6-18-2025

Teachers' Perceptions of the Benefits of Art Education for Elementary Students With Autism

Brenda Lynn Miller
Walden University

Walden University

College of Education and Human Sciences

This is to certify that the doctoral study by

Brenda Lynn Miller

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Peter Ross, Committee Chairperson, Education Faculty
Dr. Frances Reed, Committee Member, Education Faculty

Chief Academic Officer and Provost
Sue Subocz, Ph.D.

Walden University
2025

Abstract

Teachers' Perceptions of the Benefits of Art Education for Elementary Students With Autism

by

Brenda Lynn Miller

MS, McDaniel College, 2005

BS, Villa Julie College, 1997

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Curriculum, Instruction, and Assessment

Walden University

August 2025

Abstract

The problem addressed in this study was the lack of knowledge regarding art teachers' perceptions of the social and emotional benefits of art classes for elementary school students with autism spectrum disorder (ASD). The purpose of this basic qualitative study was to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD. Schweizer et al.'s art therapy model was the conceptual framework. Semistructured interviews from 12 elementary school art teachers were used to collect data. Data were analyzed using axial coding procedures and thematic analysis. Results produced the following themes: (a) art teachers perceived that individualized instructions have social and emotional benefits for elementary students with ASD, (b) art teachers perceived that art education results in overall improvement among elementary students with ASD, (c) art teachers perceived that appropriate and targeted projects have social and emotional benefits for elementary students with ASD, (d) art teachers perceived that efforts were made to engage students in art class, (e) art teachers perceived that efforts were made to provide a consistent structure for students, and (f) art teachers perceived that efforts were made to help students with ASD achieve progress in art class. This study may contribute to social change by improving social and emotional factors for students with ASD based on elementary school art instruction. Educators and families of elementary students with ASD may use this study's findings to raise awareness, expand funding, and promote arts programs at school and home, ultimately benefiting students with ASD.

Teachers' Perceptions of the Benefits of Art Education for Elementary Students With Autism

by

Brenda Lynn Miller

MS, McDaniel College, 2005

BS, Villa Julie College, 1997

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Education

Curriculum, Instruction, and Assessment

Walden University

August 2025

Dedication

This dissertation is dedicated to those who stood by me through every challenge and triumph. Thank you! I am forever grateful to my husband, Craig, for his unwavering love, support, and encouragement as I pursued my dream. His belief in me has been a constant source of strength. To my daughter, Meagan, thank you for giving me the final push I needed to embark on this adventure. To my friends and family, your words of encouragement and steadfast support throughout this journey have meant the world to me. A special thanks to my friend who earned the title "Sanity Saver." You know who you are, and I can never thank you enough for all your help and support. And finally, to my wonderful parents, who instilled in me the values of learning, hard work, and perseverance. Mom, I wish you were here to celebrate with us, but I know you are watching over us and smiling.

Acknowledgments

I extend my deepest gratitude to my chair, Dr. Peter Ross, for his guidance, patience, and expertise throughout this research, as well as to my dissertation committee member, Dr. Frances Reed. Their thoughtful feedback and steadfast support have been instrumental in guiding my work. I am also sincerely grateful to the public school system whose cooperation made this research possible. Above all, I want to acknowledge the extraordinary and dedicated art teachers in this county who inspire students, nurture a love for learning, and encourage students to explore and embrace their unique artistic expression.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

Autism spectrum disorder (ASD) is a widespread and increasingly prominent neurodevelopmental disorder. ASD is increasing worldwide, making it a pressing problem, especially in education (Zeidan et al., 2022). One of the more promising treatments for ASD is art therapy (Jeong & Shim, 2021). In the school context, art education may potentially be able to recreate many of the social and emotional benefits of art therapy without direct treatment (Frydman et al., 2022). However, the potential for art education to achieve results similar to art therapy has not been adequately examined and presents a gap in practice (A. M. Smith, personal communication, May 29, 2023).

This chapter introduces the present study. Chapter 1 begins by briefly discussing key background issues that underlie the present study. Second is the research problem statement, followed by the research purpose and derived research questions. Next, the conceptual framework for the present study is presented, followed by a description of the methodology. The sections after the nature of the study address the key definitions, assumptions, delimitations, and limitations of the present study. Chapter 1 concludes with a discussion of the study's significance and a summary of key points.

Background

ASD comprises a broad array of mental health and neurodevelopmental disorders. Though the specifics differ significantly, ASD is most broadly characterized by difficulty with social relationships, obsessive or repetitive behaviors, and behavioral inflexibility (Chen et al., 2019). Research suggests that the prevalence of ASD is increasing. Zeidan et

al. (2022) conducted a meta-analysis and found that based on evidence from 77 estimates in 99 studies, the median estimated prevalence was 1/68, with a male-to-female ratio of 4.2:1, with 33% of ASD cases co-occurring with intellectual disability. Hence, ASD is an increasingly widespread problem relevant to a significant portion of the public at large. Zeidan et al.'s results may also be underestimated, given that less developed nations generally lack the same ability to identify and document ASD cases as more developed nations. If so, this finding only further emphasizes the relevance of ASD as an international issue of significant concern.

ASD is a blanket term developed to combine a class of similar disorders, including Asperger's syndrome, under one umbrella. People with ASD may present differently, demonstrating various ability levels in different areas. Indeed, some students (or people) with forms of ASD demonstrate high levels of affinity for or ability in certain areas, even as they struggle in more social and emotional domains (Olsson & Nilholm, 2023). As a result, in the educational context, there is no single solution to teaching students with ASD, as their skills and special needs may vary considerably from person to person (Chen et al., 2019). Nonetheless, most, if not all, students with ASD require additional support in social and emotional domains.

Unfortunately, at present, students with ASD often do not receive the extra assistance they need. Per a systematic review by Olsson and Nilholm (2023), there has been an inadequate focus on how to make inclusive education work for students with ASD or how to provide these students with high-quality general education effectively. Although different educational stakeholders, such as teachers, parents, and

administrators, perceive different sets of barriers to better education for students with ASD, all emphasize the need for inclusivity and the role of educational leaders in addressing ASD (Holmes & Butcher, 2019). Therefore, addressing ASD in education is a priority.

One promising treatment for ASD is art therapy. Art therapy is a special therapeutic practice intended to help treat mental health difficulties through artistic expression (Jeong & Shim, 2021). When engaged in the process of making art, many people with ASD find it easier to express themselves than they do through other media, such as conversation (Durrani, 2021). Art forms, such as painting, modeling clay, and touch-based therapies with clay, are effective as they create a different expressive path between physical sensation and conceptualization or abstraction (Jeong & Shim, 2021). Evidence for art therapy is not unequivocally positive, with some studies suggesting mixed to slightly negative results (e.g., Bongratz, 2019).

Nonetheless, most research has shown art therapy to be beneficial. For example, art therapy has proven benefits for other mental health struggles, such as depression disorders and anxiety, Alzheimer's disease, and schizophrenia (Hu et al., 2021). These findings suggest that art therapy is likely beneficial for students with ASD. However, full art therapy is not the only way art may help students with ASD. Because students are often exposed to art in the educational context, art education represents another potential source of similar benefits (Adoni-Kroyanker et al., 2019). Art within a school is a topic in need of further development and research regarding its efficacy in helping students with

ASD (Frydman et al., 2022). I addressed that topic through the perspectives of elementary school art teachers.

Problem Statement

The problem addressed through this study was the lack of knowledge regarding the art teachers' perceptions of the social and emotional benefits of art classes for elementary school students with ASD. Although explicitly targeted art therapy benefits students with ASD (Hutson, 2022; Jeong & Shim, 2021; Koo & Thomas, 2019), it is less evident whether and to what extent similar social and emotional benefits can be achieved from art classes in school. In the specific context of art education, this problem remained open as schools reported needing more effective ways to help students with ASD learn how to communicate, manage stress, and be successful.

In addition, researchers indicated a need to explore the use of art as a treatment for ASD (Adoni-Kroyanker et al., 2019; Durrani, 2021; Hu et al., 2021). First, Adoni-Kroyanker et al. (2019) suggested a practice gap, arguing that there were specific gaps between art therapy practices, field training, and implementation of art therapy in education systems. Therefore, although studies addressed direct art therapy for students with ASD, less was known about the social and emotional benefits of attending art classes in elementary school. Additionally, there is a strong need for further research into the potential of art for ASD treatment (Durrani, 2021). I addressed this call for research by exploring teachers' perspectives on the therapeutic benefits of school-based art instruction. Second, studying art teachers' perspectives provided varied approaches to art class therapeutic benefits for students with ASD (Hu et al., 2021). I addressed that goal

by helping bridge the gap in the literature about the therapeutic benefits of school-based art education by exploring the perspectives of art teachers, which were lacking in the literature. Third, further research was needed into the benefits of art exposure in the school context (Frydman et al., 2022). I addressed this call for research by examining school-based arts education for students with ASD.

Purpose of the Study

The purpose of this qualitative study was to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD. The central issue of interest was teaching art classes to students with ASD at the elementary level. The present study's results may help better understand this problem and address a gap in practice and literature in the specific context of the benefits of art education for ASD students in elementary schools.

Research Question

A single, overarching qualitative research question guided the present study:

RQ1: What are elementary art teachers' perspectives on the social and emotional benefits of school-based art education for elementary students with ASD?

Conceptual Framework

The conceptual model informing the present study was Schweizer et al.'s (2019) art therapy framework: the context, outcomes, art category, and therapeutic behavior category (COAT) model. The COAT model represented the four central considerations of context, outcomes, art, and therapeutic behavior. The COAT model was developed to

assess art-based efforts to help students with ASD by assessing the four main aspects of any given art-based approach to treatment. The context category reflected the setting where the students were exposed to art. The outcomes category pertained to the outcomes targeted by the effort (e.g., attachment, motor skills, etc.). The art category pertained to the type of art being used in the therapy. Finally, the therapeutic behavior category reflected the specific efforts used to make the arts engagement therapeutic and target them to the needs of students with ASD. I used the COAT model as a conceptual model to help understand why art therapy worked and why parallel experiences with school-based art instruction might have similar benefits.

In this regard, the COAT model was used to contextualize the social and emotional benefits of school-based art instruction for students with ASD. Such school-based efforts were not necessarily explicitly framed as art-based therapies, and the COAT model helped connect the experience of art in the school to potential benefits that might result. Therefore, the COAT model was used to suggest focus areas for data collection and analysis. Because the COAT model described the mechanisms of actual art therapy, these areas represented natural places to compare art therapy and school-based art instruction for students with ASD. However, this study was not limited to only the COAT areas; instead, I explored all perspectives and areas of focus that were reported, mentioned, or otherwise indicated as important by the study's participants.

In addition, the conceptual framework was used to draw on a behavioralist perspective. The behavioralist perspective is usually not about the final art product but about the art creation experience (Jeong & Shim, 2021). Durrani (2021) supported the

appropriateness of approaching art-related issues for people with ASD from a behavioralist perspective. In many cases, the sensations and experiences of creating art are more beneficial for these individuals than the actual nature of the art they create. Therefore, the present study was conducted from a conceptual perspective to show the importance of the behavioral aspects of art education. In this study, the behavioral perspective was applicable, and the underlying behavioral motivations should be relatively accessible.

Nature of the Study

The research methodology for the present study was a basic qualitative method. As a method, qualitative research is descriptive and exploratory (Merriam & Tisdell, 2015). The descriptive quality of qualitative inquiry makes it ideal for understanding topics about which little is known (Moen & Middelthon, 2015). The social and emotional benefits of art education comprise such a topic. Qualitative research was also ideal for exploring a broad research problem instead of specific, narrowly defined variables (Merriam & Tisdell, 2015). I explored such a problem, namely teaching art classes to students with ASD at the elementary level. In addition, the present study was concerned with the perspectives of elementary art teachers. This subjective focus on perceptions also aligned with a qualitative approach (Merriam & Tisdell, 2015). Together, these attributes made a qualitative methodology appropriate for the present study.

There are many specific research designs within the overall qualitative method. For this study, the specific design was basic qualitative research. Basic qualitative research is a flexible design that effectively describes a central phenomenon (Percy et al.,

2015). A basic qualitative design is well-suited for any study that is closely aligned with the overall qualitative method but less so with any specific design focus (Thorne, 2016). In addition, a qualitative study can effectively describe a central phenomenon or issue comprehensively (Percy et al., 2015). These aspects all aligned with the present study. The study aligned with qualitative research but was not, for example, highly contextual, ethnographic, or focused on narratives, meaning that the study was not aligned with other specific qualitative designs that emphasize these aspects. In addition, I focused on describing and interpreting the experiences of the target population as a starting point for the research topic. Therefore, this study aligned with the basic qualitative research design by describing the central research problem.

The research population for the study was art teachers teaching students with ASD at the elementary level. Within this population, the target population was art teachers teaching students with ASD at the elementary level in a large school district in a northern U.S. state. The sample size was approximately 12 to 15 elementary school art teachers. Data were collected using semistructured interviews conducted in-person or virtually using Zoom teleconferencing software, depending on participants' preferences. Once interviews were completed, data were transcribed and analyzed using Clarke et al.'s (2015) approach to thematic analysis. This approach consisted of (a) developing familiarity with the data, (b) conducting open coding, (c) developing initial themes, (d) validating themes, (e) naming themes, and (f) compiling a report.

Definitions

The following key definitions were important to the present study:

Autism spectrum disorder (ASD): ASD comprises a broad classification of mental health and neurodevelopmental disorders. Though the specifics differ greatly, ASD is most broadly characterized by difficulty in social relationships, obsessive or repetitive behaviors, and behavioral inflexibility (Chen et al., 2019).

Art therapy: Art therapy is a special therapeutic practice intended to help treat mental health difficulties through artistic expression (Jeong & Shim, 2021). Art therapy has demonstrated particular relevance to helping people with ASD.

School-based art education: School-based art education is teaching art as a class in school. School-based art education may have social and emotional benefits similar to art therapy (Frydman et al., 2022).

Assumptions

Assumptions are the basic underlying truths of a study. Assumptions must be true for the study to make sense, but they cannot be tested directly (Merriam & Tisdell, 2015). There are assumptions in all research; this study was no exception. The first assumption in this study was that the study participants would respond fully and accurately. This assumption was necessary because the qualitative data the present study relied on were subjective and could not be independently verified. A second assumption was that art teachers who taught students with ASD paid attention to their students' social and emotional responses to art exposure. This assumption was necessary as the present study relied on exploring the teachers' perceptions of those responses. This assumption was needed because the topic was not yet understood enough to employ quantitative methods and their ability to identify more tacit effects.

Scope and Delimitations

Delimitations are boundaries that serve to establish the scope of a study. As delimitations are bound to a study based on feasibility and focus, they are necessary for all research (Merriam & Tisdell, 2015). There were several delimitations in this study. First, the study was delimited to the elementary school context to focus on one aspect of the subject. The study was delimited to school-based art education and ASD in alignment with the practice gap that the study was intended to help bridge. The study was delimited to the specific context of art teachers' perspectives in elementary school art education to help ensure that the practice gap was addressed in a meaningful, specific way. The study was also delimited to the social and emotional benefits of school-based art education because of the specific needs of people with ASD in these two areas.

Limitations

Limitations are the weaknesses or shortcomings of a particular piece of research. Limitations are unavoidable drawbacks of the chosen methodological approach (Merriam & Tisdell, 2015). There were important limitations in this study. First, the study was limited by a small sample size and self-selection bias. As participants were recruited voluntarily, ensuring that the population was sampled in a representative fashion was impossible. Additionally, this study was limited by self-reported data. Because the study was qualitative, participants' responses could not have been verified independently, and only the participants' accounts contained the data. Therefore, these data might have been inaccurate through purposeful exclusion, falsification, or incorrect recollection. This

limitation was mitigated to the greatest extent by ensuring participants' data confidentiality.

Significance

This study is significant because it addresses a practice gap and a literature gap and has implications for practice and positive social change. As stated previously, Adoni-Kroyanker et al. (2019) argued that there are specific gaps between art therapy practices and field training and how art is taught and used in education settings. Therefore, there is a need to address the social and emotional benefits obtained by ASD students attending art classes and art teachers' perceptions of those benefits through qualitative methods, which may inform current practice. The present study is significant because it helps address a gap in the literature. Durrani (2021) indicated that art therapy is a promising approach to treating ASD, but in need of considerably more research. The present study addressed the question of how art education may have a similar function to art therapy and whether art education can achieve similar benefits. In addition, Hu et al. (2021) reported that the existing research on art for addressing ASD focuses on single case studies. Hence, more varied research on art as potentially helping address ASD is needed, to which this study contributes by examining teachers' practical experiences teaching art to students with ASD. Finally, Frydman et al. (2022) argued that art therapy is a promising but poorly understood modality within the school context for students with ASD and that more research on the social and emotional benefits of art in school is needed. The present study addresses all three of these calls from the literature by

exploring how art classes function similarly to or differently from art therapy regarding social and emotional benefits for students with ASD.

Relatedly, the present study addresses a practice gap. As established, art therapy is beneficial for ASD (Jeong & Shim, 2021). Some evidence also indicates that art in the educational context can help students with ASD in social and emotional capacities (Frydman et al., 2022). However, at present, it is unclear if the art education practiced by elementary school teachers has achieved such benefits or how those teachers perceive teaching art to students with ASD.

Practically, the present study is significant because autism is a prevalent and growing problem both in the United States and worldwide (Zeidan et al., 2022). Students with ASD may struggle to learn and progress through school or live independently as functional adults (Holmes & Butcher, 2019). However, students with ASD may also excel in some areas and do well overall (Chen et al., 2019). Therefore, there is a need to improve the treatment of ASD and help students with ASD function better. This study addresses the social and emotional benefits of art education in schools instead of full art therapy. School-based art classes offer a promising approach to avoiding external therapy and extra demands on students or families (Frydman et al., 2022). Addressing this practice gap may contribute to positive social change. Helping people with ASD is an important social goal, especially based on increasing ASD incidences. Suppose social and emotional benefits can be achieved in art class. In that case, the study may help with positive social change by decreasing the financial and time-use strains of needing to seek out direct art therapy from therapists.

Summary

In summary, the problem addressed through this study was the lack of knowledge regarding the art teachers' perceptions of the social and emotional benefits of art classes for elementary school students with ASD. To address this problem, the purpose of this qualitative study was to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD. The study was guided by a single qualitative research question: What are elementary art teacher perspectives on the social and emotional benefits of school-based art education for elementary students with ASD? The conceptual model informing the present study was Schweizer et al.'s (2019) art therapy framework: the COAT model. I used a qualitative method and a basic qualitative research design. This study is significant because it addresses a practice gap and a literature gap while having implications for both practice and positive social change. Chapter 2 presents the literature underlying the present study, including expanding the background and conceptual framework.

Chapter 2: Literature Review

Introduction

The problem addressed through this study was the lack of knowledge regarding the art teachers' perceptions of the social and emotional benefits of art classes for elementary school students with ASD. The purpose of this qualitative study was to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD. Additionally, studying art teachers' perspectives showed varied approaches to art class benefits for students with ASD (Hu et al., 2021).

Major Sections of the Review

In this literature review, I provide background regarding the foundation for the study. I review key concepts and variables related to the purpose of this study to provide an overview of art-based instruction for youth with ASD. This overview includes the benefits, challenges, and practices of art therapy, art integration, and different approaches to art instruction studied in the student population with ASD. Furthermore, I discuss various methodological tools used in the study of art-based intervention in the population and the benefits of play in art instruction. Then, I present an overview of art instruction's cognitive, social, emotional, and academic benefits. A summary and conclusion end Chapter 2.

Literature Search Strategy

The databases searched included Science Direct, JSTOR, ERIC, IEEE Xplore, Science Direct, Google Scholar, and NIH. The search terms included *autism spectrum disorder ASD, art, therapy, instruction, students, children, intervention, academic, cognitive, mobility, benefits, social, play, music, appreciation, integration, measurement tools, stigma, UDL,* and various combinations. Whether an article was peer-reviewed or from an otherwise reputable publication, published within the last 5 years, and focused on the topic/population under review determined its eligibility criteria. Lacking these criteria specified that the article was ineligible. Exceptions to these criteria were whether the source was seminal or dealt with an essential review aspect outside the time frame.

Conceptual Framework

The theory that supported this study was Schweizer et al.'s (2019) art therapy framework. Children with ASD regularly receive referrals to art therapy (Schweizer et al., 2017). Schweizer et al. (2017) developed the art therapy framework based on an extensive review of the existing literature, known as the COAT model. The COAT model was used to assess art-based efforts to help students with ASD by considering the four main aspects of any given art-based approach to treatment. The context category reflected the setting where the students are exposed to art. The outcomes category reflected the outcomes of the effort targets (Schweizer et al., 2017). The art category pertained to the type of art used in the therapy. Finally, the therapeutic behavior category reflected the specific efforts to make the arts engagement therapeutic and targeted to the needs of students with ASD (Schweizer et al., 2019). An initial study of the COAT model showed

that youth became more relaxed, expressive, flexible, and communicative about their experiences while improving their self-images (Balaramamurugan & Balakrishnan, 2023; Schweizer et al., 2017).

The creators of the COAT model performed a systematic literature review of practice-based studies to identify the foundational elements of art therapy for youth under 18 (Schweizer et al., 2014). The review included 18 descriptive case studies analyzed using the COAT model. Results from this analysis suggest that art therapy methods should adopt a more flexible approach that aims to improve students' self-image. Rather than focusing on outcomes, the teacher may use this model to create a relaxed and safe space where youth can explore social communicative issues through repetitive experimentation with tactile tools (Schweizer et al., 2014).

Schweizer et al. (2014) emphasized what many other studies have since found: that youth who play with tactile tools and movement in art therapies experience improvements in social behavior, attention, and communication (Amonkar et al., 2021; Bowen & Kisida, 2023; Durrani, 2019; Fancourt & Finn, 2019; Farrington et al., 2019; Morizio et al., 2022; Müller & Donley, 2019; Oberle et al., 2019; Parnell Prevost et al., 2019; Schweizer et al., 2014, 2019; Shouma, 2020; Steele, 2019; Stevens & Taber, 2021; Tang, 2023; Wilson & Landa, 2019; Vishwakarma, 2022). These improvements often result in improved mental health status (Agrawal et al., 2020; Greco & De Ronzi, 2020; Li, 2022; Malboeuf-Hurtubise et al., 2021; Nazeri et al., 2020). The COAT model could help develop a best-evidence-based practice model for art instruction for elementary school students in the United States.

The COAT model was the foundation of this study, which investigated how art teachers interacted with their students and their perspectives on students with ASD in their elementary art classes. The COAT model offered guidance for this study and was used to explain further how school-based art education could benefit students with ASD. Additionally, the COAT model used the behavioral perspective, usually not about the final art product but about the experience of creating art (Schweizer et al., 2014). As such, the behavioral perspective applied to the present study provided insights into the underlying behavioral motivations behind art instruction for ASD elementary students. Further, the COAT model used art therapy materials and expression to maximize therapeutic behaviors in action and support healthy outcomes for students with ASD (Schweizer et al., 2017).

Literature Review Related to Key Concepts and Variables

Overview of Autism Spectrum Disorder

ASD is classified as a developmental disorder (Balaramamurugan & Balakrishnan, 2023). The prevalence of the neurodevelopmental disability ASD has grown by 435% in the past 20 years, impacting 1 in 59 children in the United States (Schottelkorb et al., 2020). ASD results in a higher risk of lowered adaptive function, decreased quality of life, reduced educational achievement, lack of autonomy, and social isolation (Mazumder & Thompson-Hodgetts, 2019; Morsa et al., 2022; Schottelkorb et al., 2020). Symptoms of ASD include challenges with communication and social interactions that show marked patterns of obsessive repetition of narrow interests and behaviors, lack of eye contact, and speech development delays (Ashmawi et al., 2022;

Balaramamurugan & Balakrishnan, 2023). Sometimes, children with ASD lack awareness of how others are feeling, lack the skill of learning through imitation, show an absence of social play, demonstrate abnormal communication, and resist any changes in routine or environment.

Youth with ASD struggle with recognizing their emotions, resulting in frustration and acting out behaviors (Schweizer et al., 2020). In addition, some with ASD struggle with challenges in communication, relational skills, and sensory difficulties (Durrani, 2021). These include symptoms of varying degrees and intensity in the senses of smell, movement, equilibrium, body awareness, hearing, sight, and touch (Durrani, 2021).

