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Andrews University
College of Education & International Services

Parent Satisfaction of Daily Organized Physical Education for Children with Autism
Spectrum Disorder

A Thesis
Presented in Partial Fulfillment
of the Requirements for the Degree
Master of Science in Special Education

by
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Abstract

Daily structured physical education programming should be protected to support the achievement of goals set within an individual education plan (IEP) for students with autism spectrum disorder (ASD). To ensure this is a priority, parent satisfaction is necessary to prioritize a healthy partnership between home and school.

The objective of this research study is to identify the level of parent/guardian satisfaction in school-based and community-based daily organized physical education provided for children with autism. The research will determine if parents/guardians are wholly satisfied with the programming provided by their child's school, or if greater satisfaction is attained when parents outsource their child's daily organized physical education to a community-based program, and furthermore, the level of satisfaction a combination of the two provides.

A survey gauging parent satisfaction was distributed to all schools within a private educational system in the Pacific Northwest, which includes five senior academies, five junior academies, five elementary schools, and one distributed learning school. Those schools' administrative offices distributed the surveys to all parents/guardians of students registered with a Code G (ASD) designation within their 1701 files, and the results were run through a One-way Analysis of Variance and Tukey's HSD data analysis to reveal the significance of parent/guardian satisfaction.

Keywords: parent satisfaction, physical education, autism spectrum disorder

TABLE OF CONTENTS

Chapter	
1. Introduction.....	1
Background of the Study	1
Statement of the Problem.....	3
Theoretical Framework of the Study	5
Statement of Hypothesis	6
Rationale of the Study.....	6
Significance of the Study	7
Operational Definitions.....	8
Limitations and Delimitations.....	9
2. Overview of Literature.....	10
Review of Previous Literature	11
Sedentary lifestyle, obesity, and screen time in students with ASD.....	11
Benefits of physical activity for students with ASD.....	12
Improving sleep patterns and combatting fatigue.....	12
Development of motor skills.....	12
Social-emotional benefits. (2).....	13
The relationship between students with ASD, parents, and physical education	14
Students with ASD and their feelings towards physical education	14
Parents of children with ASD and their feelings towards physical education	15
Students with ASD and active engagement in daily physical education (6, 10)	16
Pertinent Opinion.....	17
State of Art Summary	17
3. Methods.....	19
Description of Participants.....	19
Description of the Measures	21
Variables	21
Research Design.....	22
Research Procedure.....	22

Analytical Techniques	23
4. Results.....	24
Quantitative Research Findings.....	25
Other Analyses	27
Summary	31
5. Discussion and Conclusion	34
Summary of Findings/Results	35
Discussion	36
Conclusion.....	39
Recommendations for Future Research	41
Recommendations for Future Practice	43
Appendix.....	44
Reference List	46

CHAPTER 1

INTRODUCTION

Background of the Study

Daily structured physical education programming should be protected to support the achievement of goals set within an Individualized Education Plan (IEP) for students with autism spectrum disorder (ASD), and to ensure this is a priority, parent satisfaction with these programs must be at the forefront of schools' priorities. It has been well-documented, the positive impacts that physical activity (PA) can have on students with ASD as they pertain to improving sleep patterns and lessening daily fatigue (Benson et al., 2019), the development and honing of social skills (Howells et al., 2019), and the development of gross and fine motor skills (Salvador-Garcia et al., 2022; Henderson et al., 2016). This, combined with the increasing amount of screen time observed by children with ASD (Healy, Garcia, Haegele, 2018), points towards the continued necessity for value to be placed on daily, structured physical education programming, and with the prioritization of these programs being parent-driven, a greater understanding of the level of parent satisfaction associated with both school- and community-based programs is required.

Benson et al. (2019) analyzed the sleep patterns and sleep habits of children with ASD as they compared to typically developed children (TDC) and found that not only did children with ASD slept longer than their TDC peers, but they also took longer to fall

asleep. This was correlated to the objected physical activity levels being lower in the ASD population than the TDC population. This resulted in the recommendation that increasing PA in the ASD population would have a beneficial impact on improved sleep (Benson et al., 2019).

Socialization for students with ASD is a core consideration for the overall growth of the individual. As Howells et al. (2019) sought to prove, group-based organized physical activity (OPA) has a strong correlation to this social development. Through their review of articles and studies, Howells et al. (2019) found that engagement in OPA led students with ASD to exhibit significant improvement in a range of social skills (Howells et al., 2019).

Naturally, the most obvious correlation of personal improvement that can be tied to daily, organized physical education programming should be the development of fine and gross motor skills. As Salvador-Garcia et al. (2022) and Henderson et al. (2016) evaluated in their research, this correlation can be made. Henderson et al. (2016) through a longitudinal study identified an improvement in motor skills of students with ASD in group-based OPA, whereas Salvador-Garcia et al. (2022) took a quasi-experimental approach to examine the differences in motor skill achievement from an experimental group enrolled in OPA programs, and a control group of children with ASD who were not, clearly reflecting their hypothesis that OPA had a positive impact on the development of motor skills (Salvador-Garcia et al., 2022; Henderson et al., 2016).

Considering the acknowledged positives of daily, OPA for students with ASD, the other element is one of combat against inactivity. As Healy et al. (2018) examined, that children with ASD were at a far greater risk of obesity than their TDC peers. This,

combined with a revealed increase in sedentary lifestyle and significantly increased screen time, drives cause for concern (Healy et al., 2018). Thus, in the background of the above discussion, the research team will seek to identify how parents/guardians feel about the delivery of this exceptionally important piece of their child's education. With an increase in community-based programs, the hypothesis that parents who seek individualized physical education programming from their community are more satisfied than those who rely solely on the programming provided by their child's school is one that schools should not only take seriously, but if proved, should be seeking to rectify as quickly as possible to ensure the holistic education that students with ASD require.

Statement of the Problem

Physical education classes are typically the first to be viewed as expendable, when it comes to students with ASD. Whether it be the need for counselling, tutoring, occupational therapy, etc., the time that is often given up accommodating for these services is the physical education class time. Granted, the rationale is that students should not be excluded from academic opportunity, but the case can be made that P.E. provides equally valuable growth opportunities for students with ASD. Even more so, the health impact that neglecting daily physical activity on students with ASD is quantifiably noticeable in a comparison to their typically developed peers. As represented in in the study of the correlation between various health factors and children with ASD by Healy et al. (2018, p. 157), a “significantly greater percentage of children diagnosed with ASD (40%) [are] classified as overweight or obese compared to TD children (31%; $p < 0.0001$)” (Healy et al., 2018, p. 1575). This translated not only to obesity, but the overarching problem of a sedentary lifestyle, and the amount of screen time children with

ASD partake in. Furthermore, to their research, “the comparison of lifestyle factors revealed that children diagnosed with ASD engaged in significantly fewer days per week of exercise (3.96 vs 4.7 days per week; $p < 0.0001$) and watched more hours of daily ST (2 h vs 1.83; $p < 0.01$),) compared to TD children” (Healy et al., 2018, p. 1575).

As the purpose of the development of an Individualized Education Plan and the progress monitoring of an IEP is to monitor growth of the “whole” student, as opposed to purely academic growth, the inclusion of daily, organized physical education classes needs to be a protected component. If an IEP is designed to monitor not just academic/intellectual functioning in Language Arts and Mathematics, but also Behavioural and Social-Emotional Functioning, then the contributions of OPA offered by a P.E. program should be evaluated, and protected, as well. As investigated by Goldman & DeLeon (2022), not only do “children with autism spectrum disorder (ASD) engage in reduced levels of physical activity relative to neurotypical children” (2022, p. 1). As can be viewed in the identification of the problem in Goldman & DeLeon’s (2022, p. 8) study on the correlation between physical activity levels and children with ASD, when provided the choice, nearly no children with ASD chose Physical Activity (PA) over the option of a Sedentary Activity (Sed). Hence, the need to protect the routine and structure that the physical education class provides for students diagnosed with autism spectrum disorder. Parent/guardian satisfaction is a contributing factor when prioritizing the protection of these daily organized physical education classes, and determining if the in-school model is as successful as the community-based models is necessary when attempting to understand why the in-school physical education program is often viewed as the most expendable when educating students with ASD.

