

Parental Perceptions Towards Participation in Physical Activity for Children with Visual  
Impairments:

A Synthesis of the Research Literature

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A Synthesis Project

Presented to the

Department of Kinesiology, Sport Studies, and Physical Education

The College at Brockport

State University of New York

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In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Education

(Physical Education)

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by

Hannah Williams

8/4/2020

THE COLLEGE AT BROCKPORT  
STATE UNIVERSITY OF NEW YORK  
BROCKPORT, NEW YORK

Department of Kinesiology, Sport Studies, and Physical Education

Title of Synthesis Project: Parental Perceptions Towards Participation in  
Physical Activity for Children with Visual Impairments: A Synthesis of the  
Research Literature.

Read and Approved by: Melanie Perreault  
Melanie Perreault, Ph.D.

Date: 8/15/2020

Accepted by the Department of Kinesiology, Sport Studies, and Physical Education, The  
College at Brockport, State University of New York, in partial fulfillment of the requirements  
for the degree Master of Science in Education (Physical Education).

*Cathy Houston-Wilson*

8/17/2020

Dr. Cathy Houston-Wilson  
Chairperson, Department of Kinesiology, Sport Studies, and Physical Education

## Abstract

The purpose of this synthesis was to examine the existing body of knowledge regarding parental perceptions towards participation in physical activity for children with visual impairments. Previous research identified experiences, beliefs, and expectations that contributed to parental perceptions. The studies reviewed in the critical mass yielded common themes that included factors that encouraged participation in physical activity and barriers that inhibited participation in physical activity. Common barriers identified were financial constraints and a lack of accessible programming, untrained physical activity providers and difficulty finding physically and emotionally safe physical activity environments. Positive attributes that encouraged participation in physical activity included parental understanding of the importance of physical activity for their children, reciprocal communication between parents and physical activity providers and opportunities for the entire family to engage. Future research should examine the effects of suggested interventions on the perceptions of parents when it comes to their children with visual impairments participating in physical activity.

*Keywords:* [visual impairment, physical activity, parental perceptions, participation, children]

## Table of Contents

Chapter 1: Introduction	5
Statement of the Problem	6
Rationale	7
Operational Definitions	7
Assumptions	8
Delimitations	8
Limitations	8
Scope of Synthesis	9
Chapter 2: Methods	9
Search Process	9
Inclusion/Exclusion Criteria	10
Data Analysis	11
Figure 1	12
Chapter 3: Results	13
Factors That Encouraged Participation	13
Importance of Physical Activity	13
Communication	15
Family Involvement	16
Barriers That Inhibited Participation	17
Safety	17
Resources	18
Physical Educators	21
Summary	22
Chapter 4 Discussion	23
Creating a Safe Environment	24
Adequate Teacher Preparation	25
Accessible Physical Activity Programs	26
Engaging Family Members	26
Limitations	27
Implications for Future Research	28
Conclusion	28
References	30
Appendix A – Article Grid	33

## Chapter 1

### Introduction

The World Health Organization [WHO] (2020) defines physical activity as “any bodily movement produced by skeletal muscles that require energy expenditure” (p.1). The benefits of regular physical activity are extensive and include weight management, reduced risk of depression and anxiety, reduced risk of cardiovascular disease and type 2 diabetes, and an overall increase in quality of life (Centers for Disease Control and Prevention [CDC], 2020).

Alternatively, the health concerns associated with physical inactivity are alarming making it the fourth leading risk factor for global mortality (WHO, 2020). Children between the ages of 5-17 are encouraged to engage in moderate to vigorous physical activity for a minimum of 60 minutes per day (WHO, 2020). However a mere 24% of youth ages 6-17 are actually engaging in the recommended 60 minutes of physical activity per day. This highlights the more than three quarters of youth at risk for physical inactivity (CDC, 2020).

Unfortunately youth with visual impairments have an even greater risk of physical inactivity when compared to their sighted, same aged peers. Lieberman and McHugh (2001) conducted a study utilizing the FitnessGram. The results showcased 48%-70% of sighted children met the criteria, passing at least four items on the health-related fitness test compared to just 20% of children with visual impairments receiving a passing score. A study conducted by Longmuir and Oded (2000) found consistent physical inactivity specific to individuals with visual impairments. They further concluded that as many as one-third of participants with visual impairments lived sedentary lives. With this in mind, youth with visual impairments also beat out their same aged, sighted peers when it came to the onset of secondary health conditions in relation to obesity (Columna et al., 2019). This is largely due to the lack of physical activity

opportunities provided to youth with visual impairments. The importance of physical activity for individuals with visual impairments is equal if not greater to that of their sighted peers.

Ayvazoglu et al., (2006) share the importance of physical activity for children with visual impairments relative to independence levels throughout life noting that adequate fitness levels are required for many daily living activities and that a lack of physical fitness may put a greater emphasis on mobility issues revolving around independent use of public transportation.

Children with visual impairments often rely on their parents and family members to seek out and provide physical activity opportunities for them. In a study by Chaapel et al., (2012) parents share their desire to be involved in physical activity with their child while also admitting that in many instances they are unsure of how to engage with and provide opportunities for their children to be physically active. Downing and Rebollo (1999) share the importance of addressing expectations held by parents and the impact that this recognition has on their children with disabilities and family needs being successfully met. For children without disabilities, a link between parental beliefs and behaviors towards physical activity has been identified. With this in mind it is thought that the value placed on physical activity by parents may act as an influence for children to express interest in physical activity for themselves (Stuart et al., 2006).

### **Statement of the Problem**

The purpose of this synthesis is to explore the perceptions that parents of children with visual impairments hold towards participation in physical activity for their children. In addressing parental perceptions, parents may share experiences, beliefs, and expectations surrounding physical activity for their children with visual impairments.

