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**CO-CONSTRUCTING PHYSICAL EDUCATION RESOURCES AND
RECOMMENDATIONS WITH BLIND ADULTS**

by

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B.S. May 2012, James Madison University
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A Dissertation Submitted to the Faculty of
Old Dominion University in Partial Fulfillment of the
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

EDUCATION

OLD DOMINION UNIVERSITY
May 2024

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ABSTRACT

CO-CONSTRUCTING PHYSICAL EDUCATION RESOURCES AND RECOMMENDATIONS WITH BLIND ADULTS

M. Ally Keene
Old Dominion University, 2024
Director: Dr. Justin A. Haegele

Blind youth have reported unfavorable PE experiences, however, are optimistic that positive changes could be made. Despite recommendations to involve students in learning decisions, those made for teaching blind youth in PE have largely been constructed from non-disabled adults. This dissertation used a participatory research method and positioned blind people as research *partners*, amplifying their voices as knowers, collaborators, and researchers, to help construct resources and recommendations to disseminate to PE teachers. With that, the overall aim of this dissertation was to construct a product that provides PE teachers with useful and relevant resources and recommendations, in an attempt to enhance PE experiences for blind students. This dissertation used a two-manuscript format. The purpose of the first manuscript was to describe the experiences of co-constructing resources and recommendations for PE teachers, with blind individuals as research partners, aimed to enhance PE for blind students. Four blind young adults served as research partners within the project. The project meetings, consisting of 15 meetings over 19 weeks and two stages, took place entirely on Zoom. Stage one consisted of four meetings and focused on exploring the needs of the partners and their experiences and opinions for improving PE for future generations. Stage two consisted of 11 meetings and focused on constructing resources and recommendations to provide to PE teachers. A constant-comparative technique was used throughout to analyze all meeting transcriptions to help compare, keep track of, and reflect on all ideas. The first study manuscript details the

interworking of the process to highlight the research groups' experience with the project. We conclude this manuscript by disclosing the challenges, successes, and messiness of this project. Moving forward, we encourage researchers to continue to conduct research that involves disabled individuals as knowers, and in mindful and meaningful ways to respect their needs. The purpose of the second study was to examine PE teachers' perspectives on the usefulness, relevance, and practicality of resources co-constructed with blind young adults to help enhance PE for blind students. For this study, nine high school PE teachers were interviewed, using an interpretivist research paradigm, to inquire about the usefulness, relevance, and practicality of using the resource within their teaching practices, which might help to alleviate some of the concerns and stress teachers have noted experiencing. Reflexive thematic analysis guided the data analysis, and three themes were constructed: (a) "You're gonna have to get to know the person": Awareness of needs, (b) "For a teacher that's on their own...this is phenomenal": More than a planning tool, and (c) "I should meet with the student": Conversations for student input. Many of the participants noted that the resource was useful and relevant, however, there were some mixed opinions about the practicality of using some of the resources, given time and curriculum constraints. This co-constructed resource may be a first step in working with blind individuals and PE teachers to help to enhance PE experiences for blind students.

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This dissertation is dedicated to each of the research partners that made this possible. To Andrew, Julia, Nina, and Marie for your commitment to the construction of the resources and recommendations and desire to help enhance PE for generations of blind students to come.

Thank you!

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call away, and hope you know that I am as well. I am excited to see you both move forward with the next chapter and look forward to hearing about all your future success.

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CHAPTER I: INTRODUCTION

Blind individuals can provide unique, valuable perspectives on the world, as such, the willingness of research partners to contribute to this project was invaluable as the research could not have been completed without their knowledge, perspective, time, and efforts (Wendell, 2001). It is important to note that within this dissertation the individuals who were part of this research project are referred to as *partners* as opposed to *participants*, posited by Smith et al. (2022), as this is a better reflection of their role within the research. Additionally, identity first language (i.e., disabled person) is used in line with a social relational understanding of disability that supports the values and beliefs of identifying disability as being socially constructed through oppressive systems (Adamson et al., 2022; Bogart & Dunn, 2019). The social relational model recognizes that physical activity and physical education experiences can be impacted by both society and impairment and may differ based on a plethora of factors (Martin, 2013).

Physical activity can provide mental, physical, and emotional health benefits for adults and youth alike (Lilia et al., 2023). However, despite such benefits, blind and visually impaired youth and adults report low incidences of meeting physical activity recommendations (Barbosa Porcellis da Silva et al., 2018; Gür et al., 2020; Marmeleira et al., 2014). Physical education (PE) classes are an educational context that may help youth meet these recommendations and provide education for youth to be active into their adult years (Centers for Disease Control and Prevention, 2019). However, blind and visually impaired youth and adults overwhelmingly report experiences in PE that do not contribute to their participation in physical activity as youth or adults (Ball et al., 2022; Bredahl, 2013; Haegele & Zhu, 2017; Holland et al., 2020). Pedagogical strategies may help improve the affective, social, and physical, domain for students within PE (Arufe-Giráldez et al., 2023) and should be student-centered to promote and nurture

active engagement in PE (Oliver & Kirk, 2016). Additionally, we must listen to students to learn about and enhance motivation, facilitate interest in, and optimize learning through content collaboration (Keene et al., 2023; Oliver & Kirk, 2016). Further empirical research is needed to help develop strategies to enhance PE experiences for blind and visually impaired youth and adults, through suggestions that amplify their voices and needs.