Theoretical Framework of the Study

The theoretical paradigm in which this study will occur will be that of analyzing the means of parent/guardian satisfaction as they pertain to the primary model of daily organized physical education. The concept is to quantitatively evaluate whether parents/guardians exhibit greater or less satisfaction when their student relies on their school, their community, or a combination of the two to provide daily organized physical activity. The phenomenon that students with ASD exhibit significantly more sedentary lifestyles and are still not consistently engaged in physical education programs in a routinely structured setting further suggests that parents/guardians need to be engaged in the delivery of physical education for students with ASD. As acknowledged by Goldman & DeLeon (2022), “interventions designed to maintain physical activity engagement are generally effective...However, these interventions are sometimes limited ecologically in that participants are often only given the choice between physical activity and readily available sedentary activities such as sitting” (Goldman & DeLeon, 2022, p. 1). If parents/guardians are less satisfied when their student relies on their school for daily organized physical education, as compared to parents/guardians of students who rely on community programs, the improvement of in-school P.E. programs can be isolated and further improved to engage greater parent/parent satisfaction. This satisfaction of parents, and its identification will be necessary, as it can further help to protect the component of daily organized physical education and the involvement of students with ASD’s engagement in the general education setting. Ensuring that this is viewed and respected equal in value in regard to the rights protected of the student to engage with daily organized P.E. within the general course programming.

Statement of Hypothesis

Alternate Hypothesis (Ha): When using a one-way analysis of variance, the means of parent/guardian satisfaction of students with autism spectrum disorder will differ depending upon if the student is enrolled in an in-school model of physical education, a community-based model, or a combination of the two.

Null Hypothesis (H0): There is no difference between whether daily organized physical activity is delivered via an in-school model, a community-based model, or combination model when it comes to parent/guardian satisfaction of students with autism spectrum disorder.

Rationale of the Study

There is acknowledged correlation between a variety of benefits and physical activity for students with autism spectrum disorder (Benson et al., 2019; Howells et al., 2019; Salvador-Garcia et al., 2022; Garcia et al., 2020; Henderson et al., 2016; & Carey et al., (2022), but each is focused on specific focus areas of improvement. An Individualized Education Plan is a legally binding document that seeks to monitor growth from a holistic perspective, one that engages the support system around a student, including students' parents/guardians. Hence all of these areas of focus must be taken into account. If physical education classes are the easiest to be sacrificed for students with ASD when they need time for counselling, tutoring, occupational therapy, etc., that is coming at the cost of the holistic growth of the student. Therefore, further understanding how satisfied a student's parents/guardians are with the in-school delivery of daily organized physical education, as compared to other delivery models, will help to

further protect its inclusion in the IEP of a student to best meet the holistic needs of the student.

Significance of the Study

As organized physical education classes can be proven to have positive contributions for students with ASD, with the prioritization of the student's parents/guardians, the P.E. class can be bound to the IEP, meaning it is a legal expectation of the school to ensure it is provided in a consistent, organized fashion. This will continue to benefit students with ASD as it will be a school-requirement to ensure that students are engaged in not just an expectation of physical activity but engaged in daily organized physical activity overseen by a trained P.E. teacher. The necessary evaluation of parent/guardian satisfaction is required to determine if parents are less satisfied when the school is responsible for their student's daily organized physical education, or if greater satisfaction is met when parents/guardians rely on community programs. If a discrepancy exists between the models, then schools can prioritize the improvement of delivery for daily organized physical education to better meet the needs of students and parents/guardians alike.

Operational Definitions

Autism Spectrum Disorder: ASD is a spectrum disorder that presents in a variety of forms, ranging from gifted severely impaired. For this investigation, students would all fall within the "high-functioning" range of the spectrum.

Daily Physical Activity: refers to activity of moderate- or vigorous-intensity.

Individualized Education Plan: refers to the legal document that is developed to outline supports, services, and goals for a student with special education considerations.

Individualized Education Plan Goals: refers to the monitored objectives set out in the IEP.

Individualized Education Plan Team: refers to the group of people in charge of implementing, progress monitoring and adjusting the IEP, as becomes apparent. This typically involves teachers, administrators, special education coordinators, service providers, and parents.

Organized Physical Activity: refers to physical activity that is routine and structured with expectations and planned outcomes.

Physical Education: refers to the delivery of physical activity in a structured setting, overseen by a trained physical education instructor.

Physical Education Instructor: refers to the overseer of the physical education program.

Physical Education Programming: the delivered content of the physical education instructor. This is the structured, routinely delivered expectations of the instructor.

Sedentary Activity: an activity or act that does not contribute to the betterment of one's own personal fitness and health.

Screen Time: refers to the use of technological devices for person enjoyment. This includes, but is not limited to the use of smartphones, watching television, and playing on game consoles.

Students: refers to children at the K–12 grade range.

Limitations and Delimitations

The first limitation of this study is the fact that ASD, being a spectrum disorder, presents in many forms. Therefore, the generalization of the sample population is not purely reflective, as all participants could be categorized as Level 1 (students requiring support) or Level 2 (students requiring substantial support), none of whom would be categorized as Level 3 (students more severely affected and requiring very substantial support). The next greatest limitation is the sample population. The sampling approach was the selection of all parents/guardians of students in the selected independent school system who had students registered under a Code G designation. The sample was convenient in terms of who because they were parents/guardians in this specific independent school system, however it was a random sample since participants were not specifically recruited, as their inclusion in the study was determined by their child's registration status. The measurement instrument, uniquely designed to gauge parent/guardian satisfaction, is an original instrument, which has yet to garner peer-reviewed validity. Further evaluation to successfully validate this instrument should be considered. All parents will come from students enrolled in private schools within the selected independent school system, located in the Pacific Northwest. Socioeconomic, racial, and cultural diversity is expected as this is a random sample of participants that spans across the region.

CHAPTER 2

OVERVIEW OF LITERATURE

Physical activity and its relationship to the overall education of students with autism spectrum disorder has been explored from a variety of different angles. These investigations include its effectiveness for combatting obesity and sedentary habits (Healy et al., 2020), the benefits of physical activity for students with ASD (Benson et al., 2019; Howells et al., 2019; Salvador-Garcia et al., 2022; Garcia et al., 2020; & Henderson et al., 2016), the relationship between students, parents of said students, and their physical education programs and teachers (Healy et al., 2013; Lee, Haegele, & Chang, 2017), as well as the engagement of students in physical education programs (Carey et al., 2022; Goldman et al., 2022). These investigations, as they relate to physical education and students with ASD represent the larger scale implications of the necessity to protect daily, organized physical education classes for students with ASD to better support their success, according to their Individualized Education Plan goals.

A total of 10 literatures were reviewed for developing this research paper and these were generated from academic journals online (Developmental Neurorehabilitation, Journal of Autism & Developmental Disorders, Journal of Applied Behavior Analysis, Journal of Developmental & Physical Disabilities, Physical Educator, British Journal of Learning Disabilities, and Palaestra). This literature was published primarily between the years of 2019 (Benson et al., 2019; Howells et al., 2019) and 2022 (Goldman et al., 2022;

Salvador-Garcia et al., 2022; & Carey et al., 2022), however, some literature did date back as far as 2013 (Healy et al., 2013).

Review of Previous Literature

Sedentary lifestyle, obesity, and screen time in students with ASD

According to Healy et al. (2020), a significantly greater percentage of children diagnosed with ASD (40%) were classified as overweight or obese compared to typically developing children (31%; $p < 0.0001$). The comparison of lifestyle factors revealed that children diagnosed with ASD engaged in significantly fewer days per week of exercise (3.96 vs 4.7 days per week; $p < 0.0001$) and watched more hours of daily ST (2 h vs 1.83; $p < 0.01$),) compared to TD children (Healy et al., 2020). From their study, two main concerns became evident. Initially, the environmental factors associated with physical activity varied between children with and without ASD; whereas absence of a television in the child's room and increased neighborhood support were associated with physical activity among typically developing children, with no significant environmental factors were identified for the children with ASD. Although no significant environmental factors were identified, there were some similarities in consideration of factors associated with screen time between the two groups; for both groups having no limits on television time, and the presence of a television in the child's bedroom were associated with increased levels of screen time (Healy et al., 2020). The sedentary lifestyle concern was investigated even further by Goldman & DeLeon (2022) by evaluating the influence of the number of physical activity options and effort on the choice of students with ASD by having four children participate in a study to determine why children with ASD engage in reduced levels of physical activity relative to neurotypical children (Goldman & DeLeon,

2022). Their findings, when provided the choice, nearly no children with ASD chose Physical Activity (PA) over the option of a Sedentary Activity (Sed) (Goldman & DeLeon, 2022).