## **Rationale**

Gaining an understanding of how parents of children with visual impairments perceive their children's physical activity programs and opportunities can go a long way in allowing teachers, coaches and physical activity providers to adapt and cater their programs to meet the needs of their participants. Gaining awareness of the perceptions held, and the barriers faced by families of children with visual impairments when participating in physical activity, can assist in eliminating and implementing supports to overcome these barriers. Furthermore, the findings of this synthesis can be used for all physical activity providers to reflect on their own habits that may be encouraging or discouraging children with visual impairments from participating in physical activity.

## **Operational Definitions**

The following operational definitions are used in this paper:

1. Physical Activity: "Any bodily movement produced by skeletal muscles that require energy expenditure" (WHO, 2020).
2. Visual Impairment: "Visual impairment including blindness means an impairment in vision that, even with correction, adversely affects a child's educational performance. The term includes both partial sight and blindness" (Individuals with Disabilities Act [IDEA], 2018).
3. Perceptions: One's perception includes their personal beliefs and opinions towards something and the way in which they view it (Cambridge Dictionary, n.d.).
4. Participation: Participation refers to direct involvement when taking part in an activity.

**Assumptions**

Within the critical mass of articles used for the completion of this synthesis it is assumed that children with visual impairments are to some extent, reliant on their parents and family members to seek out and provide physical activity opportunities for them including transportation to and from these opportunities. Therefore it is assumed that the perceptions that parents hold towards physical activity for children with visual impairments directly correlate to the level of physical activity afforded to their child. It is assumed that all participants in the studies were truthful and honest with their responses and that all studies within the critical mass were conducted with adequate rigor and fidelity.

**Delimitations**

All of the studies considered for the critical mass of this synthesis were required to have participants who were parents of children with a visual impairment and relate to physical activity. Studies that did not have both parent participants and an emphasis on physical activity were not considered.

**Limitations**

The studies that comprise the critical mass of this synthesis are consistent in many of the criteria for participants chosen however the generalizability of the findings may be limited for a number of reasons. Several of the sample sizes were small and geared towards a certain area of the world limiting the generalizability of the findings to other areas. Furthermore some sample sizes were comprised of primarily low-income participants and the findings presented by these individuals may differ from others with alternate socioeconomic status.

## **Scope of Synthesis**

This synthesis will examine research studies that focus on the beliefs, experiences, and expectations that contribute to the perceptions that parents of children with visual impairments hold towards participation in physical activity for their children. This synthesis does not examine the perceptions of children with visual impairments nor those of teachers, coaches or other physical activity providers. This synthesis will focus on the factors that encourage participation in physical activity as well as the alternative barriers that inhibit participation in physical activity.

## **Chapter 2**

### **Methods**

#### **Search Process**

A variety of databases were used to search for and gather a critical mass of articles for this synthesis. The databases used were Academic Search and SPORTDiscus, both accessed through the Brockport Online Library as well as the Google Scholar search engine and the Advanced Search engine via the Drake Memorial Library. I utilized the Brockport Interlibrary Loan Service to gain access to one article that I would otherwise not have been able to access online. I used a variety of search terms relating to my topic to locate articles. Key words included “visual impairment”, “physical activity”, “parental perspectives”, “parent involvement”, “participation”, “sports”, “athletics”, “adapted physical education”, “parental perceptions” and “children”. Throughout the search process I combined multiple of the above search terms together and used different combinations of each in an attempt to locate all relevant articles.

The first keywords searched were “Parental Perceptions, Children with Visual Impairments and Physical Activity” which resulted in 4,737 articles. When “Participation” was

added to the search the results narrowed to 2,493 articles. With the addition of “Parent Perspectives” the search further narrowed to 1,590. The most refined version of the search, most specific to the topic yielded 69 articles.

Shortly after commencing with the search process I realized that there was a relatively narrow body of research relevant to the topic. To assist in broadening the search I reviewed the reference lists of articles that I had already established as part of the critical mass. Through this process I was able to find additional research articles specifically relating to the topic that satisfied the inclusion criteria for the critical mass.

### **Inclusion/Exclusion Criteria**

Following an exhaustive search for articles I began to identify the articles that would be included in the critical mass of this synthesis. The inclusion criteria were created to take all of the articles found throughout the search process and identify whether they should be included or excluded in the critical mass. I started with the broadest criteria and as I reached fewer and fewer articles had more specific criteria that had to be met. I solely selected research studies and included no opinion pieces, news articles or other narratives. All studies chosen were scholarly and published in peer-reviewed journals or under a large institution. The next criteria led to the exclusion of several articles. Each study had to involve participants who were parents of children with a visual impairment. Additionally the studies had to focus on physical activity in some form whether that be sports and athletics, community organized activities, or physical education/adapted physical education services. Finally for inclusion in the critical mass the articles had to focus on the perceptions, beliefs, and experiences of parents directly relating to their child’s participation in physical activity. These articles could focus on past experiences that were positive or negative, barriers to participation, expectations of physical activity for their

child, fears and concerns and any goals for the future of their child's participation. After applying the above selection criteria to all articles I found through the search process I was left with a critical mass of 10 research studies to be included in this synthesis (See Figure 1).

### **Data Analysis**

To extract the most relevant information from each of the articles in the critical mass, an article grid was created (See Appendix A). The article grid identifies the major aspects of the individual studies including the purpose, methods, analysis, findings and recommendations. The majority of studies included in the critical mass used semi-structured interviews and personal data sheets to arrive at their conclusions. Descriptive qualitative research was used by most researchers with the exception of one article which encompassed both qualitative and quantitative data.

By closely analyzing the critical mass of articles I was able to identify commonalities and differences in the data. Through comparing the results of each I was able to arrive at common themes repeated throughout. The results that are repetitive across multiple studies proved to be significant conclusions relating to this topic. The two major themes were, factors that encouraged participation in physical activity and barriers that inhibited participation. These themes were broken down into subthemes and included the importance of physical activity, communication, family involvement, safety, resources and physical educators.