Background

Physical activity can positively impact physical and mental health, such as helping to decrease the risk for disease, the management of anxiety and depression symptoms, and improve self-esteem (Lilia et al., 2023). To access these positive benefits, the United States Department of Health and Human Services (2018) recommends youth should aim to be physically active for 60 minutes per day. Youth who meet these guidelines are more likely to transfer their learned skills into consistent physical activity practices as an adult (Batista et al., 2019; Howie et al., 2020), which may help them meet the guidelines of participating in 150 minutes of moderate to vigorous physical activity per week (United States Department of Health and Human Services, 2018). However, it has been documented that blind and visually impaired youth typically do not meet physical activity guidelines (Gür et al., 2020; Haegele et al., 2018; Hou et al., 2023) which may impact their physical activity levels as an adult (Batista et al., 2019). A lack of physical activity participation, for blind and visually impaired individuals, may stem from societal or interpersonal barriers (Greguol et al., 2015; Gür et al., 2020), or a lack of meaningful participation in PE (Haegele & Zhu, 2017), as many visually impaired individuals note that negative physical activity experiences have originated within PE (Bredahl, 2013) which may contribute to a sedentary adulthood (Miyauchi, 2020). For youth, physical activity skills and knowledge can and should be learned, practiced, and integrated into their routine, within PE

classes (SHAPE America, n.d.; United States Department of Education, 2011), which should, ideally, promote a lifelong and positive interaction with physical activity (Spencer-Cavaliere & Rintoul, 2012). Many studies have examined the experiences blind and visually impaired youth have in PE, both concurrently and retrospectively, which have identified many unfavorable experiences (Coffey et al., 2020; Haegele et al., 2022; Haegele & Zhu, 2017; Yessick & Haegele, 2019). These negative experiences in PE have included but are not limited to bullying (Ball et al., 2022), different expectations than their non-disabled peers (Holland et al., 2020), exclusion (Coffey et al., 2020), and a lack of adaptations which limit engagement (Bredahl, 2013). These experiences may have limited the ability of blind or visually impaired individuals to learn physical activity skills and knowledge and develop a positive relationship with physical activity.

Despite suggestions that students should be involved in educational decisions (Deschenes et al., 2001; Lieberman et al., 2006; Murris, 2013), many of the current pedagogical guidelines are written from the perspective of non-disabled individuals and lack perspective from blind and visually impaired individuals (Eales & Goodwin, 2022). It is imperative that students, and more specifically blind and visually impaired students, are given autonomy within PE to express their needs and contribute to the construction of meaningful curricular content and pedagogical practices (Eales & Goodwin, 2022). Exploring ways in which PE experiences can be enhanced through listening to the voices and opinions of blind individuals may aid in more favorable views on PE and, perhaps, a higher likelihood of physical activity participation for such populations. In this study, strategies to enhance PE experiences utilizing a participatory research paradigm were the focus. Participatory research involves working with individuals as active partners within the research process and aims to provide agency through collaboration (Vaughn & Jacquez, 2020). Within PE, limited participatory research has been conducted with disabled individuals, and thus

the voice of researchers and scholars within the field has been privileged (Spencer & Molnár, 2022). As such, the overarching aim of this research study was to construct a product that provides PE teachers with useful and relevant resources and recommendations, in an attempt to help enhance PE experiences for blind students.

Theoretical Framework

This dissertation was guided by principles of critical disability theory which posits that disability is a social construct (Hosking, 2008). The central feature of critical disability theory recognizes, defines, and evaluates how culture impacts disabled individuals and how those factors intersect with social constructs such as race, class, and gender (Hall, 2019; Hosking, 2008). Critical disability theory attempts to amplify the voices of disabled individuals by listening to and valuing the perspectives of their lived experiences, aiming to pave the way for social, political, and economic change (Hall, 2019; Hosking, 2008; Meekosha & Shuttleworth, 2009). Critical disability theory aims to move away from a binary system of this or that, challenges the norm, and opens the conversation for more fluid discussions regarding disability (Hall, 2019; Hosking, 2008; Meekosha & Shuttleworth, 2009). It also aims to demonstrate how traditional disability studies have excluded disabled people, as Rocco (2005) claims: “Disabled people’s voices are not heard because they are not asked or are ignored” (p.4). Critical disability theory aspires to change such narrative by involving disabled individuals in research.

Critical disability theory employs seven elements: “the social model of disability, multidimensionality, valuing diversity, rights, voices of disability, language, and transformative politics” (Hosking, 2008, p. 5). Critical disability theory aligns with a version of the social model of disability by acknowledging disability as a social construct, a complex relationship with impairment, and the social disadvantages (Hosking, 2008). Additionally, it recognizes that

multidimensionality or intersectionality of individuals' lives impacts how people move throughout their daily life and highlights the value of diverse characteristics (Hosking, 2008). Legal rights of disabled individuals, another tenant of critical disability theory, is used as a tool to help further equality within society (Hosking, 2008). Furthermore, amplifying the voices of disabled people, privileging their stories, and listening to and valuing disabled perspectives is of utmost importance within critical disability theory (Hosking, 2008). This also includes being aware of language that is used and how it is inherently political, emphasizing negative connotations and labels which may further negative attitudes about disabled people (Hosking, 2008). Critical disability theory maintains the connection with critical theory in that it recognizes the importance of influencing change within the "economic, political, and social structures of society" (Hosking, 2008, p. 14).