Benefits of physical activity for students with ASD

Improving sleep patterns and combatting fatigue

In a study conducted by Benson et al. (2019), the differences in sleep, sleepiness, and physical activity (PA) between young adults with autism spectrum disorder (ASD) and typically developing controls (TDC) was explored. The exploration was based around the concept of whether there was a correlation between physical activity and young adults with autism spectrum disorder, as it regards to sleep and sleepiness compared to typically developing young adults (Benson et al., 2019). Their findings inferred that in comparison to the TDC group, the ASD group slept longer on average per night but took longer to fall asleep. In relationship to PA levels, the objective PA levels were lower in the ASD group than the TDC group. Fewer wake minutes during the sleep period in the ASD sample were associated with more PA the following day (Benson et al., 2019). This caused them to make the conclusion that differences in sleep parameters and PA between ASD and TDC did in fact have a direct correlation to sleep patterns and daily fatigue. Their suggestion was that interventions aimed at increasing PA in an ASD population would be beneficial for improved sleep (Benson et al., 2019).

Development of motor skills

Development of motor skills is perhaps the most obvious correlation to track with daily, organized physical education for students with ASD, however, as the research dictates, it is still a clear benefit (Henderson et al., 2016; Salvador-Garcia et al., 2022).

The range between the two studies shows the timeless quality of this benefit. As first explored by Henderson et al. (2016), a quasi-experimental exploration of the effects of a 40-minute physical education class provided twice a week for six months on the performance of motor skills for students with ASD was introduced to 37 children with ASD aged 5 to 12 years (Henderson et al., 2016). Their findings were that the 37 children with ASD demonstrated improvements in 10 of the 12 motor skills after six months of the twice weekly physical education class. Meaning, that although children with ASD have severe deficits in motor skills, they can improve their motor skills when a 40-minute physical education program provided twice a week for six months is designed to focus on motor skill acquisition and emphasize controlled practice and repetition (Henderson et al., 2016). Six years later, this was further evaluated by Salvador-Garcia et al. (2022) to analyze the effects on motor performance of an extracurricular Physical Education program implemented in children with ASD with experimental and control groups made up of 31 participants of children with ASD between 4 and 16 years (Salvador-Garcia et al., 2022). Their findings supported those of Henderson et al. (2016), as after carrying out the intervention program, the experimental group obtained statistically significant better results in the variables of manual dexterity and balance, causing them to posit the conclusion that the findings highlight significant improvements, showing the need to address these difficulties to stimulate and encourage the development of children with ASD from an early age (Salvador-Garcia et al., 2022).

Social-emotional benefits. (2)

According to Howells et al. (2019), social-emotional wellness is also a direct correlate of daily organized physical education. They conducted a novel review and

meta-analysis to clarify the effects of group-based organized physical activity (OPA) for social and communicative outcomes in children with ASD, reviewing eleven articles and meta-analyzing another seven (Howells et al., 2019). Their conclusion was that their review and meta-analysis provided evidence in support of group-based OPA participation to strengthen social and communicative skills in children with ASD because eight of the ten studies that conducted significance testing found significant improvements in some aspect of social functioning. Although no studies found significant improvements in social awareness, one study found improvements in a general social skills domain following a multi-sport camp program. Six studies examined communication using the Vineland Adaptive Behaviour Scale. Two of these found significant improvements in communication. Four of the seven studies included in the meta-analysis carried a medium risk of bias (Howells et al., 2019) due to missing results in a systematic review.

The relationship between students with ASD, parents, and physical education

Students with ASD and their feelings towards physical education

One of the largest hurdles of physical education, as it pertains to students with ASD, is that past experiences of the self and others have led to P.E. being a source of anxiety in many students with ASD's lives. Therefore, Healy et al. (2013) conducted research to gain an insight into the experiences of students with autism in P.E. using a qualitative methodology consisting of semi-structured interviews. Their goal was to explore the perspective of children with ASD about their experiences in a physical education setting. Three key themes emerged. The first theme, individual challenges, was comprised of physical ability, sensory challenges, and a fear of injury. The second theme, peer interactions, encapsulated subthemes of initiation of friendship, camaraderie, social

comparison, and bullying. The final theme that emerged from the data was exclusion, which attends to children's experiences of being excluded by the teacher or because of activities being too difficult. Most notably, however, this theme relates to children requesting to be excluded (Healy et al., 2013). Their results led to them making the case that awareness of the issues raised will allow teachers to consider the views of students with autistic spectrum disorder to create inclusive P.E. environments. Of particular significance are the issues of sensory challenges, fear of injury and bullying—the factors highlighted by participants as contributing to negative P.E. experiences. In contrast, the positive accounts showed to stem from the enjoyment of the social benefits of P.E., such as initiation of friendship and camaraderie (Healy et al., 2013). Their results, even in consideration of the significant hurdles to overcome, provide encouragement for teachers and demonstrate the positive effects inclusive P.E. may provide for students with autistic spectrum disorder (Healy et al., 2013).

Parents of children with ASD and their feelings towards physical education

Beyond just student anxieties and perceptions, parents of children with ASD share many of these same attributes, which will sometimes make them hesitant to advocate strongly for daily inclusion in an organized physical education program. This concern is what led Lee et al. (2017) to explore the perceptions of parents with children who were diagnosed with ASD, and their satisfaction with their child's instruction of physical education. The Parent Perceptions Toward Adapted Physical Education Teachers (PPTAPET) survey was used to reveal that most parents were satisfied or strongly satisfied regarding items associated with communication (n = 23, 56%), qualification (n = 23, 56%), and rapport (n = 25, 61%) subtests. Instructional placement of the child was

correlated with communication, qualification, and rapport. In addition, parents reported lower satisfaction in communication, qualification, and rapport when their child was educated in fully inclusive P.E. compared to non-fully inclusive P.E. classes (Lee et al., 2017). The results indicated that parents were generally happy with their children in P.E. classes and want their child engaged in daily physical education. Furthermore, that teachers should account for parent satisfaction when making decisions for instructional placements for children with ASD (Lee et al., 2017).

Students with ASD and active engagement in daily physical education. (6, 10)

Engaging students in daily physical activity requires consistency, routine, and active engagement, according to studies by Garcia et al. (2020) and Carey et al. (2022). Stepping outside of a typical physical education setting, Garcia et al. (2020) examined the preliminary efficacy of an 8-week judo program to promote moderate-to-vigorous physical activity (MVPA) and reduce sedentary behavior (SB) in youth with Autism Spectrum Disorder (ASD). For their study, fourteen children diagnosed with ASD participated in a weekly judo program over a period of 8 weeks. Not only did they find that the percentage of time spent in daily MVPA (8% vs 4%, $p = .05$) increased following the intervention, but also that the study demonstrated preliminary efficacy of an 8-week judo program to promote MVPA in youth with ASD. Preliminary results showed favorable increases in MVPA following the 8-week program although causation could not be inferred (Garcia et al., 2020). Carey et al. (2022) took this same paradigm and honed their focus in the school setting by assessing the nature of physical activity programming conducted for students with ASD, in addition to assessing the perceived benefits and challenges among teachers. They found that in most schools with special

education units (74.24%), physical education classes were held daily, with the most frequent duration (45.45%) being 10-20 minutes. The most common types of activities performed included walking (92.42%), running (81.82%), and jogging (60.61%) (Carey et al., 2017). Their observation was that although their study provided valuable information on what physical activity is currently being performed in ASD units and will lay the foundation for the development of future physical activity intervention, it is evident that more needs to be done to try and increase the physical activity levels of children within ASD (Carey et al., 2017).