Overview of Art-Based Therapeutic Instruction for Children

Art-based therapeutic instruction has many benefits for elementary school students (Adoni-Kroyanker et al., 2019; Beerse et al., 2020; Khodabakhshi-Koolaee & Darestani-Farahani, 2020; Malboeuf-Hurtubise et al., 2021; Yan et al., 2019). Art therapy is healing through creativity (Shavkatovna, 2023). The interdisciplinary application of artistic practice adopts creativity to suit the needs of children (Shavkatovna, 2023). Research has found that art therapies help reduce symptoms of attention deficit hyperactivity disorder, reduce dropout rates in schools, improve academic achievement, reduce behavioral problems, reduce symptoms of oppositional defiant disorder in students, and assist with adaptation into the school system (Adoni-Kroyanker et al., 2019). Additionally, art therapies have supported increased self-expression, awareness of emotions, and communication (Malboeuf-Hurtubise et al., 2021). Art therapy empowers youth to manage stress by providing alternative means of self-discovery and working

through difficult emotions (Beerse et al., 2020; Deboys et al., 2017; Malboeuf-Hurtubise et al., 2021). Some research indicates that art therapy may treat bullying in schools, both for the bully and for the bully's victim (Khodabakhshi-Koolaee & Darestani-Farahani, 2020; Yan et al., 2019). Additionally, art therapy can work with refugee youth who have experienced trauma, supporting a healthy transition into their new schools (Akthar & Lovell, 2019). In the refugee population, art therapy helps to rebuild trust, heal wounds, give youth their voice back, and explore identity (Akthar & Lovell, 2019).

However, it is important to note that the participants were art therapists in Adoni-Kroyanker et al.'s (2019) study. Although I worked with participants who were educators not trained in art therapy, there was a strong bias toward keeping art instruction only with those who focused on learning the arts. This bias was present in the dialogue of art instruction, with many believing arts should remain specialized and taught only by those with extensive training (LaJevic, 2013).

An art therapist has a different role than an art instructor, and the context is different, as art therapy occurs in a clinical setting. In contrast, art instruction occurs in a typical school setting. Art therapists will work with individual children to meet specific goals, while an art instructor will work with an entire class (Loesl, 2010). Art instructors often work to instruct students in multiple mediums, teach the foundational principles of art, and help students create a finished artifact (Loesl, 2010). However, because of the emotive nature of art, the lines between art therapy and art instruction can become blurred (Loesl, 2010). Additionally, due to the increased crossover between pedagogic

disciplines and new technologies, teachers are becoming more open to collaboration between specialties to reach their students (Tzima et al., 2019).

U.S. schools have become increasingly diverse, and general education teachers must prepare to reach a broad demographic of students (U.S. Department of Education, 2019). Research reports that on average, half of U.S. youth have experienced or are living with trauma in their lives (Koslouski, 2022). Elementary students are experiencing elevated stress, anxiety, and depression levels due to violence and unrest in the world, the nation, and their homes (Berberian, 2019). The Centers for Disease Control identified that 13 to 20% of youth in the United States have a mental health disorder, and 50% of all lifetime cases of mental health issues begin by age 14 (Berberian, 2019). Many educators and researchers believe that art therapy/instruction is a vital tool (Abdulah et al., 2021; Akthar & Lovell, 2019; Berberian, 2019; Khodabakhshi-Koolaee & Darestani-Farahani, 2020; Malboeuf-Hurtubise et al., 2021; Yan et al., 2019).

Researchers have investigated how art-based therapeutic instruction can help elementary school students deal with stress. Studying the impact of drawing interventions on the emotional/mental health of elementary school students, Malboeuf-Hurtubise et al. (2021) found that students' mental health and attention improved due to this art intervention, and researchers requested a greater analysis of the long-term impacts (e.g., Malboeuf-Hurtubise et al., 2021). Additionally, researchers asked elementary school students to draw their feelings and reflections during the pandemic. This art therapy approach helped young students express their stress, sadness, loneliness, and fear about pandemic conditions (Abdulah et al., 2021). Nazeri et al. (2020) corroborated this finding

with their discovery that expressive art therapy's use of imagination, active participation, self-expression, and improving the mind-body relationship reduce stress for young students effectively.

Furthermore, art instruction effectively ameliorates the adverse effects of social, developmental, and behavioral challenges in youth with ASD (Lavric & Soponaru, 2023; Schweizer et al., 2019). This process provides a safe space for children to experiment with new ways of seeing themselves, interacting with peers and caregivers, and looking at the world (Bharathi et al., 2019; Schweizer et al., 2019). The wide range of different types of materials and approaches in art instruction provides an extensive range of opportunities for sensory experiences and growth with managing stimuli (Bharathi et al., 2019; Schweizer et al., 2019). However, one survey in Sweden indicated that only 44% of occupational therapists used arts interventions even though there was good evidence to support their use (Bernier et al., 2022). This finding represents a lack of awareness, discussion, and application in community interactions with students with or without disabilities.

One art therapy program developed for working with ASD students is the "Images of Self" intervention (Schweizer et al., 2020). Two instruments were developed as program evaluations: the Observation of a Child with ASD in Art Therapy and the Evaluation of the Art Therapist working with a child with ASD. This program uses a triangular relationship in that all communication between the child and the therapist occurs through art-making. The program is aligned with individualized interests and consists of 15 weekly individual sessions lasting 45 minutes in which the child receives

encouragement to experiment with making art and expressing themselves (Schweizer et al., 2020). The result of this program is increased self-confidence in youth with ASD, which can translate into improved skills, comfort with change, adaptability, and sense of self (Schweizer et al., 2020).

Another tested art therapy approach is the sensory-based relational art therapy approach ([S-BRATA]; Durrani, 2021). This intervention approach aims to work on impaired attachment and *sensory integration dysfunction*. Sensory integration dysfunction is a lack of appropriate interpretation of sensory information. One study uncovered seven keys to the efficacy of the S-BRATA. These themes are (a) feeling safe; (b) individualized approach; (c) materials for engagement; (d) attachment strengthening, (e) flexibility; (f) providing structure and boundaries; and (g) focus on the process, not the product (Durrani, 2021). This model supports the aims of COAT and other approaches, adding to the lexicon of tools for art instruction for students with ASD. The general classroom setting now includes many students with disabilities, and teachers have begun looking for methods to connect effectively with all students (Al Jaffai, 2022).

Different Types of Art Methods Involved in Instruction

Many different types of arts fall under the domain of art instruction. Visual arts include painting, drawing, photography, graphic design/interior design, sculpture, illustration, performance, drama, and video art (Stolar, 2018). Poetry and creative writing (fiction, screenplay, autobiography, plays, etc.) also fall under the domain of art, but traditional art instruction often lacks these elements (Lemerond, 2019). Dance and

singing are forms of art that fall under traditional art instruction (Jusslin & Höglund, 2021).

Music therapy is a form of art instruction that seeks to engage youth with and without disabilities in music appreciation of composition and passive appreciation (Kyriakakis, 2020; Li, 2022). Current research reports suggest that youthful participation in music increases IQ (Takacs & Kassai, 2019). One motivation for this approach is that students with ASD who develop a music appreciation can transfer those skills into nonmusical goals through growth with self-confidence, skills, and self-efficacy (Kyriakakis, 2020). Research on music composition for students with ASD has shown various levels of improvement in communication, emotional state, and comfort in transitioning between tasks (Kyriakakis, 2020). Additionally, art instruction via music positively impacts communication skills in students with ASD by addressing neurological challenges in the brain, according to current studies (Safonicheva & Ovchinnikova, 2021, 2021).

Some researchers posit that oral-motor deficits may be secondary to expressive speech and that music can help to reduce hyper-reactivity to sound (Bharathi et al., 2019; Pedregal & Heaton, 2021). Music helps to regulate arousal levels neurologically and helps improve attention capacity as different aspects of the brain are engaged (Bharathi et al., 2019). Creating a musical intervention for youth with ASD, researchers successfully improved facial and vocal emotion recognition. Researchers achieved this by working with the unique neurological makeup of ASD, in which youth with ASD showed that the physiological patterns of arousal that music stimulates can help verbal labels become

attached to the emotions that music creates (Bharathi et al., 2019; Pedregal & Heaton, 2021). This arts-based intervention showed improvement in communication and emotional recognition in youth with ASD. Additionally, students without disabilities benefit from music instruction as it improves their active listening, attention, and engagement in the classroom (Degli Innocenti et al., 2019). In addition, art instruction, including teaching music and using musical activities, helps youth with disabilities learn education concepts (Mousa et al., 2021; Yucesoy et al., 2020).

Another art form is the movement arts, such as martial arts, yoga, and aikido (Kaur et al., 2021; Polak et al., 2019). One comparative study halved 24 students with ASD in a yoga group or a play/arts group with a pre-post-test design. Affective states, communication, and joint attention were studied. This study found that both groups improved in joint attention. Students in the yoga group showed improved responsive and spontaneous communication. Researchers failed to find effective changes, but the yoga group showed lower negative affect (Kaur et al., 2021; Polak et al., 2019). This study emphasized the value of blending art-instruction methods to help with the many different types of challenges ASD students experience.

Gaming is another form of art that has come into prominence with technology. Games integrated into art instruction may engage students where they are developmentally challenged and through their interests (García-Redondo et al., 2019; Le, 2019). Digital game-based learning uses gameplay to support skill growth and knowledge acquisition through games with problem-solving challenges that enhance motivation even as students learn and grow with a sense of achievement (Qian & Clark, 2016). As a form

of play, games help art instruction take on individualized meaning (Woodruff, 2019). An author observed that ASD students would draw pictures or sing songs about the characters and worlds from games they played or observed (Woodruff, 2019). Art instruction, not including digital technology tools, may limit what students with ASD will connect with effectively (Woodruff, 2019).

Some art instructors believe that offering new technologies for art instruction can provide context for their use alongside the foundational educational philosophers (Kang, 2019; Weida, 2019). Using arts to improve student engagement with science, technology, engineering, and mathematics (STEM) is a growing focus (Kang, 2019; Wajngurt & Sloan, 2019), but it is not without detractors (Aguilera & Ortiz-Revilla, 2021). This approach suggests using video modeling for students with ASD, as these students have less trouble processing visual material than auditory/spoken word direction (Weida, 2019). One study indicated that 66% of ASD students mastered creating art through only two video modeling sessions (Weida, 2019). In addition, regardless of level, every student improved through art instruction in this study (Weida, 2019).

Arts Integration

The practice of arts integration (AI) in the classroom reveals teaching through the arts or applying the approach of art to many subjects flexibly. However, AI is not teaching art or a replacement for art instruction but is a means of connecting one art form (drama, drawing, singing, painting, etc.) to another academic area (language, math, geography, biology, etc.) as a means of enhancing understanding and engagement (Shouma, 2020). Students may develop creative problem-solving in ways that will benefit

their long-term learning outcomes through the inclusion of art in the instruction of math and science (Kang, 2019; Rosen-O'Leary & Thompson, 2019; Wajngurt & Sloan, 2019).

AI for students with disabilities has been correlated with improvements in motivation, cognitive learning, and social improvements (Shouma, 2020). The AI program Turnaround Arts improves the outcomes for low-performing schools experiencing high turnover, poor leadership, high rates of student disciplinary referrals, and chronic absenteeism in some situations, according to a recent study (Steele, 2019). Turnaround Arts uses AI as a lever of transformation in this program, and a great deal of empirical evidence has supported the interventions' outcomes (Ludwig et al., 2017; Miller & Bogatova, 2018).

Researchers have investigated the elements that support and challenge teachers' AI practices and perceptions (Hipp & Sulentic Dowell, 2019; LaJevic, 2013). One such analysis of 74 preservice teachers on these questions, using end-of-semester reflections as data, found that preservice teachers desired administrative support in AI, mentorship, and in-service training (Hipp & Sulentic Dowell, 2019). One study analyzed elements supporting and challenging teachers' AI practices (LaJevic, 2013). Barriers included general classroom teachers lacking knowledge about the arts and the relationship of arts to learning. AI is a complex process that incorporates planning, materials, and skills (LaJevic, 2013).

Shouma (2020) surveyed teachers and caregivers studying the use of artificial intelligence on students with disabilities. This study found that caregivers of students with disabilities strongly supported artificial intelligence as they saw the benefits in

students at home and in social situations. In addition, teachers supported artificial intelligence and were prepared to take it on in their classrooms. Shouma emphasized the need to provide further evidence on what types of disabilities artificial intelligence impacts the most to create a best-evidenced-based model. Elementary school students are now taught machine learning concepts, which are the language and development of artificial intelligence (Marques et al., 2020). This example shows that integrating the arts and sciences in elementary schools for students with and without disabilities has the potential for many diverse applications in the immediate learning environment and the context of future careers (Marques et al., 2020).

Challenges of Art Instruction for Students With Autism Spectrum Disorder

Students with ASD experience many challenges with learning due to the complex nature of their disability. Due to the challenges of social cognition, social skills deficits, and resulting frustration, many students struggle with understanding and achieving performance outcomes (Bosgraaf et al., 2020; Müller et al., 2019). Students with ASD often struggle with executive function, which adversely impacts their capacity to work independently or follow instructions (Mahoney, 2019). Additionally, students with ASD struggle to collaborate, stay on task, or adequately communicate their levels of understanding or agreement when a task is assigned (Mahoney, 2019). Difficulty comprehending stimuli and other social skills handicaps create teaching challenges for students with ASD for teachers of all levels of mastery and experience (Mahoney, 2019). Many students with ASD experience social cognition challenges that confuse what is one’s feelings and thoughts and which are another’s thoughts (Müller et al., 2019).

Additionally, students with ASD experience challenges identifying and appropriately responding to social cues and often find themselves stymied by the complexities of social interaction (Müller et al., 2019). Teachers have commented that the sensory and cognitive challenges ASD students experience disrupt their participation and learning (Jones et al., 2020).

Teachers experience challenges meeting the needs of students with and without disabilities due to large student volumes and high student-to-teacher ratios (Mahoney, 2019). This workload makes it especially challenging to tailor instruction to individual students' needs, especially given curricular pacing requirements (Le, 2019). Additionally, the challenges ASD students experience often lead to them experiencing frustrations and anger that can manifest as behavioral problems that cause distress and disrupt class (Jones et al., 2020).

Jury et al. (2021) surveyed over 1,000 teachers to understand their experiences, perspectives, and feelings on the difficulty of teaching ASD students. They found heavy bias from teachers who associated ASD with behavioral problems without any additional knowledge of the students beyond their ASD status (Jury et al., 2021). Teachers' attitudes toward students with ASD were mostly negative, and strong discriminatory beliefs were found. The researchers pointed out that new categories to describe types of students with ASD (non-behaviorally challenged) may help to reduce this bias (Jury et al., 2021).

Students with disabilities may or may not have behavioral challenges. Expanding teacher awareness, developing skills to manage possible behavior problems, and reducing bias toward disabled students are fundamental goals of this research. Many teachers

desire to include students with ASD in their classrooms but are not equipped to teach them successfully (Rodden et al., 2019). Special education training for all teachers may be the next step in addressing this competency gap.

Danker et al. (2019) surveyed 20 teachers' perspectives on supporting ASD student wellbeing and identified three themes based on teachers' responses. Teachers described their understanding of ASD students' well-being as being safe and engaging in the classroom. The researchers identified three challenge areas for ASD students' learning: a teacher's capacity to teach ASD students, the impact of ASD, and the school environment (Danker et al., 2019). Because ASD students' well-being is closely tied to their school environment, teachers suggested that school administrators improve the school culture (Danker et al., 2019). An improved school culture that allows for and respects differences will support all student outcomes. For example, a school culture supported by positive leadership and supportive behavioral management will help reinforce student outcomes even as it improves the school's organizational image (Danker et al., 2019; Kalkan et al., 2020).

Researchers emphasized that if students with ASD are motivated to participate, they need access to support (Hodges et al., 2020; Rukavina et al., 2019). The primary means of access to school support is the ethos of school culture (Hodges et al., 2020). Leadership is the primary way organizational culture is expressed, reflected in the call for leadership support throughout the literature (Rukavina et al., 2019; Sandwick et al., 2019). Teachers often act on their initiatives to support students with disabilities in managing school expectations (Rukavina et al., 2019). One way of improving access to

school culture for students with ASD is to pair them with neurotypical students for activities and group work.

As the population of individuals with disabilities grows, there is a need to foster engagement, collaboration, and peer support in school (Kuntz & Carter, 2021). Art instruction that brings disabled students into interaction with nondisabled students may be an excellent way to help nurture these inclusive connections that reduce bias. This process may help to address the fact that many students with disabilities have little interaction with nondisabled peers (Kuntz & Carter, 2021). If teachers encourage connections between normally abled students and students with ASD in the elementary school years, they may become more natural in high school and the job marketplace.

Reduction of Availability of Art Instruction

Today, art instruction faces many challenges that reduce the quality and availability of instruction. Increased demands for class time and resources focused on mandated curricula geared toward standardized tests emphasize other courses over art-instruction (Le, 2019). Additionally, art engagement and participation have been significantly reduced in the American public even as the expressed desire for the arts increases (Rabkin & Hedberg, 2011). Funding issues also dictate arts instruction availability to match the class enrollment size. Research has found that traditional public schools with large enrollments are most likely to provide access to arts instruction, while public charter high schools are the least likely (Elpus, 2022). Urban and rural locations of art instruction were found to be unrelated (Elpus, 2022).

Impact of Stigma

Stigma is how the status quo is reinforced through labels of *us versus them* (ingroup/outgroup) mindsets (Massa et al., 2020). In this context, neurotypical students would be the ingroup because they are statistically dominant, while students with ASD would be the outgroup because their numbers are lower. Recent limited evidence suggests that exposure to or practicing art can reduce cultural stigma by opening individuals' minds to many different ways of representing people and objects (Gaiha et al., 2021). However, many students who want to try an art form, such as dance, can face stigmas associated with gender, sexuality, and ethnicity (Massa et al., 2020; Valls et al., 2019). For example, helping boys overcome stereotypes about dancing can help reduce gender stigmas (Valls et al., 2019). Ideally, art instruction that helps reduce stigma may also help reduce stereotypes.

Parents of students with ASD admit that they are fearful that their child may not have a typical childhood due to their disability and the stigma associated with it (Adugna et al., 2020; Ledson, 2020). Advocates emphasize that access to the arts is an ethical right for all students and that students with ASD can find ways of unlocking personal potential through art that may not be available from traditional academic content. (Ledson, 2020).

Art instruction is one intervention that can reduce environmental and social barriers that sustain stigma (Wilson & Landa, 2019). However, Wilson and Landa (2019) indicated that the overarching administrative culture of education constrains the novel application of best-evidence-based practices for students with disabilities. This type of constraint is one way that stigma and stereotypes are reinforced. Creating an

organizational culture that is flexible and open to change would help reduce such patterns of stigma, stereotypes, and closed-mindedness toward students with ASD.

Ledson (2020) taught students with ASD to utilize artistic expression through song and dance, which opened them up to a wide array of new experiences and expressions. Working as an artist and a teacher for students with ASD, Ledson (2020) commented that there are inequities and exclusionary practices in the research on ASD. Diemer et al. (2022) expanded this analysis by emphasizing the need to increase awareness of the stigma against using artists as teachers for this demographic. This process requires policy shifts encouraging empathy and vulnerability, practical changes in class size, and behavioral support to improve art instruction for ASD students (Ledson, 2020; Wilson & Landa, 2019).

Stigma creates fear that inhibits expression, action, and embodied interaction (Massa et al., 2020; Van Laar et al., 2019). Research emphasizes that art-making can help break down stigma and support healing (Gentle et al., 2020). The largest effect of art instruction impacting mental health stigma conceptions and actions was interventions that apply multiple art forms, which aligns with the universal design for learning (UDL) principles (Gaiha et al., 2021).

UDL principles can help address stigma (Al Taqatqa, 2023). The UDL model helps express pedagogic approaches informed by the growing understanding of the wide range of capacities in the ASD population. The UDL approach asks educators working with ASD students to provide multiple alternatives in instruction to give students choices and many opportunities to connect with the material based on their unique developmental

needs (Al Taqatqa, 2023). Instruction not geared toward addressing a normative developmental level may lead ASD students to feel isolated and triggered by their unique cognitive processes. Rather than forcing students already challenged to adapt to standardized instructional methods, the UDL approach adapts to their needs from the start (Odom et al., 2021).

Studies on Art Instruction for Young Students

There are many different approaches to art instruction for elementary school students. The Every Student Succeeds Act emphasizes that the arts are part of well-rounded instruction, and national surveys have shown that the public agrees wholeheartedly with this assertion (Bowen & Kisida, 2023; Holochwost et al., 2018). Arts instruction can lead to more well-rounded individuals through improved social-emotional learning (Farrington & Shewfelt, 2020). Research has found that art instruction supports the developmental aspects of sensory integration and executive functioning in youth with ASD (Macmbinji & Gachigi, 2022). Research has found that engaging in the performing arts has lasting cognitive and skill acquisition value in students without disabilities (Tomporowski & Pesce, 2019). Through a systematic literature review exploring the relationship between physical activity and cognition, Tomporowski and Pesce (2019) found many studies supporting the link between exercise and improved cognition. Additionally, students without disabilities have improved social belonging and general mental health if they practice an art such as music or theater (Oberle et al., 2019).

Researchers emphasized that new advances in teaching practices and research worldwide progressively dispel the misconception that students with disabilities cannot

engage (Fancourt & Finn, 2019; Woodruff, 2019). The World Health Organization (WHO) performed a sweeping review of the global evidence on the benefits of arts instruction for mental health (Fancourt & Finn, 2019). Synthesizing over 3000 studies, this WHO report found strong evidence that instruction and practice of the arts improve physical and mental health immediately and over the entire lifespan. The WHO emphasized that there is enough evidence to support large-scale investments in the arts worldwide and that now is the time to act (Fancourt & Finn, 2019).

Deboys et al. (2017) studied 14 children's progress with school-based one-to-one art therapy to generate a theory to support a best-evidenced-based model. In addition to interviewing students, the authors interviewed parents, teachers, and art therapists to provide a broad-based context. Schweizer et al.'s (2019) art therapy framework also corresponded to this theory. The Deboys et al. model has three components. Component 1 is the school context, which addresses the nature of art therapy and how it impacts school culture. Component 2 is the core model, which describes art therapy as an individualized and child-centered practice facilitating students' change and growth. Component 3 is "change and no change" (Deboys et al., 2017, p. 20), which represents the connection between setting therapy goals and observing change en route to these goals.

One study examined the impact of integrating mathematics and the visual arts to determine if it improved math outcomes (Schoevers et al., 2020). Schoevers et al. (2020) studied how one group of teachers taught the non-arts integrated curricula, while another taught the arts-integrated curricula for a comparison study. Based on pre- and post-measurements, results showed no significant improvement in the arts-integrated group in

math (Schoevers et al., 2020). Integrating the arts into traditional instruction cannot be achieved without specialized training if it is to be effective. For example, a group of researchers in one training program provided professional development training to teachers to improve their AI approach (Boice et al., 2021). Boice et al. (2021) used focus groups, surveys, and written reflections from participants and found that training was helpful for AI preparedness. Although a 5-week summer training session was helpful, this program emphasized that teachers needed ongoing support to remain successful with AI (Boice et al., 2021).

Different Tools Measuring Outcomes

Art therapies are helpful for students who have challenges verbalizing their struggles and desires. The following assessment measures for ASD and art experiences explore how students with ASD can be assessed and supported through art instruction. Helpful to the success of this approach is working within the student's zone of proximal development and the attachment between the student and the art instructor (Deboys et al., 2017). Researchers suggest using the Therapeutic Alliance Scale for Children-Revised to measure the healthy attachment between the student and the art instructor (Deboys et al., 2017; Müller & Donley, 2019). Additionally, the Test of Emotional Comprehension may help gauge the students' cognitive capacity (Deboys et al., 2017). The Autism Social Skills Profile helps measure if and how much students with ASD improve in social skills via play and art instruction (Müller & Donley, 2019).

Researchers and teachers may use the Modified Autism Research Institute survey to assess signs and symptoms of ASD and how it interacts with interventions (Parnell

Prevost et al., 2019). Furthermore, they may rely on the Autism Treatment Evaluation Checklist to assess a child's development and progress, which is often filled out by parents (Parnell Prevost et al., 2019). The Quality of Life Child Health Questionnaire likewise assesses how an intervention improves a child's quality of life (Parnell Prevost et al., 2019). The Social Skills Improvement System Rating Scale and the Behavior Rating Inventory of Executive Function Scale assess social skills and behavior improvements in youth with ASD (Greco & De Ronzi, 2020).