Due to the relatively new introduction of critical disability theory, it is still evolving and developing, and it provides space for shifts, responses, and collaboration across disciplines (Hall, 2019). By using critical disability theory within a variety of disciplines, researchers and activists alike can work to dismantle ableist voices that breed paranoia, fear, confusion, and inadequacy by using the seven tenants of critical disability theory (Goodley & Lawthom, 2019). Within physical activity, PE, health, and exercise fields, the areas for expansion are vast to work to improve the lives of and perception of disabled people. Critical disability theory has been minimally cited and could, and perhaps should, be utilized more prominently to involve the voices of disabled people. For example, when using critical disability theory to examine the experiences of disabled people in sport, Saxton (2018) was encouraged by participants to expand research in this area and examine how barriers were more present and exclusion was more common for disabled individuals within physical activity realms. Further, Peers (2018) provided

a call to action, specifically for the field of adapted physical activity, to utilize the framework in future studies to examine axiological assumptions, challenge normative ways, and ableist assumptions. This can be done by examining the language we use such as asking a person how society disables them as opposed to what disability they have, which places the value on the disability instead of placing the onus on disability, and acknowledges the disabling societal practices (Peers, 2018). However, the ideology does not seem to have been grasped, and instead scholars and activists appear to continue using what they already know. Moving forward, this researcher aims to use critical disability theory to gain perspectives about how disabled, and more specifically blind people, have experienced PE and how they believe it can be improved, with the hope that we might change what we think we know and mold it into something that more accurately benefits blind youth within PE.

Statement of the Problem

When reflecting about their physical education experiences, blind and visually impaired youth have largely reported them as negative, and that they include high incidences of bullying (Ball et al., 2022), feelings of exclusion (Haeghele, Hodge, et al., 2020), and a lack of instruction (Holland et al., 2020) and adaptations (Bredahl, 2013). These negative experiences may contribute to a sedentary childhood and adulthood, as youth may not develop a positive relationship with physical activity (Miyauchi, 2020). Within PE, most strategies to teach blind and visually impaired youth have been constructed from the perspective of non-disabled individuals (Eales & Goodwin, 2022) and lack input from blind and visually impaired individuals (Keene et al., 2023; Maher & Haeghele, 2022). As such, most research within adapted physical activity and adapted PE has also failed to take into account the perspectives of the stakeholders researchers aim to represent (Spencer & Molnár, 2022). Thus, little is known, to

date, about blind and visually impaired individuals' recommendations that may improve PE experiences and if such opinions are being taken into consideration (Keene et al., 2023; Peers, 2018). Within this dissertation, the first study aimed to co-construct resources and recommendations, with blind individuals as research partners, aimed to enhance PE for blind students. The second study examined PE teachers' perspectives on the usefulness, relevance, and practicality of resources co-constructed with blind young adults to help enhance PE for blind students.

Purpose

This dissertation produced two articles. The purpose of the first manuscript was to describe the experiences of co-constructing resources and recommendations for PE teachers, with blind individuals as research partners, aimed to enhance PE for blind students. These methods include *how* blind individuals would like to be taught to benefit from PE classes within an integrated setting, *what* the individuals wish PE teachers had known, and *what* they wish they had learned that would be beneficial for living an independently active and healthy lifestyle into and through adulthood. Additionally, the product includes resources, such as accessible technology, adaptive sports equipment, external organizations, and a worksheet that may be useful in promoting a more equitable PE experience for blind youth. Using a participatory research method, the *partners* were positioned as knowers, collaborators, and researchers to narrow the axiological gap within research and provide strategies to improve PE for future generations (Peers, 2018). The purpose of the second study was to examine PE teachers' perspectives on the usefulness, relevance, and practicality of resources co-constructed with blind young adults to help enhance PE for blind students. The teachers provided their input regarding their perceptions of the usefulness, practicality, and understanding of the co-constructed

resources, and how such resources could be improved, within each of the categories, based on their experiences.

Research Questions

- Study One
 - Using their own experiences as students, in what ways do blind young adults think PE experiences in high school could be improved for blind students?
 - How can teaching strategies, approaches to communicating curriculum content, and/or engagement strategies be improved for blind students in PE class?
 - What PE curriculum content do blind adults perceive to be important to enhance the likelihood of being physically active into adulthood?
- Study Two
 - What are the perspectives of current PE teachers about the usefulness, relevance, and practicality of the co-constructed resource from the project “Co-constructing an understanding of the experiences and needs of blind individuals in physical education?”

Significance of the Studies

The first study posited strategies and suggestions endorsed by blind individuals who recently graduated from high school, that they felt would have led to a more positive integrated PE experience [i.e., *how* should we teach, *what* we should teach]. Using the strategies created within this study, PE teachers can aim to provide experiences to current and future blind students that may make PE a more beneficial and positive experience. These opinions provide insight into what educational content might influence a higher desire to participate in physical activity during

and after leaving the school system. PE teachers can use the information co-constructed from the study to better inform their teaching practices that is beneficial to blind individuals, which may help them successfully navigate physical activity and other healthy lifestyle choices. The second study examined the usefulness, relevance, and practicality of the online resource, from the perception of current high school PE teachers. Their feedback was used to edit and improve the online resource in order to make it more useable, relatable, and helpful for PE teachers to implement within their class.

Delimitations

The following are delimitations to the first study:

1. Criteria for this study specifically required partners to be between the ages of 18-22 years, as such their recall of high school PE is more likely to be relevant and easily remembered than those who are further removed.
2. Partners were required to self-identify as blind (B1) and have no additional disabilities in order to provide recommendations for a specific population of individuals.
3. Criteria to be included within this study requires partners to have graduated from high school in the United States, which may have limited individuals if they attended but did not graduate.

The following are delimitations to the second study:

1. Participants were required to self-identify as a current high school PE teacher in the United States, providing recommendations for a specific population of teachers that is relevant to the co-constructed resources.

Limitations

The following are limitations to the first study:

1. The study results may not be generalizable for use with individuals who identify with a visual impairment but are not classified as blind (B1) or have additional disabilities, due to the exclusion criteria.
2. The study participants attended high school in two states and had varying experiences within high school PE that cannot necessarily be generalized for other blind students and their experiences.
3. This study is very specific to age, disability status, and required partners to have attended high school in the US, therefore, these results may not be transferable outside of these parameters.
4. What they recalled and construct may be limited by their own experiences and what they know related to physical education.