Pertinent Opinion

Throughout the review of this literature, one piece of pertinent information persisted: the benefit of daily organized physical education for students with ASD cannot be disputed. However, the core concern is a lack of recommendation for the protection of daily P.E. programs as a form of furthering the holistic growth of the student. The research conducted by Goldman and DeLeon (2022) supports the theory that when left to choose, sedentary activity is the preference of the majority, and therefore organized P.E. instruction is necessary. Furthermore, as represented by Lee et al. (2017), parent/guardian satisfaction is necessary for protecting and facilitating meaningful daily organized physical education for students with ASD, and that satisfaction needs to be gauged and monitored to ensure the unified protection of physical education for students with ASD.

State of Art Summary

All literature reviewed indicates that organized, daily physical activity is necessary for the overall betterment of students with ASD, and that the satisfaction of parents/guardians is a necessary component for providing engaging and meaningful

physical education for students with ASD. The continuation of prioritizing this delivery appears to remain at the forefront of the global concern. The lack of literature on the holistic benefit, as would be evident through goal-achievement documented in a student's IEP is an area in which literature is lacking, overall. Therefore, an investigation into the connection between delivery via the in-school model, a community-delivered model, or a combination of the two and how that correlates to the overall satisfaction of the parents/guardians and the overall happiness of the student will be a great contribution to the field to gauge the areas in which better delivery of daily organized physical education can be further isolated.

CHAPTER 3

METHODS

This chapter will assess the research methods that the researcher will incorporate into the study, as they pertain to the participants, sample population, measures, variables, research design, research procedure, and analytical techniques. The research will be conducted using a sample population of participants from across the Pacific Northwest, who are all parents and/or guardians of children with ASD who are enrolled in schools that integrate that child into the general classroom setting. In this, some of the many variables can be realistically expected for a non-experimental research design. As Autism Spectrum Disorder is a spectrum disorder, the sample population will all be selected from a sample of students that fall under Level 1 or Level 2 supports, indicating that their education occurs primarily in the general education classroom.

Description of Participants

The target population of this research was parents of children with ASD. As the ratio of students with autism typically indicates a 3:1 male-female ratio for children diagnosed with ASD, this sample was likely reflective of the greater population. The sampling approach was the selection of all parents/guardians of students in an independent school system in the Pacific Northwest who had students registered under a Code G designation. The sample was convenient in terms of who because they were parents/guardians in this school system, however it was random since participants

were not specifically recruited, as their inclusion in the study was determined by their child’s registration status. All parents come from students enrolled in this specific independent school system, located in the Pacific Northwest. Socioeconomic, racial, and cultural diversity was expected as this was a random sample of participants that spanned across the region. Twenty-four participants responded to the survey. Table 1 outlines the demographics of that participant sample.

Table 1
Parent/Guardian Sample Demographics

Variable	N	%
Cultural Background (select all that apply)		
African	3	12.5
European	12	50.0
East Asian	2	8.3
South Asian	1	4.2
South East Asian	2	8.3
First Nations or Indigenous	3	12.5
Hispanic or Latinx	2	8.3
Middle Eastern	1	4.2
Other	1	4.2
Race (select all that apply)		
Asian	4	16.7
Black	3	12.5
European/White	13	54.2
Hispanic	2	8.3
Indigenous	3	12.5
Pacific Islander	1	4.2
Grade of Child		
Kindergarten–Grade 3	3	12.5
Grade 4–Grade 6	4	16.7
Grade 7–Grade 9	12	50.0
Grade 10–Grade 12	5	20.8
Delivery Format of Physical Education		
Primarily delivered by school	14	58.3
Primarily delivered by community-based program	5	20.8
Delivered through a combination of both	5	20.8

Description of the Measures

Parents completed a Class Climate survey that identifies their individualized demographics, apparent child satisfaction, as well as their own satisfaction with the delivery of their child's daily organized physical education (Appendix 1). Although this instrument has not garnered peer-reviewed validity, it was developed through the study of a wide variety of similar measurement instruments used in physical education classes, day programs, after-school programs, and other camps and organized physical activities for both students with and without exceptionalities. The survey was anonymous, delivered by the child's school administrative office, and had no information that personally identified the participants to protect anonymity. The instrument used to determine parent/guardian satisfaction was a Class Climate online survey distributed by students' schools' administrative offices. This survey includes a section to identify demographic information, as well as two distinct components to gauge parent/guardian satisfaction. The perceived enjoyment parents could infer from their child's feelings towards their specific daily organized P.E. program, and the parent/guardian's own satisfaction with their own personal engagement.

Variables

The variables included were the independent variable of the questions within the survey being used to measure parent satisfaction, with the dependent variable being the responses of the participants, reflecting parent satisfaction. The surveys were distributed anonymously, and results were purely data-driven, to best ensure that no bias by the research team could impact the results of the study. Item scaling was written in a 'Strongly Disagree' to 'Strongly Agree' 1–4 scale based upon the participants' response

to a series of statements made about the perception of their child's enjoyment of that child's physical education program, as well as a series of statements that directly addressed parent/guardian satisfaction. Upon collection of the data, several results required inverse numerical input as the statements were phrased in the negative, and to properly express parent satisfaction, all data had to become uniform to 1 representing the least satisfied and 4 representing the most satisfied.

Research Design

The research will be dependent upon the final responses of participants from the Class Climate survey and the analysis of those results. Once a two-week period concluded, which provided ample time for participants to complete the survey, results were gathered, data collected, and a One-way Analysis of Variance was used to yield the results to be analyzed by the research team. Tukey's HSD (honestly significant difference) test was used to determine the nature of the group differences.

Research Procedure

Upon reception of institutional consent and IRB approval, surveys were distributed by the superintendent's office to all schools in the independent school system. This included five senior academies, five junior academies, five elementary schools, and one distributed learning school. Those schools' administrative offices will distribute the survey to parents/guardians of children registered with a Code G (ASD) designation under their 1701 files. This ensured complete anonymity for the participants, as the survey was sent from the schools' offices on the researcher's behalf. Participants were provided with an informed consent letter accompanying the delivery of the survey. Upon delivery of the surveys for distribution, a two-week period commenced for the

completion of the surveys. Upon completion of these two weeks, the survey was closed. The results of the survey were collected, and the data was separated into three designations identifying the format that parent's child receives their daily organized physical education (school, community-based, or combination of the two). The data was analyzed using a One-way Analysis of Variance to determine if there is a correlation between parent satisfaction and the mode in which their child's daily organized physical education was delivered, whether that be through their child's school, a community-based program, or a combination of both. Upon the completion of the one-way analysis of variance, if the homogeneity of variance assumption was met, Tukey's HSD (honestly significant difference) test was then be used to determine the nature of the group differences.

Analytical Techniques

Upon the collection of data, the quantitative analysis conducted using One-way Analysis of Variance (ANOVA). This allowed the participants to be assigned to three different groups to result in the final observation of parent satisfaction based upon the prominent form of delivery for daily organized physical activity. The variability in a dependent measure was divided by the variability attributed to error. When the variance attributed to error is the same as the variance attributed to differences between groups, the value of F is 1.0, and it can be concluded that the manipulation did not cause differences between groups. The larger the variance between groups relative to the variance attributed to error, the larger the value of the test statistic and the more likely we are to conclude that the manipulation, and not individual differences, is causing an effect or a mean difference between groups (Privitera & Ahlgrim-Dezell, 2019).