The Benefits of Play

Art therapy aims to increase a student's capacity to engage in play as a means of learning, self-expression, and relationship building (Adoni-Kroyanker et al., 2019; Bitan & Regev, 2022). Dopamine is a chemical released during play that reduces stress levels and increases health (Agrawal et al., 2020). For students with ASD, engaging in play supports improved social rapport with other students and teachers, which may be aided by the dopamine released during play (Müller & Donley, 2019). Play's benefits are profound, as it supports children's expression of inner emotional conflict and how they view themselves in the world. This expression offers a nonthreatening way for those with ASD to express themselves (Adoni-Kroyanker et al., 2019). Psychologists encourage students to lead during play, which helps develop autonomy (Müller & Donley, 2019).

Another benefit of play is that it reaches children at their developmental level. This benefit is true for children without disabilities who may have developmental restraints on the verbal expression of feelings (Müller & Donley, 2019). Children with ASD struggle with verbalizing their thoughts and communication (Carruthers et al.,

2020). Past psychologists have theorized that play enables a child to relax enough to reduce inhibitions toward expressing themselves (Deboys et al., 2017). Aligning play/art instruction goals with the Individualized Education Program goals for ASD students can help maximize growth and learning opportunities (Müller & Donley, 2019). Researchers suggest using the Children's Playfulness Scale to study how playfulness impacts outcomes and can grow through art therapy (Deboys et al., 2017; Müller & Donley, 2019). Additionally, observational studies of how children interact with art therapies indicate they expand awareness of this practice's challenges and benefits (Deboys et al., 2017).

Cognitive Benefits of Art Instruction

Cognitive benefits of including arts in the classroom include increased student engagement, focus, concentration, problem solving, and creative thinking (School Specialty, 2022). Additionally, exposure to the arts improves individuals' entire life cycle of health and wellbeing (Fancourt & Finn, 2019). Some students with and without disabilities suffer from anxiety, which inhibits wellbeing (Lavric & Soponaru, 2023; Van Steensel et al., 2011). Art instruction can help reduce that anxiety by empowering students with hope through creative expression (Bentz, 2020). Some believe that art instruction in modeling and working with clay can offer increased sensory discernment, imagination, and self-awareness, manifesting many cognitive improvements (Whiteford, 2022). There is a limited number of scholarly studies on the cognitive outcomes of art instruction (Rosen-O'Leary & Thompson, 2019). Researchers have pointed out that this

deficiency in research is due to the insufficiency of biomedical evidence resulting from a lack of investigation on this topic (Bowen & Kisida, 2023; Sehgal, 2022).

However, some researchers have requested more research on the inclusion of the arts in STEM education to science, technology, engineering, arts, and mathematics (STEAM; Braund & Reiss, 2019; Bush et al., 2020; Rosen-O'Leary & Thompson, 2019). The STEAM approach transitions from focusing on pedagogic approaches determined by standardization requirements and pivots into integrating standards, lesson design, implementation, and assessment more fluidly (Rosen-O'Leary & Thompson, 2019). Rather than focusing on climbing a standardized ladder to precise outcomes, a STEAM approach seeks to support the cultivating of holistic life-long learning (Braund & Reiss, 2019). Encouraging students with ASD to develop a holistic love of learning in elementary school may support learning outcomes in both the short and long term.

The STEAM AI method empowers teachers to create transdisciplinary approaches to problem-solving that provide opportunities for students to develop creative problem-solving that supports cognitive development (Quigley et al., 2019). The STEAM approach focuses instruction on a local problem and solution rather than overwhelming students with global issues (Braund & Reiss, 2019). This method illustrates how many problems that fall into the STEM disciplines have no one solution but rather many, emphasizing cognitive plasticity development. Students who can cultivate the ability to recognize the best of many solutions will begin creative skill cultivation needed in future economies (Quigley et al., 2019). This approach empowers students to retain information by making it their own through creative integration (Rosen-O'Leary & Thompson, 2019).

Those students who may not have a predisposition toward science, technology, engineering, or mathematics may make surprising cognitive leaps and connections with the integration of the arts (Braund & Reiss, 2019).

As a form of cognitive stimulation, the arts help improve sensory activation, imagination, aesthetic engagement, and evoking emotion (Fancourt & Finn, 2019). Research has shown that young people exposed to music have improved cognitive processing capacity, resulting in more adept speech (Canette et al., 2020; Zhao & Kuhl, 2016). Randomized design testing the impact of a laboratory-controlled music intervention with a control group yielded this finding. The intervention group experienced 12 sessions of multimodal, social, and repetitive play with music. The control group had the same multimodal, social, and repetitive play without music. The music intervention group showed higher neural processing as measured by magnetoencephalography. The musical intervention showed more significant activity in the brain's auditory and prefrontal cortical areas, which resulted in more adept speech (Zhao & Kuhl, 2016). In addition to supporting speech, music therapy may improve mood-related disorders to enhance cognitive development in elementary school students through supporting mood management (Li, 2022).

One of the cognitive benefits of art instruction is the practice of becoming comfortable with making mistakes (Anderson et al., 2020). In a highly standardized curriculum, mistakes have very little place or benefit. However, mistakes are a natural part of life, especially for children’s development and learning. Art instruction teaches that mistakes can be beautiful, leads to unexpected insights into the dynamic process of

the arts, and supports academic outcomes (Anderson et al., 2020). Literature on social interaction emphasizes the value of surrendering and making way for self-awareness through releasing control (Benford et al., 2021). This approach is constructive for elementary school students who struggle with managing social interactions and control issues. Researchers emphasized that intertwining technology with the physical body demands interpretation and exploration (Anderson et al., 2020; Benford et al., 2021). Game theory, contests, and playful interactions all explore these themes in valuable ways (Benford et al., 2021). Engaging students in practices that help them become comfortable releasing control. Integrating learning objectives may empower them to design their playful learning tools.

Physical Movements Benefits of Art Instruction

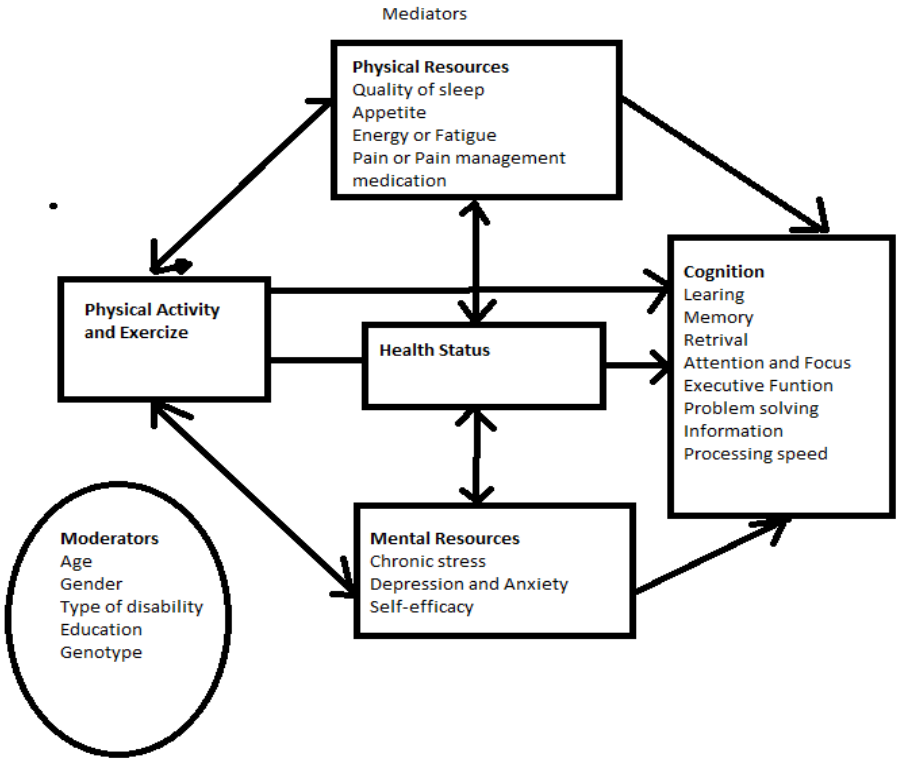
During COVID-19, the benefits of arts instruction in the form of movement games for students with ASD became clearer (Shahidi et al., 2020). One program in Canada used game creation within the school, creating balloons, foam dice, scares, bubbles, and boxes to help students with ASD gain confidence as they improved their physical activity levels (Shahidi et al., 2020). This program was limited during the lockdown. Improved physical activity has increased the psychological and cognitive benefits of managing anxiety, building self-esteem, and improving overall psycho-socio development (Shahidi et al., 2020).

The movement arts include dance, performance art (theater), and martial arts (Amonkar et al., 2021; Tomporowski & Pesce, 2019). Including movement arts in elementary school can not only provide the many benefits of exercise (increased health,

energy, immunity, sleep, and focus) but also improve cognitive processing and skill development (Filgueira et al., 2021; Laurens et al., 2020; Tomporowski & Pesce, 2019). Figure 1 illustrates the complexity of this relationship.

Figure 1

Impact of Movement on Cognition and Health



Note. Information found in "Exercise, Sports, and Performance Arts Benefit Cognition via a Common Process," by P. D. Tomporowski and C. Pesce, 2019, *Psychological Bulletin*, *145*(9), p. 929 (https://biggerbetterbrains.com/wp-content/uploads/2023/05/Tomporowski_Exercise-Sports-and-Performance-Arts-Benefit-Cognition-Via-a-Common-Process.pdf). In the public domain.

Figure 1 shows how interwoven cognition is with the entire being and the role of movement in balancing physical and mental resources (Tomporowski & Pesce, 2019). Physical activity directly relates to improved health status and how physical health

impacts cognition in multiple domains (Tomporowski & Pesce, 2019). Kriellaars et al. (2019) supported this assertion by discovering that literacy rates improved by including creative movements, such as circus arts in elementary school. Circus arts are the activity of tumbling, acrobatics, acting like a clown, or anything else students determine to be as entertaining as a circus. This study showed active improvements in youth's confidence, literacy, and desire to participate (Kriellaars et al., 2019). This finding emphasizes the need to find ways to engage students' interest in ways that will promote healthy habits, and in this, the arts have many avenues.

Integrating the newest technological approaches with creative AI may spark new engagement from elementary school students in physical movement and health. One program explored this relationship through "Child-Robot Theater" in a rural elementary school with socioeconomic depression (Barnes et al., 2020). This program included 23 children participating in a theater production where technology, science, and robotics selectively integrated acting, dancing, singing, and drawing. The Child-Robot Theater program encouraged the development of collaborative problem-solving skills while promoting confidence through new experiences (Barnes et al., 2020).

One of the intentions of the Child-Robot Theater is embodied interaction (Barnes et al., 2020). The creators stated that they want to support children's learning through doing and movement that increases knowledge and confidence. The authors emphasized that this program's rich sensory and tactile opportunities promote collaboration and peripheral participation that helps children expand their comfort levels through play (Barnes et al., 2020). Although fun, this program helped integrate STEM into STEAM

and could prepare the next generation to solve complex problems creatively (Barnes et al., 2020). The program creators designed a kind of "Robot Opera" (Jeon et al., 2017) and other programs with similar goals.

Social Benefits of Art Instruction

Although symptoms vary significantly in youth with ASD, the compounding symptoms and stigma often lead to social isolation (Underhill et al., 2019; Zhang et al., 2022). Research has found that participation in the arts helps develop social skills that improve conflict resolution through improved imagination, empathy, collaboration, and transformative learning (Fancourt & Finn, 2019). As an expression of a healthy culture, social engagement for a better future requires social and emotional learning. Arts instruction is an ideal means of promoting social/emotional learning that exposes young children to a vast range of humanistic experiences that encourage the development of complex skills (Farrington et al., 2019). Arts engagement impacts the entire range of the social determinants of health, promoting overall development and an individual's capacity for caregiving (Fancourt & Finn, 2019). This finding indicates that social wellbeing is not an absence of conflict or disease but a state of culture supporting social engagement and expression that includes the belief in the potential of society (Fancourt & Finn, 2019).

The experience of engaging with art may increase compassion and empathy (Bowen & Kisida, 2023; Morizio et al., 2022). Healthy empathy and compassion are forms of emotional regulation that help improve social interaction (Bowen & Kisida, 2023; Morizio et al., 2022; Stevens & Taber, 2021). Students have reported that

appreciating works of art helps provide the means for them to empathize with others (Bowen & Kisida, 2023). Young students who receive art instruction show a greater interest in how people feel and a greater desire to help those mistreated (Bowen & Kisida, 2023). This example shows how arts instruction can reduce bullying (Khodabakhshi-Koolaee & Darestani-Farahani, 2020; Yan et al., 2019).

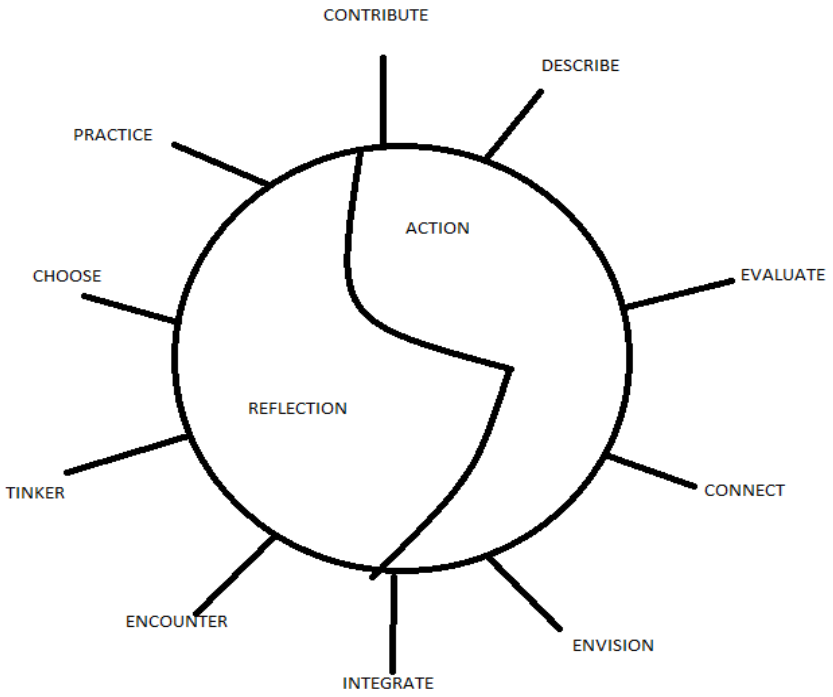
The collaborative process of making art, being part of a theater production, or being part of a choir may improve social skills (Farrington et al., 2019; Steele, 2019). This process provides a visceral lived experience in which a group can do things coordinating together that an individual cannot, such as five-part harmony. Such lessons provide lifelong insight into the value of social engagement when taught to elementary school students (Farrington et al., 2019; Steele, 2019). A study of students who participated in an arts-integrated elementary school affirmed these findings. Four years after their AI exposure, these students attributed their improved social skills to their early interactions with the arts (Steele, 2019). These students reported greater appreciation for their teachers and schools who provided the AI, citing improved communication, a sense of community, and confidence (Steele, 2019).

Such social engagement may be more valuable than ever due to the isolating trends of smartphones and the pandemic (Muhammad et al., 2019; Rauschenberg et al., 2021). Relatedly, a group of researchers have presented a theory of action on how arts instruction may improve social-emotional development (Farrington & Shewfelt, 2020). The theory of action begins by ensuring every student has access to arts instruction and is

structured by (but not rigidly beholden to) standards-based instruction (Farrington & Shewfelt, 2020). Figure 2 shows the theory of action of art instruction.

Figure 2

Theory of Action of Art Instruction



Note. Adapted from *How Arts Education Supports Social-Emotional Development: A Theory of Action*, by C. Farrington and S. Shewfelt, 2020, ERIC (https://files.eric.ed.gov/fulltext/EJ1241261.pdf).

Figure 2 was created by uniting art-specific research with scholarly literature from multiple domains to determine how the arts support social-emotional competencies (Farrington & Shewfelt, 2020). Figure 2 illustrates how teachers constantly take action and reflect on that action so that their next action will reflect a deeper understanding of

their students' needs, which is then applied in arts instruction. Tools that support integrating the shared vision of the arts and academics support this cyclical relationship. Central to this goal is teachers creating a safe space for students to play and experiment in through the arts (Farrington & Shewfelt, 2020).

One key to improved social interaction for students with ASD is improving communication skills. Research has found that arts instruction via creative movement therapies has consistently improved communication in this population (Amonkar et al., 2021; Parnell Prevost et al., 2019; Vishwakarma, 2022). The strongest findings are for mixed movement programs involving martial arts, yoga, and theater (Amonkar et al., 2021). However, further research may expand these gains into the affective, functional, and sensory domains (Amonkar et al., 2021).

Greco and De Ronzi (2020) analyzed improvements in communication and behavior in youth with ASD based on a creative movement intervention. Greco and De Ronzi conducted a comparative study using a control group and neurotypical peers who facilitated communication in the intervention group. Participants formed peer groups based on their gender, age, and severity of ASD. After 12 weeks, ASD students supported by neurotypical peers of 14 youths 8 to 11 years showed statistically significant improvement in socio-emotional skills such as engagement, communication, and cooperation. Additionally, the participants showed improved executive functioning skills of working memory; cognitive flexibility; inhibitory control; and lowered aggressiveness, sadness, anxiety, and hyperactivity. The authors emphasized that proof of the efficacy of

this study was the desire for parents to continue with the movement program after the end of the study (Greco & De Ronzi, 2020).

Academic Benefits of Art Instruction

Research has shown that involvement in art instruction can improve achievement across many developmental domains for students with ASD (Le, 2019; Wood, 2021; Yucesoy et al., 2020). Research has shared that when exposed to art instruction at a young age, children learn collaboration, gain the courage to engage and ask questions, and learn the value of creativity (Klass, 2019). This educator emphasizes that it is helpful to teach the arts in a free-flowing, playful, and exploratory way (Klass, 2019). As these students' executive function develops with age, their capacity for sustained attention grows, and they can refine which skills they focus their attention on (Klass, 2019). Sustained interest and attention can translate to improved academic outcomes if students remain motivated and engaged.

Arts instruction has improved school and student outcomes across various emotional and behavioral domains. One randomized control study found that elementary schools with arts instruction experienced a 3.6% reduction in disciplinary infractions and improved writing scores and compassion (Bowen & Kisida, 2023). Arts involvement strongly correlates with improved memory of learning events and academic outcomes. Still, researchers call for more studies to strengthen the correlation (Hardiman et al., 2019; Rukavina et al., 2019). Recent evaluations of the first half of the Ford Foundation's National Arts Education Initiative also indicate a strong correlation between students' involvement in the arts and academic achievement (Academy in the Woods, 2023).

Research has shown that students engaging in art instruction experience motivational support that supports sustained attention, persistence, and academic engagement rooted in deep personal interest. These motivations help to improve students' attitudes about their community, school, and themselves in ways that promote academic outcomes (Academy in the Woods, 2023).

Although the Ford Foundation's National Arts Education Initiative and its related studies do not focus specifically on the ASD population, many of its findings relate to previous results in that population. For example, students with and without disabilities benefit from arts instruction through enhanced problem-solving capacity (Academy in the Woods, 2023; Delgado et al., 2019). Both students with and without disabilities benefit from arts instruction through enhanced motivation (Academy in the Woods, 2023; Ressa, 2022), enhanced engagement (Academy in the Woods, 2023; Wood, 2021), and enhanced collaboration (Academy in the Woods, 2023; Greco & De Ronzi, 2020). Additionally, both populations of students report benefits from arts instruction through enhanced self-confidence (Academy in the Woods, 2023; Shahidi et al., 2020).

Art instruction may support academic outcomes for impoverished students by supporting their varied needs (Ramirez et al., 2020). One program, the Art Therapy Connection, is a yearlong outreach program for Chicago inner-city youth in danger of failing Grades 3 to 12 (Sutherland et al., 2010). This program was guided by the Adlerian art therapy approach and focused on strengthening group identity, trust, and belonging. The results of the Adlerian approach were analyzed from 150 students across 1 academic year, and an increase in attendance and graduation was found. The graduation rate for

students not in the Art Therapy Connection program was 56%, while the art therapy intervention group graduated at 78% (Sutherland et al., 2010). Analyzing how this change occurred, this group of researchers found that cooperation in the program came first, leading students to become more attached to their peers and school, increasing participation and trust (Sutherland et al., 2010). This finding is consistent with other studies that reflect improved student academic engagement through art therapy (Harpazi et al., 2020; McDonald & Holttum, 2020; Miller & Bogatova, 2018).

AI has increased student engagement by up to 25% (Miller & Bogatova, 2018). Increased student engagement in school improves academic outcomes in many ways. According to one perspective, student engagement is a form of energy in action that manifests behaviorally, cognitively, and emotionally (Havik & Westergård, 2020). Engaged students are motivated students who naturally increase their self-efficacy due to sustained enthusiasm and focus (Olivier et al., 2019). In predicting academic outcomes and graduation rates, student engagement is a helpful matrix for gauging practical approaches (Havik & Westergård, 2020). However, student engagement reflects how beneficial they believe the activity to be and their relationship with their teacher (Farrington & Shewfelt, 2020). Relationships with teachers motivate and engage students to overcome their perceived limitations and reach new levels of learning (Farrington & Shewfelt, 2020).

Interestingly, educators claim that students often do not retain the material they are taught, which is a source of frustration for educators (Klass, 2019). To address this problem, a group of researchers hypothesized that arts-integrated instruction could

improve knowledge retention by encouraging and motivating students to rehearse concepts through the interactive components of the arts (visual/performance/auditory of the arts; Hardiman et al., 2014). Recent research supports this hypothesis, indicating that integrating arts instruction with the curriculum improves knowledge retention (Hardiman et al., 2014; Klass, 2019). Arts instruction enables learning to become more visual, and through the creative processes, the practice of art supports more engagement for students (Degli Innocenti et al., 2019; Klass, 2019). When students are more engaged, they are likely to retain the material.

Knowledge retention through AI occurs as students are more interested in the material (Kang, 2019; Kisida et al., 2020; Klass, 2019). AI may also have a *body memory* correlation with academic outcomes. For example, one study showed that students who sketched out vocabulary words, acted out the motion of cells with their body, or learned material through song retained the information better (Klass, 2019). The most significant academic improvements occurred among the most struggling students (Hardiman et al., 2019; Klass, 2019). A National Endowment for the Arts study corroborates this trend by finding that students who received art instruction outperformed those who did not, even when accounting for vastly different socioeconomic backgrounds (O'Brien, 2013).

Arts instruction may help disadvantaged students retain and enjoy academics more. Impacted by the requirements of the No Child Left Behind schools, which have higher rates of minority students, schools have experienced disparities in access to arts instruction (Rabkin & Hedberg, 2011). How arts instruction can reduce various elements inherent in disparities occurs when studies share the power of art to transform a student's

experience. Hardiman et al. (2019) found that memories associated with the arts have a powerful emotional resonance that enlivens creative thinking pathways in the brain that support long-term knowledge recall. Hardiman et al.'s intervention had more success with the most struggling students by utilizing arts instruction to enhance knowledge retention of science concepts. Researchers have advanced several possible explanations for why arts instruction allows for repetition and elaboration that engage creative neuropathways (Hardiman et al., 2019; Klass, 2019). To help expand the impact and value of the arts, researchers suggest an easy method of having students bring home arts practice to work with their parents in fun and creative ways that expand opportunities for skill advancement and knowledge retention (Hardiman et al., 2019; Klass, 2019).

Composite Benefits of Art Instruction

Table 1 summarizes the benefits of arts instruction for elementary school students in this review. Gleaned from many of the sources in this review, many social, emotional, relational, cognitive, mobility, and academic benefits have emerged from the literature. Table 1 breaks down the benefits of art instruction for elementary students by category of benefit, providing a comprehensive overview. As the figure shows, social benefits of art instruction include improved self-expression, reduced bullying, improved communication, and support for facial and vocal emotion recognition.

Additionally, emotional benefits were reduced anxiety, support with managing stress, and overall improved mental health. The relational benefits of art instruction include improvements in accepting change, behavioral improvements, and improved relationships. Mobility benefits were found to include improving the mind-body

relationship and expanding the range of physical motion. Academic benefits of art instruction included increased engagement, focus, and improved relationships with instructors.

Table 1

Benefits of Art Instruction for Elementary School Students

Social benefits	Emotional benefits	Relational benefits	Cognitive benefits	Mobility benefits	Academic benefits
Increased self-expression	Reduced anxiety	Improved adaptability and comfort with change, ease of repetitive patterns	Improved focus and overall cognitive function	Improves mind-body relationship	Increased attendance and graduation rates
Increased confidence	Improved stress management	Reduce symptoms of oppositional defiant disorder	Improved attitudes, and overall perspectives and view of the world and the future	Motivates healthy movement/exercise with associative health improvements	Increased engagement and desire to participate
Reduces bullying	Improved mental health	Promotes relationship growth with teachers, parents, caregivers	Improved sensory interpretation and expression	Expanded range of physical motion	Improved relationship with structure and boundaries
Improved communication	Provides a means for self-discovery	Promotes community and civic engagement	Increased skill and knowledge development	Improved psycho-social development as the body gains function	Improved I.Q.
Improve facial and vocal emotion recognition	Exploring identity	Increased attachment	Cognitive development from art helps develop other skills in other areas		Supports a sense of achievement

Summary

I addressed the problem of a lack of knowledge regarding the art teachers' perceptions of the social and emotional benefits of art classes for elementary school students with ASD. This qualitative study explored elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art instruction for elementary school students and its challenges. The theory of this study was the art therapy framework.