The following are limitations to the second study:

1. The study cannot necessarily be generalized for elementary or middle school PE teachers, due to the exclusion criteria.
2. The study participants taught high school in six states and had varying experiences within teaching high school PE that cannot necessarily be generalized for other PE teachers and their experiences.
3. This study is required PE teachers to teach in the U.S., therefore, these results may not be transferable outside of the United States.
4. The opinions of the usefulness, practicality, and understanding may be limited by their own experiences related to teaching physical education.

Definitions

The following definitions are provided to define terms and how they are specifically used in the context of this dissertation.

Adapted Physical Education. Specially designed instruction to meet the needs of a child for physical education (Individuals with Disabilities Education Act [IDEA], 2004).

Ableism. “Stereotyping, prejudice, discrimination, and social oppression toward people with disabilities” (Bogart & Dunn, 2019, p. 651).

Blind (B1). “No light perception in either eye up to light perception, and an inability to recognize the shape of a hand at any distance or in any direction” (United States Association of Blind Athletes, n.d.).

Individuals with Disabilities Education Act (IDEA). “A law that makes available a free appropriate public education to eligible children with disabilities throughout the nation and ensures special education and related services to those children” (Individuals with Disabilities Education Act [IDEA], 2004).

Inclusion. Subjective thoughts, feelings, and experiences of the child that center on feelings of belonging, acceptance, and value (Haegele, Hodge, et al., 2020; Spencer-Cavaliere & Watkinson, 2010).

Integrated. Disabled students placed in the same class as their non-disabled peers (Haegele, Hodge, et al., 2020).

Partners. Partners were used instead of participants to represent a more accurate depiction of their role as posited by Smith et al. (2022). These individuals were responsible for helping determine the research goals, conducting data collection, analyzing data, and

other actions that contribute to the co-construction of resources and recommendations (Baum et al., 2006).

Physical Activity. “Any bodily movement produced by skeletal muscles that requires energy expenditure” (World Health Organization, 2022).

Physical Education. “Academic subject that provides students with a planned, sequential, K-12 standards-based program of curricula and instruction designed to develop motor skills, knowledge and behaviors for active living, physical fitness, sportsmanship, self-efficacy and emotional intelligence” (SHAPE America, n.d.).

Visual Impairment. “A decrease in the ability to see to a certain degree that causes problems not fixable by usual means, such as glasses” (Industries for the Blind and Visually Impaired, 2023).

CHAPTER II: REVIEW OF LITERATURE

This section explains why physical activity is important and how individuals can access benefits to participating in physical activity. It further explains why blind and visually impaired individuals may receive added benefits and why physical activity is additionally beneficial for their quality of life. Within childhood, youth are provided the opportunity to participate in physical education (PE) classes while attending school, which should promote, foster, and help implement a positive relationship with physical activity, however, research has shown that blind and visually impaired students typically do not have positive experiences within PE class (Coffey et al., 2020; Yessick & Haegele, 2019). Many strategies for teaching blind and visually impaired youth have been constructed (Brian & Haegele, 2014; Lieberman & Houston-Wilson, 1999; Stribing et al., 2019), however, most of these strategies have been constructed without the input from blind and visually impaired individuals (Maher & Haegele, 2022). As such, participatory research is one avenue, not often utilized in research with disabled students (Spencer & Molnár, 2022), that can be employed to work with blind individuals to co-construct strategies for improving PE for current and future blind students.

Importance of Physical Activity

Physical activity has been shown to have a number of physiological and psychological benefits (Lilia et al., 2023). Physiological benefits include, but may not be limited to, disease prevention and management such as a minimized risk for cancer, type two diabetes, cardiovascular disease (Zhao et al., 2020), osteoporosis (Ferrer et al., 2022), and obesity (Ahmadi et al., 2023). Physical activity can also improve muscular fitness, cardiometabolic health, bone strength, and heart and lung health (United States Department of Health and Human Services, 2018). Affectively, physical activity can help with the management of mental health

disorders such as anxiety (Xiaoliang & Huaping, 2022; Zhu et al., 2019), depression (D'Angelantonio et al., 2022; Zhu et al., 2019), and schizophrenia (García-Garcés et al., 2021) and may be beneficial for overall quality of life (Eddolls et al., 2018). Cognitively, benefits for school-aged youth have also been shown to increase reading comprehension and attention (Muller et al., 2021).

To benefit from physical activity, the US Department of Health and Human Services (2021) recommends that children and adolescents are moderately to vigorously active for at least 60 minutes a day, while adults should aim for 150 minutes of moderate activity per week. Additionally, children and adolescents should aim to do muscle strengthening activities at least three days a week, while adults should aim for at least two days (US Department of Health and Human Services, 2021). For individuals who do not meet physical activity recommendations, there is an increased risk of premature death and disease (Katzmarzyk et al., 2019). Despite noted benefits, trends have shown that about 80 percent of American adults are not meeting physical activity guidelines (United States Department of Health and Human Services, 2018). These benefits are more likely to be achieved when individuals meet said guidelines in childhood, as they are more likely to then be active in adulthood (Batista et al., 2019). It is beneficial to learn skills and tools to become and maintain a healthy level of physical activity in childhood, in order to more successfully transfer those skills to adulthood (Howie et al., 2020).

Physical inactivity among adults is often a result of internal reasonings such as a lack of time or motivation, displeasure for sport, health concerns, age, and feelings of loneliness, among external factors such as weather conditions, occupational obligations, family, and finances (Skrebutėnaitė & Karanauskienė, 2019). However, and despite these reasonings, individuals cognitively know and understand the benefits of physical activity participation and attest that

after participating in physical activity they tend to have more energy, an improved mood, and higher personal perceptions of their physical appearance (Skrebutėnaitė & Karanauskienė, 2019). As such, physical activity has been attributed to an increased quality of life (Gill et al., 2013). Motivation to participate in physical activity may come from social or external factors, and may be pivotal for some individuals who lack internal motivation (Skrebutėnaitė & Karanauskienė, 2019). Addressing the common reasons for physical inactivity within childhood may be pivotal to increasing the rate at which individuals are active into adulthood (Batista et al., 2019).