CHAPTER 4

RESULTS

The purpose of this study was to identify the level of parent/guardian satisfaction in school-based and community-based daily organized physical education programming for children with autism spectrum disorder. The hypothesis of this research was that there would be an evident variance when comparing the means of parent/guardian satisfaction between parents/guardians who relied solely on the school to deliver daily organized physical education programming, on those who relied solely on a community-based program, and those who relied on a blended format of relying on both daily organized physical education programming delivered by their child's school, as well as programming delivered via a community-based program. The instrument used to determine parent/guardian satisfaction (a Class Climate online survey distributed by students' schools' administrative offices) included demographic information, as well as two distinct components that not only gauged parent/guardian satisfaction, but also the perceived enjoyment parents could gauge from their child's feelings towards their specific daily organized physical education program. When comparing the effect that perceived child enjoyment has, as well as separating that from solely questions that were targeted toward parent/guardian engagement, it can be determined which delivery model provides parents/guardians with the greatest level of satisfaction in the delivery of their

child's daily organized physical education program, and whether or not isolating perceived enjoyment of the child from the parent/guardian impacts the overall level of satisfaction parents/guardians have with their child's program.

Quantitative Research Findings

The study comprised of data collected from 24 participants who had children enrolled in a private school within the selected independent school system in this region, who received funding under the Code G designation (autism spectrum disorder). These 24 participants were split into three categorical delineations: (1) those who relied wholly on their child's daily organized physical education to be delivered via their school, (2) those who relied solely on community-based programs to ensure their child received daily organized physical education, and lastly, (3) those whose children received daily organized physical education through a blended model of school-based and community-based delivery. The data collected spanned across assessing the parent/guardian's perception of their child's enjoyment of their physical education program, as well as the parent/guardian's own engagement with the program and instructor. For the sake of communicating these findings, overall satisfaction will be the data that is primarily analyzed, however, isolating the perception of child enjoyment to look solely at parent/guardian engagement will also be helpful to identify if the null hypothesis of there being no correlation between delivery model and parent/guardian satisfaction is rejected.

Table 1 shows the descriptives of population, including the mean number and standard deviation of the parent/guardian satisfaction scores. One-way analysis of variance was used to test for group differences within this dataset. Table 2 shows the result of the One-way ANOVA, including the sum of squares, degrees of freedom, mean

square, F value, and statistical significance, which, at $\alpha=0.05$, indicate that there are significant differences between parents/guardians of children with ASD who use a school-based, community-based, or blended model ($F_{(3, 24)}=7.415$, $p=0.004$).

Approximately 41% ($\eta^2=0.414$) of the differences in groups can be explained by variance in the score of parent/guardian overall satisfaction of their child's daily organized physical education program.

Table 1
Mean number (and standard deviation) of parent/guardian satisfaction scores

Group	N	Mean	SD
School-Based	14	2.826	0.496
Community-Based	5	3.238	0.204
Blended	5	3.638	0.270
Total	24	3.080	0.521

Table 2
One-way Analysis of Variance result for overall satisfaction

Source	SS	df	MS	F	p	η^2
Between	2.582	2	1.291	7.415	0.004	0.414
Within	3.656	21	0.174			
Total	6.238	23				

Upon the completion of the one-way analysis of variance, homogeneity of variance assumption was met ($F_{(3, 24)}=7.415$, $p=0.004$). Tukey's HSD (honestly significant difference) test was then used to determine the nature of the group differences. Table 3 shows the result of the post hoc multiple comparison procedure using Tukey's HSD. This result indicates that relative to parents who rely on the school to deliver daily organized physical education for their child ($M=2.826$, $SD=0.496$), parents/guardians who embraced a blended model of school-based and community-based program delivery ($M=3.638$, $SD=0.270$) were dramatically more satisfied with their child's programming.

By comparison, parents/guardians who used strictly a community-based model for daily organized physical education programming for their child ($M=3.238$, $SD=0.204$) exhibited no statistically significant variance from the other two groups.

Table 3
Post hoc multiple comparison (Tukey's HSD) result for overall satisfaction

Group	Mean	1	2	3
1 (School)	2.826		0.165	0.003*
2 (Community)	3.238	0.165		0.304
3 (Blended)	3.638	0.003*	0.304	

*Indicates significant group differences ($p<0.05$)

It can be concluded from these results that the null hypothesis can be rejected, as there was a direct correlation between parent/guardian satisfaction in their child's daily organized physical education program and the model in which that program is delivered.

Other Analyses

Perceived child enjoyment was considered part of the criteria for overall parent/guardian satisfaction with their child's daily organized physical education program. Isolating this factor and removing it from the data could reveal whether an inflated perception of child enjoyment impacts parent/guardian satisfaction, as it pertains to their individualized engagement with their child's daily organized physical education program. To achieve this, all instrument items that gauged parent/guardian perception of their child's enjoyment of their physical education program were isolated and removed, producing a new parent/guardian satisfaction score that had only been influenced by factors that had a direct impact on the engagement of the parents/guardians themselves.

Table 4 shows the descriptives of the same population as previously cited, however, now with the isolated parent/guardian satisfaction score, including the mean

number and standard deviation of the parent/guardian of this isolated engagement score. One-way analysis of variance was used to test for group differences within this new dataset. Table 5 shows the result of the ANOVA, including the sum of squares, degrees of freedom, mean square, F value, and statistical significance, which, at $\alpha=0.05$, indicate that there remains even greater significant differences in parents/guardians of children with ASD who use a school-based, community-based, or blended model ($F_{(3, 24)}=10.910$, $p<0.001$). Approximately 51% ($\eta^2=0.510$) of the differences in groups can be explained by variance in the score of isolated parent/guardian satisfaction of their child's daily organized physical education program.

Table 4

Mean number (and standard deviation) of isolated parent/guardian satisfaction scores

Group	N	Mean	SD
School-Based	14	2.701	0.472
Community-Based	5	3.146	0.277
Blended	5	3.672	0.262
Total	24	2.996	0.556

Table 5

One-way Analysis of Variance result for isolated satisfaction scores

Source	SS	df	MS	F	p	η^2
Between	3.617	2	1.809	10.910	<0.001	0.510
Within	3.481	21	0.166			
Total	7.099	23				

Upon the completion of the one-way analysis of variance, homogeneity of variance assumption was met ($F_{(3, 24)}=10.910$, $p<0.001$). Tukey's HSD (honestly significant difference) test was once again used to determine the nature of the group differences. Table 6 shows the result of the post hoc multiple comparison procedure using Tukey's HSD on this newly isolated dataset. This result indicates that once again, relative

to parents who rely on the school to deliver daily organized physical education for their child ($M=2.701$, $SD=0.473$), parents/guardians who embraced a blended model of school-based and community-based program delivery ($M=3.672$, $SD=0.262$) were dramatically more satisfied with their child’s programming. This time to an even greater degree than in the first analysis. Although the margin skewed closer to a significant variance when using the parent/guardian engagement isolated dataset, parents/guardians who used strictly a community-based model for daily organized physical education programming for their child ($M=3.146$, $SD=0.277$) still exhibited no statistically significant variances from the other two groups.

Table 6
Post hoc multiple comparison (Tukey’s HSD) result for isolated satisfaction scores

Group	Mean	1	2	3
1 (School)	2.701		0.115	<0.001*
2 (Community)	3.146	0.115		0.126
3 (Blended)	3.672	<0.001*	0.126	

*Indicates significant group differences ($p<0.05$)

It can be concluded from these results that the null hypothesis can still be rejected, even when isolating parent/guardian satisfaction through engagement from perceived child enjoyment, as there is still a direct correlation between parent/guardian satisfaction in their child’s daily organized physical education program and the model in which that program is delivered. Child enjoyment, although it played a small factor in skewing overall parent/guardian satisfaction, did not provide enough statistical evidence to insinuate that it had an impact on the validity of overall parent/guardian satisfaction with their child’s daily organized physical education programming. Isolating parent/guardian engagement as the sole factor to determine parent/guardian satisfaction did amplify the

original findings, and with a small consideration for the case of parent/guardians who rely on a community-based model (it made the statistical value closer to significant), overall, it had no impact on the findings of this study.

Parent/guardian engagement with their child's daily organized physical education program being a determining factor for parent/guardian satisfaction further supported the overall criteria. To fully analyze its impact, perceived child enjoyment can be isolated and analyzed to determine if standing alone, it plays a significant role in determining parent/guardian satisfaction.