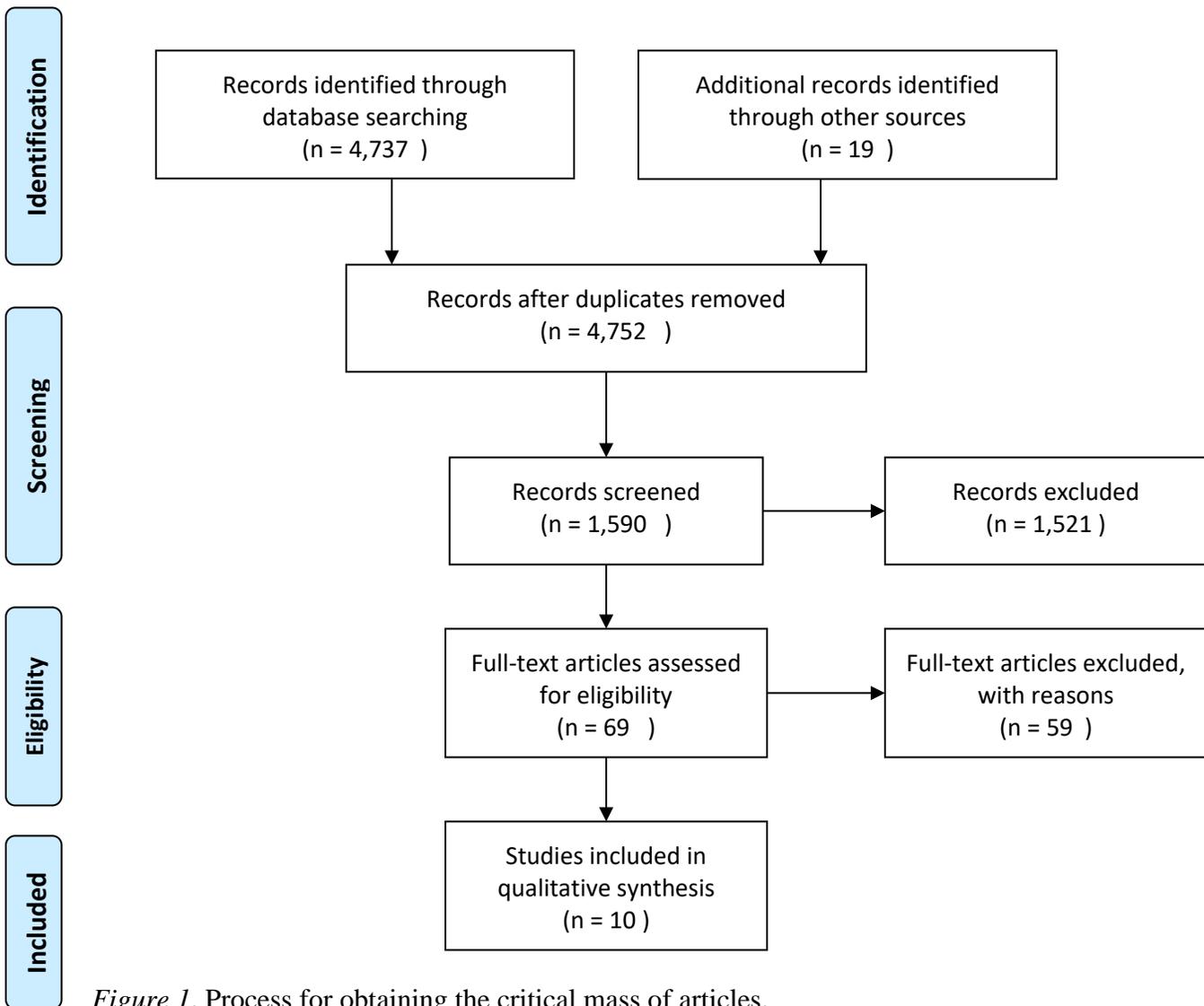


Figure 1. Process for obtaining the critical mass of articles.

## **Chapter 3**

### **Results**

This section provides the reader with an overview of the findings from the critical mass of literature. The critical mass consisted of 10 research articles relating to parental perceptions towards physical activity for children with visual impairments. The themes that emerged through the analysis process were divided into two major categories: factors that encouraged participation in physical activity and barriers that inhibited participation in physical activity. Within these categories, various subthemes emerged: the importance of physical activity, communication, family involvement, safety, resources and physical educators. The following discussion of the results is organized based on the aforementioned themes and subthemes.

#### **Factors That Encouraged Participation**

When addressing the perceptions held by parents towards participation in physical activity for their children with visual impairments there were several factors that acted as encouragement for participation. These included the importance of physical activity, communication and family involvement.

**Importance of physical activity.** Through physical activity children are granted opportunities to develop independence, be a member of a group and be successful, all mentioned by parents of children with visual impairments as benefits that encouraged participation in physical activity (Columna et al., 2013). Parents also mentioned the empowerment that was felt by children who were able to be successful at a difficult task. Others recognized the value of physical activity for their children to move and burn off excess energy (Columna et al., 2015). Parents not only noted the physical and mental health benefits associated with physical activity but also the opportunities for their children to develop self-confidence and self-determination.

Corresponding results were found in Perkins et al., (2013) where parents not only appreciated the physical skills that were learned but highlighted the development of social skills and increased confidence levels associated with physical activity participation. Through sport one parent shared how her child learned to persevere and overcome her fears, both lessons that can be utilized in other areas of life (Columna et al., 2017). As far as health benefits parents associated physical activity with weight management and weight reduction and tried to lead by example by engaging in physical activity themselves as well as alongside their children (Columna et al., 2017).

The importance of physical activity and the expectations parents held for their child's ability to be physically active was associated with the child's level of vision loss. In Stuart et al. (2006) the findings show that as vision loss increased, parental expectations for their child's ability to be physically active decreased. In the same study Stuart et al. (2006) noted a correlation between children and parent expectations for success. Meaning that as a child's expectations towards being physically active increased so did their parents' expectations for them to be physically active. Furthermore it was established that the greater the level of importance placed on physical activity by the child, the more parents believed that their child could participate in regular physical activity.