Physical Activity and Visual Impairment

In agreement with the aforementioned benefits of physical activity and quality of life, a positive correlation with a high level of physical activity and life satisfaction in research specific to visually impaired individuals (Łabudzki & Tasiemski, 2013). Many blind and visually impaired youth recognize the value of physical activity in relation to their body's basic needs and the benefits of overall fitness, understanding that physical activity can help with other life skills, energy levels, and can also promote relaxation (Anderson et al., 2019) and is often done for health benefits, fun, and social contact (Charles & Chinaza, 2018; Jaarsma et al., 2014). Oftentimes blind and visually impaired individuals note that supportive family members and friends are also a strong facilitator in their physical activity participation (Greguol et al., 2015; Jaarsma et al., 2014). Having a support system that encourages and assists with physical activity can be central to the likelihood of blind and visually impaired individuals participating in physical activity (Jaarsma et al., 2014). Bredahl (2013) highlighted positive physical activity experiences blind and visually impaired individuals have experienced, which were centered around their abilities when they were seen as capable partners within physical activity spaces.

In understanding the benefits and potential desire to being physically active, however, blind and visually impaired individuals often face barriers to participating in physical activity. For example, blind and visually impaired youth and adults reference a lack of transportation, accessibility, dependance on others, and personal barriers as limitations to being able to participate in physical activity (Greguol et al., 2015; Gür et al., 2020; Jaarsma et al., 2014; Kirk et al., 2021). In one particular study by Stuart et al. (2006), when asked about barriers to participation, both blind and visually impaired youth noted that being made fun of and a lack of a physical activity partner (Stuart et al., 2006). Separately, blind youth identified that they couldn't do activity because they were blind, while visually impaired youth said they didn't know what to do or did not have any barriers (Stuart et al., 2006). Of note, in this particular study, some barriers to participation vary between visually impaired and blind youth (Stuart et al., 2006). Finding solutions to barriers, such as the ones mentioned and more, can be tiresome and demotivating. As referenced by Jaarsma et al. (2014) emphasizing ones abilities may help promote independence and increase self-confidence to participate in physical activity. Despite the noted benefits, research shows that a high percentage of blind and visually impaired youth and adults are not meeting physical activity guidelines (Hou et al., 2023; Marmeleira et al., 2014), possibly because of the barriers they experience (Jaarsma et al., 2014), which limits their access to physical activity participation benefits.

Most recently reported by Hou et al. (2023) using data from the 2020-2021 National Survey of Children's Health, visually impaired youth are not meeting PA guidelines. That is, in this report of 907 visually impaired youth ages six to 17, only 149 (15%) met such guidelines (Hou et al., 2023). This study shows a decline in visually impaired youth meeting PA guidelines, when compared to the analysis conducted by Haeghele, Zhu, et al. (2020) using data from the

2016-2017 National Survey of Children's Health, where 105 of 561 youth (18.7%) met PA guidelines. It is of note that not only are most visually impaired youth not meeting guidelines, but there also appears to be a slight decline in the limited number of youths that are doing so. While this decline may have been a result of the COVID-19 pandemic (Hou et al., 2023), this factor cannot be assumed without further exploration, and additional and current data should be collected to reflect the most current trends. Regardless, both data sets reflect low adherence to physical activity guidelines by blind and visually impaired youth. To the authors knowledge, minimal studies have examined if there are differences in physical activity levels between blind and visually impaired youth, which may be attributed to vision level. Aslan et al. (2012) and Kozub and Oh (2004) both examined the physical activity levels of blind and visually impaired youth and found no significant differences in physical activity levels. However, Hopkins et al. (1987) and Houwen et al. (2009) both found a relationship between physical activity and vision level, noting that blind youth had lower levels of activity compared with visually impaired youth. Due to the difference in findings, it is worth examining further, since barriers to physical activity (Stuart et al., 2006) and physical activity accommodations (Lieberman et al., 2006) differ for these related, yet distinct, populations.

Using self-reported data from the 2015 to 2018 National Health and Nutrition Examination Survey (NHANES) national dataset, Ross et al. (2022) found 59.3% of visually impaired adults who were surveyed, met physical activity guidelines. However, this data did not distinguish between individuals who were visually impaired and blind. Barbosa Porcellis da Silva et al. (2018) found a similar percentage of blind and visually impaired individuals meeting physical activity guidelines, however, it was noted that blind individuals were less active than those who are visually impaired. The physical activity guideline adherence percentages found by

Barbosa Porcellis da Silva et al. (2018) and Ross et al. (2022) are higher than many other reports, nevertheless, over 40% of visually impaired individuals are still not meeting explicated guidelines. In other research, physical activity guideline adherence has been notably lower. For example, in a study by Marmeleira et al. (2014), blind and visually impaired adults wore accelerometers for three consecutive days, and findings noted that less than 30 percent of participants met physical activity recommendations. Similarly, Holbrook et al. (2013) studied the step patterns of blind and visually impaired adults which resulted in findings that most participants did not meet guidelines. As such it is important to continue examining physical activity participation and barriers to participation in an attempt to help increase the number of blind and visually impaired individuals that meet physical activity guidelines.