Art instruction may enhance cognitive development and improve academic achievement and content retention. The present study may help accomplish this goal by learning more about teachers' perspectives on art instruction. More research on teachers' perspectives on providing art instruction for students with and without disabilities may play a vital role in developing and improving such art programs. Chapter 3 presents the research design and methodology of this study.

Chapter 3: Research Method

The purpose of this qualitative study was to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD. Chapter 3 presents the research methods by which the present study was conducted. The chapter begins with a discussion of the research design and rationale. Second, the role of the researcher is discussed. Then, key aspects of the methodology are presented. These include participant selection, the instrumentation used in the study, the procedures for recruitment, participation, data collection, and data analysis. Fourth, issues of trustworthiness are discussed. Fifth, the research ethics are described. The chapter concludes with a summary of key points.

Research Design and Rationale

As established in Chapter 1, the central issue of interest was teaching art classes to students with ASD at the elementary level. A single overarching research question guided the study:

RQ1: What are elementary art teachers' perspectives on the social and emotional benefits of school-based art education for elementary students with ASD?

The research methodology for the present study was qualitative research. The qualitative methodology is a research approach that is inherently open ended and exploratory (Merriam & Tisdell, 2015). Qualitative research is used to explore new topics or develop new theories. It involves the use of open-ended methods to research people's issues and to develop these novel ideas fully (Moen & Middelthon, 2015). Because of its

descriptive nature, qualitative research is inherently subjective, focusing on exploring the experiences of individuals who have firsthand knowledge of a specific issue (Merriam & Tisdell, 2015). Qualitative research is appropriate for exploring a broad research issue instead of specific, narrowly defined variables (Moen & Middelthon, 2015).

A qualitative methodology was aligned with the present study for several reasons. First, the topic of this study, namely the social and emotional benefits of art education, was a topic about which little was currently known. As little was known about this topic, an exploratory approach, specifically exploring elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD, was warranted. Second, the present study was concerned with the perspectives of elementary art teachers. A focus on the experiences and perceptions of the target population aligned with qualitative research's subjective and descriptive nature. Third, the present study was intended to explore specific issues that required participants' perspectives. Therefore, the study was closely aligned with the qualitative methodology.

Within the qualitative methodology existed several specific research designs that could have been used. For this study, the specific design was the basic qualitative method. The qualitative approach aligns with the overall tenets of qualitative research, yielding a flexible research design ideal for describing a central issue (Percy et al., 2015). The qualitative approach is optimal for broadly exploring and describing an open-ended central issue (Thorne, 2016). This design focuses less on theory or questions of "why"

than other qualitative designs, instead being intended to offer a complete and comprehensive description of the central research issue as it exists (Percy et al., 2015).

The basic qualitative approach aligned with the present study for several key reasons. First, as discussed in the previous section, the study aligned with qualitative methodology. However, the study did not align with specific qualitative designs. For example, it was not highly contextual, ethnographic, or focused on narratives. Instead, the present study was intended to offer a comprehensive description of the central issue, aligning with qualitative research's descriptive nature. Therefore, this study aligned with the basic design through its focus on describing the central research issue through participant interviews.

Role of the Researcher

The role of the researcher in qualitative research is to be the primary instrument of data collection (Merriam & Tisdell, 2015). In practice, the researcher was the one who needed to interact with the participants through the recruitment and data collection processes. This process entailed contacting the participants, providing them with any needed information, and conducting the interviews to collect data for the study. There was no supervisory relationship between the participants and me, and I strove to treat participants with respect throughout the research process. I presented a positive working relationship with them.

As the researcher, I faced a challenge in qualitative methods: potential bias. As a researcher with an interest in the topic of the study, I had certain expectations and preconceptions regarding the topic that could have biased the study. To manage

researcher bias, careful reflexive practice was implemented throughout the research process. I carefully recorded these expectations and biases from the start. Then, I used reflexive journaling throughout the research process to document the evolution of thinking and ideas. I self-analyzed these concepts to identify and mitigate biases.

Methodology

The methodology section presents key aspects of how the study was carried out. These include participant selection; the instrumentation used in the study; and the procedures for recruitment, participation, data collection, and data analysis. Each of these topics is addressed below.

Participant Selection

The research sample for the study was art teachers teaching students with ASD at the elementary level. The target population was art teachers teaching students with ASD at the elementary level in a large school district in a northern U.S. state. The inclusion criteria for the study were (a) a licensed teacher, (b) teach art at the elementary level, (c) teach at least one student with ASD, and (d) have held the current teaching position for at least 1 full academic year to ensure the relevance of experiences.

The sampling strategy for the present study was purposive sampling. Purposive sampling involved recruiting the most readily available participants with the skills and knowledge to properly address the research question (Etikan et al., 2016). The sample size was 12 art teachers, the typical participant number for a basic qualitative method.

Instrumentation

The data collection instrument for the present study was semistructured interviews (see Appendix A). The qualitative interview is a well-established data collection strategy for qualitative research. Interviews were ideal for understanding the experiences and perceptions of the study sample (Roulston & Choi, 2018).

An interview guide ensured that all questions were identical for every participant. The interview guide was a list of preliminary questions and topics to guide the interview flow (Roulston & Choi, 2018). The interview guide included questions that ensured that I addressed the research questions. I developed the interview guide in advance. Semistructured interviews were used to allow for follow-up questions and requests for clarification.

Procedures for Recruitment, Participation, and Data Collection

Institutional Review Board (IRB) approval 06-14-24-0233889 was obtained before collecting data from the participants or recruiting any participants. In addition, site authorization was obtained from organizations within my immediate personal and professional networks. Once approvals were obtained, a recruitment email was sent (see Appendices A & B). This email included key information about the study, including (a) the purpose of the study, (b) who was eligible to participate, (c) the benefits of the study, and (d) how to contact me to participate. Participants were asked to email me and verify that they met the inclusion criteria. This recruitment email was distributed to members of my personal and professional networks. This process included directly emailing other

teachers in these networks and providing the email to organizations (schools, professional associations, etc.).

Prospective participants were provided with informed consent information when they verified that they met the inclusion criteria. Interested persons emailed me with contact information and a reply indicating they consented to participate. Once a participant consented, an interview was scheduled at a time convenient to them.

Each interview lasted 45 to 90 minutes, or longer if necessary. Depending on preference, interviews were conducted in person or via Zoom teleconferencing software. In all cases, interviews were audio recorded and then transcribed. I transcribed the transcripts, which were generated using Rev (rev.com) or Zoom Support software. Once an individual completed their interview, they were emailed a $15 virtual gift card to Walmart, Target, or Amazon.

Data Analysis Plan

Data analysis for the present study involved qualitative analysis. NVivo, data analysis software, was used to assist in the data analysis, primarily to organize and manage data. The qualitative thematic analysis process outlined by Clarke et al. (2015) included six steps. These steps are discussed in this section.

The first step was carefully reviewing the transcripts (Clarke et al., 2015). This step was intended to develop familiarity with the contents of the transcripts. To this end, each transcript was reviewed at least twice.

Then, the second step was to code the data (Clarke et al., 2015). Initial coding involved assigning descriptive labels to the data's prevailing or repeated terms or phrases.

The labels used to code the data were recorded in a codebook developed as the coding progressed. Subsequently, axial coding occurred, in which similar initial codes were grouped or revised.

The third step was identifying emerging themes (Clarke et al., 2015). Themes were essential ideas that represented answers to the research questions. Themes were complete sentences that summarized the coding process.

The fourth step required validating all themes (Clarke et al., 2015). The validation process involved carefully checking the themes against the data. An evidentiary table was developed to record each theme and provide supportive quotes from the data.

The fifth step was to finalize the themes (Clarke et al., 2015). Prior to finalization, the themes were compared and contrasted. Any themes that were insufficiently completed or lacked a core, unique idea were merged into others.

The sixth and final step was compiling the full data analysis (Clarke et al., 2015). This step involved presenting the results in Chapter 4. This step also involved discussing the results in Chapter 5.

Trustworthiness

Trustworthiness is the qualitative version of reliability and validity (Merriam & Tisdell, 2015). Trustworthiness comprises four dimensions: credibility, transferability, dependability, and confirmability. These aspects are addressed in this section.

Credibility corresponds to quantitative internal validity (Moen & Middelthon, 2015). Hence, the key issue for credibility in the present study was the cohesion of the study. Credibility was developed in several ways. First, the different components of the

study were carefully aligned, from the problem to the purpose of the study to the research questions to the methods by which the research questions were answered. In addition, member checking was used to ensure that the participants' perspectives were captured accurately.

Transferability corresponds to quantitative external validity; qualitative studies are not designed to generalize results. However, some transferability might be possible to similar settings and participant characteristics. A qualitative researcher must carefully document the conditions under which the data were collected (Merriam & Tisdell, 2015). The methods used in this study are detailed in this chapter. Chapter 4 also includes a description of the study's participants.

Dependability is similar to reliability (Moen & Middelthon, 2015). However, two qualitative studies will never obtain precisely the same data. As a result, a more helpful notion of dependability is the reliability of the data handling and analysis (Merriam & Tisdell, 2015). To this end, the research process was documented carefully. Additionally, I kept a reflexive journal to document my ideas, perceptions, and what occurred during the methodology activities and events. Participants were invited to review the list of emergent themes and provide feedback if warranted.

Finally, confirmability corresponds to objectivity (Moen & Middelthon, 2015). Confirmability was developed in two ways. First, reflexive practice was engaged by maintaining a journal of methodology-related activities, acknowledging my biases, and filtering them out as much as possible. Second, the presentation of results included frequent use of quotes to support the accuracy of the expressed ideas.

Ethical Procedures

Ethical research practices were adhered to at every stage of the study. IRB approval and site authorizations were obtained before collecting any data. Informed consent was obtained from each participant before conducting interviews. Informed consent forms were provided via email. Participation in the study was wholly voluntary, and no coercion was used. Participants could have contacted me and withdrawn their data before the study was completed.

Participants were assigned a pseudonym to protect their confidentiality. Only approved university personnel and I had access to the original data or any identifying information. Such information was redacted from the dataset before the data analysis and reporting. Data will be preserved on an encrypted external drive when not in use. These data will be maintained for 5 years following the publication of the study and then destroyed. The study was expected to be of minimal risk as the participants were not vulnerable, and I did not address emotionally sensitive issues.

Summary

In summary, the purpose of this qualitative study was to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD. Chapter 3 presented the research methods by which the present study was conducted. The study was guided by a single, overarching research question: What are elementary art teachers' perspectives on the social and emotional benefits of school-based art education for elementary students with ASD? Participants were recruited through my private and professional networks to

answer this question. I interviewed participants using the interview guide (see Appendix C). Once interviews were completed, data were transcribed and analyzed using Clarke et al.'s (2015) approach to thematic analysis. In Chapter 4, the results of the study are detailed.

Chapter 4: Findings

The impacts of art classes on the social and emotional aspects of students with ASD remain unclear despite the known benefits of art therapy on children with ASD (Hutson, 2022; Jeong & Shim, 2021; Koo & Thomas, 2019). At the same time, school staff have reported the need for better ways to support the needs of students with ASD in terms of learning to communicate, manage stress, and achieve success in school (Adoni-Kroyanker et al., 2019). This research problem was investigated in this study through the perspectives of elementary school art teachers. Specifically, the purpose of this qualitative study was to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD. The sample consisted of 12 K–5 art education teachers within a large school district in a northern U.S. state. The research question that guided this study was the following:

RQ1: What are elementary art teachers' perspectives on the social and emotional benefits of school-based art education for elementary students with ASD?

This chapter contains the presentation of the results of this study. The report of the results is contextualized through providing descriptions of the setting, data collection process, and data analysis procedures. The themes resulting from the analysis are then presented. The rigor of the study is evidenced by the application of trustworthiness techniques also included in this chapter. The chapter concludes with a summary.

Setting

The geographical setting of this study was a large school district in a northern U.S. state. I have personal and professional networks within this setting, which helped with sending out recruitment invitations for this study. Participant recruitment and data collection were set online. I sent out the recruitment letter to my networks using email, and I communicated with the prospective and actual participants through email. The interviews were conducted on the videoconferencing platform Zoom Meetings.

The sample of this study was 12 K–5 art education teachers within the public school system of interest. The participants had worked as art teachers in their current school for 2 to 25 years, with an average of 11.58 years among them. The participants' art education classes were held twice weekly for 40 minutes per class. The classes were self-contained and consisted of general education and special education students. During the interviews, the participants tended to refer to the students as "younger," which meant Grades K–2, and "older," which meant Grades 3–5.

Data Collection

Data were collected from one source, which was individual interviews. All 12 art teachers participated in the interviews. I first obtained IRB approval and site authorization from various schools within a large public school system that were within my personal and professional network. I sent the participant recruitment email to the school administrators at the study site who were within my contacts. I requested my contacts to forward the letter to the K–5 art education teachers in their schools. The participant recruitment letter contained key information about the study, including the

purpose, significance, participant eligibility, and my email address. Prospective participants expressed their interest in the study, but only 12 art teachers were eligible. The 12 selected participants were employed in a large public school system as art teachers with at least one student with ASD for at least 1 school year. Participant recruitment occurred according to the plan laid out in Chapter 3, and no unusual circumstances affected the selection of participants.

Consent was obtained from the participants through their replies to the email invitations. Their verbal consent was also obtained at the beginning of the interview. Participation was voluntary; however, after the interview, I sent the participants a $15 virtual gift card to Walmart, Target, or Amazon as a token of appreciation.

The interviews occurred from August 2, 2024, to November 8, 2024. All 12 participants were interviewed individually using a semistructured format in Zoom. Zoom had audio- and video-recording features, which were used for the purpose of data collection. The interviews were planned to last for 45–90 minutes. I used the interview guide to direct the flow of data collection to maintain alignment and objectiveness in eliciting insights from each participant. I used the semistructured nature of the interview to ask probing and follow-up questions to collect more in-depth information. The actual interview duration ranged from 26–54 minutes, with a total of 532 minutes and an average of 44.33 minutes. This range was less than the anticipated duration, yet all the participants answered all the questions in the interview guide with varying levels of detail. Additionally, data analysis indicated that data saturation was reached. Data saturation, the point at which no new meaningful codes continue to emerge from the data

(Merriam & Tisdell, 2015), is further described in the Evidence of Trustworthiness section.

I then availed the service of Rev (rev.com) to produce a verbatim transcription of the interview recordings. I read each transcript while listening to the recording to check the accuracy of the transcription. The transcripts were a total of 198 pages saved in Microsoft Word, font face Times New Roman, font size 12, single-spaced. Table 2 presents a summary of the interview data, duration, and number of transcript pages.

Table 2

General Interview Details

Participants	Date of interview	Interview duration (in minutes)	No. of transcript pages (Times New Roman, 12, single spaced)
1	August 2, 2024	52	20
2	August 19, 2024	49	15
3	August 22, 2024	30	11
4	August 28, 2024	63	22
5	September 6, 2024	26	11
6	September 6, 2024	26	11
7	September 27, 2024	54	15
8	October 3, 2024	44	16
9	October 28, 2024	55	25
10	October 30, 2024	54	20
11	November 8, 2024	34	14
12	October 31, 2024	45	18

Data Analysis

The interview data were analyzed using Clarke et al.'s (2015) six-step thematic analysis framework. The purpose of thematic analysis was to uncover themes that represented the art teachers' perceptions about art education for students with ASD,

focusing on the assessment of art-based efforts to help students with ASD using the COAT model within the art therapy framework by Schweizer et al. (2017). The six steps of thematic analysis were data familiarization, coding, theme identification, theme validation, theme naming, and report compilation. These steps were conducted in a flexible and nonlinear manner, with iterations of recurring information. The qualitative data analysis software NVivo 14 was used to facilitate efficient organization, management, and storage of the substantial textual data in the form of interview transcripts.

Data familiarization and coding formed the preliminary analysis phase, which occurred concurrently with the data collection process to determine whether data saturation had been reached. Data collection concluded after the 12th interview, as no new meaningful codes emerged during the preliminary analysis. Data familiarization began with reading the entire set of transcripts three times to develop a thorough understanding of the data. In the first round, I focused on how participants described their experiences of teaching art education as K–5 art teachers working with at least one student with ASD. During the second round, I used my reflexivity journal and audit trail to document my thoughts regarding potential connections between the participants' responses, the COAT model, and the research question. In the third round of reading, I reviewed the transcripts and notes together for coherence and insight into how to proceed with coding.

Coding started with another round of reading the transcripts and closely focusing on each line in search of data units relevant to the study. I used the notes I made during the data familiarization phase as the basis for determining the relevance of the lines of

text. Two rounds of coding occurred: open and axial. The coding process began with initial coding, during which descriptive labels were assigned to recurring or prominent terms and phrases within the data. These labels captured key elements of the participants' responses and were documented in NVivo. Axial coding was conducted to refine the analysis further, in which similar initial codes were grouped or revised to establish connections and identify overarching patterns within the data. The digital codebook extracted from NVivo is provided in Appendix D.

The process of developing themes began once all relevant data segments had been coded. The focus shifted from examining individual data items to analyzing broader patterns and shared meanings across the dataset. I reviewed and evaluated the codes to identify connections and relationships among them, and then I grouped similar codes into themes. This process involved combining multiple codes that reflected a shared underlying idea or collapsing them into a single, more representative idea. In some cases, a specific code encapsulated a broader narrative and was elevated to the level of themes. The list of themes with the codes that comprise them is presented in Table 3 and Appendix D.

Table 3

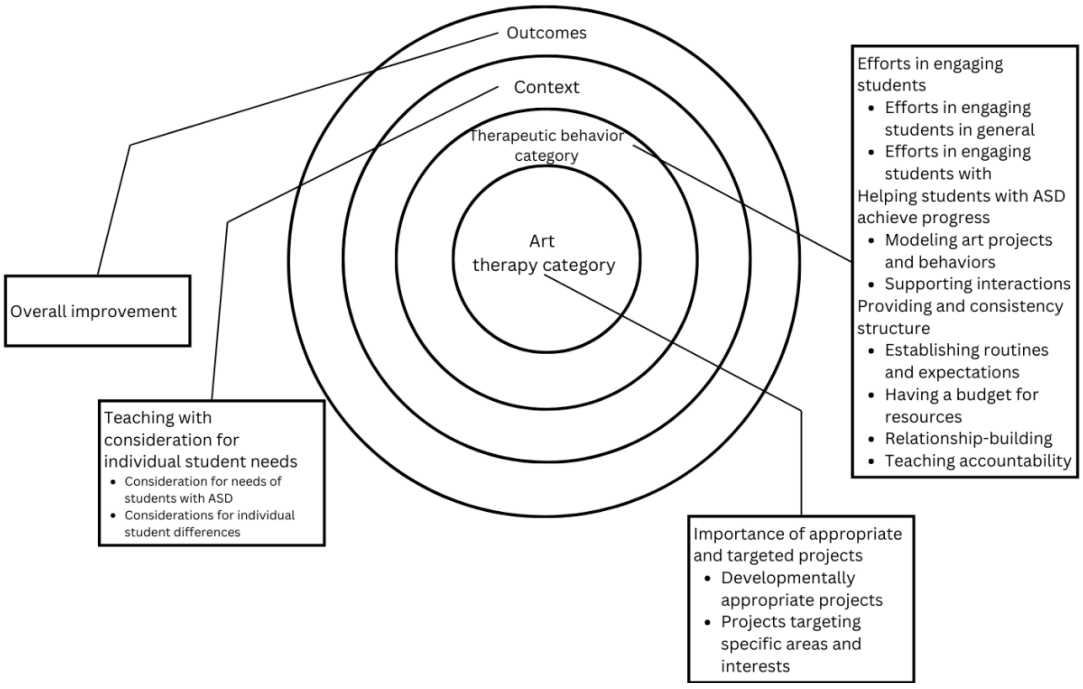
Axial Codes and Themes

Axial codes	Themes
Consideration for needs of students with ASD Considerations for individual student differences	Theme 1: Art teachers perceived that individualized instructions have social and emotional benefits for elementary students with autism spectrum disorder
Overall improvement	Theme 2: Art teachers perceived art education results in overall improvement among elementary students with autism spectrum disorder
Developmentally appropriate projects Projects targeting specific areas and interests	Theme 3: Art teachers perceived that appropriate and targeted projects have social and emotional benefits for elementary students with autism spectrum disorder
Efforts in engaging students in general Efforts in engaging students with ASD Modeling art projects and behaviors Supporting interactions	Theme 4: Art teachers perceived that efforts were made to engage students in art class
Establishing routines and expectations	Theme 5: Art teachers perceived that efforts were made to provide a consistent structure for students
Having a budget for resources Relationship-building Teaching accountability	Theme 6: Art teachers perceived that efforts were made to help students with autism spectrum disorder achieve progress in art class

The theme validation process focused on assessing the accuracy and coherence of the identified themes about the dataset with rigor (Clarke et al., 2015). The validation unfolded at two levels. The first level involved examining the relationships among data items and codes within each theme to check that the codes formed a cohesive and logical pattern that accurately reflected the narrative underlying the theme. During this level, I identified overarching ideas encompassing the meaning patterns across some categories. The second level extended the analysis to evaluate how well the candidate themes related to the overall dataset and addressed the research question. I developed a thematic map (see Figure 3) to illustrate the relationships across the themes.

Figure 3

Thematic Map



The theme naming and definition phase focused on refining the essence of each theme, ensuring that its core message was clearly articulated. This process involved an in-depth examination of what each theme represented, considering the overarching narrative it conveyed. Clarke et al. (2015) advised revisiting the data and considering whether any short extract or powerful quote could encapsulate the essence of the theme. This extract could serve as a starting point for developing a name that was not only descriptive, but also evocative and meaningful. The results were then compiled in a report. The report production phase in thematic analysis was an ongoing and recursive process that intertwined with the entire analysis journey rather than being a final step that occurred

only at the end (Clarke et al., 2015). I considered a logical flow of themes in the report by engaging between analysis and narrative. I could then contextualize the themes developed from the data to the research purpose and question, while grounding the themes in the interview data. I logically organized the themes according to the COAT model. I included descriptions of the context, outcomes, art category, and therapeutic behavior category identified from the codes and themes. Extracts from the data were selected to support the emergence of the themes. The report on the results is presented in the next section.

Results

The results of this study revealed a narrative that depicts the perspectives of art teachers on the social and emotional benefits of art education on students with ASD. These perspectives were developed from the thematic analysis of the interview data collected from 12 K–5 art education teachers within a large school district in a northern U.S. state. Six themes emerged from the analysis. The themes were (a) art teachers perceived that individualized instructions have social and emotional benefits for elementary students with ASD, (b) art teachers perceived that art education results in overall improvement among elementary students with ASD, (c) art teachers perceived that appropriate and targeted projects have social and emotional benefits for elementary students with ASD, (d) art teachers perceived that efforts were made to engage students in art class, (e) art teachers perceived that efforts were made to provide a consistent structure for students, and (f) art teachers perceived that efforts were made to help students with ASD achieve progress in art class.

Theme 1: Art Teachers Perceived That Individualized Instructions Have Social and Emotional Benefits for Elementary Students With Autism Spectrum Disorder

The analysis included an exploration of the context in which the participants experienced providing art education for students with ASD. Some art class settings were self-contained, comprised of seven to 10 general education and special education students with at least one student aide to assist students with special needs, while other classrooms were larger in student population and were not self-contained. The classes were held twice a week for 40 minutes per session. Participant 7 described this setting as "unique." In this context, all 12 participants described that they considered the unique needs of the students by fostering inclusion in their class. Participant 2 detailed that having fun was part of creating an inclusive classroom setting:

> I have noticed classrooms that have students with ASD or some kind of learning behavior … in the beginning of the school year, most of the peers don't interact as much with students with ASD or just even students with learning disabilities or special education students. And so, as the year progresses and as the teacher, I specifically do try my best to … just teach them that we are all different. We all have different needs. We all have different things that we do to learn and to live and so at the end of the day, we all want to be loved. We all want to be cared for. We all need to extend kindness towards each other, so then we can have a good time, and you know, just create great art and you know, have fun.