Parents encouraged participation in physical activities similar to their children's sighted peers and at the highest levels possible in hopes of promoting continued lifelong physical activity and avoiding becoming sedentary into adulthood (Perkins et al., 2013). The belief that physical activity was important to parents led to the prioritization of physical activity opportunities for their children with visual impairments (Columna, Rocco-Dillon, Dolphin et al., 2017). The various positive outcomes associated with physical activity influenced parents to commit to providing physical activity for their child (Columna et al., 2019). Parents were much more

concerned with their child's enjoyment level when participating in physical activity than they were with their child ever mastering the skills of the activity (Columna et al., 2018). Although parents shared the importance of engaging their children in physical activity this participation was conditional on a few factors. Those factors included the readiness of the child, safety, personal desires and the need to learn appropriate games and activities for their children to engage in (Columna et al., 2019).

**Communication.** Specifically relating to adapted physical education services parents longed for increased communication between themselves and their children's physical educators. Taking the time to get to know the families of the children they are working with would allow educators to better cater to the interests of their students. Furthermore, learning what activities the family enjoyed participating in at home would allow the educator and parents to work collaboratively with one another to improve their child's skills by reinforcing what is being taught at school, at home (Chaapel et al., 2012). Similarly the findings in Perkins et al., (2013) support the desire for increased communication between educators and parents. Participants share that without the knowledge of what their child is doing in school they are unable to practice and further develop those skills at home. Reciprocal communication would not only allow the child's educator to share what is going on in school but also allow for the child's parents to share noteworthy things that have occurred in the home.

Parents felt as though the adapted physical educator was the expert and in turn looked to them for advice and suggestions for recreational activities and games that they could participate in with their child (Chaapel et al., 2012). With increased communication between parents and educators, parents felt as though they were able to assume an active role in their child's education. One parent shares an exceptional experience that she had with her daughter's educator

who consistently communicated what was going on in school, provided exercises and activities for home and even included a copy of everything sent home in Braille, making it accessible for her child (Chaapel et al., 2012).

**Family involvement.** In addressing physical activity in children with visual impairments from a family perspective family involvement was considered an important factor associated with participation. In some instances this was primarily a facilitator role providing transportation to and from physical activity and in other instances it was more of an active role directly involved in the activity (Ayvazoglu et al., 2006). Finding activities that were engaging for the entire family was a difficult task for many. Having multiple children to entertain and finding an activity that was accessible for a child with a visual impairment often led to each child doing their own activity versus entire family participation (Columna et al., 2013). Parents felt as though they struggled at times to find a balance between tending to the needs of their child with a visual impairment while also addressing the needs of their other children. This balancing act caused stress and ultimately affected the time the family was able to engage in physical activity together (Columna, Rocco-Dillon, Dolphin et al., 2017). The need to plan activities well in advance was reported by parents who noted that much thought had to go into family activities to ensure that they were accessible and inclusive for their child with a visual impairment. The opportunity to partake in physical activity as a family offered the chance to bond and strengthen relationships, which was very important to families in Guatemala, citing that family was the most important social group for them (Columna et al., 2015).

Exposing children with visual impairments to physical activities that they can be both successful in and have some level of independence is desired by parents. For example one parent recognized the value of her daughter on the swim team as beneficial for physical fitness however

she longed to see her daughter learn to use exercise equipment that she would be able to independently access as an adult (Chaapel et al., 2012). Living in a culture where so much of children's time is spent indoors, parents felt as though physical activity offered them the opportunity to bond as a family and spend time outdoors (Columna et al, 2017). Parents felt as though they were required to be at all physical activities their child was engaging in. At times this was demanding and family members, including siblings had to take turns attending to assist when necessary (Columna et al., 2017).

### **Barriers That Inhibited Participation**

A number of factors affected the participation of children with visual impairments in physical activity. According to parents of children with visual impairments, there are various barriers faced that inhibited their child's participation in physical activity programs. These barriers included safety, resources and physical educators.

**Safety.** Parents admitted that their child's visual impairment affected what they felt comfortable with allowing them to participate in. General overprotective tendencies often led parents to limit their child's physical activity opportunities (Ayvazoglu et al., 2006). Parents admitted that simply because their child had a visual impairment they feared that they could get hit during play time and so they chose to isolate their child from physical activities (Columna et al., 2013). Parents felt the need to remind themselves that although they feared for their child's safety, even sighted children get hurt. This allowed some parents to alleviate their anxiety while others still felt as though their own fears were doing a disservice to their child by limiting their physical activity opportunities (Columna et al., 2017).

Where some parents were primarily concerned with the physical safety of their child others noted the emotional safety concerns that they associated with their child having a visual

impairment. For example in a study by Columna et al., (2013) one participant shared that their child was typically excluded from activities when an attempt was made to participate alongside his peers. This was contributed primarily to the excessive amount of time taken to prepare to engage in an activity with a child with a visual impairment. None the less having your peers run ahead and begin the activity without you is not conducive of an emotionally safe environment.

Parents shared that they often struggled to find community physical activity programs for their children that were both physically and emotionally safe. Although parents longed for their children to be like their peers it was a challenge to locate activities that were both safe and enjoyable for their children (Columna et al., 2019). In the same study by Columna et al., (2019) parents addressed their concerns associated with the lack of support structure that is often seen in community-based programs versus those offered through the school system.

Parents themselves often experienced ignorant interactions with other parents and community members when advocating for their child's needs in inclusive physical activity programs. Although parents shared that the negative commentary was directed towards them and not their children it inevitably steered parents towards programs specific to children with disabilities where parents understood one another and what it was like to have a child with a disability (Columna et al., 2019). With that being said parents faced numerous barriers in attempting to seek out and participate in these programs.

**Resources.** The number one barrier identified by Guatemalan families associated with the lack of physical activity opportunities for their children with visual impairments was financial constraints. These low-income families reported the difficulties they faced when trying to cover costs for necessary medical bills associated with their child's visual impairment leaving little to no income for physical activity opportunities (Columna et al., 2013). With that in mind

the physical activity options available to families were often limited to unstructured, low budget recreational activities as structured more expensive physical activities were not financially feasible (Columna et al., 2015). While struggling with the financial aspect of physical activity for their children parents noted the difference in costs associated with physical activity for sighted children compared to children with visual impairments who often required specialized, costly, equipment (Columna et al., 2017). Financial constraints were just one of many barriers faced by families but the lack of opportunities was equally noted.

