing an extracurricular environment in a smaller group setting where the child can more successfully meet arts learning standards. Our sample represents only a small number of students in Massachusetts; still, the fact that the majority of this sample is not receiving support for education in the arts when it is a core area of the state curriculum is an alarming indication that the principles of IDEA are not being applied to all areas of students' learning.

Limitations

There are significant limitations to the current study sampling, the resulting analyses, and the use of IEPs as a measure of children's educational access. First, the participants of this study were gathered via convenience sampling of parents of autistic students in Massachusetts. While investigating parent perspectives empowered this study to address a serious gap in current literature and examine the opinions of a key stakeholder in the IEP process, parent reports may not reflect students' actual arts interest or arts engagement at school as accurately as direct

observation, student report, or teacher report. Future studies should examine autistic students' own perceptions of their arts education and their actual arts participation through more direct measurement.

Due to its small sample, the statistical findings of this study may be less generalizable to the overall population than a larger sample would have been, and may not be representative of geographic, racial, ethnic, linguistic, or gender diversity of the population of interest. The exploratory chi-square analyses had weaknesses in the number of individuals in each combination of groups, and the t-test findings regarding relationships between SRS-2 score and arts access and between child age and Arts as Support for other objectives were only marginally significant. The findings discussed above therefore still demonstrate meaningful trends and raise interesting questions for future study, but they cannot be assumed to be true of the full population of autistic students in Massachusetts.

Additionally, while data from IEPs are a very helpful window into policy implementation, they do not necessarily reflect the practices in the child's school. It is possible that the students who had no indicators of arts access in their IEP are, in reality, regularly engaging in arts curriculum; conversely, students who have accommodations listed in their IEP to be applied to their arts courses may not actually receive all of these accommodations in each class. The IEP is only capable of telling us the agreed upon areas of curriculum, goals, and accommodations needed to provide autistic students with an education that meets state and federal policy standards. The failure of the IEP to meet state policy standards for nearly half of the participants in this study therefore indicates a significant gap in policy implementation, but does not demonstrate with certainty what arts classes a child actually attends and what accommodations are truly provided in school each day. With this in mind, these findings are

most relevant to special educators, parents, and advocates looking to capitalize on policy standards in order to provide their child the most equitable and effective education possible; further research using direct observation of classrooms or teacher reports would better illuminate how well classroom practices reflect the data available in IEPs.

Future Directions

Future analyses of IEP and SRS-2 data should further characterize the relationships between family and child characteristics and access to the arts. The current study examined child gender, child age, and SRS-2 average item score. It may prove meaningful to explore how parent or family characteristics relate to arts access, as parents are most directly able to contribute to the child's IEP at yearly meetings with the special education team. Characteristics like race, ethnicity, history of immigration, language spoken at home, and socioeconomic status may also relate to the quantity and quality of arts education students receive, mirroring studies of more general service access via IEPs (Ruble et al., 2010).

To explore other research gaps highlighted in this study, future studies should examine interventions to improve arts educators' training to work with autistic and other disabled students. Parents in the present study highlighted this as an area of need in their arts education, aligning with prior studies of arts educators' perceptions of working with disabled students (Coleman et al., 2015). Such interventions should provide basic information about accommodating instruction and materials for autistic students and offer general information about the categories of students protected under IDEA and their educational rights. Furthermore, more data is needed regarding autistic youth's direct experiences of arts education. Future studies should consider using student-report or direct observation measures to better capture autistic students' experiences in the classroom. Lastly, more effective measures of arts learning are

needed to understand autistic students' engagement with existing arts curricula. Researchers in arts education and special education disciplines alike should investigate the development of an assessment tool adapted specifically to understand how much autistic or otherwise disabled students have learned in the arts, perhaps by adapting existing measures such as the National Assessment of Educational Progress in the Arts (U.S. Department of Education, 2016). Similarly, more research on general education students' access to and achievement of Massachusetts arts curriculum standards is essential to contextualize any further study of autistic special education students.

Parents, educational advocates, and special educators should reflect on this study's findings as they pursue an equitable education for their own students via IEPs. Stakeholders in the IEP process can better support the child's educational rights under IDEA by leveraging the tenets of this policy and state curriculum frameworks to provide a more comprehensive arts education. At minimum, arts education should be considered an area of curriculum where the child's educational accommodations are respected. The development of adaptive arts education curricula should be explored to ensure that students who may not be able to access general curriculum arts classes are still receiving the full core curriculum mandated by the state of Massachusetts. Schools that offer arts education through after-school programming should endeavor to make these programs accessible to autistic students and support that access with documented services and accommodations in the IEP. When the students' interests and the parents' goals demand more support for arts learning, measurable annual goals may be used to ensure progress is being made towards arts curriculum standards. Policymakers should also consider how accountability to curriculum standards is being measured at the state level, and the impacts of these state policies on federal policy adherence.

Conclusion

By examining parents' reports about their autistic child's arts education experience and their child's IEP document, this study found that while many students do access some form of arts education, less than half have support for arts education in their IEPs. This reflects a substantial gap in the implementation of both IDEA and state-level education standards, which affirm that disabled students in Massachusetts should be receiving the supports necessary to access arts education as a component of their core curriculum. These findings build on existing literature by providing parent perspectives that support teachers' recommended improvements to arts educators' training experiences. Simultaneously, the findings in this sample indicate that prior research on the beneficial impacts of arts education have not led to any meaningful protections of access to arts education experiences for most autistic students. More research is sorely needed to characterize the gap in arts education access for autistic students, but the infrastructure already exists under IDEA to improve on some of the policy failings highlighted in this study. Policymakers and education advocates must ensure that parents are informed of how they can leverage IDEA's provisions to support their child's access to arts education: with these tools in parents' hands, many more autistic students may attain accommodations or goals through their IEP to support their arts learning.