Participant 1 also shared their perception of letting students have fun with each other while creating projects: "That would be like a team-based collaboration project,

which was always fun. They'd be like their own little production companies, and they're watching everyone in the class." However, Participant 1, along with four other participants, shared that most of their art projects were individual work. Participant 1 reported fostering inclusion in their classroom through encouraging interaction among students. Participant 1 shared, "So they're working individually, but they are encouraged to like to give their tablemates feedback … Students can get up and go to another table and have a conversation about artwork." Participants 2, 7, and 10 had similar experiences to Participant 1. Participant 10 added that individual work with the freedom to interact with peers was an environment where students with ASD "thrived." Participant 10 explained that students with ASD often became overwhelmed and disengaged in whole-group instruction, but when working individually while seated with a small group of three to four students, they tended to focus on their work while being able to interact with their peers. Participant 10 shared,

> Overall, I do feel like I said, especially during that independent work time where the expectation is for them to kind of come into themselves and just work on what they want to work on. They thrive in that environment. They're super hyperfocused on what they want to do. Typically, it's not an issue of trying to redirect because they're chatting with their friends a ton.

Another way to create a context that fosters inclusion, according to Participant 4, was to work with other teachers handling the students: "So we're all for like working with the regular classroom teachers and trying to find a way to, you know, coexist. You know, I think that every good art teacher should do that." Participant 4 acknowledged that

students did not always have good days during their time in the classroom, and communicating with other classroom teachers was vital in helping them address their students' needs for the day. Participant 4 stated,

> They'll fill me in on usually the student's moods, or if they've been, if they've had a [sic] morning and they need a little more support and I need to handle them with kid gloves as opposed to treating them like every other student.

The participants noted that challenges typically arise in their classroom because of the students' different needs. For students with ASD, challenges included sensory issues and dealing with changes. For students in general, challenges included their lack of interest in art and motivation to do the project. The participants shared that they considered addressing the challenges their students might experience in their classes. Participant 1 provided an example of helping students with ASD deal with change:

> Changing routines like changing seats in the classroom could be really hard, so I would still change seats every time and mix it up … that could be difficult, but I would prep ahead of time for when we were going to do it. We would work through it, and I saw a decrease in behaviors with that throughout the year.

The participants reported different considerations for their students to create a context for addressing individual needs. The severity of ASD symptoms was among the considerations that the participants shared when teaching in the context of art education. Participant 2 shared having a student who was nonverbal but used the iPad to communicate their needs. Another consideration was students' interests. This consideration was made especially for students with ASD who might not be interested in

art or who might have fixations. The participants shared that they incorporated the students' interests into their projects to motivate them to participate. Participant 7 elaborated,

> I had a student last year that really loved Mickey Mouse Clubhouse. It was a younger student and any opportunity, you know, even if we were doing something else on the front of our paper, he turned it over and drew the Mickey Mouse Clubhouse on the back. So you know it's not always necessarily directed directly with what we're doing or, you know, being incorporated with what we're doing. Somehow, you know, Mickey Mouse is the theme or you know that that's kind of the nice thing about art. I feel like students can incorporate their interest.

The last consideration shared by Participant 7 was the students' class schedules. Participant 7 elucidated that when the art class was scheduled later in the day or after PE class, students might be tired and disengaged. Participant 7 addressed the students' needs by using a variety of ways to motivate the students to participate. Participant 7 stated, "I would say because of the schedule and the specialized program that we have, there is a variety of engagement levels, and I see a vast difference, and it really is with individual students."

Theme 2: Art Teachers Perceived Art Education Results in Overall Improvement Among Elementary Students With Autism Spectrum Disorder

The COAT model included the outcomes of art therapy, and in this study, the art teachers shared their perceived outcomes of art education on their students, particularly students with ASD. All 12 participants described an overall improvement among their

students with ASD throughout the duration of the school year. Overall improvements included behavior, focus, socialization, and autonomous work. Participant 2 stated, “Many times, ASD students who are having behavior problems in their classrooms show improved behavior during art class.” Participants 5 and 7 described improvements in the form of “progress” among the students. The two participants shared their insights about assessing the outcomes of their students with ASD through small improvements. Participant 5 detailed,

> Some we've gotten little steps of just gripping like pencils, and sometimes that takes like a month or it takes like half of the year just to get them to grip the pencils. So there's definitely progress. It just depends on the child who's faster I guess at each, but there is definitely progress.

Participant 9 revealed a “massive” overall improvement in their students’ behaviors and creativity:

> I've seen like a massive like what I was saying, a very vast improvement. So I had like last year this is also including students that are not ASD. They've done a massive improvement with the with their creative mindset and in class engagement. They've been growing.

The participants also reported on students’ improvement in their ability to follow instructions in relation to their behaviors and abilities to focus. These outcomes included improvements in recognizing and adhering to routines, independently managing materials, and completing multistep processes. For example, Participant 1 observed that students were increasingly able to follow step-by-step instructions during art activities,

demonstrating greater focus and engagement. This example was particularly evident in their ability to transition smoothly between different parts of the lesson and complete tasks with minimal guidance. Participant 2 highlighted progress in foundational skills, such as identifying colors and using tools like markers independently. Although some students with ASD did not meet grade-level expectations in areas like coloring within shapes, their ability to follow specific instructions, such as selecting the correct color and applying it, showed clear improvement. This incremental growth underscored the role of art education in helping students develop task-specific skills. Participant 11 emphasized that consistent routines in art education contributed to students' careful craftsmanship and attention to detail, allowing for the successful completion of more complex tasks. This growth in precision and attentiveness was particularly evident in their Learning for Life class, where students demonstrated a heightened ability to focus on the steps required for various art techniques. Participant 11 shared,

> I've seen some growth in the establishment and the recognition of the routine. I've definitely seen some growth in coming in and following the pattern of what it is that we're supposed to do that is allowing me to do a little bit more complicated stuff, which is nice.

Two participants reported that art education contributed to significant improvements in students with ASD becoming more flexible and less rigid in their engagement with activities. These outcomes were particularly evident in students' ability to move beyond hyper-focused interests and rigid preferences. Participant 1 described a student who was fixated on firetrucks and exhibited disruptive behaviors such as

screaming and breaking crayons when projects did not align with their interest. Participant 1 shared that over time, this student demonstrated greater flexibility, transitioning from incorporating firetrucks into every project to engaging in activities without firetrucks at all, until they could create artwork that was completely unrelated to firetrucks. Participant 7 highlighted incremental improvements in engagement, emphasizing that students with ASD became more actively involved in art activities as their rigidity decreased. Participant 1 summarized this growth: “I definitely would see growth, like less tantruming, and I would see more engagement in art and more flexibility and a wider range in interest in different topics.”

Two other participants noted the outcomes of improved focus and sustained attention among students with ASD in their class. Participant 2 described the progress of a student who initially required frequent breaks every 10 to 15 minutes during a 40-minute art session. By the end of the year, the student could remain focused and stay in the art room for the entire 40-minute period without needing breaks. Participant 4 emphasized that art activities provided an environment where students could channel their focus and creativity in ways not typically available in their regular classroom routines. By removing distractions like electronic devices and introducing hands-on materials such as clay and paintbrushes, art became a motivating and engaging experience. The participant noted that students were eager to participate in art, viewing it as a preferred activity where they could exercise both structure and creativity. Participant 4 stated,

> When you take electronics out of the equation, you take the Chromebook, the iPads out of the thing art is the video game, art is the imagination. They get to do what they want to do on their paper. Yeah, they're following along directions that they're focused on creating a project.

Theme 3: Art Teachers Perceived That Appropriate and Targeted Projects Have Social and Emotional Benefits for Elementary Students With Autism Spectrum Disorder

Art therapy also included the aspect of the type of art taught, and in art education, the participants shared their perceptions that the type of art taught to students with ASD should suit their abilities and target areas of improvement. The participants described projects that targeted specific areas and interests of students with ASD. For instance, cutting and collage-making activities were believed to refine students' fine motor skills. Participant 9 discussed how fine motor skill development was integrated into various projects, including cutting, tearing, and pasting paper into their kindergarten class. Participant 9 stated,

> We just did their thing...with torn paper...how to use their fine motor to tear paper … Students' hands are not as strong as they were many years ago … iPads have really messed with their fine motor skills, so we practice.

Participant 8 shared using "safety scissors" to help their kindergarten students practice cutting and improve their fine motor skills. Additionally, Participant 8 stated that they used pasting activities, in which students practiced their fine motor skills through picking up small items such as buttons or sequins and sticking them onto paper.

The participants also reported the use of clay as an effective tool for providing sensory exposure among students with ASD. The participant noted the sensory challenges associated with clay, noting that students either “love it and dive into it … or … can't wait to get it off their hands.” Participant 4 shared that they offered gloves to help students with ASD participate in activities involving clay. Participant 9 described a relaxed approach to using clay in class. Participant 9 stated that students were allowed to “play with it, knead it, and make noodles.” This informal interaction with clay provided students with ASD a chance to explore the material at their own pace, offering sensory exposure without the pressure of completing a structured project.

Participants 1 and 5 offered modifications to students who required some accommodation in doing clay-based projects. Participant 5 stated, “I've had like one child that didn't like it, so I gave him a different type of clay.” Participant 1 also reported providing alternative clay material to students with ASD who were averse to the wet type of clay. Additionally, Participant 1 articulated that some students with ASD loved the sensory input from using clay, so they could not focus on the project and were fixated on playing with the art material. As an accommodation, Participant 1 disclosed providing the students with ASD two sets of clay, one for squishing and one for completing the project, and having a teacher aide assist with the work. Participant 1 stated, “They would build the projects with my modifications.”

The participants reported that other art types taught to students with ASD were based on their developmental abilities. The participants shared that younger students (K–

2) often had short lectures about the color theory to help them understand colors. Participant 2 described,

> So I first get them, and again it's grade level dependent as well, but if we were looking at like a kindergarten class, it would focus in the beginning on fine motor skills and color theory in terms of whether they know their colors or not. If they know how to mix their colors to make other colors.

According to the participants, younger students were given activities that did not require high fine motor skills, such as printmaking. Participant 1 stated, “Like with my younger friends, we do a lot of like the bubble printmaking activities with watercolors and soap.” For older students (3–5), the participants shared that they had more in-depth discussion about art projects. Participant 10 stated,

> That's a very adult, mature thought process like we just start talking about that in 5th grade because my 5th graders designed their own art projects all year long. They have like a checklist of things that they have to include, but they get to choose what they create. They get to choose how they create it, and we talk a lot about color choices and how that's going to be communicated to other people and how you're communicating, how you feel through color.

Older students also completed more elaborate projects such as three-dimensional (3D) models and digital art. Participant 2 elaborated, “Kindergarten more so focuses on drawing and painting more 2D flat things, but in my upper grades we do then go into full blown like 3D projects with clay or working with wood.” Participant 2 added that the projects were based on the curriculum and students’ expected grade-level abilities: “The

activities that they work on depends on the kind of processes or I would say the curriculum of what I'm teaching them. So I first get them, and again it's grade level dependent as well." Participant 1 shared, "We would do some digital art, like my older friends who did some stop motion animation projects."

Theme 4: Art Teachers Perceived That Efforts Were Made to Engage Students in Art Class

The participants discussed the therapeutic-related behaviors of the teachers in providing art education for students with ASD. In the COAT model, this aspect refers to the therapists' behavior category; however, the focus of this study was art education, not therapy. The participants shared their beliefs about their behaviors in supporting students with ASD to receive social and emotional benefits from art education through their efforts in engaging their students. The efforts reported by the participants were not only directed toward students with ASD but also toward their students in general. Nonetheless, the findings in engaging students with ASD were categorized separately from the findings in engaging students in general for this study.

According to the participants, efforts in engaging students with ASD revolved around accommodations and avoiding meltdowns in class. Accommodation was provided to meet the needs of the students to keep up with the tasks in the art class. Participant 1 described providing various accommodations to help students with ASD engage with the art lessons, such as offering adapted scissors and precut paper for students to collage as part of a portrait activity. The adapted materials allowed the students to participate in the project without feeling overwhelmed by the complexities of cutting or drawing.

Participant 2 discussed modifying prompts and support in real-time depending on the students' needs. They noted that these modifications were often made on the spot due to time constraints, but the goal was always to have scaffolding options available for every lesson. Similarly, Participant 6 highlighted the importance of providing sensory accommodation, mentioning that students with tactile sensitivities were offered gloves to help them engage with materials like clay, which some students found uncomfortable. Participant 6 shared,

> So some of them have had sensory issues depending on what materials we're using. And I try to, if I know already that a student already struggles with tactile things, I try to modify or if they want gloves or something like that, so they're not touching it.

Participant 7 shared their efforts in doing trial-and-error to test which accommodation worked well with specific students. According to Participant 7, accommodation was important to deliver the same instructions to all the students, but with a different approach:

> It's kind of the same lesson at the base of it, but then it's meeting with students individually or offering those accommodations. Those needs and the expectations of the product may be different, and I'm giving them the supports that they need like adapted materials.

Three participants stated that they made efforts to engage their students with ASD by collaborating with other teachers and therapists working with them. Participants 4 and 5 explained that physical therapists (PTs) and occupational therapists (OTs) working with

students with ASD typically knew the students' abilities; thus, consulting them meant receiving recommendations on how to accommodate the students' needs. Participant 4 noted, "I'll reach out to OT PT and I'm very lucky enough where I've got a great OT and PT person in my building these past years, so they're always willing to work with me and find new things." Participant 4 shared that they worked with other classroom teachers to gain more understanding about their students and to inform them if the students needed extra support for that day. Participant 6 reported that they coplanned with another art teacher to create projects that interested and engaged their students.

The participants elucidated another way of engaging their students with ASD, which was to provide and use a cool down spot in the classroom to avoid meltdowns. The participants specified that they would inform their students to come to them if they needed a break, and they observed the students while in class to determine if they were about to have an outburst. Participant 8 described,

> So we call it the, well, we used to call it the calm down corner. That's my beanbag chair. That's what I'm doing. So yeah. So anybody that is like unregulated at the time at any time or even if it's a typical student who is frustrated, yes, there is a safe space where they can go and they can calm down.

For efforts in engaging students in general, the participants shared that they fostered a student-led, teacher-facilitated classroom environment. The participants explained that art was about being creative and that they allowed their students to create art as freely as possible. Participant 3 stated, "So most of the art work that we create each student is creating at their own piece." The participants shared that the projects in their

class were usually themed, but they encouraged their students to be as creative as possible while adhering to the theme. For instance, Participant 6 shared,

> I try to give them a choice of what the subject is within what we're doing. So an example would be if we're working on a seascape, they get to decide what kind of animal they want to include in it or what they want their scene to look like.

The participants also noted encouraging their students to express themselves. They described how art projects were intentionally designed to allow students to explore their emotions and personal experiences. For instance, teachers incorporated open-ended prompts and choice-based activities, enabling students to select themes or colors that resonated with their feelings. Participant 2 articulated,

> It has definitely helped students to open up in terms of their emotions and their feelings and learning how art can be used to express those feelings and those emotions. For example, I did a lesson with one of our counselors last year with a second grade class where we focused on how different colors can express different emotions. Like the Inside Out movie … They created kind of like a little book for themselves, almost like a little journal … the art project was I would say very powerful for them in terms of expressing their feelings and their emotions.

Some participants found expressions using art especially helpful for nonverbal students with ASD. They shared how these students often struggled to communicate their thoughts and emotions through traditional means but could convey their inner worlds vividly through art. Teachers observed that drawing, painting, and other creative activities provided an outlet for these students to share their perspectives and experiences in ways

that words could not capture. Participant 8 stated, “Like one girl I'm thinking of … She might not be able to talk to me, but her drawings are amazing. Like she wants to, she wants to create all day … that could be self-expressive too.”

The participants elaborated that their efforts in art education were not fully focused on the end-product, but on the learning process and how they would benefit the students. They emphasized nurturing foundational skills, fostering creativity, and providing diverse experiences to ensure that students gain meaningful and lasting exposure to art. Participant 10 reinforced the focus on process over product, expressing that their primary goal was to create a lasting impact on students by exposing them to a wide range of artistic materials and techniques. Participant 10 stated,

> I have a finite amount of time with them to hopefully spark some sort of joy or connection … that may be a trigger and stick with them long into adulthood. So I try to do a ton of different materials and a ton of different styles of art between abstract and realistic.

Additionally, Participant 10 described the integration of community art projects, such as inviting master artists to collaborate with students, which not only enhanced their learning but also created a sense of belonging and pride:

> We invite a master artist from the community to come in, and they create an installation artwork with the students … whether it's a mural or individual artwork, that all gets pieced together … it also helps create that community connection piece of them working together on something.

According to the participants, the learning process included being autonomous while in art class. The participants reported their effort in promoting student autonomy by preparing and placing the materials in areas that students could access by themselves. Participant 2 stated,

> I try to create as much independence and ownership of their materials and of their art projects as I can. And so, what that looks like is them with their table jobs getting their supplies for the tables, them getting their art projects from the drawers, passing out the projects, and getting the supplies that we need for the day to create the art project.

The participants also shared that they gave the students responsibilities, such as cleaning up after themselves or performing class jobs to teach them autonomy. Participant 7 elaborated,

> And then we will go through a clean-up process at the end. So, I incorporate a lot of independence with the way I've set up my room, trying to give students an opportunity to be independent with getting supplies, and they have table jobs and all that stuff.

Theme 5: Art Teachers Perceived That Efforts Were Made to Provide a Consistent Structure for Students

As shared by the participants, therapeutic behavior category in art education included efforts in establishing consistency and routine in the classroom. The participants reported that creating structure started with communicating their expectations for the students. Participant 11 expressed, “I believe the routines are the best thing for getting,

you know, good work out of everyone." Participant 2 stated, "So a typical art class in my classroom first involves the expectations and routines of coming into the classroom, going over the classroom jobs, and assigning the classroom jobs, along with assigning their table jobs." Participant 10 noted that establishing routines and structure was beneficial not just for students with ASD, as all students knew what to expect in class when there was consistency: "I think that's great and that's not just for students with autism, but for any, any student. I think they like knowing that they're coming into a space that feels extremely familiar and comfortable to them."

One expectation that the participants reported exerting effort on was accountability. The participants shared that the students were expected to be responsible in cleaning up after themselves after the project. Participant 11 described how they incorporated teaching students to be responsible for their own mess and their own duties to their routine:

> With 5 minutes left, I play a clean-up song that goes Doo Doo Doo Doo Doo clean up. Clean up, doo doo doo doo, clean up, clean up, and they it's slightly longer than that, but it's longer, and it's obnoxious, and it's loud on the kazoo, so that everybody hears it, and they sing along. They just do the cleanup parts, and I play the kazoo part, so that you know kind of clues everybody in and I can go and play my kazoo close to people that are not cleaning up. To the idea that we are doing our jobs to clean up. Materials for materials helper, teacher helpers to the floor, and collectors put things back at table folders. Then, I collect the table folders as I dismiss tables back to the line and they leave.

The participants expressed that relationship-building was foundational in the art teachers' efforts in establishing consistency in their class. The participants reported their beliefs that their students saw them as a reliable adult, especially when they were their art teacher from K–5. Participant 4 explained that they have a deep understanding of students who had been with them from K–5:

> I usually meet them in kindergarten, and I have the benefit of working with them until 5th grade. So I get to know them. I usually will meet with our coordinator before the year starts and I'll usually get a snapshot of their IEP, and I'll know what their needs are.

Participants 10 and 12 articulated that they also have a good understanding of their students who had been with them for years, and they could consistently address their students' needs because of this understanding. Participant 12 stated, "I think building those relationships with them, the best part about seeing kids for 6 years is that you get to know them really well and they get to know you … I can set them up for success."

Participants 1 and 5 shared that although students might trust them because they knew them, they reported being cautious in implementing changes especially with students with ASD. The participants revealed that they implemented changes in small increments to help their students adapt. Participant 5 shared, "I'll just like move seats if some kids are better with others, and I definitely will talk to those kids too … I have aides with some of the kids that react a lot."

Theme 6: Art Teachers Perceived That Efforts Were Made to Help Students With Autism Spectrum Disorder Achieve Progress in Art Class

The participants shared their perceptions of therapeutic behavior in art education through efforts in supporting students with ASD to achieve their target progress. The participants' insights were categorized into supporting interactions with others and modeling behaviors. According to the participants, art projects in their classes were typically completed individually, but productive conversation and collaboration were not prohibited. Additionally, the end-goal of the project was not necessarily a completed artwork but the learning process that came with doing art.

Supporting interactions included making opportunities for students to have intentional and collaborative interactions. Students were seated in small groups despite their individual projects, and they were allowed to have conversations, especially about art. Participant 2 shared their intentional prompts to foster productive communication among their students: "Me asking verbal questions, sort of like an informal assessment, and then having students have like a little table discussion." Students who were more capable were also intentionally paired with students who needed support to teach them to interact and to be compassionate toward others. Participant 6 disclosed, "So sometimes for the most part, try to pair them up with kids that are going to help them … I think they're pretty understandable and some of them are friends with the other kids in the class." Participant 11 shared that pairing typical students with students with ASD was also beneficial for typical students, as they got opportunities to show their leadership

skills. Participant 3 expressed that general education elementary students were mostly helpful:

> Interactions that my two nonverbal ASD students had with general ed students actually going and handing them things and pointing to things that they needed, and my general ed. students interacting with them as well. And so it was just a really cool thing to see all the kids kind of interact with each other and it didn't really seem to matter to them or nor did they notice. And they are all very helpful

Nonetheless, three participants shared that their students could have learned their helpful behaviors from teachers' modeling. The participants stated that they often started art projects by doing quick demonstrations of the steps and then letting the students do the work. They reported letting the students see that they provided feedback and assistance to students in need. Participant 1 explained,

> I would do a lot of focus and modeling on like this is how we interact with our peers in the classroom and then how to be supportive with each other. You know you can't be telling your classmates that you don't like their artwork.

Participants 5 and 10 noted doing whole group demonstrations of the steps in doing the art projects, but added that they approached small groups when students started doing the work to provide them with assistance if they needed help. Participant 1 added that they verbalized admitting if they made a mistake in their work to let the students know not to feel bad when making mistakes.

Evidence of Trustworthiness

The rigor of qualitative studies lies in trustworthiness (Merriam & Tisdell, 2015). Trustworthiness in qualitative studies is often determined through meeting the following criteria: credibility, transferability, dependability, and confirmability (Merriam & Tisdell, 2015). This section shows how these criteria are addressed.

Credibility refers to the confidence in the accuracy and truthfulness of the study's findings (Moen & Middelthon, 2015). Multiple strategies were employed to enhance the credibility of this study. The cohesion between the study's problem, purpose, research question, and methodology was maintained throughout the research process as a technique to meet the credibility criterion. I used a reflexivity journal to document my reflections on how my decisions regarding the study aligned with the research components. These notes were revisited for every step of the process. During the analysis, the strategy of adhering to Clarke et al.'s (2015) six-step thematic analysis framework allowed for grounding the themes in the data collected from the participants.

Transferability refers to the extent to which findings may apply to other contexts with similar characteristics (Merriam & Tisdell, 2015). Meeting the transferability criterion involved providing sufficient information so that readers could decide on the applicability of the findings to another context (Moen & Middelthon, 2015). I provided thick descriptions of the components of this study in Chapter 1; the research gap in Chapter 2; the rationale of selecting the methodological procedures in Chapter 3; details of the setting and context of the study in this chapter, along with the study findings; and

the conclusions of the study in the next chapter. Thus, some transferability is possible to similar settings and people.

Dependability refers to the consistency and replicability of the research process over time (Moen & Middelthon, 2015). Establishing dependability includes descriptions of the reliable data handling and analysis. I used an audit trail to document the steps of the research process and the materials used in each step. These steps were reported in the earlier sections of this chapter, while the materials used, such as the informed consent form, interview guide, and codebook, were attached in the appendices. Decisions made in the research process were documented in the reflexivity journal. In the analysis, the use of NVivo 14 to store, organize, and manage the data reduced the possibility of mishandling or misplacing information, as the software was designed to provide structure in dealing with large volumes of qualitative data.

Confirmability refers to the extent of objectivity in the sense that the findings are grounded in the data rather than bias (Moen & Middelthon, 2015). Confirmability was established through reflexive practices and thorough documentation. I maintained a reflexive journal to acknowledge and minimize personal biases. Additionally, I adhered to Clarke et al.'s (2015) thematic analysis process and used excerpts from the data to quote the participants as evidence of the emergence of the codes and themes.