Families in Guatemala greatly attributed their child's lack of physical activity to the so few opportunities that were available in their area of the world. When comparing the resources offered to families and children with visual impairments in the United States to what was afforded to them in Guatemala, one participant felt as though the entire society was not adapted to suit individuals with visual impairments (Columna et al., 2013). Although parents struggled to find physical activity opportunities for their child and believed additional programs would be beneficial they specifically struggled in finding activities that met the individual needs of their child (Perkins et al., 2013). In the same study parents shared their need for more organized activities for other children with visual impairments and alongside children without disabilities. In physical education settings parents felt as though educators should try to include activities such as goalball and beep baseball where their child could be successful along with the other students in the class (Perkins et al).

Parents felt as though their own personal lack of knowledge and inability to teach their child physical activities negatively affected their child's participation. One parent shared that her son possessed no desire to engage in physical activity because his mother was not athletic. With this in mind, parents wished for instruction that would teach them how to teach their children a

variety of activities (Columna et al., 2019). When given the opportunity to watch their child engage and be successful in a variety of activities parents felt as though they became more open to allowing their child to try new things as their eyes were opened to what their child was able to do despite their visual impairment (Columna et al., 2018). Parents enjoyed programs that allowed them to participate alongside their child as they were able to learn how to work with their child outside of the program. However many of the programs offered in the community did not involve parents (Columna et al., 2018). Not only were parents seeking out opportunities to learn instructional strategies for teaching their children physical activities, they themselves wanted to be taught the rules and objectives of the games so they were aware before trying to engage with their children (Columna et al., 2019). Year-round programming was also mentioned by parents who felt as though the lack of programs offered consistently over the year made it difficult for parents to facilitate consistent physical activity for their child (Columna et al., 2019).

Even with a concrete understanding of the value of physical activity many families simply lacked the knowledge to modify activities and engage in physical activity with their children with visual impairments. Parents advocated for increased training and hands on experience for them to learn about sports and activities that they could work with their child on. Simply reading the material or hearing it was not as valuable to some as actually being able to engage in the activity for themselves (Columna et al., 2013). Through participation in various workshops where parents were able to engage in physical activity alongside their children, parents gained a new perspective on the obstacles that their children face every single day being visually impaired. Furthermore parents shared that the experience allowed them to look at physical activity from their child's perspective and identify and address potential challenges associated with participation in physical activity (Columna et al., 2018).

**Physical Educators.** Teaching and providing students with the knowledge and skills required to engage in physical activity outside of school and in community settings is something that parents asked of their child's physical education teachers (Chaapel et al., 2012). They believed that if physical education teachers taught their children sports and basic skills their child would be more inclined to participate in physical activity outside of school in the community. Parents addressed the importance of physical educators exposing their children to physical activities that could be done at home. Physical fitness was one of the top requests of parents for their child's school system to address as physical educators were better equipped to teach such things (Ayvazoglu et al., 2006). Furthermore parents were open to direction from physical education teachers as to how they could build upon skills learned in school, at home. Unfortunately parents felt as though many of their children's physical education teachers were simply not knowledgeable in including children with visual impairments in classes with their peers. In some instance's parents reported that their children's educators were stuck in their ways and not willing to accommodate their child or made false assumptions about what their child could and could not do. At times it felt to many as though the educators were fearful of the child's safety and in turn failed to include them appropriately in physical education classes (Perkins et al., 2013).

Parents acknowledged the need to have quality training offered to all, including teachers and those who work with individuals who are blind and visually impaired. In particular parents recommended having an organization to support athletes who are visually impaired as well as more knowledgeable physical educators as two potential solutions to barriers faced (Stuart et al., 2006). In providing physical activity opportunities parents hoped that providers would be able to assess and identify the individual needs of their children and proceed to create and modify

programs specific to those needs. Patience was an emphasized attribute as parents felt that a lack of patience would not only lead to the child struggling but also the teacher (Chaapel et al., 2012).

The type of activities participants chose to engage in varied by family however the consensus was to choose programs that integrated children with visual impairments with their sighted peers. Parents agreed that when appropriate modifications were made for their child it contributed to a sense of social validity and normalcy (Columna et al., 2017). Where some parents desired more physical activity programs specific to their children with visual impairments, others wanted more inclusive programming that was able to meet the needs of their children. If participating in an inclusive setting with their sighted peers, parents were often discouraged by the lesser expectations that were put on their children versus their sighted peers. Teachers who were willing to let their children sit out simply because the child said something was too hard was discouraging for parents. Furthermore lack of education on the side of the provider often made the child feel as though they were taking away from their classmates, as if everything was about them, which turned them away from certain physical activity opportunities (Columna et al., 2017).

### **Summary**

Overall the findings support the importance that parents placed on physical activity for their children with visual impairments. A variety of benefits were identified that influenced the level of importance parents placed on physical activity while a significant number of barriers were also mentioned that inhibited physical activity participation. Parents desired to be involved with their child's physical activity experiences and that meant reciprocal communication with physical activity providers and opportunities to engage in activities alongside their children were necessary. Difficulty in both identifying and accessing community physical activity opportunities

were major barriers cited by parents when attempting to engage their children in physical activities. Increased knowledge in instructional strategies and teaching children with visual impairments is required by all including physical activity providers and parents. Many parents worried about the safety of their child both emotionally and physically while others longed for community programs that were inclusive for all children. In the following section I will discuss how the above findings can be used by physical educators, coaches and other physical activity providers to create and modify physical activity programs to meet the needs of children with visual impairments. The potential realms for future research as well as limitations will also be discussed.