Role of Physical Education

Physical education is one specific context that may help blind and visually impaired youth meet physical activity guidelines (Centers for Disease Control and Prevention, 2022; Colabianchi et al., 2016) Ideally, PE can provide instruction and experiences that influence youth to become physically active throughout their lives (Spencer-Cavaliere & Rintoul, 2012; Walseth et al., 2018). According to the US Department of Education (2011), PE should be accessible and provide appropriate equipment and options, a flexible curriculum, assessments that monitor progress and achievement fairly, and teachers should be adequately prepared to create a climate for all children to participate. Similarly, but slightly different, SHAPE America (n.d.) posits that PE should provide students with a “planned, sequential, K-12 standards-based program of curricula and instruction designed to develop motor skills, knowledge and behaviors for active living, physical fitness, sportsmanship, self-efficacy and emotional intelligence” (n.p.). However, individuals who are deemed *motor competent* or have *high ability* are often found to be more

valuable within a PE setting by teachers, despite the fact that PE should be beneficial for all (Lynch et al., 2020). As such, these prejudices often results in teachers who have ascribed to the medical model of teaching and do not see disabled students as capable learners (Haegele & Hodge, 2016), whereas there is often an expectation from teachers for students to perform movements in a *normal* way that leads to additional challenges (Ruin et al., 2021).

Normalization within PE spaces must be challenged, and opportunity and choice should be provided for disabled students to meaningfully participate in movement (Peers, 2018). Within the dilemma of teaching students, there is no agreement on the best way to teach (Gamoran et al., 2000), however, it is critical that PE teachers recognize their role in constructing environments that take into account the experiences and feelings of all students (Spencer-Cavaliere & Rintoul, 2012).

For disabled students, the Individuals with Disabilities Education Act (2004) provides a legal requirement for students to receive PE that can include services such as special physical education, adapted physical education, movement education, or motor development. The IDEA requires disabled students to receive physical education classes, which focus on “physical and motor fitness, fundamental motor skills and patterns, and skills in aquatics, dance, and individual and group games and sports (including intramural and lifetime sports)” (Individuals with Disabilities Education Act [IDEA], 2004). While mandated by law, these requirements may present teachers and administrators with challenges to providing adequate education opportunities to disabled students due to the overwhelming amount of responsibilities they are tasked with, a lack of preparedness in teaching disabled students, large class sizes, and limited equipment (Block & Obrusnikova, 2007; Lirgg et al., 2017). Overall, teachers express concerns about their teacher education programs’ ability to provide adequate preparation for

accommodating disabled students within an integrated environment (Lirgg et al., 2017). Teachers have specifically expressed barriers in including blind and visually impaired students in PE due to the lack of professional preparation, equipment, curriculum, and time (Lieberman et al., 2002). To address these concerns, it is recommended for preservice physical educators to have more hands on experience with disabled students prior to becoming a certified teacher (Lirgg et al., 2017). It has also been suggested that involving students in the planning process can help increase meaningfulness for students within PE and create more opportunities for students to feel included (Spencer-Cavaliere & Rintoul, 2012; Walseth et al., 2018). Walseth et al. (2018) and Keene et al. (2023) assert that students want to participate and benefit from learning content in PE, however, they have generally not found much utility in the class. This desire highlights the need for the PE to consistently meet the guidelines posited by the United States Department of Education (2011) and SHAPE America (n.d.). Examining the meaningfulness students receive from PE has been limited, however, in a review by Beni et al. (2017) it was noted that social interactions, fun, challenges, motor competence, personally relevant learning, and competition overwhelmingly attributed to students meaningfulness within PE. In particular, both Martins et al. (2021) and Rodrigues et al. (2023) identified the integral role friends play in becoming and staying active. Additionally, Barkoukis et al. (2021) found that providing autonomy-supportive practices can increase students autonomous motivation within PE, and further increase motivation and intention of participating in leisure time physical activity outside of school (Barkoukis et al., 2021).

Physical Education Experiences of Blind and Visually Impaired Youth

The integration of disabled youth in PE spaces with their non-disabled peers does not always take into account the integrity, autonomy, influence, or participation the individual will

experience and is not always the best option for the student (Goodwin & Howe, 2016). Within integrated classes, blind and visually impaired students often find they are not very active, and although they may be placed in an integrated class, they are often separated from their peers and excluded from participating, which can elicit feelings of embarrassment and discomfort (Haegele, Hodge, et al., 2020; Miyauchi, 2020). Blind and visually impaired youth overwhelmingly report negative experiences in PE classes, which stem from a lack of adaptations (Bredahl, 2013), bullying (Ball et al., 2022), feelings of exclusion (Haegele & Zhu, 2017), and feeling like a burden (Holland et al., 2020). Overall, a common theme is that blind and visually impaired youth do not feel they belong, are not accepted, and are not valued within integrated PE classes (Haegele et al., 2022; Haegele, Hodge, et al., 2020). This may stem from ableist perspectives, which results in blind and visually impaired individuals experiencing discrimination, oppression, stereotyping, and prejudice because of their vision level (Bogart & Dunn, 2019). In several instances, students have expressed that they did not believe they could participate meaningfully, and were viewed as a burden by peers (Haegele & Zhu, 2017) because of a lack of adaptations to be included with their peers, leading to feelings of exclusion (Coffey et al., 2020; Giese et al., 2021). It has been noted that limited instruction, different expectations, and a lack of autonomy may have contributed to many of these feelings (Holland et al., 2020). Blind and visually impaired children have also reported high quantities of bullying by both adults (teachers and paraeducators) and their peers in PE class, which can lead to negative feelings about PE and has caused some to withdraw (Ball et al., 2022). The attitude modeled by PE teachers may have indirectly caused youth to experience bullying from their peers (Ball et al., 2022). Overall, these negative experiences may lead to an apprehension to participate in physical activity as an adult (Miyauchi, 2020; Yessick & Haegele, 2019).