Summary

The findings of the study were presented in this chapter. The purpose of this qualitative study was to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school

students with ASD. This research purpose was addressed through the thematic analysis of interview data collected from a sample of 12 K–5 art education teachers within a large school district in a northern US state. Six themes emerged from the analysis and answered the research question of this study on the perspectives of art teachers on the social and emotional benefits of school-based art education for elementary students with ASD. The themes were (a) art teachers perceived that individualized instructions have social and emotional benefits for elementary students with ASD, (b) art teachers perceived art education results in overall improvement among elementary students with ASD, (c) art teachers perceived that appropriate and targeted projects have social and emotional benefits for elementary students with ASD, (d) art teachers perceived that efforts were made to engage students in art class, (e) art teachers perceived that efforts were made to provide a consistent structure for students, and (f) art teachers perceived that efforts were made to helps students with ASD achieve progress in art class.

The participants reported tailoring their approaches to meet the unique needs of students, particularly students with ASD. They shared that the context of their art education classroom was based on inclusion and individualized learning environments. The participants noted incorporating students' interests and collaborating with other educators to address behavioral and emotional needs. They also reported adjusting classroom routines and schedules to accommodate students' varying engagement levels. The participants detailed their observations of the overall improvements among students with ASD. The particular areas of improvement mentioned by the participants included behavior, focus, socialization, and the ability to work independently.

The type of art projects that engaged students with ASD involved variety and developmental appropriateness. The participants noted the importance of selecting art projects that align with students' abilities and target areas for improvement. Students with ASD sometimes require accommodations when completing art projects. The participants reported offering alternative materials and modifications. According to the participants, their efforts in motivating and engaging students with ASD in class were intentional. Apart from accommodations, the participants described working with other teachers, teacher aides, and therapists to address the needs of students with ASD to be able to participate in art class. They also referenced a mandate by the district to provide a place for students to take a break whenever they needed to cool down to avoid meltdowns and disruptions in class.

The participants shared that they made efforts to provide students with ASD structure and consistency, and they implemented changes in small increments to help their students adapt. The participants perceived that relationship-building was foundational to understanding and meeting their needs. Lastly, the participants reported helping students with ASD perform tasks and socialize in class. The participants modeled the desired behaviors to help students with ASD follow the steps in the project and help general education students develop empathy and compassion toward their peers with special needs. The participants emphasized that the goal of the art class was to help students learn from the process instead of focusing on achieving results.

The theoretical foundation of this study was the COAT model by Schweizer et al. (2019). Implications of the research findings through the lens of the model are discussed in the next chapter. The next chapter also includes the conclusions of this study.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this basic qualitative study was to explore the perspectives of elementary school art teachers regarding the social and emotional benefits of school-based art education for elementary school students with ASD. The problem that this study examined was the lack of knowledge regarding art teachers' perceptions of the social and emotional benefits of elementary school-based art classes for elementary students with ASD (Adoni-Kroyanker et al., 2019; Frydman et al., 2022; Hu et al., 2021). Considering this gap in practice, the bulk of art-based ASD interventions focusing on art therapy, and the ongoing need for schools to support elementary-aged students with ASD, it was crucial to investigate elementary art teachers' perspectives on the social and emotional benefits of school-based art therapy (Adoni-Kroyanker et al., 2019; Hutson, 2022; Jeong & Shim, 2021). This study bridges the gap in practice while providing direction for social change in elementary education by identifying the social and emotional benefits of art classes on elementary students with ASD.

A basic qualitative method was employed for this study. Using semistructured one-on-one interviews, I asked participants to provide personalized accounts of their perspectives on the emotional and social benefits of art education on students with ASD. Through Clarke et al.'s (2015) six-step thematic analysis, the study found six key themes: (a) Art teachers perceived that individualized instructions have social and emotional benefits for elementary students with ASD, (b) art teachers perceived art education results in overall improvement among elementary students with ASD, (c) art teachers perceived

that appropriate and targeted projects have social and emotional benefits for elementary students with ASD, (d) art teachers perceived that efforts were made to engage students in art class, (e) art teachers perceived that efforts were made to provide a consistent structure for students, and (f) art teachers perceived that efforts were made to helps students with ASD achieve progress in art class. The identified themes answered the overarching research question and laid the foundation for further research. Chapter 5 presents interpretations of the findings, discusses the study's limitations, offers recommendations, and outlines implications, concluding with a summary.

Interpretation of the Findings

Participants shared their experiences and insights as elementary school art teachers within a large school district in a northern US state. The findings of the study provided insight into the perceptions elementary school art teachers have of the social and emotional benefits of school-based art education on elementary students with ASD. The data were analyzed through the lens of the single overarching research question:

RQ1: What are elementary art teachers' perspectives on the social and emotional benefits of school-based art education for elementary students with ASD?

As previously noted, the study's findings identified six primary themes among the 12 participants. The following paragraphs interpret the study's findings through the lens of the conceptual framework and research question. Additionally, the findings are contextualized within the existing body of research.

Theme 1 showed that all participants perceived individualized art instruction as beneficial for the social and emotional growth of elementary students with ASD. All 12

participants described considering the unique needs of their students by fostering an inclusive environment in their class. According to the participants, there are many ways to create an inclusive classroom for those students with ASD: create a fun learning environment, allow students to have fun with each other while creating art, give students the ability to work individually but have the freedom to interact with other students, and work with other teachers to foster an inclusive classroom that adapts and meets the needs of each student.

Participants reported different considerations when thinking about their students. For example, the severity of ASD symptoms was a significant consideration when teaching art education, followed closely by a student's interests. To aid in individualized instruction, many participants reported fostering independence and ownership. Similarly, participants noted that encouraging students to be creative and express themselves within the confines of the project, for example, by allowing students to select themes that interest them or use colors that resonate with their feelings at the time. Encouraging students to express themselves through art is correlated with increased awareness of emotions, improved communication, and enhanced social skills (Adoni-Kroyanker et al., 2019; Malboeuf-Hurtubise et al., 2021). Five of the 12 participants mentioned how, over 1 year, there were noticeable, positive emotional and social changes in the students with ASD. They attributed those improvements to individualized instruction within art education. The study results confirm what previous researchers have found regarding art as an effective means of mitigating the adverse effects of developmental, social, and behavioral challenges in children with ASD (Lavric & Soponaru, 2023; Schweizer et al.,

2019). Similarly, the studies align with those of Farrington and Shewfelt (2020) and Shouma (2020), indicating that arts integration may lead to improved social-emotional learning, helping to create a more well-rounded individual with an emphasis on cognitive and social improvements.

Theme 2 identified that participants noted an overall improvement among their students with ASD throughout the duration of the school year, specifically mentioning improvements in behavior, focus, socialization, and autonomous work. The findings of this study showed that participants noticed improvements in the students' abilities to follow instructions, concerning their behavior and ability to focus. These improvements led to overall improvements in recognizing and adhering to routines, independently managing materials, and completing multi-step processes. Further, aligning with previous research on the cognitive benefits of using the arts in the classroom, Theme 2 found that the arts could increase student engagement, focus, concentration, problem-solving abilities, and creative thinking (School Specialty, 2022).

Fancourt and Finn (2019) found that participating in the arts helped develop overall social skills and impacted the entire range of social determinants of health in youth with ASD, indicating a cultural environment that is supportive of social engagement and expression. Participant 1 described how one student, at the beginning of the year, demonstrated hyper fixation with firetrucks and rigidity in their engagement and exhibited disruptive behaviors when projects did not align with their fixation. The participant further noted that, over time, the student began to demonstrate increased cognitive flexibility by gradually transitioning from incorporating firetrucks into every

project to engaging in projects without a fire truck. Eventually, the student could create work entirely unrelated to firetrucks, supporting Fancourt and Finn's (2019) findings regarding the arts' ability to help develop overall social skills. Likewise, Participant 7 discussed incremental improvements in engagement, emphasizing that students with ASD become more actively involved in the arts as rigidity decreases.

Lastly, the findings of Theme 2 supported the findings of Farrington et al. (2019) and Fancourt and Finn (2019). According to Farrington et al. (2019), arts instruction is an ideal means of promoting social/emotional learning by exposing young children to a variety of experiences that support the development of complex skills. Participant 1 observed how art education encourages developing complex skills and described how students were increasingly able to follow step-by-step instructions during art activities. This finding demonstrated improvements in complex communication, recall, and the ability to navigate multistep instructions independently. Similarly, Participant 11 mentioned that the consistent routines in art class contributed to the students' attention to detail, allowing them to complete more complex tasks over time. Theme 2 highlighted the impact that art education played in helping elementary students with ASD build emotional and social skills while increasing the development of complex skills. This finding aligned with findings from Farrington et al. (2019) and Fancourt and Finn (2019).

Theme 3 focused on art teachers' perceptions of appropriate and targeted projects having social and emotional benefits for elementary students with ASD. This theme focused on the various types of art taught in art education and the participants' perceptions of the type of art taught to students with ASD. The participants shared the

perception that art taught to students with ASD should align with the students' abilities, target areas of improvement, and target the specific areas of interest of those students. Participants perceived that when art education targets specific needs, it provides social and emotional benefits to students with ASD.

One of the key approaches used in the art therapy framework is differentiation (Schweizer et al., 2019). The authors emphasized that art therapy should be tailored to the specific needs of each student with ASD. By doing so, art therapy's therapeutic benefits can be maximized and support healthy outcomes for students with ASD. The findings of this theme share similarities with those of Schweizer et al.'s (2019) therapy framework and the COAT model. Schweizer et al.'s COAT model was used to assess art-based efforts to help youth with ASD. One aspect used to assess art-based efforts was the therapeutic behavior category, which reflected the specific efforts to make arts engagement therapeutic and targeted to the needs of students with ASD. The initial findings of the COAT model showed that youth with ASD became more relaxed, expressive, flexible, and communicative about their experiences. The 12 participants in this study indicated that they differentiated the art projects to meet the specific areas or interests of students with ASD. Additionally, four participants described modifying projects based on developmental abilities, sharing that younger students often had modified lessons with a focus on fine motor skills and basic color theory. They also noted that these lessons were less elaborate, tailored to suit the students' abilities, and targeted specific areas for improvement. Although there are similarities between the studies, it is essential to note

that the COAT model is used for therapy and encompasses multiple factors that were not applicable in this study. This point is discussed further in the recommendations section.

Similarly, Hutson (2022), Jeong and Shim (2021), and Koo and Thomas (2019) discussed the social and emotional benefits of having explicitly targeted therapies for elementary students with ASD. This study found that when students with ASD are assigned targeted and appropriate projects, there are social, emotional, and physical improvements among the students with ASD. Participants 1 and 8 discussed the use of art projects to strengthen fine motor skills in students. They reported that over time, these activities led to noticeable improvements in hand strength and coordination. A specific example of this was detailed by Participant 5, who emphasized the importance of proper pencil grips. A proper pencil grip requires hand strength and fine motor skills, skills that Participant 5 stated were lacking in many lower-elementary school classrooms due to the increasing use of tablets. Participant 5 observed that for some students, it may take only a few months to master the skill, while others take much longer. However, by the end of the year, Participant 5 noted that students had demonstrated progress in their pencil grip. The experiences of the participants align with previous research on the importance of a targeted approach to art education for students with ASD (Schweizer et al., 2019).

Theme 4 explored how art teachers perceived efforts to engage students in art class. With a focus on the therapeutic-related behaviors of the participants in providing art education for students with AS, the theme highlighted student engagement. According to one perspective, student engagement is a form of energy in action, manifesting behaviorally, cognitively, and emotionally (Havik & Westergård, 2020). Farrington and

Shewfelt (2020) believed that student engagement reflects how beneficial students believe an activity to be and their relationship with their teacher. Further, the authors suggested that relationships with teachers could motivate and engage students to overcome perceived limitations. Lastly, student engagement in art instruction has been shown to increase student engagement by 25% (Miller & Bogatova, 2018).

According to the findings, participants' primary efforts in engaging with students with ASD revolved around accommodations, avoiding classroom disruptions, and collaborative engagement. Accommodations were targeted at modifying materials to allow students more time to participate in the projects, modifying prompts in real-time to avoid disruptive behaviors, and providing the necessary sensory accommodations that some children need. One example of the participants trying to engage and build a relationship with a student with ASD was the use of a classroom "cool/calm down spot." The participants discussed how students were informed that when they needed a break, they could use the "cool/calm down spot," a designated safe area where they could calm down when feeling frustrated or overstimulated. In these cases, the students felt safe and had a place to recompose; at times, this action prevented a meltdown, allowing the student-educator relationship to help the students with ASD overcome their limitations and achieve new levels of personal and educational learning (Farrington & Shewfelt, 2020).

Collaborative engagement occurred when participants made efforts to engage their students with ASD by openly communicating with the other teachers and therapists who worked with the student. Three of the participants stated they made efforts to engage

with their students with ASD by collaborating with PTs and OTs. The participants expressed being open to collaboration to support those students better. Similarly, students felt better prepared on how to accommodate those students' needs when consulting with the student specialists. Tzima et al. (2019) also found that educators had become more open to collaboration among specialists to reach their students. Participants perceived their efforts to engage students with ASD through accommodations, relationship building, and collaborative engagement as positively benefiting those students with emotional and social components. The participants believed that by fostering a supportive and engaging learning environment, students continued to grow in those areas.

In Theme 5, art teachers perceived that efforts were made to provide a consistent structure for students. The participants expressed the importance of establishing consistency and routines within the classroom. The participants made further efforts to reinforce accountability and maintain consistency. These efforts were perceived as beneficial for students with ASD, as they helped create an environment that was consistent, predictable, and familiar, according to the participants. In other research, ASD is a neurodevelopmental disorder characterized by a range of symptoms of varying severity (Ashmawi et al., 2022; Balaramamurugan & Balakrishnan, 2023). According to Ashmawi et al. (2022) and Balaramamurugan and Balakrishnan (2023), many symptoms of ASD include challenges with communication and social interaction, narrow interests and behaviors, a lack of awareness of others' emotions, language delays, repetitive movements or habits, and resistance to changes in routine and environment. Studies have found that one key to improved social interaction for students with ASD is improving

communication skills. Communication skills among students with ASD can be increased through arts instruction that is structured by standard-based instruction (Amonkar et al., 2021; Farrington & Shewfelt, 2020; Parnell Prevost et al., 2019; Vishwakarma, 2022).

Theme 5 focused on art teachers' perceptions of the importance of establishing and maintaining a consistent structure for students. The participants reported that creating structure started with communicating their expectations for students. Many expressed the importance of routines for both students and teachers. Setting expectations and routines in the classroom, assigning classroom jobs, and assigning table jobs were reported as some of the first things communicated during art class. Structure and establishing routines provide consistency and help alleviate behavior problems in students with ASD and improve social and emotional regulation skills in the students (Chen et al., 2019). This finding supports Durrani's (2021) work. Durrani found that the S-BRATA and its key elements, one of which is providing structure and boundaries, help improve various skills, including comfort with change and adaptability. However, the participants shared that they were cautious when implementing changes, as too large of a change too quickly could create unwanted behaviors. Chen et al. (2019) emphasized that introducing change would be a gradual process for students with ASD.

The final theme of this study was art teachers' perceptions of the efforts made to support students with ASD achieve progress in class. The participants shared that most of the projects assigned during class were completed individually. The primary goal of the art project was not a completed project but rather the learning process that came from engaging in art. These findings are consistent with Beerse et al. (2020), Deboys et al.

(2017), and Malboeuf-Hurtubise et al. (2021), who emphasized the importance of the process and emotional benefits of the art creation process. Two topics involved in the learning process identified in this theme included classroom interactions and modeling behaviors for students with ASD.

The support of social and emotional interactions in the classroom was identified as relevant for supporting students with ASD. Participants expressed a desire to create opportunities for intentional and collaborative interactions, such as pairing a more capable student with a student who needs more support. This pairing would help teach the student who needs more support how to interact and develop social skills. Research has shown that fostering interactions between students with ASD and neurotypical students can lead to statistically significant improvement in socio-emotional skills, such as engagement, communication, and cooperation (Greco & De Ronzi, 2020). Participant 11 emphasized that not only is pairing neurodivergent students with neurotypical students beneficial for the neurodivergent student, but it also provides neurotypical students opportunities to demonstrate leadership skills.

Participant 11 also shared that students with ASD benefited from teacher modeling. Participants reported demonstrating positive social interactions through feedback on students' work, offering encouragement, and assisting students in need. The study found that participants believed the effort to model appropriate social skills, such as praise, encouragement, empathy, and cooperation, was beneficial for students with ASD. These findings were consistent with those of Fancourt and Finn (2019) and Bandura and

Hall (2018), who found that observation and imitation are crucial for youth with ASD, as students with ASD use those tools to improve their social and emotional understanding.

Limitations of the Study

The limitations of this study were unavoidable drawbacks of the chosen methodological approach (Merriam & Tisdell, 2015). The first limitation involved the study's small sample size. With only 12 participants, the findings may not accurately represent the broader population and cannot be generalized to other locations, situations, or populations. Additionally, the participants were recruited voluntarily, which limited the representation of the general population and introduced selection bias. However, efforts to mitigate this bias included careful reviews of each transcript, recorded multiphase coding of the data, and a focus on internal validity.

The second limitation concerned the data. Given the qualitative nature of the study, data were collected through semistructured, self-reported interviews. As a result, verifying the accuracy of the participant responses is impossible. The data may be subjected to inaccuracies due to purposeful exclusion, falsification, or incorrect recollection. Efforts made to minimize these limitations included adhering to ethical standards and maintaining participant confidentiality throughout the research process.

The study's last limitation involved potential bias. According to Merriam and Tisdell (2015), one challenge of qualitative methods is their potential bias. As a researcher with an interest in the topic, I had expectations and preconceptions that could have biased the study. To mitigate researcher and desirability bias, I implemented purposeful, reflexive practice throughout the research process (Merriam & Tisdell, 2015).

I began recording my expectations and biases at the start of the study and continued using reflexive journaling throughout the research process to track the evolution of my thinking and ideas. Throughout the study, I self-analyzed my recordings and journal entries to identify and mitigate biases.

Recommendations

There is a gap in existing literature and practice regarding how art-based education impacts elementary students with ASD. As a result, there is a need to understand the perceptions of art teachers regarding the social and emotional benefits that school-based art education for students with ASD. Further research is needed to examine the perceptions that art teachers have concerning the cognitive, social, and emotional benefits that art education has on students with ASD and to what extent the benefits are similar to art therapy. However, there remains a gap in understanding the perceptions of art teachers regarding the impact that art education has on the social, emotional, and cognitive development of students with ASD. The results of this study indicated that art teachers perceived art education as being cognitively, socially, and emotionally beneficial for elementary-aged students who have ASD.

Based on the results of this study, art education's social and emotional influence on elementary-aged students with ASD should be further investigated as an adjunct therapy to accompany behavioral therapies. Future researchers should consider conducting a similar study with a larger sample size. A similar study using a larger sample size may provide a more comprehensive examination of art teachers' perceptions and allow for the inclusion of a wider range of experiences. Additionally, a larger

population may help identify more consistent patterns in the social, emotional, and cognitive benefits of art education, thereby providing more data for informed practices and policies. Compiling data from art teachers from diverse backgrounds, socioeconomic districts, and regions may help broaden the study's findings and increase awareness of art education as an alternative intervention option for elementary students with ASD.

The second recommendation is to expand the study's population to parents. Parental perspectives on the effects of art education on elementary-aged students with ASD should be included in future studies. The inclusion of parental perspectives may allow for a more comprehensive overview of the long-term effects that art education has on these students and provide a comparative perspective. Similarly, a study focusing on parents' involvement in at-home arts projects and their perceptions of the social and emotional effects can be conducted. Hardiman et al. (2019) and Klass (2019) suggested that expanding the role of the arts requires students to bring their art skills home to engage with their parents. The inclusion of parental involvement in future studies may allow researchers to determine whether expanded art opportunities at home with parents are beneficial for students with ASD.

The findings of this study highlight the need for additional studies focused on the long-term benefits that art education has on students with ASD. Future researchers may conduct studies from the perspectives of art teachers who teach in middle school and high school grade levels. Art therapy is beneficial for individuals of all ages, and the findings of this study indicate that art education provides similar benefits to those of art therapy. The findings indicate that art education has a positive effect on the social and emotional

behaviors of elementary school-aged children with ASD, aligning with previous research (Hutson, 2022; Jeong & Shim, 2021; Koo & Thomas, 2019). However, there is a lack of research on the long-term benefits of art education for students in higher grade levels. It is recommended that future research adopt a longitudinal approach to explore the impact of school-based art education on students who have received school-based art education and continued to do so throughout elementary school. Additionally, researchers can examine whether students with ASD seek out more art-related coursework and experiences in middle school and high school based on their previous elementary school art exposure.

The final recommendation of this study is to research and develop a school-based art education COAT model. The findings of this study indicate that school-based art education is a promising adjunct treatment option to traditional ASD interventions and therapies. As a result, there is a need for an adapted model that aligns with the factors of school-based programs. These factors include resources, facilities, multiple teachers and staff, classroom environments, school leadership and administration, school policies, assessments and evaluations, educational goals, school schedule and time management, and educational alignment. These factors require consideration when researching the application of various therapeutic models in the classroom. Additionally, the current COAT model relies on certified art therapists, while the elementary school classroom typically has art-trained educators. The modified COAT model will need to account for whether art educators have received specialized training, unlike art therapists. To make the model practical and applicable for art educators, the model will need to offer clear

and structured guidelines that can be easily applied within the classroom without requiring specialized knowledge.

Implications

Implications for positive social change stemming from this study include the identification of the social and emotional benefits that art education has on elementary-aged students with ASD. Although much of the previous research regarding art and elementary-aged students with ASD focused on the beneficial effects of art therapy, few studies suggested that art education might have the potential to recreate the social and emotional benefits of art therapy without the direct treatment facilitated by a specialist (Adoni-Kroyanker et al., 2019; Frydman et al., 2022; Jeong & Shim, 2021). The findings of this study contribute to the limited body of literature suggesting that art education can produce similar benefits to art therapy without the associated expenses of direct treatment. Further, these findings support the potential of school-based art education as a low or no-cost complementary treatment to other ASD-related therapies in elementary-aged children (Durrani, 2021).

Given the high number of students diagnosed with ASD, more educators need to adapt and make inclusive classrooms (Olsson & Nilholm, 2023). Many educators continue to struggle with creating an inclusive classroom and providing these students with the social and emotional support necessary for a high-quality general education (Olsson & Nilholm, 2023). The findings of this study can contribute to practice and positive social change by raising awareness of the potential for art education to serve as a complementary intervention for elementary-aged students with ASD. Additionally, the

educators in this study expressed their need for improved support and training in art therapy, similar to the more established framework of music therapy. These findings can inform elementary school educators and leadership about the effectiveness of art-based education in the classroom, highlighting the need for additional support and training for art teachers. In turn, this awareness may promote the continued investment in and expansion of arts programs in elementary schools.

The results of the study will directly benefit students with ASD by increasing educator awareness of the benefits of art education within the classroom. The findings indicate that targeted, structured, and individualized art education can significantly enhance focus, behavior, and social skills in students with ASD. By highlighting these findings, the study can raise awareness among educators on how to better understand and meet the unique needs of students with ASD. A recognition of how art education supports the social and emotional development of students with ASD can foster a more inclusive and supportive learning environment for those students (Shouma, 2020). Further, an increased awareness among art educators may lead to greater integration of the arts within school curricula. In recent years, art engagement and participation have significantly declined in public schools across America, often due to funding limitations that match arts funding with class enrollment size (Rabkin & Hedberg, 2011). Increased awareness of the specific benefits that art education has for students with ASD may increase funding opportunities for schools.

Conclusion

This qualitative study was designed to explore elementary school art teachers' perceptions regarding the social and emotional benefits of school-based art education for elementary school students with ASD in a large school district in a northern US state. The purpose of this study was addressed through the thematic analysis of data captured from a sample of 12 K–5 art education teachers. The findings of this study highlighted the emotional and social benefits that art education offered to elementary-aged students with ASD.

By conducting semistructured interviews, the perceptions of the benefits of art education on elementary-aged students with ASD were captured. The findings of this study provided a better understanding of how much influence arts education has on students with ASD while identifying areas that need improvement. The primary findings suggested that inclusive art education supported the emotional and social development of students with ASD, as reflected in six key themes: (a) Art teachers perceived that individualized instructions have social and emotional benefits for elementary students with ASD, (b) art teachers perceived art education results in overall improvement among elementary students with ASD, (c) art teachers perceived that appropriate and targeted projects have social and emotional benefits for elementary students with ASD, (d) art teachers perceived that efforts were made to engage students in art class, (e) art teachers perceived that efforts were made to provide a consistent structure for students, and (f) art teachers perceived that efforts were made to helps students with ASD achieve progress in art class. Positive social change effects include that educators and families of elementary-

aged students with ASD may use the findings of this study to increase awareness of the arts programs, encourage and fund more elementary art programs, encourage working with the arts at home, and ultimately benefit students with ASD.