## **Chapter 4**

### **Discussion**

This synthesis examined the perceptions that parents hold towards participation in physical activity for children with visual impairments. The research questions aimed to identify two things. These included factors that encouraged and influenced participation in physical activity as well as barriers that inhibited participation. After thoroughly analyzing the data from the critical mass of articles and compiling it into major themes and subthemes it appears as though the factors most important to parents of children with visual impairments in regard to physical activity include safe and accessible programs, reciprocal communication between parents and physical educators, and opportunities for parental involvement. When examining the results it was evident that children with visual impairments are often being taught by individuals who are ill-equipped to work with them in a physical activity setting. Parents noted a need for physical activity providers with increased training and knowledge specific to working with children with visual impairments. Recommendations as to how physical activity providers can

better cater to the needs of their participants with visual impairments were drawn from synthesizing the critical mass of articles. By implementing these recommendations, the perceptions that parents hold towards participation in physical activity for their children with visual impairments is likely to be positively affected. Recommendations that will be discussed in further detail below include creating a safe environment, adequate teacher preparation, accessible physical activity programs and engaging family members.

### **Creating a Safe Environment**

Parents of children with visual impairments openly admit to the role that their children's visual impairment plays on their willingness and desire to allow them to participate in physical activity (Ayvazoglu et al., 2006; Columna et al., 2013; Columna et al., 2017). Physical activity providers must be consciously aware of the needs of each of their participants to ensure that they are promoting a physically and emotionally safe environment at all times. In doing so physical activity providers should ensure that no child is singled out in front of their peers and that all children are held to the same high standards despite differences in abilities. The Ontario Health and Physical Education curriculum considers one of its most fundamental principles to be that physical and emotional safety is a pre-requisite for additional learning and must occur before subsequent learning can take place (OPHEA, 2015). This stems from the belief that children learn better when they feel they are included and safe. This principle ensures that individual needs and differences in abilities do not affect a child's participation in physical education and that no matter what all children are afforded a safe, inclusive learning environment where they are capable of success (OPHEA, 2015). The physical activity provider should aim to lead by example in the behaviors that they wish to see and foster within their programs. Teachers and coaches should establish from the beginning and continue to reinforce throughout their programs

the types of negative behaviors and language that are considered unacceptable. For example, the teacher or coach may make a statement regarding fair play and equal opportunity for all participants regardless of ability level. Furthermore they may state that any derogatory commentary or unwelcoming behavior towards anyone involved in the program is grounds for automatic removal from the program.

### **Adequate Teacher Preparation**

Another major factor that contributes to a positive, safe learning environment are well trained physical activity providers. Lack of knowledge in working with individuals with visual impairments on the part of the provider can at times cause a child to feel unlike their peers and lead them to opt out of participation in physical activity. Frequent and updated trainings should be offered to all those physical activity providers working with individuals with visual impairments to ensure that they are adequately prepared with the knowledge and skills to be able to include children with visual impairments in their programs. Physical education teachers can seek out continuing education opportunities to expand their knowledge. One great resource includes the staff training for physical education for children with visual impairments offered through Perkins School For The Blind eLearning (Perkins eLearning, 2020). Whether working in an inclusive setting with one individual with a visual impairment or in an adapted program specifically for individuals with visual impairments, having the knowledge to appropriately modify and adapt activities to meet the needs of each individual child is necessary in fostering an overall safe environment. A number of detailed resources for working with students with visual impairments in physical education, including instructional videos, tip sheets, assessment and modification checklists, PowerPoints and more can be found at [campabilities.org](http://campabilities.org) under the “instructional materials” tab (Camp Abilities, 2020).

### **Accessible Physical Activity Programs**

Increasing the number of inclusive physical activity programs available to families of children with visual impairments would limit the distance that families would have to travel to participate in these programs. This would not only cut back on travel time but also the cost of gas which would be beneficial to families who struggle to find the time and financial resources to participate in physical activity. Offering programs for little to no cost would promote increased participation from families who are simply not able to financially support their children and their needs in physical activity with so many other necessary expenses associated with their child's visual impairment. Simply put accessibility can be defined as "the ability to access" (MBS Accessibility Defined, 2020. p. 1). Accessible physical activity programs for children with visual impairments must provide appropriate accommodations and necessary equipment as well as be physically accessible with braille and large print signage where appropriate. Simple accommodations like beeping balls, brightly colored equipment and fluorescent tape marking boundaries in the gym or outside playing area can instantly improve the accessibility of a physical activity program for a child with a visual impairment (Teaching Visually Impaired, 2020).

### **Engaging Family Members**

Reciprocal communication between parents and physical activity providers is desired by parents who strive to play an active role in their children's education. Not only would an increase in dialogue benefit parents who want to continue to work on things with their children at home, but it would also benefit educators and coaches to know what is going on in the home and any milestones or accomplishments relating to physical activity performed by the child. (Perkins et al., 2013). More than just communication, parents want to increase their knowledge and ability to

teach and engage their child in physical activities. Allowing parents to participate alongside their children in activities not only creates an opportunity for them to observe what their child is capable of doing but also allows them to learn appropriate instructional strategies that they can use at home to facilitate physical activity. Furthermore physical activity that targets the entire family is suggested when trying to increase the physical activity levels of children. This is attributed to the strong influence that parents have on their children by means of role-modeling and direct involvement (O'Connor et al., 2009). Bois et al., (2005) further emphasizes the effects that parent engagement can have on children's physical activity levels in both direct and indirect ways. Engaging parents in physical activity when possible, allows for opportunity to lead by example and also goes a long way in increasing parental beliefs of their child's competence in physical activity which has been shown to correlate to increased physical activity levels.

### **Limitations**

The critical mass of research on the topic of parental perceptions towards participation in physical activity for children with visual impairments is limited in both the scope and volume of articles available at the present time. The current body of research is relatively new with the majority of research having been conducted within the past decade. To date there has been no longitudinal research conducted on the topic. Although there has been research conducted regarding parental perceptions towards participation in physical activity for children with disabilities in general, research specific to children with visual impairments is not as prominent.