Table 7 shows the descriptives of the sample, however, now with only perceived child enjoyment being an indicator of parent/guardian satisfaction, including the mean number and standard deviation of this newly generated parent/guardian satisfaction score, determined solely by perceived child enjoyment. One-way analysis of variance was used to test for group differences within this new dataset. Table 8 shows the result of the One-way ANOVA, including the sum of squares, degrees of freedom, mean square, F value, and statistical significance, which, at $\alpha=0.05$, indicate that there is no statistical significance when isolating only perceived child enjoyment as a means of gauging parent/guardian satisfaction of children with ASD who use a school-based, community-based, or blended model ($F_{(3, 24)}=1.229$, $p=0.313$). Approximately 11% ($\eta^2=0.105$) of the differences in groups can be explained by variance in the score of parent/guardian satisfaction as determined by their perception of their child's enjoyment of their daily organized physical education program. Upon analysis of the data, these scores appear to slightly inflate the means of the previous parent satisfaction scores for those who used school-based or community-based programs, while slightly decreasing the overall

satisfaction score of parents/guardians who implement a blended delivery model. Therefore, this further confirms that parent/guardian perception of their child's enjoyment of their daily organized physical education program carries no statistical significance when gauging the previously identified overall satisfaction of parents/guardians with these programs, regardless of the delivery model.

Table 7
Mean number (and standard deviation) of perceived child enjoyment

Group	N	Mean	SD
School-Based	14	3.100	0.705
Community-Based	5	3.440	0.555
Blended	5	3.560	0.385
Total	24	3.267	0.634

Table 8
One-way Analysis of Variance result of perceived child enjoyment

Source	SS	df	MS	F	p	η^2
Between	0.969	2	0.485	1.229	0.313	0.105
Within	8.284	21	0.394			
Total	9.253	23				

Summary

The study revealed that based upon the sample size of 24 participants, the null hypothesis that delivery model does not impact parent/guardian satisfaction can be rejected. According to the one-way analysis of variance (ANOVA), delivery model has a significant impact on parent/guardian satisfaction, with parents/guardians who enroll their child in a blended delivery model of using both school-based and community-based programs to ensure their child is receiving daily organized physical education exhibiting significantly higher levels of satisfaction than parents/guardians who rely solely on the school. In reference to overall parent/guardian satisfaction, at $\alpha=0.05$, the results indicate

that there are significant differences in parents/guardians of children with ASD who use a school-based, community-based, or blended model ($F_{(3, 24)}=7.415$, $p=0.004$).

Approximately 41% ($\eta^2=0.414$) of the differences in groups can be explained by variance in the score of parent/guardian overall satisfaction of their child's daily organized physical education program. When Tukey's HSD (honestly significant difference) test was used to determine the nature of the group differences, it revealed that parent/guardian satisfaction yielded its most significant data when comparing satisfaction levels of parents/guardians who rely solely on the school ($M=2.826$, $SD=0.496$) with those who embraced a blended model ($M=3.638$, $SD=0.270$), indicating that the discrepancy of satisfaction was greatest between these two, with those who used solely a community-based model ($M=3.238$, $SD=0.204$) occupying the place between, but with no statistically significant difference from either model's satisfaction scores. Upon completion of other analyses, once parent/guardian satisfaction was isolated to include only contributing values that pertained to direct engagement of parents/guardians with their child's physical education programming, it yielded only amplified results. At $\alpha=0.05$, the results of this test indicate that there remains even greater significant differences in parents/guardians of children with ASD who use a school-based, community-based, or blended model ($F_{(3, 24)}=10.910$, $p=<0.001$). Approximately 51% ($\eta^2=0.510$) of the differences in groups can be explained by variance in the score of isolated parent/guardian satisfaction of their child's daily organized physical education program. The blended model ($M=3.672$, $SD=0.262$) exhibited an even greater degree of satisfaction, further distancing itself from the school-based model ($M=2.701$, $SD=0.473$), and although it made the community-based results ($M=3.146$, $SD=0.277$) closer to yielding significant data, it remained

insignificant while occupying the middle-ground between the two other groups. Conversely, isolating only perceived child enjoyment of their daily organized physical education to determine parent/guardian satisfaction yielded no significant results. Upon analysis, at $\alpha=0.05$, the results indicate that there is no statistical significance when isolating only perceived child enjoyment as a means of gauging parent/guardian satisfaction of children with ASD who use a school-based, community-based, or blended model ($F_{(3, 24)}=1.229$, $p=0.313$). Approximately 11% ($\eta^2=0.105$) of the differences in groups can be explained by variance in the score of parent/guardian satisfaction as determined by their perception of their child's enjoyment of their daily organized physical education program. As reflected by the overall heightened means, these factors only slightly inflated parent satisfaction scores for those who used school-based ($M=3.100$, $SD=0.705$) or community-based programs ($M=3.440$, $SD=0.555$), while actually slightly decreasing the overall satisfaction score for parents/guardians who rely on a blended delivery model ($M=3.560$, $SD=0.385$).

CHAPTER 5

DISCUSSION AND CONCLUSION

The objective of this research study is to identify the level of parent/guardian satisfaction in school-based and community-based daily organized physical education provided for children with autism. The research was intended to determine if parents/guardians are wholly satisfied with the programming provided by their child's school, or if greater satisfaction is attained when parents outsource their child's daily organized physical education to a community-based program, and furthermore, the level of satisfaction a combination of the two provides. The intent behind this was to gauge whether or not parents/guardians are fully satisfied by the delivery of daily organized physical education by their child's school. As the cited research in Chapter 2 of this study exhibits, there is a plethora of positives for children with ASD to be engaged in daily organized physical education, and if parents/guardians are satisfied with the delivery of this via their child's school, then its inclusion will be more prevalent when meeting with the IEP team to set goals for that student. If by comparison, parents/guardians are more satisfied when their child engages in daily organized physical education outside of the school setting, then it may not be identified as a priority for that child's school-based education, which should be considered a failure of the school-based team, as research

shows the vital importance of students with ASD engaging with their peers in daily organized physical education.

Summary of Findings/Results

The study revealed that based upon the sample size of 24 participants, the null hypothesis that delivery model does not impact parent/guardian satisfaction can be rejected. According to the one-way analysis of variance (ANOVA), delivery model has a significant impact on parent/guardian satisfaction, with parents/guardians who enroll their child in a blended delivery model of using both school-based and community-based programs to ensure their child is receiving daily organized physical education exhibiting significantly higher levels of satisfaction than parents/guardians who rely solely on the school. When Tukey's HSD (honestly significant difference) test was used to determine the nature of the group differences, it revealed that parent/guardian satisfaction yielded its most significant data when comparing satisfaction levels of parents/guardians who rely solely on the school with those who embraced a blended model, indicating that the discrepancy of satisfaction was greatest between these two, with those who used solely a community-based model occupying the place between, but with no statistically significant difference from either model's satisfaction scores. Upon completion of other analyses, once parent/guardian satisfaction was isolated to include only contributing values that pertained to direct engagement of parents/guardians with their child's physical education programming, it yielded only amplified results. The blended model exhibited an even greater degree of satisfaction, further distancing itself from the school-based model, and although it made the community-based results closer to yielding significant data, it remained an insignificant while occupying the middle-ground between the two

other groups. Conversely, isolating only perceived child enjoyment of their daily organized physical education to determine parent/guardian satisfaction yielded no significant results, as upon analysis they only slightly inflated parent satisfaction scores for those who used school-based or community-based programs.