References

Abdulah, D. M., Abdulla, B. M. O., & Liamputtong, P. (2021). Psychological response of children to home confinement during COVID-19: A qualitative arts-based research. *International Journal of Social Psychiatry*, *67*(6), 761–769. https://doi.org/10.1177/0020764020972439

Academy in the Woods. (2023). *Dr. Mitchell—Cognitive and social benefits of arts education*. Artsacad. https://www.artsacad.net/dr-mitchell-cognitive-and-social-benefits-of-arts-education/#:~:text=To%20break%20it%20down%2C%20students,Applied%20learning%20in%20new%20contexts

Adoni-Kroyanker, M., Regev, D., Snir, S., Orkibi, H., & Shakarov, I. (2019). Practices and challenges in implementing art therapy in the school system. *International Journal of Art Therapy, 24*(1), 40–49. https://doi.org/10.1080/17454832.2018.1536726

Adugna, M. B., Nabbouh, F., Shehata, S., & Ghahari, S. (2020). Barriers and facilitators to healthcare access for children with disabilities in low and middle income sub-Saharan African countries: A scoping review. *BioMed Central Health Services Research*, *20*, 1–11. https://doi.org/10.1186/s12913-019-4822-6

Agrawal, V., Naik, V., Duggirala, M., & Athavale, S. (2020). Color me: A game based on art therapy for mental health. In C. Stephanidis (Ed.), *Extended abstracts of the 2020 Annual Symposium on Computer-Human Interaction in Play* (pp. 158–162). https://doi.org/10.1145/3383668.3419868

Akthar, Z., & Lovell, A. (2019). Art therapy with refugee children: A qualitative study explored through the lens of art therapists and their experiences. *International Journal of Art Therapy*, *24*(3), 139–148. http://hdl.handle.net/10034/621687

Al Taqatqa, F. A. S. (2023). The efficiency of a UDL-based program in developing language skills and social interaction for students with ASD. *Information Sciences Letters, 12*(3), 1457–1468. https://digitalcommons.aaru.edu.jo/cgi/viewcontent.cgi?article=1730&context=isl

Amonkar, N., Su, W. C., Bhat, A. N., & Srinivasan, S. M. (2021). Effects of creative movement therapies on social communication, behavioral-affective, sensorimotor, cognitive, and functional participation skills of individuals with autism spectrum disorder: A systematic review. *Frontiers in Psychiatry*, *12*, Article 722874. https://doi.org/10.3389/fpsyt.2021.722874

Anderson, R. C., Haney, M., Pitts, C., Porter, L., & Bousselot, T. (2020). "Mistakes can be beautiful": Creative engagement in arts integration for early adolescent learners. *The Journal of Creative Behavior*, *54*(3), 662–675. https://doi.org/10.1002/jocb.401

Ashmawi, N. S., Hammoda, M. A., & Hammoda, M. (2022). Early prediction and evaluation of risk of autism spectrum disorders. *Cureus*, *14*(3), Article e234565. https://assets.cureus.com/uploads/review_article/pdf/90139/20220423-29016-qqzxyk.pdf

Balaramamurugan, L., & Balakrishnan, N. (2023). Effectiveness of art therapy in autism spectrum disorders focusing on sensory and motor aspects: Review of literature. *International Journal for Multidisciplinary Research*, *5*(3), 1–9. https://www.ijfmr.com/papers/2023/3/3116.pdf

Barnes, J., FakhrHosseini, S. M., Vasey, E., Park, C. H., & Jeon, M. (2020). Child-robot theater: Engaging elementary students in informal STEAM education using robots. *The Institute of Electrical and Electronics Engineers Pervasive Computing*, *19*(1), 22–31. https://ieeexplore.ieee.org/abstract/document/8957388

Beerse, M. E., Van Lith, T., & Stanwood, G. (2020). Therapeutic psychological and biological responses to mindfulness-based art therapy. *Stress and Health*, *36*(4), 419–432. https://doi.org/10.1002/smi.2937

Benford, S., Ramchurn, R., Marshall, J., Wilson, M. L., Pike, M., Martindale, S., Hazzard, A., Greenhalgh, C., Kallionpää, M., Tennent, P., & Walker, B. (2021). Contesting control: Journeys through surrender, self-awareness and looseness of control in embodied interaction. *Human–Computer Interaction*, *36*(5–6), 361–389. https://doi.org/10.1080/07370024.2020.1754214

Bentz, J. (2020). Learning about climate change in, with and through art. *Climatic Change*, *162*(3), 1595–1612. https://doi.org/10.1007/s10584-020-02804-4

Bernier, A., Ratcliff, K., Hilton, C., Fingerhut, P., & Li, C. Y. (2022). Art interventions for children with autism spectrum disorder: A scoping review. *The American Journal of Occupational Therapy*, *76*(5), Article 7605205030. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9575654/

Bharathi, G., Jayaramayya, K., Balasubramanian, V., & Vellingiri, B. (2019). The potential role of rhythmic entrainment and music therapy intervention for individuals with autism spectrum disorders. *Journal of Exercise Rehabilitation*, *15*(2), 180–186. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6509464/

Bitan, M., & Regev, D. (2022). Clinicians' perceptions of parent-child arts therapy with children with autism spectrum disorders: The Milman Center experience. *Children*, *9*(7), Article 980. https://doi.org/10.3390/children9070980

Boice, K. L., Jackson, J. R., Alemdar, M., Rao, A. E., Grossman, S., & Usselman, M. (2021). Supporting teachers on their STEAM journey: A collaborative STEAM teacher training program. *Education Sciences*, *11*(3), Article 105. https://www.mdpi.com/2227-7102/11/3/105

Bongratz, A. (2019). *Using an art therapy antecedent intervention to improve behavior of a child with autism in group activities* (Publication No. 203) [Doctoral dissertation, Saint Mary-of-the-Woods College]. Scholars. https://scholars.smwc.edu/handle/20.500.12770/203

Bosgraaf, L., Spreen, M., Pattiselanno, K., & Hooren, S. V. (2020). Art therapy for psychosocial problems in children and adolescents: A systematic narrative review on art therapeutic means and forms of expression, therapist behavior, and supposed mechanisms of change. *Frontiers in Psychology*, *11*, Article 584685. https://doi.org/10.3389/fpsyg.2020.584685

Bowen, D. H., & Kisida, B. (2023). Investigating the causal effects of arts education. *Journal of Policy Analysis and Management*, *42*(3), 624–647. https://doi.org/10.1002/pam.22449

Braund, M., & Reiss, M. J. (2019). The 'great divide': How the arts contribute to science and science education. *Canadian Journal of Science, Mathematics and Technology Education*, *19*, 219–236. https://doi.org/10.1007/s42330-019-00057-7

Bush, S. B., Cook, K. L., Edelen, D., & Cox, R., Jr. (2020). Elementary students' STEAM perceptions: Extending frames of reference through transformative learning experiences. *The Elementary School Journal*, *120*(4), 692–714. https://doi.org/10.1086/708642

Carruthers, S., Pickles, A., Slonims, V., Howlin, P., & Charman, T. (2020). Beyond intervention into daily life: A systematic review of generalisation following social communication interventions for young children with autism. *Autism Research*, *13*(4), 506–522. https://doi.org/10.1002/aur.2264

Chen, L., Abrams, D. A., Rosenberg-Lee, M., Iuculano, T., Wakeman, H. N., Prathap, S., & Menon, V. (2019). Quantitative analysis of heterogeneity in academic achievement of children with autism. *Clinical Psychological Science, 7*(2), 362–380. https://doi.org/10.1177/2167702618809353

Clarke, V., Braun, V., & Hayfield, N. (2015). Thematic analysis. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods* (3rd ed., pp. 222–248). SAGE Publications, Inc.

Danker, J., Strnadová, I., & Cumming, T. M. (2019). "They don't have a good life if we keep thinking that they're doing it on purpose!": Teachers' perspectives on the well-being of students with autism. *Journal of Autism and Developmental Disorders*, *49*, 2923–2934. https://doi.org/10.1007/s10803-019-04025-w

Deboys, R., Holttum, S., & Wright, K. (2017). Processes of change in school-based art therapy with children: A systematic qualitative study. *International Journal of Art Therapy*, *22*(3), 118–131. https://doi.org/10.1080/17454832.2016.1262882

Degli Innocenti, E., Geronazzo, M., Vescovi, D., Nordahl, R., Serafin, S., Ludovico, L. A., & Avanzini, F. (2019). Mobile virtual reality for musical genre learning in primary education. *Computers & Education*, *139*, 102–117. https://air.unimi.it/bitstream/2434/642026/2/innocenti_ce19_preprint.pdf

Delgado, N. B., Collantes, G. Q., & Tabasa, J. J. N. (2019). Children's theater: An inclusive school's venue for children with needs to publicly demonstrate their talents. In S. Jopri, S. Bari, & K. E. Hock (Eds.), *3rd international conference on special education* (pp. 349–354). Atlantis Press. https://www.atlantis-press.com/proceedings/icse-19/125928819

Diemer, M. C., Gerstein, E. D., & Regester, A. (2022). Autism presentation in female and Black populations: Examining the roles of identity, theory, and systemic inequalities. *Autism*, *26*(8), 1931–1946. https://doi.org/10.1177/13623613221113501

Durrani, H. (2019). A case for art therapy as a treatment for autism spectrum disorder. *Art Therapy*, *36*(2), 103–106. https://doi.org/10.1080/07421656.2019.1609326

Durrani, H. (2021). Sensory-based relational art therapy approach (S-BRATA): A framework for art therapy with children with ASD. *Art Therapy*, *38*(2), 78–86. https://doi.org/10.1080/07421656.2020.1718054

Elpus, K. (2022). Access to arts education in America: The availability of visual art, music, dance, and theater courses in US high schools. *Arts Education Policy Review*, *123*(2), 50–69. https://doi.org/10.1080/10632913.2020.1773365

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, *5*(1), 1–4. https://doi.org/10.11648/j.ajtas.20160501.11

Fancourt, D., & Finn, S. (2019). *What is the evidence on the role of the arts in improving health and well-being? A scoping review*. World Health Organization. Regional Office for Europe. https://apps.who.int/iris/bitstream/handle/10665/329834/9789289054553-eng.pdf?utm_source=The%20King%27s%20Fund%20newsletters%20%28main%20account%29&utm_medium=email&utm_campaign=11042446_NEWSL_HMP%202019-11-12&dm_i=21A8,6KOEM,KO3F1D,Q6IN9,1

Farrington, C. A., Maurer, J., McBride, M. R. A., Nagaoka, J., Puller, J. S., Shewfelt, S., Weiss, E. M., & Wright, L. (2019). *Arts education and social-emotional learning outcomes among K-12 students: Developing a theory of action* (ED598682). ERIC. https://files.eric.ed.gov/fulltext/ED598682.pdf

Farrington, C. A., & Shewfelt, S. (2020). *How arts education supports social-emotional development: A theory of action* (EJ1241261). ERIC. https://files.eric.ed.gov/fulltext/EJ1241261.pdf

Filgueira, T. O., Castoldi, A., Santos, L. E. R., de Amorim, G. J., de Sousa Fernandes, M. S., Anastácio, W. D. L. D. N., Campos, E. Z., Santos, T. M., & Souto, F. O. (2021). The relevance of a physical active lifestyle and physical fitness on immune defense: Mitigating disease burden, with focus on COVID-19 consequences. *Frontiers in Immunology*, *12*, Article 587146. https://doi.org/10.3389/fimmu.2021.587146/full

Frydman, J. S., Hyman, S., & Caputo, S. (2022). Creative arts therapy in the United States school system: An integrative systematic review of empirically evaluated interventions from the past decade. *Psychology in the Schools*, *59*(3), 535–556. https://doi.org/10.1002/pits.22629

Gaiha, S. M., Salisbury, T. T., Usmani, S., Koschorke, M., Raman, U., & Petticrew, M. (2021). Effectiveness of arts interventions to reduce mental-health-related stigma among youth: A systematic review and meta-analysis. *BioMed Central Psychiatry*, *21*(1), 1–26. https://doi.org/10.1186/s12888-021-03350-8

García-Redondo, P., García, T., Areces, D., Núñez, J. C., & Rodríguez, C. (2019). Serious games and their effect improving attention in students with learning disabilities. *International Journal of Environmental Research and Public Health*, *16*(14), Article 2480. https://doi.org/10.3390/ijerph16142480

Gentle, E., Linsley, P., & Hurley, J. (2020). "Their story is a hard road to hoe": How art-making tackles stigma and builds well-being in young people living regionally. *Journal of Public Mental Health, 19*(2), 109–118. https://doi.org/10.1108/JPMH-10-2019-0087

Greco, G., & De Ronzi, R. (2020). Effect of Karate training on social, emotional, and executive functioning in children with autism spectrum disorder. *Journal of Physical Education and Sport*, *20*(4), 1637–1645. https://doi.org/10.7752/jpes.2020.04223

Harpazi, S., Regev, D., Snir, S., & Raubach-Kaspy, R. (2020). Perceptions of art therapy in adolescent clients treated within the school system. *Frontiers in Psychology*, *11*, Article 518304. https://doi.org/10.3389/fpsyg.2020.518304

Havik, T., & Westergård, E. (2020). Do teachers matter? Students' perceptions of classroom interactions and student engagement. *Scandinavian Journal of Educational Research*, *64*(4), 488–507. https://doi.org/10.1080/00313831.2019.1577754

Hipp, J., & Sulentic Dowell, M. M. (2019). Challenges and supports to elementary teacher education: Case study of preservice teachers' perspectives on arts integration. *Journal for Learning Through the Arts*, *15*(1). https://doi.org/10.21977/D915144538

Hodges, A., Joosten, A., Bourke-Taylor, H., & Cordier, R. (2020). School participation: The shared perspectives of parents and educators of primary school students on the autism spectrum. *Research in Developmental Disabilities*, *97*, Article 103550. https://e-tarjome.com/storage/panel/fileuploads/2020-05-09/1589016886_E14824-e-tarjome.pdf

Holmes, S. C., & Butcher, J. (2019). Educational leaders can lead the way for increased academic achievement for students on the autism spectrum. *School Leadership Review*, *15*(1), Article 20. https://scholarworks.sfasu.edu/slr/vol15/iss1/20/

Holochwost, S. J., Wolf, D. P., Fisher, K. R., O'Grady, K., & Gagnier, K. M. (2018). The arts and socioemotional development: Evaluating a new mandate for arts education. In R. S. Rajan & I. C. O'Neal (Eds.), *Arts evaluation and assessment: Measuring impact in schools and communities* (pp. 147–180). https://doi.org/10.1007/978-3-319-64116-4_7

Hu, J., Zhang, J., Hu, L., Yu, H., & Xu, J. (2021). Art therapy: A complementary treatment for mental disorders. *Frontiers in Psychology*, *12*, Article 686005. https://doi.org/10.3389/fpsyg.2021.686005

Hutson, J. (2022). The role of virtual reality in art therapy to mitigate autism spectrum disorder (ASD) symptoms. *Open Journal of Clinical & Medical Images*, *2*(2), Article 446. https://digitalcommons.lindenwood.edu/faculty-research-papers/446/

Jeon, M., Barnes, J., FakhrHosseini, M., Vasey, E., Duford, Z., Zheng, Z., & Dare, E. (2017, June). Robot opera: A modularized afterschool program for STEAM education at local elementary school. In Ubiquitous Robots and Ambient Intelligence (Ed.), *2017 14th international conference on Ubiquitous Robots and Ambient Intelligence* (pp. 935–936). The Institute of Electrical and Electronics Engineers. https://ieeexplore.ieee.org/abstract/document/7992869

Jones, E. K., Hanley, M., & Riby, D. M. (2020). Distraction, distress and diversity: Exploring the impact of sensory processing differences on learning and school life for pupils with autism spectrum disorders. *Research in Autism Spectrum Disorders*, *72*, Article 101515. https://doi.org/10.1016/j.rasd.2020.101515

Jury, M., Perrin, A. L., Desombre, C., & Rohmer, O. (2021). Teachers' attitudes toward the inclusion of students with autism spectrum disorder: Impact of students' difficulties. *Research in Autism Spectrum Disorders*, *83*, Article 101746. https://hal.science/hal-03160107/file/JuPeDeRO_RASD_2021_Post-print-1.pdf

Jusslin, S., & Höglund, H. (2021). Arts-based responses to teaching poetry: A literature review of dance and visual arts in poetry education. *Literacy*, *55*(1), 39–51. https://doi.org/10.1111/lit.12236

Kalkan, Ü., Altınay Aksal, F., Altınay Gazi, Z., Atasoy, R., & Dağlı, G. (2020). The relationship between school administrators' leadership styles, school culture, and organizational image. *Sage Open*, *10*(1), Article 2158244020902081. https://doi.org/10.1177/2158244020902081

Kang, N. H. (2019). A review of the effect of integrated STEM or STEAM (science, technology, engineering, arts, and mathematics) education in South Korea. *Asia-Pacific Science Education*, *5*(1), 1–22. https://doi.org/10.1186/s41029-019-0034-y

Kaur, M., Eigsti, I. M., & Bhat, A. (2021). Effects of a creative yoga intervention on the joint attention and social communication skills, as well as affective states of children with autism spectrum disorder. *Research in Autism Spectrum Disorders*, *88*, Article 101860. https://doi.org/10.1016/j.rasd.2021.101860

Khodabakhshi-Koolaee, A., & Darestani-Farahani, F. (2020). Mandala coloring as Jungian art to reduce bullying and increase social skills. *Journal of Client-Centered Nursing Care*, *6*(3), 193–202. https://jccnc.iums.ac.ir/browse.php?a_id=269&slc_lang=en&sid=1&ftxt=1&html=1

Koo, J., & Thomas, E. (2019). Art therapy for children with autism spectrum disorder in India. *Art Therapy*, *36*(4), 209–214. https://doi.org/10.1080/07421656.2019.1644755

Kriellaars, D. J., Cairney, J., Bortoleto, M. A., Kiez, T. K., Dudley, D., & Aubertin, P. (2019). The impact of circus arts instruction in physical education on the physical literacy of children in Grades 4 and 5. *Journal of Teaching in Physical Education*, *38*(2), 162–170. http://bibliotheque.enc.qc.ca/Record.htm?record=19183999124919011719

Kuntz, E. M., & Carter, E. W. (2021). Effects of a collaborative planning and consultation framework to increase participation of students with severe disabilities in general education classes. *Research and Practice for Persons With Severe Disabilities*, *46*(1), 35–52. https://doi.org/10.1177/1540796921992518

Kyriakakis, G. (2020). Promoting creative computer-based music education and composition for individuals with autism spectrum disorders: The terpsichore software music interface. In K. Miesenberger, R. Manduchi, M. C. Rodriguez, & P. Peňáz (Eds.), *Computers helping people with special needs: 17th international conference* (pp. 136–148). Springer International Publishing. https://doi.org/10.1007/978-3-030-58805-2_17

LaJevic, L. (2013). Arts integration: What is really happening in the elementary classroom? *Journal for Learning Through the Arts*, *9*(1), Article n1. http://escholarship.org/uc/item/9qt3n8xt

Laurens, C., Bergouignan, A., & Moro, C. (2020). Exercise-released myokines in the control of energy metabolism. *Frontiers in Physiology*, *11*, Article 91. https://doi.org/10.3389/fphys.2020.00091

Le, A. (2019). *The benefits of art integration in schools* (Publication No. 483) [Master's thesis, California State University Monterey Bay]. Capstone Projects and Master's Theses. https://digitalcommons.csumb.edu/caps_thes_all/483

Ledson, A. (2020). *The performing arts: An equalizer in education for all students, a teaching artist's perspective* (Publication No. 2208) [Doctoral dissertation, The University of Vermont and State Agricultural College]. ScholarWorks. https://scholarworks.uvm.edu/cgi/viewcontent.cgi?article=2208&context=graddis

Lemerond, S. B. (2019). Creative writing across mediums and modes: A pedagogical model. *Journal of Creative Writing Studies*, *4*(1), 1–11. https://scholarworks.rit.edu/cgi/viewcontent.cgi?article=1188&context=jcws

Li, D. (2022). Music therapy in mental health and emotional diversion of primary and secondary school students. *Occupational Therapy International*, *2020*, Article 8370682. https://doi.org/10.1155/2022/8370682

Loesl, S. (2010). Introduction to the special issue on art therapy in the schools: Art therapy+ schools+ students=? *Art Therapy*, *27*(2), 54–56. https://doi.org/10.1080/07421656.2010.10129718

Macmbinji, V. O., & Gachigi, P. N. (2022). Art-based intervention in determining the quality of life of children with autism and their parents in the context of educational services in Kenya: A systematic review of literature. *Education & Child Development*, *1*(1), Article 2. http://ojld.org/index.php/education/article/view/2

Mahoney, M. W. (2019). Peer-mediated instruction and activity schedules: Tools for providing academic support for students with ASD. *Teaching Exceptional Children*, *51*(5), 350–360. https://doi.org/10.1177/0040059919835816

Malboeuf-Hurtubise, C., Léger-Goodes, T., Mageau, G. A., Taylor, G., Herba, C. M., Chadi, N., & Lefrançois, D. (2021). Online art therapy in elementary schools during COVID-19: Results from a randomized cluster pilot and feasibility study and impact on mental health. *Child and Adolescent Psychiatry and Mental Health*, *15*(1), 1–11. https://doi.org/10.1186/s13034-021-00367-5

Marques, L. S., Gresse von Wangenheim, C., & Hauck, J. C. (2020). Teaching machine learning in school: A systematic mapping of the state of the art. *Informatics in Education*, *19*(2), 283–321. https://www.ceeol.com/search/article-detail?id=872034

Massa, A., DeNigris, D., & Gillespie-Lynch, K. (2020). Theatre as a tool to reduce autism stigma? Evaluating 'beyond spectrums.' *Research in Drama Education: The Journal of Applied Theatre and Performance*, *25*(4), 613–630. https://doi.org/10.1080/13569783.2020.1732810

Mazumder, R., & Thompson-Hodgetts, S. (2019). Stigmatization of children and adolescents with autism spectrum disorders and their families: A scoping study. *Review Journal of Autism and Developmental Disorders*, *6*, 96–107. https://doi.org/10.1007/s40489-018-00156-5

McDonald, A., & Holttum, S. (2020). Primary-school-based art therapy: A mixed methods comparison study on children's classroom learning. *International Journal of Art Therapy*, *25*(3), 119–131. https://doi.org/10.1080/17454832.2020.1760906

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation*. John Wiley & Sons.

Miller, J. A., & Bogatova, T. (2018). Arts in education: The impact of the arts integration program and lessons learned. *Journal for Learning Through the Arts*, *14*(1). https://doi.org/10.21977/D914128357

Moen, K., & Middelthon, A. L. (2015). Qualitative research methods. In P. Laake, H. B. Benestad, & B. R. Olsen (Eds.), *Research in medical and biological sciences* (pp. 321–378). Academic Press.