The small sample sizes comprising most of the studies within the critical mass as well as the varying geographic locations of the studies may affect the generalizability of the findings to the larger population and other areas of the world. Much of the data was gathered by means of semi-structured interviews that included both in-person and phone interviews. The amount of

time between participation in physical activity and when the interviews were conducted varied. The extended time in between the actual experience and the interviews could have influenced the perceptions of parents, given that they had more time to consider and recall their experiences. Furthermore the researchers were not aware of the state of mind of their participants at the time the interviews were conducted and failed to consider how daily challenges or successes might have influenced one's perceptions of something that occurred sometime ago. For example if someone's car had broken down right before the interview took place, they may have not been in the optimal mood to give an honest interview. Vice versa, someone who just won the lottery before conducting the interview may have nothing negative to say about their child's physical activity experiences as they are in a very excited state of mind.

### **Implications for Future Research**

Based on the analysis and the limitations of the critical mass further research must be conducted to effectively examine this topic. Researchers should continue to address the perceptions of parents and whether or not the implementation of the results suggested in this synthesis truly affect parental perceptions towards participation in physical activity for children with visual impairments. Future research may also consider whether parent perceptions actually impact physical activity participation for children with visual impairments.

Future research may simultaneously explore the perceptions of children with visual impairments themselves and compare and contrast participant perceptions to those held by their parents to see if there is any correlation between the two.

### **Conclusion**

Research has shown that parents of children with visual impairments see the value and importance of regular participation in physical activity. The research examined in this synthesis

presents several barriers that negatively affect participation. These barriers include physical activity environments that are not both physically and emotionally safe, a lack of resources and physical activity providers who lack knowledge of working with individuals with visual impairments. Furthermore the findings of this synthesis address several areas in which physical educators, coaches and other physical activity providers can improve and develop their best practices to better include and encourage participation for children with visual impairments. Recommendations include increased communication and involvement with parents, creating physically and emotionally safe environments, and offering a variety of accessible physical activity opportunities for all children.

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## Appendix A

## Synthesis Article Grid

PA: Physical Activity

VI: Visual Impairment

<b>Author</b>	<b>Title</b>	<b>Source</b>	<b>Purpose</b>	<b>Methods &amp; Procedures</b>	<b>Analysis</b>	<b>Findings</b>	<b>Recommendations</b>
Ayvazoglu, Oh, & Kozub, 2006.	Explaining Physical Activity in Children with Visual Impairments: A Family Systems Approach.	Exceptional Children	This article examines the relationship between PA levels of children with VI and the PA levels of their parents/siblings and identifies factors that influence PA.	Parents completed the Family Adaptability and Cohesion Scale II. Quantitative data was collected via activity counts using accelerometers while qualitative data was collected via open ended interviews.	Audiotaped interviews were transcribed and collected into themes. Comparisons were made between parents and children. Specific questions were developed to ask the children based off of the themes that emerged.	The child with the highest activity count also had the highest levels of PA. PA varied based on age, the older participants were less active than the younger ones. Parents expressed the importance of family involvement.	Schools should teach community/lifetime activities and provide students with VI the skills necessary to remain physically active outside of school. Focusing on fitness in schools is important to parents.
Chaapel, Columna, Lytle, & Bailey, 2012.	Parental Expectations About Adapted Physical Education Services.	The Journal of Special Education	This study examines the expectations parents of children with disabilities, place on adapted	Participants included parents of a child with some type of physical, intellectual, or emotional disability,	Constant comparison was used to analyze and code interview transcripts to arrive at	Parents wanted to see their child participate alongside children without disabilities. A lack of communication	Parents have different priorities and expectations but the desire for greater reciprocal communication with educators is important.

			physical education services.	including VI. Participants reflected on their expectations of APE services as well as desired outcomes for their child.	essential themes of the study.	between parents and adapted physical educators was a barrier. Parents wanted educators to be well versed in all disabilities and be able to develop programs that meet each child's individual needs.	Educators can work on creating opportunities and providing parents with tools to be active with their child at home.
Columna, Fernandez-Vivo, Lieberman, & Arndt, 2013.	Physical Recreation Constraints Among Guatemalan Families with Children with Visual Impairments.	The Global Journal of Health and Physical Education Pedagogy.	This article examines the constraints faced by Guatemalan families with children with VI when it comes to participating in PA and how to overcome these constraints.	This study used interviews and field notes to gather information from parents of children attending a sports camp for individuals with VI regarding family participation in PA, constraints affecting participation and solutions to overcoming the constraints.	Transcribed and translated to English, constant comparative analysis was used to analyze and code the data to gather themes, contributing to the fundamental meaning of the PA experiences.	The number one barrier contributing to lack of PA opportunities was financial constraints. Other barriers included the child's VI, difficulty modifying activities, safety concerns, and the negative attitudes of others.	Greater education/resources on ways to modify activities as well as more affordable PA opportunities that cater to the whole family not just the child with a VI. Parents want more opportunities to be hands on to both learn how to include their child as well as participate in PA alongside their child.

<p>Columna, Fernandez-Vivo, Lieberman, &amp; Arndt, 2015.</p>	<p>Recreational Physical Activity Experiences Among Families with Children With Visual Impairments.</p>	<p>Journal of Physical Activity and Health.</p>	<p>This article examined the physical recreation experiences of Latino families of children with visual impairments living in Guatemala.</p>	<p>This study used semi-structured interviews to gaged parent perspectives on what sorts of PA families participate in, who normally participates, and how frequently families engage in PA.</p>	<p>Interviews were transcribed and translated to English. A line-by-line thematic analysis was conducted to identify emergent themes related to the research questions.</p>	<p>PA was typically unstructured and organized by mothers. PA needed to be planned well in advance and financial constraints affected participation. Family involvement was important.</p>	<p>A need exists to better inform the Latino community with children with VI, of the multiple benefits of PA, not just the psychological. Parents require training in order to engage in activities with their child with a VI.</p>
<p>Columna, Dillon, Norris, Dolphin, &amp; McCabe, 2017.</p>	<p>Parents' Perceptions of Physical Activity Experiences for Their Families and Children with Visual Impairments.</p>	<p>British Journal of Visual Impairment</p>	<p>This article addresses the perceptions held by parents of children with visual impairments regarding physical activity experiences for their child and family.</p>	<p>This study used semi-structured interviews including individual, telephone-based and face-to face, allowing participants to share specific PA experiences and their views toward PA for their child with a VI.</p>	<p>The audio-taped interviews were transcribed, analyzed and coded to reach a consensus on major themes and subthemes.</p>	<p>Psychological, social, and health-related benefits encouraged participation in PA. Several barriers to PA included lack of time, financial limitations, physical/emotional safety, PA provider's qualifications and a lack of understanding of child's disability.</p>	<p>Strategies to assist in overcoming the barriers to PA for families of children with VI include sharing specialized equipment that can be very costly, increased communication between PA professionals and families, and additional education for educators to better accommodate students with VI.</p>