Teachers may be unaware of how to adapt the curriculum to include a blind or visually impaired student, pace the lesson appropriately, or be overprotective of the student because of their visual impairment (Lieberman & Houston-Wilson, 1999) despite an abundance of literature and resources that provide guidance for providing accommodations and modifications (Lieberman et al., 2019; Maher & Haegele, 2022; Stribing et al., 2019). Students should be involved in their education and asked about their needs, as suggested throughout the literature (Deschenes et al., 2001; Lieberman et al., 2006; Murriss, 2013; Smyth, 2006; Smyth & McInerney, 2012). Consequently, many of the published guidelines for integrating blind and visually impaired youth often lack voice and input from blind and visually impaired individuals despite literature that encourages physical educators to do so (Eales & Goodwin, 2022; Keene et al., 2023; Maher & Haegele, 2022). Furthermore, decisions about participation should involve input from the student (Winnick, 1985) as it is essential for individuals to have autonomy over their bodies and are able to make personal decisions about physical activity (Eales & Goodwin, 2022). Keene et al. (2023) further this sentiment exposing the desire from blind and visually impaired students for their physical educators to communicate with them about their needs. As such, physical educators are charged with the task of facilitating safe, inclusive, and accessible physical activity (Eales & Goodwin, 2022). However, educators cannot determine if a student feels safe, included, or if modifications or adaptations are the most accessible for their needs without speaking to them. Goodwin and Rossow-Kimball (2012) contest that people may experience disability as a result of the actions, or lack of action, of professionals. Eales and Goodwin (2022) additionally argue that enforcing normative motor patterns or behaviors, while typically with good intentions, can result in a dangerous practice as it can remove autonomy and self-expression. Moving forward, we must reconceptualize how dominant perceptions,

performance measures, and other qualities are valued in physical education in order to redefine normative practices and ensure that practices are safe and accessible (Fitzgerald, 2005).

Physical education is often a missed opportunity for blind and visually impaired individuals to work on skills that may provide benefits for everyday life (Ruin et al., 2021) and create an autonomous relationship with physical activity (Giese & Ruin, 2018). These missed opportunities and negative experiences may lead to lower levels of physical activity in adulthood (Yessick & Haegele, 2019). However, and despite all of the negative experiences, many blind and visually impaired youth tend to prefer to be integrated with their peers in PE classes, and are optimistic positive changes could be made (Haegele, Hodge, et al., 2020). Blind and visually impaired youth have expressed limited positive experiences, namely when their teachers have treated them as they do the other students in the class, and not as if they couldn't participate (Haegele & Zhu, 2017). In alignment with the findings from Keene et al. (2023), which highlighted the desires from blind and visually impaired students, it is critical to continue talking to students about their needs, which namely may include providing more utility within PE, encouraging communication between PE teachers and students, and ensuring the necessary accommodations are provided for students to successfully participate in activities.

Participatory Research

Axiologically, we often overlook assumptions that may be critical to the work we aim to do (Peers, 2018). Within adapted physical education research, the assumption has been that we can conduct meaningful research *on* disabled individuals without doing it *with* them, which may not support or help disabled individuals (Peers, 2018; Smith et al., 2022). Researchers, as professionals, can control the narrative and ultimately have power over the subjects of their research, which can lead to professionals' feeling as if their decision making process is best

interests of the stakeholders, without confirming or consulting with stakeholders (Goodwin & Howe, 2016; Spencer & Molnár, 2022). This conflicts with the assertion that disabled people should be included in work about disabled people, as Charlton (1998) noted “nothing about us without us” (p. 3). It is imperative that non-disabled researchers, who make up a very large majority of the researchers within adapted physical education, value and include disabled people to honor their knowledge, truths, and opinions (Peers, 2018). Supporting this, Oliver (2002) suggested that “failing to give disabled people, through their own representative organizations, complete control over research resources and agendas inevitably positions disabled people as inferior to those who are in control” (p.2). As such, disabled individuals might have different opinions and perspectives than non-disabled researchers that typically conduct research (Adamson et al., 2022). Thus, we must be reflexive in our practices and be responsive to the needs of the individuals we claim to advocate for, to minimize the risk of becoming self-righteous (Goodwin & Rossow-Kimball, 2012) and attempt to involve, amplify, and listen to the disabled voices we aim to represent.

Less common, or perhaps less conventional, some novelty research methods, such as participatory research, may support disabled people within research more positively (Fitzgerald et al., 2021). Participatory research aims to interrupt normative research beliefs and utilize practices that are mindful and meaningful for the communities research aims to represent (Peers, 2018) by involving research partners in determining the research goals, conducting data collection, analyzing data, and other actions (Baum et al., 2006). Research partners are most often untrained in conducting academic research, but rather have life experiences that can contribute to a better understanding of the needs researchers aim to represent within research (Vaughn & Jacquez, 2020). This research methodology may help prioritize the possibility for

real-world impact by involving and engaging disabled individuals within the research as active partners and not as subjects (Vaughn & Jacquez, 2020). Of necessity, partners must be provided resources that support their involvement, such as participation accommodations, compensation for their time, and other resources that would be provided to professional researchers (Bergold & Thomas, 2012). Participatory research requires researchers to question and change routines and relationship dynamics to rethink and reimagine possibilities that support collaboration and new insights (Bergold & Thomas, 2012). Ultimately, the aim is to amplify the voices and views of the research partners to be shared in ways that benefit their needs, wants, and preferences (Bergold & Thomas, 2012). Utilizing participatory research may help amplify the voices of disabled individuals, and allow them to contribute to curriculum and pedagogical development within PE, in order to be more attentive and proactive to their needs, and facilitate more meaningful experiences (Cook-Sather, 2002; Spencer-Cavaliere & Rintoul, 2012; Walseth et al., 2018). This can be critical to ensure understanding, respect, and meeting the needs of disabled students occurs (Peña et al., 2016).