Morsa, M., De Andrade, V., Alcaraz, C., De La Tribonnière, X., Rattaz, C., & Baghdadli, A. (2022). A scoping review of education and training interventions in autism spectrum disorder. *Patient Education and Counseling*, *105*(9), 2850–2859. https://doi.org/10.1016/j.pec.2022.05.012

Mousa, A. A., Mazeed, H., & Saad, E. (2021). A program based on artistic and musical activities to acquire educational concepts for children with learning difficulties. *International Journal of Educational and Pedagogical Sciences*, *15*(11), 984–989. https://publications.waset.org/10012325/a-program-based-on-artistic-and-musical-activities-to-acquire-educational-concepts-for-children-with-learning-difficulties

Muhammad, N. M., Schneider, M., Hill, A., & Yau, D. M. (2019, March). How the use of iPad and smartphones creates social isolation. In E. Langran & J. Borup (Eds.), *Society for Information Technology & teacher education international conference* (pp. 1060–1065). Association for the Advancement of Computing in Education. https://immitch.com/wp-content/uploads/2019/07/AACE-SITE-How-the-Use-of-iPad-and-Smartphones-Creates-Social-Isolation.pdf

Müller, E., & Donley, C. (2019). Measuring the impact of a school-based, integrative approach to play therapy on students with autism and their classroom instructors. *International Journal of Play Therapy*, *28*(3), 123–132. http://dx.doi.org/10.1037/pla0000100

Müller, E., Naples, L. H., Cannon, L., Haffner, B., & Mullins, A. (2019). Using integrated arts programming to facilitate social and emotional learning in young children with social cognition challenges. *Early Child Development and Care*, *189*(14), 2219–2232. https://doi.org/10.1080/03004430.2018.1445732

Nazeri, A., Ghamarani, A., Darouei, P., & Ghasemi Tabatabaei, G. (2020). The effect of expressive arts therapy on emotion regulation of primary school students. *Quarterly Journal of Child Mental Health*, *7*(2), 132–143. https://childmentalhealth.ir/article-1-544-en.html

Oberle, E., Ji, X. R., Guhn, M., Schonert-Reichl, K. A., & Gadermann, A. M. (2019). Benefits of extracurricular participation in early adolescence: Associations with peer belonging and mental health. *Journal of Youth and Adolescence*, *48*, 2255–2270. https://doi.org/10.1007/s10964-019-01110-2

Odom, S. L., Hall, L. J., Morin, K. L., Kraemer, B. R., Hume, K. A., McIntyre, N. S., Nowell, S. W., Steinbrenner, J. R., Tomaszewski, B., Sam, A. M., & DaWalt, L. (2021). Educational interventions for children and youth with autism: A 40-year perspective. *Journal of Autism and Developmental Disorders*, *1*, 1–16. https://doi.org/10.1007/s10803-021-04990-1

Olivier, E., Archambault, I., De Clercq, M., & Galand, B. (2019). Student self-efficacy, classroom engagement, and academic achievement: Comparing three theoretical frameworks. *Journal of Youth and Adolescence*, *48*, 326–340. https://doi.org/10.1007/s10964-018-0952-0

Olsson, I., & Nilholm, C. (2023). Inclusion of pupils with autism–A research overview. *European Journal of Special Needs Education*, *38*(1), 126–140. https://doi.org/10.1080/08856257.2022.2037823

Parnell Prevost, C., Gleberzon, B., Carleo, B., Anderson, K., Cark, M., & Pohlman, K. A. (2019). Manual therapy for the pediatric population: A systematic review. *BioMed Central Complementary and Alternative Medicine*, *19*(1), 1–38. https://doi.org/10.1186/s12906-019-2447-2

Pedregal, C. R., & Heaton, P. (2021). Autism, music and Alexithymia: A musical intervention to enhance emotion recognition in adolescents with ASD. *Research in Developmental Disabilities*, *116*, Article 104040. https://doi.org/10.1016/j.ridd.2021.104040

Percy, W. H., Kostere, K., & Kostere, S. (2015). Generic qualitative research in psychology. *The Qualitative Report*, *20*(2), 76–85. http://www.nova.edu/ssss/QR/QR20/2/percy5.pdf

Polak, E., Sikora, J., & Rachwał, M. (2019). An Aikido-based intervention supporting the therapy of a child with autism spectrum disorders–A case study. *Ido Movement for Culture. Journal of Martial Arts Anthropology*, *19*(1S), 67–76. https://cejsh.icm.edu.pl/cejsh/element/bwmeta1.element.desklight-d8911519-27a0-4c7b-8808-7b92a7ca8438

Qian, M., & Clark, K. R. (2016). Game-based learning and 21st century skills: A review of recent research. *Computers in Human Behavior*, *63*, 50–58. https://doi.org/10.1016/j.chb.2016.05.023

Quigley, C. F., Herro, D., & Baker, A. (2019). Moving toward transdisciplinary instruction: A longitudinal examination of STEAM teaching practices. In M. S. Khine & S. Areepattamannil (Eds.), *STEAM education: Theory and practice* (pp. 143–164). https://doi.org/10.1007/978-3-030-04003-1_8

Ramirez, K., Haen, C., & Cruz, R. F. (2020). Investigating impact: The effects of school-based art therapy on adolescent boys living in poverty. *The Arts in Psychotherapy*, *71*, Article 101710. https://doi.org/10.1016/j.aip.2020.101710

Rauschenberg, C., Schick, A., Goetzl, C., Roehr, S., Riedel-Heller, S. G., Koppe, G., Durstewitz, D., Krumm, S., & Reininghaus, U. (2021). Social isolation, mental health, and use of digital interventions in youth during the COVID-19 pandemic: A nationally representative survey. *European Psychiatry*, *64*(1), e17–e20. https://doi.org/10.1192/j.eurpsy.2021.17

Ressa, T. (2022). How media literacy education through multimedia tools can empower learners with autism. *Advances in Literary Study*, *10*(4), 357–371. https://www.scirp.org/journal/paperinformation.aspx?paperid=120792

Rodden, B., Prendeville, P., Burke, S., & Kinsella, W. (2019). Framing secondary teachers' perspectives on the inclusion of students with autism spectrum disorder using critical discourse analysis. *Cambridge Journal of Education*, *49*(2), 235–253. https://doi.org/10.1080/0305764X.2018.1506018

Rosen-O'Leary, R., & Thompson, E. G. (2019). *STEM to STEAM: Effect of visual art integration on long-term retention of science content* (EJ1222159). ERIC. https://files.eric.ed.gov/fulltext/EJ1222159.pdf

Roulston, K., & Choi, M. (2018). Qualitative interviews. In U. Flick (Ed.), *The SAGE handbook of qualitative data collection* (pp. 233–249). Sage.

Rukavina, P., Doolittle, S., Li, W., Beale-Tawfeeq, A., & Manson, M. (2019). Teachers' perspectives on creating an inclusive climate in middle school physical education for overweight students. *Journal of School Health*, *89*(6), 476–484. https://doi.org/10.1111/josh.12760

Safonicheva, O. G., & Ovchinnikova, M. A. (2021). Movements and development. Art-therapy approach in the complex rehabilitation of children with intellectual disorders, including autism spectrum disorder. In T. Whitney (Ed.), *Emerging programs for autism spectrum disorder* (pp. 243–264). Academic Press. https://doi.org/10.1016/B978-0-323-85031-5.00019-0

Sandwick, T., Hahn, J. W., & Hassoun Ayoub, L. (2019). *Fostering community, sharing power: Lessons for building restorative justice school cultures* (EJ1235090). ERIC. https://eric.ed.gov/?id=EJ1235090

Schoevers, E. M., Leseman, P. P., & Kroesbergen, E. H. (2020). Enriching mathematics education with visual arts: Effects on elementary school students' ability in geometry and visual arts. *International Journal of Science and Mathematics Education*, *18*, 1613–1634. https://doi.org/10.1007/s10763-019-10018-z

School Specialty. (2022). The cognitive benefits of art in the classroom. *Schoolyard.* https://blog.schoolspecialty.com/the-cognitive-benefits-of-art-in-class/

Schottelkorb, A. A., Swan, K. L., & Ogawa, Y. (2020). Intensive child-centered play therapy for children on the autism spectrum: A pilot study. *Journal of Counseling & Development*, *98*(1), 63–73. https://doi.org/10.1002/jcad.12300

Schweizer, C., Knorth, E. J., & Spreen, M. (2014). Art therapy with children with autism spectrum disorders: A review of clinical case descriptions on 'what works.' *The Arts in Psychotherapy*, *41*(5), 577–593. https://doi.org/10.1016/j.aip.2014.10.009

Schweizer, C., Knorth, E. J., Van Yperen, T. A., & Spreen, M. (2019). Consensus-based typical elements of art therapy with children with autism spectrum disorders. *International Journal of Art Therapy*, *24*(4), 181–191. https://doi.org/10.1016/j.aip.2019.101578

Schweizer, C., Knorth, E. J., Van Yperen, T. A., & Spreen, M. (2020). Evaluation of 'Images of Self,' an art therapy program for children diagnosed with autism spectrum disorders (ASD). *Children and Youth Services Review*, *116*, Article 105207. https://doi.org/10.1016/j.childyouth.2020.105207

Schweizer, C., Spreen, M., & Knorth, E. J. (2017). Exploring what works in art therapy with children with autism: Tacit knowledge of art therapists. *Art Therapy*, *34*(4), 183–191. https://doi.org/10.1080/07421656.2017.1392760

Sehgal, S. (2022). An overview of the practice and potential of music therapy in India: Biographical approaches and art-based interventions in mental disorders. *International Journal of Research in Engineering, Science and Management*, *5*(10), 55–62. https://journal.ijresm.com/index.php/ijresm/article/view/2392

Shahidi, S. H., Williams, J. S., & Hassani, F. (2020). Physical activity during COVID-19 quarantine. *Acta Paediatrica, 109*(10), Article 2147. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7323361/

Shavkatovna, F. F. (2023). Art therapy for the development of creative thinking of the individual. *Research Journal of Trauma and Disability Studies*, *2*(3), 45–48. http://journals.academiczone.net/index.php/rjtds/article/view/657

Shouma, M. (2020). *The impact of arts integration on the learning and social abilities of students with disabilities: An approach to an inclusive classroom* [Doctoral dissertation, The British University in Dubai]. BSpace. https://bspace.buid.ac.ae/bitstream/handle/1234/1749/20170481.pdf?sequence=3&isAllowed=y

Stolar, D. (2018). Art and education. *International Journal for Empirical Education and Research*, *2*(8), 31–41. https://web.archive.org/web/20200507032947id_/https://journals.seagullpublications.com/ijeer/assets/paper/IJ06201920112/f_IJ06201920112.pdf

Sutherland, J., Waldman, G., & Collins, C. (2010). Art therapy connection: Encouraging troubled youth to stay in school and succeed. *Art Therapy*, *27*(2), 69–74. https://doi.org/10.1080/07421656.2010.10129720

Takacs, Z. K., & Kassai, R. (2019). The efficacy of different interventions to foster children's executive function skills: A series of meta-analyses. *Psychological Bulletin*, *145*(7), 653–697. https://doi.org/10.1037/bul0000195

Tang, Y. (2023). *Expressive art group therapy to improve children with autism's social and expressive skills and facilitate parent-child* [Doctoral dissertation, Lesley University]. Digital Commons. https://digitalcommons.lesley.edu/cgi/viewcontent.cgi?article=1756&context=expressive_theses

Thorne, S. (2016). *Interpretive description: Qualitative research for applied practice*. Routledge.

Tomporowski, P. D., & Pesce, C. (2019). Exercise, sports, and performance arts benefit cognition via a common process. *Psychological Bulletin*, *145*(9), Article 929. https://biggerbetterbrains.com/wp-content/uploads/2023/05/Tomporowski_Exercise-Sports-and-Performance-Arts-Benefit-Cognition-Via-a-Common-Process.pdf

Tzima, S., Styliaras, G., & Bassounas, A. (2019). Augmented reality applications in education: Teachers point of view. *Education Sciences*, *9*(2), Article 99. https://www.mdpi.com/2227-7102/9/2/99

Underhill, J. C., Ledford, V., & Adams, H. (2019). Autism stigma in communication classrooms: Exploring peer attitudes and motivations toward interacting with atypical students. *Communication Education*, *68*(2), 175–192. https://doi.org/10.1080/03634523.2019.1569247

Valls, R., Black, C., & Lee, M. M. (2019). Five years of integrating science and dance: A qualitative inquiry of constructivist elementary school teachers. *Research in Dance Education*, *20*(2), 113–129. https://doi.org/10.1080/14647893.2018.1550477

Van Laar, C., Meeussen, L., Veldman, J., Van Grootel, S., Sterk, N., & Jacobs, C. (2019). Coping with stigma in the workplace: Understanding the role of threat regulation, supportive factors, and potential hidden costs. *Frontiers in Psychology*, *10*, Article 1879. https://doi.org/10.3389/fpsyg.2019.01879

Van Steensel, F. J., Bögels, S. M., & Perrin, S. (2011). Anxiety disorders in children and adolescents with autistic spectrum disorders: A meta-analysis. *Clinical Child and Family Psychology Review*, *14*, 302–317. https://doi.org/10.1007/s10567-011-0097-0

Vishwakarma, A. (2022). Dance movement therapy and Kathak in India. *Sanglap: Journal of Literary and Cultural Inquiry*, *8*(2), 57–69. https://doi.org/10.35684/JLCI.2022.8206

Weida, C. L. (2019). Digital resources, art education philosophies, and inclusive teaching. In R. L. Garner (Ed.), *Exploring digital technologies for art-based special education: Models and methods for the inclusive K-12 classroom* (pp. 28–37). Routledge.

Whiteford, T. (2022). *The benefits of ceramic art with secondary learners* (Publication No. 850) [Master's thesis, Bethel University]. Spark Repository. https://spark.bethel.edu/etd/850

Wilson, K. P., & Landa, R. J. (2019, March). Barriers to educator implementation of a classroom-based intervention for preschoolers with autism spectrum disorder. *Frontiers in Education, 4,* Article 27. https://doi.org/10.3389/feduc.2019.00027

Wood, M. J. (2021). *Using arts to improve academic outcomes for students with disabilities* (Publication No. 667) [Master's thesis, Bethel University]. Spark Repository. https://spark.bethel.edu/etd/667

Woodruff, A. (2019). Video modeling in the art classroom: Enhancing the learning of students with autism spectrum disorder. In R. L. Garner (Ed.), *Exploring digital technologies for art-based special education* (pp. 135–151). Routledge.

Yan, H., Chen, J., & Huang, J. (2019). School bullying among left-behind children: The efficacy of art therapy on reducing bullying victimization. *Frontiers in Psychiatry*, *10*, Article 40. https://doi.org/10.3389/fpsyt.2019.00040

Yucesoy, Y., Bağlama, B., & Tüzel, M. (2020). Art education, therapy interventions and school management in autism. *Romanian Journal for Multidimensional Education*, *12*(1), 334–349. https://doi.org/10.18662/rrem/217

Zeidan, J., Fombonne, E., Scorah, J., Ibrahim, A., Durkin, M. S., Saxena, S., & Elsabbagh, M. (2022). Global prevalence of autism: A systematic review update. *Autism Research*, *15*(5), 778–790. https://doi.org/10.1002/aur.2696

Zhang, M., Ding, H., Naumceska, M., & Zhang, Y. (2022). Virtual reality technology as an educational and intervention tool for children with autism spectrum disorder: Current perspectives and future directions. *Behavioral Sciences*, *12*(5), Article 138. https://doi.org/10.3390/bs12050138

Appendix A: Site Permission Form

Institutional Letterhead/Logo

{Community Research Partner/Institution Name}

{Community Research Partner/Institution Contact}

{Date}

Dear Walden IRB,

Based on my review of the present research by Brenda Miller, I give permission for her to conduct the study entitled “Teachers’ Perceptions of the Benefits of Art Education for Elementary Students with Autism” within the (name of school system). As part of this study, I authorize the researcher to recruit study participants. Individuals’ participation will be voluntary and at their own discretion.

We understand that our organization’s responsibilities include allowing Brenda Miller to send recruitment emails. We reserve the right to withdraw from the study at any time if our circumstances change.

We understand that the research will include individual in-person and online interviews. This authorization covers the time period of {_____ to _____}.

I confirm that I am authorized to approve research in this setting.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the research team without permission from the Walden University IRB.

Sincerely,

{Authorization Official signature}

Appendix B: Recruitment Materials

Email Invitation

Subject line:

Interviewing elementary school art teachers who teach students with ASD ($15 thank you gift)

Email message:

There is a new study about elementary school art teachers' perspectives on the social and emotional benefits of school-based art education for elementary school students with ASD that could help provide information on using art education as art therapy. For this study, you are invited to describe your experiences as an elementary school art teacher.

About the study:

- One 45-90 minute in-person or online interview through Zoom that will be audio-recorded
- Participants will receive a $15 gift card to Amazon, Walmart, or Target as a thank you.
- To protect your privacy, the published study will use pseudonyms.

Volunteers must meet these requirements:

- Licensed teacher
- Teach art at the elementary level
- Teach at least one student with ASD, and

- Have held their current teaching position for at least one full academic year

This interview is part of the doctoral study for Brenda Miller, an EdD student at Walden University. Interviews will take place during (insert month/year here).

Please respond to this email to let the researcher know of your interest. You are welcome to forward it to others who might be interested.

Social Media Post

Caption: There is a new study about elementary school art teachers' perspectives on the social and emotional benefits of school-based art education for elementary school students with ASD that could help provide information on using art education as art therapy. For this study, you are invited to describe your experiences as an elementary school art teacher.

About the study:

- One 45-90 minute in person or online interview through Zoom that will be audio-recorded
- Participants will receive a $15 gift card to Amazon, Walmart, or Target as a thank you.
- To protect your privacy, the published study will use pseudonyms.

Volunteers must meet these requirements:

- Licensed teacher
- Teach art at the elementary level
- Teach at least one student with ASD, and
- Have held their current teaching position for at least one full academic year

This interview is part of the doctoral study for Brenda Miller, an EdD student at Walden University. Interviews will take place during (insert month/year here).

Please message Brenda Miller privately to let them know of your interest.

Email: miller884@msn.com

Cell: 410-916-4084

Appendix C: Interview Protocol

Interview Guide: Teachers' Perceptions of the Benefits of Art Education for Elementary Students with Autism

Date:

Time:

Location/Method of Interview:

Interviewee:

Research Questions:

- **RQ1**: What are elementary art teachers' perspectives on the social and emotional benefits of school-based art education for elementary students with ASD?

Research Approach:

Parts of the Interview/Interview Question	Interviewee Responses/Researcher Reflexivity/Researcher Comments or Questions
Introduction	The purpose of this research study is to explore elementary school art teachers' perspectives regarding the social and emotional benefits of school-based art education for elementary school students with ASD.

	The purpose of this interview is to talk about your perspectives and experiences as an elementary school art teacher teaching art to students with ASD at the elementary level. This interview is scheduled to last for 40 to 90 minutes. After the interview, I will be examining your answers to produce a data analysis, and some of your responses will be shared with my dissertation committee and published in a final report. However, I will not identify you by name in the documents. Also, no one will be able to identify you by your answers. As you are aware, before we began this interview process, you were assigned a pseudonym. You were also asked to use this name throughout the interview process. The entire interview will be coded to hide your identity and to protect your privacy. You can choose to stop this interview at any time. May I also have your permission to record this interview for transcription purposes? Upon completion of data analysis, you will be asked to review the member check, which is a list of emergent themes identified in the interview. The final report will be made available to you at the end of the study.
Do you have any questions or concerns at this time?	
Are you ready to begin the interview?	***[Refusal to consent]*** I appreciate your concerns about (insert concern here). Thank you for your time. If you change your mind, please contact me through (insert number here). I hope to finish the interviewing process within (insert time frame here). Please feel free to check with me at any time before or after that time. I would be happy to sit down with you again to discuss your experiences in relation to the subject of this study. Again, thank you for your time and

	consideration. Goodbye.
Preinterview questions	I would just like to confirm the following before we proceed to the interview. First, are you a licensed teacher? [Participant response should be "yes".] Do you teach at the elementary level? Do you teach at least one student with ASD? Lastly, have you held your current teaching position for at least one academic year?
Thank you, let us proceed to the interview. **Interview Question # 1:** Please describe a typical art session with your students.	Possible prompts and/or follow up questions: • What are some of the activities that the kids work on? • How do they work on these activities? (i.e. individually, small groups, small groups with teacher assistance?)
Interview Question # 2: Please describe the usual response of your students during your art sessions.	Possible prompts and/or follow up questions: • How would you describe student engagement level in general? • How would you describe student enthusiasm for the activities in general?
Interview Question # 3: Please describe the usual response of your student/s with ASD during your	Possible prompts and/or follow up questions • How would you describe engagement level?

art sessions.	
Interview Question # 4: How would you describe the behavior of your student/s with ASD during the activity?	Possible prompts and/or follow up questions: • What do you observe about their behavior from the start of the session to the end of the session?
Interview Question # 5: With regard to your student/s with ASD, how would you describe their progress, in terms of their output, from the first art session to the most recent?	Possible prompts and/or follow up questions: • What changes have you observed in the quality of their work?
Interview Question # 6: With regard to your student/s with ASD, what have you observed about their behavior, from the first art session to the most recent?	Possible prompts and/or follow up questions: • What changes have you observed in their behavior during the art session? • What changes have you observed in their behavior during class time in general? • How would you describe the interest level of these students in art class? • Have you observed any changes in peer interactions with ASD students as a result of your art class or art projects? • Have you observed any changes in interactions between you, the teacher, and your ASD students as a result of your art class or art projects?
Interview Question # 7: Please describe what you know about art therapy.	Possible prompts and/or follow up questions: • What kind of training have you received about it? • Do you feel that art therapy training would be beneficial to your teaching?

Interview Question # 8: Can you describe how your knowledge of art therapy factors in your lesson planning for your sessions?	Possible prompts and/or follow up questions: • How have you been implementing, if any, principles of art therapy in your sessions with your elementary school students?
Interview Question # 9: How does having a student with ASD factor in your lesson planning for your sessions?	Possible prompts and/or follow up questions: • Do you use the same lesson for the entire class? • Do you incorporate accommodations or prepare different lesson plans?
Interview Question # 10: Lastly, do you any additional comments or insights about the social and emotional benefits of art education for students with ASD or about using art therapy? Do you have any recommendations for the school system and/or future art education programs?	
Closing Remarks	Thank you so much for your time. I appreciate you helping me with my research. A copy of the final report can be provided for you if you are interested in receiving it. If you decide that you want to have a copy of the results, please contact me through email at miller884@msn.com or by phone at 410-916-4084. I'd be happy to send you a copy. Thank you again for your assistance.

Appendix D: Codebook

Initial codes	Axial codes	Preliminary themes	Validated themes	Final themes
Challenges with sensory issues	Consideration for needs of students with ASD	Teaching with consideration for individual student needs	Teaching with consideration for individual student needs	Art teachers taught in the context of considering individual student needs
Challenges with students experiencing changes				
Fostered collaboration projects				
Mixed with gen ed students				
Not all good days				
Projects that take a short time				
Quick demonstration for modeling				
Self-contained class				
Students having aides				
Challenge with students' lack of interest in art	Considerations for individual student differences			
Characteristics				
Class schedules				
Interests				
Needs				
Students can follow instructions	Overall improvement	Overall improvement	Overall improvement	Art teachers perceived an overall improvement among students with ASD
Students can interact with peers				
Students' improved focus				
Students' overall improvements				

Initial codes	Axial codes	Preliminary themes	Validated themes	Final themes
Students working independently				
Working with students' rigidity and fixed interests				
-Less tantrums				
-Students become more engaged in the classroom				
3D projects for older students	Developmentally appropriate projects	Importance of appropriate and targeted projects	Importance of appropriate and targeted projects	Art teachers perceived the importance of appropriate and targeted projects
Color theory for younger students				
Digital art for older students				
Discussing art with older students				
Dry mediums for younger students				
iPads for digital art among older students				
Printmaking especially for younger students				
Quick projects for younger students				
Weaving with older students				
A variety in projects and materials for motivation	Projects targeting specific areas and interests			
Art involving development of fine motor skills				
Clay for sensory exposure				
Students enjoying painting				
Keeping students	Efforts in engaging	Efforts in	Efforts in	Art teachers

Initial codes	Axial codes	Preliminary themes	Validated themes	Final themes
motivated	students in general	engaging students	engaging students	perceived that efforts were made to engage students in art class
Student-led teacher-facilitated art projects				
-Allowing students to freely create art				
-Focus on process than products				
-Fostering expressiveness				
-Individual work with some interactions or support				
-Laying out supplies to promote autonomy				
-Offering feedback and support				
Providing accommodations	Efforts in engaging students with ASD	Efforts in engaging students with ASD		
-Concern for socioemotional well-being				
-Co-planning with another art teacher				
-Differentiated approach				
-Fit the needs of the students				
-Using different material				
-Working with classroom teachers				
-working with PT and OT				
Using behavior management strategies				
-Acceptance and				

Initial codes	Axial codes	Preliminary themes	Validated themes	Final themes
commitment therapy training				
-Behavior skills training				
-Studio Thinking model				
-TABS model				
Using sensory exposure				
Using the cool down spot				
Demonstrating steps	Modeling art projects and behaviors	Helping students with ASD achieve progress	Helping students with ASD achieve progress	Art teachers perceived that efforts were made to helps students with ASD achieve progress in art class
-Demonstration in small groups				
Modeling addressing mistakes				
Modeling conversation pieces				
Encouraging to talk	Supporting interactions			
-Teaching to speak nicely				
Making opportunities for intentional, collaborative interactions				
-Having opportunities to work together				
-Some group projects				
Pairing special education students with general education students				
Sitting on the floor or the table	Establishing routines and expectations	Providing and consistency structure	Providing and consistency structure	Art teachers perceived that efforts were made to provide a consistent structure for

Initial codes	Axial codes	Preliminary themes	Validated themes	Final themes
				students
Start with lecture				
Twice a week classes				
County-paid art therapist	Having a budget for resources			
Generous budget to try different mediums				
Resources from supportive principal				
Being a consistent adult for the students	Relationship-building			
-following students from K–5				
-Implementing changes in small increments				
Getting students to be more open				
Performing class jobs	Teaching accountability			
Teaching to clean up after oneself				