Appendix: Parents' Written Responses

Table 1

Parents' Ratings and Explanations of Arts Experiences

Discipline	Rating	<i>n</i>	Explanation(s)
Visual Arts	Very Negative	1	• “His motor skills make him look like he is below level and the teachers are not understanding”
	Somewhat Negative	1	• “One art teacher, that she had this year does not understand how to break down instructions, so it becomes too challenging and frustrating for my kiddo. Also, the lack of OT for kids who have difficulty with fine motor skills and lack of hand strength makes coloring too difficult.”
	Neither Negative nor Positive	3	• “Not enough art exposure in current school as no special teachers” • “My student does not view art as one of his favorite specials, but he does participate.” • “Don't know that much about what they actually do”
	Somewhat Positive	1	• “My son is currently participating in art at his current school. In former school settings, he did not participate in specials.”
	Positive	2	• “It is an area he enjoys, and he is able to express himself in a safe way through the activities.” • “She loves art and loves the art teacher at her school. They have a lot of choice in what they choose to do and this has worked well for her.”
Music	Very Negative	1	• “My student feels too overwhelmed in music class that he habitually misses it and goes back to his sub-separated classroom. Although I've asked about adaptive programing or carry over of lessons in current setting or classroom, no efforts have been made.”
	Somewhat Negative	1	• “He likes music but I am not sure he fully gets enough out of the class”

Neither Negative nor Positive	2	• “I believe my student attends music class with the gen ed class. They practice memorizing and delivering songs (recently performed for families on stage) and my son had trouble memorizing the lyrics so he said he would just stand and move his mouth to look like he was singing.” • “This is good and bad. It is good that she had participated and played with the band for a recital, however, it feels like there wasn't anyone helping her with the motor coordination in how to hold a drumstick properly to do the different types of taps required. Once again, lack of resources hinders kids in inclusion/integration. I will say that she does seem to enjoy this class.”
Somewhat Positive	2	• “He is to electro guitar, taking 1-1 lessons 45min/week, very slow progress, not much exercise and practice at home” • “prior years have been ok. nothing so far this year”
Positive	6	• “Music is calming for him. So while he did not enjoy chorus he does enjoy learning about music.” • “She is in a small group receiving instruction virtually. The format is limiting and it's only once a week but I am thrilled with her progress. She submits videos of her assignments that she needs to try (and sometimes retry) to pass after feedback.” • “He loves music- and comes home singing songs from Music class” • “while music class as a special is neutral, my student began french horn lessons in 4th grade when instrument lessons became available in school. He also participates in the town-wide school band. This program has been beneficial for my student in terms of practice skills, dealing with frustration, a sense of achievement, and belonging to a greater whole.” • “My daughter has not chosen to access the instrumental lessons at her school and I don't think they would be accessible to her, but she likes her music teacher and class.” • “Learning things like quarter notes and major vs minor chords”
Very Positive	3	• “My son has shown great interest in more music selections, singing, and dancing.”

			• “He loves music, the less pressure of the class since it is not so academically focused, and the opportunity to hear new music.” • “From pictures they seem to enjoy”
Dance	Somewhat Positive	1	• “The instructors work with [redacted] and she was very successful at her recital. She was able to do many of the different steps involved and move with the group well. The instructor also takes notice to the other children working to help keep her engaged. The best thing I can say is that my kiddo really loves this class.”
	Very Positive	2	• “He loves the combination of music and dancing and loves the kind staff.” • “From pictures they seem to enjoy”

Table 2*Parents' Additional Comments on Arts Accessibility*

Prompt	<i>n</i>	Response(s)
Please use this space to provide any additional comments (Visual Arts)	2	• “none” • “He is interested in creating artwork/content, not fostered by current school staff”
Please use this space to provide any additional comments (Music)	5	• “He has very engaging music teachers who are very supportive.” • “I play off camera with my student and help keep her on the correct page. The teacher is supportive of this- -I just don't ask for feedback for me. It works but it is a lot of work that not all parents would have the time for. I don't think my kid would practice without me as her practice buddy.” • “Since my student has been missing instructional time in music, I've requested a music therapy evaluation many times and district finally agreed late last year when a member of their team opened the door to “music exposure/desensitization”. • “He is motivated during class, not much outside 1-1 engagement, only practices if mom forces/helps.” • “he enjoys it when he has it but only gets about 2 months during the entire school year”
What settings or resources would support your student's ability to access arts education?	16	• “sensory tool making or sensory art based needs” • “My kid will refuse to participate in art so I pulled her. I wonder if there is another way she could participate that is less intimidating. A drama class might be really fun but I could only see that happening as a field trip for an improv class or something.” • “small group setting, adaptive model.” • “School, Inclusion programs, afterschool programs, in-home special designed programs” • “Accessibility to after school programs or out-of-school art programs.” • “Money- more funding” • “any and all settings” • “ability to work individually if needed” • “Arts programs catered to autistic children. In general I am always trying to find activities with smaller groups, sensory-friendly adaptations, etc. They are increasing, but still very difficult to access because of

demand, inconvenient times/locations, and other factors.”

- “N/a”
 - ”Apply for a art classes.”
 - “Where even severely autistic kids are included”
 - “I think there is only 1 adult in the room at the time and instructions just aren't broken down or repeated enough (at least for my son) so he doesn't understand the project, doesn't know how to ask, and just sits quietly”
 - “Teacher Support staff adapted materials for her to use”
 - “Broken down instruction, people willing to take the time to simplify language, check-ins to ensure she is getting it and having fun.”
 - “The classes like art, music, etc. often have less structure. The main teacher is not present and the students tend to struggle. Perhaps having more teachers / adults in the classroom to help with regulation would be good.”
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