Discussion

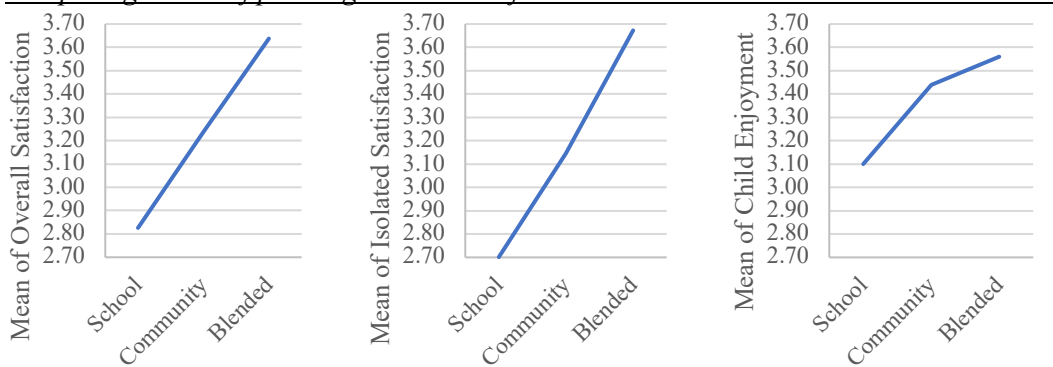
The intent of the study was to determine overall parent/guardian satisfaction as it pertained to their child with ASD's daily organized physical education program. The null hypothesis stated that regardless of whether a parent/guardian relied solely on their school's programming or sought to outsource their child's daily organized physical education to a community-based program, rather entirely or through a blended model, would play no role. Upon completion of the research, this null hypothesis can be rejected, as parents who relied solely on the school were significantly less satisfied than those who used a blended delivery model of serving their child's daily organized physical education needs. Noted, that if the satisfaction score was converted to a more palpable number than that of the mean (2.826), it could be expressed as 71% satisfaction. This is compared to the mean of parents/guardians who relied solely on that of a community-based program (3.238) equaling 81% satisfaction, and the parents/guardians who embraced a blended model (3.638) exhibiting a 91% satisfaction score. When converting the mean for the total of the three groups combined (3.080), a 77% satisfaction score is attained. Overall, this does suggest that parents/guardians who rely on solely their child with ASD's school to deliver daily organized physical education are not only the least satisfied by a significant margin when compared to the parents/guardians with their child enrolled in a blended program, but they also suggest that these parents/guardians, from an overall

stance, are not as satisfied when compared to the average parent/guardian with a child with ASD who is enrolled in a daily organized physical education program, regardless of the model. This harkens back to the study performed by Lee et al. (2017), in which it was reported that parents communicated experiencing lower satisfaction in communication, qualification, and rapport when their child was educated in fully inclusive P.E. compared to non-fully inclusive P.E. classes (Lee et al., 2017). This can be confirmed in this research study, as the school setting for all of these students would be a fully inclusive daily organized physical education program, whereas the community-based and blended programs could potentially be more specialized for students with ASD. Lee et al. (2017) reported that parents are generally satisfied with their child's daily organized physical education, as they stated The Parent Perceptions Toward Adapted Physical Education Teachers (PPTAPET) survey was used to reveal that most parents were satisfied or strongly satisfied regarding items associated with communication (n = 23, 56%), qualification (n = 23, 56%), and rapport (n = 25, 61%) subtests (Lee et al., 2017). This study supports those findings, as the mean of parents/guardians recorded at 3.080 for all three groups, communicates a general level of satisfaction with their child's daily organized physical education program. The cause for concern within the field is only when comparing parents/guardians of children with ASD in schools to those who rely either wholly or partially on community-based programming, which does not support the stance that protecting daily organized physical education in school for children with ASD is the priority, over having parents/guardians seek community-supported programming.

This study relied on two subsets of factors when determining overall parent/guardian satisfaction. The primary factor was that of element of daily organized

physical education programming that parents have a direct engagement with, such as perception of safety, satisfaction with instructor, communication, variety, and diversity of the program, as well as the specialization to appropriately engage students with ASD. The other factor used to gauge overall parent/guardian satisfaction was that of their child’s perceived enjoyment and excitement about their physical education program. To properly get a sense of how these two factors affected parent/guardian satisfaction, upon completion of analysis of overall satisfaction, both isolated parent/guardian engagement factors, as well as perceived child enjoyment, were isolated to determine their influence. Figure 1 reflects the difference in means between the three groups.

Figure 1
Comparing means of parent/guardian satisfaction



When analyzing the difference in means, when compared to parent/guardian satisfaction as viewed from an overall consideration, a specific-to-parent-engagement consideration, and lastly, parent/guardian satisfaction as dictated solely by the level of enjoyment they can perceive from their child about that child’s daily organized physical education program, several interesting considerations become evident. Outside of the fact that the means are inflated when basing parent satisfaction solely off of perceived child enjoyment, there is also a steeper incline of parent satisfaction when parent engagement

is isolated, as compared to overall satisfaction. Notably, this suggests a reassuring notion: children generally enjoy P.E., regardless of the model of delivery. The fact that at its lowest, the mean of perceived child enjoyment is still 3.100, which could be converted to a 78% satisfaction score, is reassuring. The fact that perceived child enjoyment is still at its lowest when considering the general education P.E. setting, likely has more to do with group sizes and various social-emotional factors associated with school in general. This number being inflated from the overall parent satisfaction score associated with the school-only delivery model (3.100 versus 2.826) does signal both a positive and a negative because although these students with ASD exhibit perceived enjoyment and excitement about the physical education programming delivered by their schools, their parents are still less satisfied from an overall standpoint, when compared to other models. This conflict is exactly what this study sought to address, as children with ASD enjoy their school-delivered daily organized physical education program, but without elevated parent satisfaction, P.E. can easily be an unprioritized and even neglected component of the holistic education of the student due to other time-occupying considerations, therefore relinquishing this aspect of the student's education to community-based programs.

Conclusion

The research study was designed to identify if students with ASD are at jeopardy of losing advocacy to protect daily organized physical education, in part due to a lack of parent/guardian satisfaction. The research suggests that if parent/guardian satisfaction is in fact a factor of whether daily organized physical education provided by the school could be forfeited to community-based programs, whether in part or full, to better accommodate for other time-occupying priorities, such as tutoring, speech therapy, etc.,

then the data communicates that this in fact at risk. Parents/guardians appear to experience their greatest satisfaction when they embrace a blended model of delivery for daily organized physical education by relying on a mix of both school-delivered and community-based programming. To better understand this difference more research is required, however, it does suggest on a surface level that these parents/guardians are the most satisfied because they are receiving anything they feel the school-based program is lacking through their community-based program, while still allowing their child to engage with their peers in the general physical education setting, likely with more specialized, diverse, or varied programming also being delivered through the community-based program. Rather than this pointing towards the school-based delivery model being the least beneficial, on the contrary, it supports the necessity of inclusion, as the community-based model as a standalone delivery model did not yield as much satisfaction as the blended model did, suggesting that parents/guardians are still at their most satisfied when there is engagement from their child's school in the delivery of daily organized physical education.

As stated in the rationale for this study, the protection of inclusion of daily organized physical education in a student's legally binding Individualized Education Plan is about protecting holistic growth. This requires buy-in and engagement from the entire support team that surrounds the student, including the in-school team, but of equal importance is the unification of home and school by receiving total buy-in from the student's parents/guardians. If all areas of growth are to be fostered for true holistic growth of a student, but if physical education classes are the easiest to be sacrificed for students with ASD when they need time for counselling, tutoring, occupational therapy,

etc., then that is coming at the cost of the holistic growth of the student. Therefore, further understanding how satisfied a student's parents/guardians are with the in-school delivery of daily organized physical education, as compared to other delivery models, will help to further protect its inclusion in the IEP of a student to best meet the holistic needs of the student. Upon analyses of the results from this study, there is room for growth, and for schools to further identify ways to strengthen the delivery of daily organized physical education for students with autism spectrum disorder to better bridge the gap between parent/guardian satisfaction of those who rely solely on the school, and those who embrace a blended model of delivery that incorporates the inclusion of community resources.

Recommendations for Future Research

The research study was designed to solely identify the tip of the iceberg when considering parent/guardian satisfaction as it pertains to the daily organized physical education programming provided to students with autism spectrum disorder. Identifying that there is a discrepancy between parent/guardian satisfaction levels and the delivery model in which their child receives daily organized physical education should simply be the starting point of the implications of this research.