<p>Columna, Rocco-Dillion, Dolphin, Streete, Hodge, Myers, Norris, McCabe, Barreira, &amp; Heffernan, 2017.</p>	<p>Physical Activity Participation Among Families of Children with Visual Impairments.</p>	<p>Disability and Rehabilitation</p>	<p>This article explored why families of children with VI participate in PA and what strategies are needed to improve PA participation.</p>	<p>This study used semi-structured telephone interviews to identify past family experiences with PA, factors that influence PA participation, what assistance is required and what the most challenging aspect of participating in PA is.</p>	<p>Line-by-line analysis was used to analyze the transcribed interviews to arrive at the overall themes and subthemes. Findings were member checked and a search for negative cases was conducted to ensure trustworthiness.</p>	<p>Parents saw the importance in PA for their child with a VI. All families believed their child's VI impacted their PA participation as well their lack of knowledge in modifying activities. Inability to find suitable programs that were offered year-round and negative opinions from others were barriers.</p>	<p>Stronger communication between PA professionals and family. Physical educators must be aware of community activities and teach children the skills necessary to participate in such.</p>
<p>Columna, Streete, Dillion, Hodge, Prieto, Myers, Barriera, &amp; Heffernan, 2019.</p>	<p>Parents' Intentions Toward Including Their Children with Visual Impairments in Physical Activities.</p>	<p>Disability &amp; Rehabilitation</p>	<p>This study looked at the effect of PA intervention on parents' perceived competence to teach and participate in PA with their children with visual impairments.</p>	<p>Workshops covering the topics of O&amp;M, motor development and PA, aquatics &amp; team sports.</p>	<p>Thematic line-by-line analysis was used to reduce and arrange the data into categories and themes. Patterns were identified leading to recurring themes.</p>	<p>Increased confidence in their abilities to find PA opportunities for their child. More motivated to broaden their activity options and seek out new opportunities to participate in PA as a family.</p>	<p>Additional PA interventions are required to teach and support parents in their efforts to engage their children/families in PA. Better collaboration and communication between PA professionals.</p>

<p>Columna, Streete, Hodge, Dillon, Myers, Norris, Barreira, &amp; Heffernan, 2018.</p>	<p>Parents' Beliefs About Physical Activity for Their Children With Visual Impairments.</p>	<p>Adapted Physical Activity Quarterly</p>	<p>This article examines parental intentions towards including their child with a VI in PA following the completion of a workshop.</p>	<p>Following the completion of a workshop focused on developing parent's skills in working with their child with a VI in PA settings parents were interviewed via phone interviews. Parents reflected on their experience in the workshop.</p>	<p>Thematic line-by-line analysis was conducted on the transcribed audio-taped interviews. The data was coded, and patterns were analyzed to create themes and subthemes that corresponded with the research questions.</p>	<p>Greater understanding of what it's like for their child with a VI to engage in PA and how best they can assist and engage in PA with their child. Increased understanding as to the ability of one's child to be successful. More open minded about allowing their child to participate in PA.</p>	<p>With greater PA interventions parents can learn the skills and knowledge to better include and be more optimistic about PA for their child with a VI. Participating in PA interventions can transform the perspectives of parents with children with VI and open up more opportunities for participation.</p>
<p>Perkins, Columna, Lieberman, &amp; Bailey, 2013.</p>	<p>Parents' Perceptions of Physical Activity for Their Children with Visual Impairments.</p>	<p>Journal of Visual Impairment &amp; Blindness</p>	<p>This article examines parental perceptions regarding PA for their child with a VI, the barriers to PA for their child and ways in which PA professionals can help.</p>	<p>This study sent flyers to recruit eligible parents to participate in semi-structured interviews aimed at identifying the importance placed on PA participation, barriers faced, and ways PA professionals can help.</p>	<p>The audio-taped interviews were transcribed and coded using constant comparative analysis to categorize and arrive at themes.</p>	<p>Parents wanted children to participate like their sighted peers. Felt that PA increased their child's confidence/independence. Barriers included lack of opportunities and communication.</p>	<p>Better effort to include and accommodate students with VI in PE as well as communicate with parents. Creating opportunities that promote independence and decrease the dependence on parents.</p>

Stuart, Lieberman, & Hand, 2006.	Beliefs About Physical Activity Among Children Who Are Visually Impaired and Their Parents.	Journal of Visual Impairment & Blindness	This article examines the value that parents of children with visual impairments, place on physical activity for their child and their expectations for success as well as barriers faced when trying to participate in PA.	The participants were chosen from a one-week summer sports camp for children with visual impairments. Each child completed a survey interview. Parents filled out various subscales which included a Likert scale to rate their answers.	Identified any differences across levels of vision among the dependent variables of expectations for success and value for PA. Correlations were conducted to determine the relationship between the parent and child variables. Parents listed the barriers/solutions to PA for their child. The children did the same.	As vision loss increased, parents' expectations for their children's ability to participate in PA, decreased. There was a positive correlation between child/parent expectations for success as well as child's value for PA and parents' expectations for success. Top barriers from parents were potential for injury, lack of opportunities, untrained physical educators.	Opportunities for disability awareness programs in schools. A strong inclusive physical education program teaching children how to modify activities and advocate for themselves. Parent education programs and resources can assist parents in locating opportunities for their child.
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