As exhibited in Chapter 3 of this study, the sample of participants that took part in this study came from ethnically and racially diverse backgrounds. Considering the implications of ethnicity and race into the degree of satisfaction exhibited by parents/guardians, as well as a study to identify if socio-economic factors also impact the degree of satisfaction expressed by parents/guardians in the daily organized physical education provided to their child by their school. Continuing to consider these

demographics, as this study only considered parents/guardians with children enrolled in private schools, a future study to compare the satisfaction of parents/guardians with children enrolled in private schools compared to those with children enrolled in public schools would further contribute to the field. For the sake of this study, a sample was only able to be procured through the private sector, but future studies should include both a mix of privately and publicly enrolled Code G students to better gauge the overarching parent/guardian satisfaction, not simply those who pay tuition and therefore may have more of a skewed view of what justifies satisfaction with the program delivered to their child by the school. One demographic that was not identified by the measurement instrument was the sex of the parent/guardian participating in the study. A future study that takes into account how sex plays a factor in parent/guardian satisfaction would help to better understand the factors in play, as physical education can be viewed as a male-dominated field, it would be noteworthy to determine if there is a discrepancy between the sex of the parent/guardian and their level of satisfaction with the delivery of their child's daily organized physical education, reflecting the way the sex of the participant impacts the way that they are treated by those delivering their child's program.

The measurement instrument was developed for the purpose of conducting this research study. Further developing this instrument so that it could be used to better isolate factors that impact parent/guardian satisfaction, as well as further expound upon the demographics that may impact that degree of satisfaction would provide benefit to the field and those who wish to continue this research further. To further develop the measurement instrument used in this study so that future studies had a standardized method of measuring parent/guardian satisfaction would benefit the field.

Recommendations for Future Practice

The determination that parents/guardians could exhibit greater satisfaction with the daily organized physical education program delivered to children with autism spectrum disorder should seriously be considered by professionals within the field. Determining the specific factors that hinder this satisfaction should be analyzed and addressed at a grand-scale degree to better engage parent/guardian buy-in to the daily organized physical education programming, and its necessity for protection within the specific goals outlined for students with ASD in their Individualized Education Plans. Furthermore, the proper training and education of physical education instructors in ASD-specific teaching and programming methods should be made a priority.

The fact that this study's data analyses reveal that parents/guardians are more satisfied when their child's daily organized physical education program is delivered via a blended model by both their child's school and a community-based program is not moot. The factors that contribute to the blended model being the one that provides the greatest satisfaction should be further studied, but also seriously considered by schools and curriculum developers as to its overall merit to meaningful physical education programming. The integration of school and community to deliver both generalized and specialized daily organized physical education should be seriously considered as to its benefit not only for students with autism spectrum disorder, but for all students to best provide holistic, meaningful, daily organized physical education.

APPENDIX 1

Class Climate	Daily Organized Physical Education Parent Satisfaction Survey	<small>SCANTRON.</small>
Andrews University	Cody Mills	Andrews University
Department of Special Education	Parent Satisfaction Survey	

Mark as shown: Please use a ball-point pen or a thin felt tip. This form will be processed automatically.

Correction: Please follow the examples shown on the left hand side to help optimize the reading results.

1. Informed Consent

- 1.1 You are being invited to participate in a research study titled "Parent Satisfaction of Daily Organized Physical Education for Children with ASD." This study is being done by Cody Mills from Andrews University. You were selected to participate in this study because you are the parent or guardian of a child with a Code G designation (ASD).

The purpose of this research study is to identify the level of parent/guardian satisfaction in school-based and community-based daily organized physical education provided for children with Autism. The premise of the research is to determine if parents/guardians feel wholly satisfied with the programming provided by their child's school, or if greater satisfaction is attained when the parent outsources the instruction of their child's daily physical activity to a community-based program, and furthermore the level of satisfaction a combination of the two provides parents/guardians with by comparison. If you agree to take part in this study, you will be asked to complete an online survey/questionnaire. This survey/questionnaire will ask about your personal satisfaction with your child's current physical education program, as well as your perception of your child's satisfaction with their physical education program, and it will take you approximately ten minutes to complete.

You may not directly benefit from this research; however, we hope that your participation in the study may help to continue moving forward the cause that meaningful, daily organized physical education for students with ASD be a priority for all districts and schools.

We believe there are no known risks associated with this research study, however, as with any online related activity, the risk of a breach of confidentiality is always possible. To the best of our ability your answers in this study will remain confidential. We will minimize any risks by ensuring your anonymity, with no personal identifiers included in the survey, ensuring that results are only reviewed by the researcher, and being diligent to guarantee data will be disposed of after three years. Your participation in this study is completely voluntary and you can withdraw at any time. You are free to skip any question that you choose.

If you have questions about this project or if you have a research-related problem, you may contact the researcher's advisor Dr. Luana Greulich at (269) 471-6719 or luana@andrews.edu, or the researcher, Cody Mills at (250) 267-7708 or codym@andrews.edu. If you have any questions concerning your welfare and rights as a research subject, you may contact the Andrews University IRB Office at (269) 471-6361 or irb@andrews.edu. By clicking "I agree" below you are indicating that you are at least 18 years old, have read and understood this consent form and agree to participate in this research study.

- I agree I do not agree

2. Demographics

- 2.1 What is your cultural background? Choose all that apply.

- | | | |
|---|---|--|
| <input type="checkbox"/> African | <input type="checkbox"/> European | <input type="checkbox"/> East Asian |
| <input type="checkbox"/> South Asian | <input type="checkbox"/> South East Asian | <input type="checkbox"/> First Nations or Indigenous |
| <input type="checkbox"/> Hispanic or Latinx | <input type="checkbox"/> Middle Eastern | <input type="checkbox"/> Other |
| <input type="checkbox"/> Prefer not to answer | | |

- 2.2 What is your racial origin/lineage? What race would you identify yourself as? Check all that apply.

- | | | |
|-------------------------------------|---|---|
| <input type="checkbox"/> Asian | <input type="checkbox"/> Black | <input type="checkbox"/> European/White |
| <input type="checkbox"/> Hispanic | <input type="checkbox"/> Indigenous | <input type="checkbox"/> Pacific Islander |
| <input type="checkbox"/> Don't know | <input type="checkbox"/> Prefer not to answer | |

- 2.3 What grade is your child currently in?
- | | | |
|---|--|--|
| <input type="checkbox"/> Kindergarten–Grade 3 | <input type="checkbox"/> Grade 4–Grade 6 | <input type="checkbox"/> Grade 7–Grade 9 |
| <input type="checkbox"/> Grade 10–Grade 12 | | |

2. Demographics [Continue]

2.4 In what format does your child receive her/his/ their daily physical education?	<input type="checkbox"/> Primarily delivered by school	<input type="checkbox"/> Primarily delivered by community-based P.E. program (i.e., daily participation in gymnastics, judo, swimming, etc.)	<input type="checkbox"/> Delivered through a combination of school and community-based P.E. program
<input type="checkbox"/> Other			

3. Apparent Satisfaction of Child

3.1 My child talks in a positive manner about P.E. class and/or the community-based P.E. program.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
3.2 My child looks forward to attending their daily organized physical education class/program.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
3.3 My child talks favourably about the instructor.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
3.4 My child is familiar with the rules of participation in physical education.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
3.5 Overall, my child enjoys attending P.E. class and/or the community-based P.E. program.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree

4. Parent Satisfaction with Program

4.1 Activities encourage the development of my child in all areas (physical, social, emotional).	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.2 Staff build on my child's abilities, rather than talk about their shortcomings.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.3 I recognize a positive impact that daily organized physical education has had on my child's physical, social, and emotional well-being.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.4 Daily activities are not varied enough to meet the diverse origins and needs of children.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.5 As a parent/guardian, I do not feel sufficiently informed about my child's inclusion in P.E. class and/or community-based P.E. program.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.6 The instructor is knowledgeable and trained in teaching strategies for students with exceptionalities.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.7 Communication with the instructor is scarce and/or uninformative.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.8 There is no evidence of proper safety practices and protocols put in place to ensure the safety of my child.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.9 I feel that staff respect and value my knowledge about my child and my experience as a parent. I feel that my concerns are taken seriously and are acted upon in a quick and fair manner.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.10 Staff have not reached out to ask for my opinion or advice in dealing with situations related to my child.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree
4.11 Overall, I am satisfied with my child's daily organized physical education.	Strongly Disagree	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Strongly Agree

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