Participatory Research in Adapted Physical Education

According to Spencer and Molnár (2022), very limited research has been conducted within adapted physical activity (APA), and more specifically adapted physical education (APE), that include disabled people other than as a participant. This is of concern due to the lack of reflection of ways in which disabled people have and continue to be marginalized both in society and through research (Spencer & Molnár, 2022). Professional researchers hold power to disseminate, publish, and articulate information in which they find meaning, often failing to inquire and work with the stakeholders they aim to represent to check if the information is of meaning or worse, oppressive, to such individuals (Peers, 2018). As such, this section will

highlight the single study, to the author's knowledge, that has positioned disabled individuals as knowledgeable and valuable within PE, through their inclusion as more than a participant.

Anderson et al. (2019) used a participatory framework to explore the elements of physical health through the lens of visually impaired youth. They recruited and trained 21 visually impaired youth in Australia to respond to research questions by taking photographs and supplementing them with sound environment recordings and/or reflections (Anderson et al., 2019). The researcher thematically analyzed the data and then held a focus group with 11 of the youth to discuss the findings for feedback and verification. Anderson et al. (2019) reported four subthemes that were found between the members of the group after group consensus. These subthemes included “bodily health and fitness; energy; relaxation, and physical activity” (Anderson et al., 2019, p. 3). As such participants within this study valued the capabilities of their physical body, noted effects of their subjective energy levels, enjoyed activities they found relaxation in, and saw the importance of regular physical activity (Anderson et al., 2019).

Participatory research can work within communities and groups of individuals to empower and change the narrative (Spencer & Molnár, 2022). The goal of utilizing this method, within this study, was to co-construct resources and recommendations that may be beneficial to improving the experience blind students in PE class and subsequently enhancing their relationship with physical activity into adulthood. To my knowledge, this type of research has not been done within the physical education or adapted physical education field.

Chapter Summary

Participating in physical activity can be beneficial for both youth and adults to limit the possibility of disease (Zhao et al., 2020), improve mental health symptoms and disorders (Zhu et al., 2019), and improve overall quality of life (Eddolls et al., 2018). To access these benefits,

youth should attempt to be moderately to vigorously active for 60 minutes per day, while adults should aim for 150 minutes per week (United States Department of Health and Human Services, 2018). However, many blind and visually impaired individuals are not meeting these guidelines (Hou et al., 2023; Ross et al., 2022) which may be due to societal or personal barriers (Greguol et al., 2015; Jaarsma et al., 2014; Kirk et al., 2021).

Physical education is legally required to be provided to all disabled students (IDEA, 2004) and should influence youth to participate in physical activity throughout their lives (Walseth et al., 2018). Despite the legal requirement and national guidelines (SHAPE America, n.d.), many blind and visually impaired youth report experiences in PE that do not accommodate for their needs (Bredahl, 2013), exclude them from participation (Haegele & Zhu, 2017), and do not elicit feelings of belonging, acceptance, or value (Haegele et al., 2022). These missed opportunities for blind and visually impaired youth to participate in and foster a positive relationship with physical activity may lead to lower physical activity levels in adulthood (Yessick & Haegele, 2019). Of note, pedagogical strategies for teaching blind and visually impaired youth have been created without the guidance from blind and visually impaired individuals (Maher & Haegele, 2022).

In an attempt to better reflect the needs and wants of blind youth in PE, participatory research can be employed to involve individuals as more than a participant (Spencer & Molnár, 2022). Participatory research aims to involve individuals throughout the research process and position them as valuable and knowledgeable, which may contribute to a better understanding of their needs (Vaughn & Jacquez, 2020). Within PE research, only one study has positioned disabled individuals as more than a participant to better understand the lived experiences of visually impaired youth in PE. Anderson et al. (2019) noted that visually impaired youth found

value in physical activity, fitness, relaxation, and energy. Moving forward it is critical to work with disabled individuals, using participatory frameworks, to better understand how PE experiences can be improved for disabled students.

CHAPTER III: RESEARCH METHODS

Participatory research, a qualitative research approach, was employed for the partners to co-construct resources and recommendations about improving PE from the perspective of blind individuals. Participatory research engages and collaborates with research partners to represent their interests and maximize the impact research can have (Vaughn & Jacquez, 2020). This method works to empower those who are typically marginalized and increase control over their lives by authentically looking into their lived experiences, thoughts, insights, and interpretations (Baum et al., 2006; Eckhoff, 2019). Participatory research is designed to represent the interests of those who the research aims to benefit by attempting to equitably engage said individuals in the research and decision-making processes, but who are not necessarily trained in research (Vaughn & Jacquez, 2020). Therefore, partners were involved in co-constructing a product, analyzing data, and other actions (Baum et al., 2006).

Under the assumptions of an interpretivist paradigm, participatory research constructs knowledge from the perspective of the partner, instead of collecting it from passive partners (Eckhoff, 2019). The research process challenged partners to think critically regarding their experiences, beliefs, feelings, emotions, wants, and needs to produce a final product that represents the opinions of the blind individuals involved in the study. Participatory research allows for the familiar routines, processes, and power structures of traditional qualitative research to take a backseat in order to rethink and question fundamental and established procedures (Bergold & Thomas, 2012). The partners moved beyond traditional power structures to propose environments, methodologies, and modifications that may be beneficial to students and teachers, disabled and non-disabled individuals, alike. However, this process was very demanding, required patience and time, and blended science and practice to help individuals

understand one another (Bergold & Thomas, 2012). This research project aimed to mitigate poor tokenistic participatory practices that have been noted in other fields through review and reflection of such outcomes (Smith et al., 2022).

Lastly, this research incorporated dialectical thinking, in an attempt to seek out the perspectives of the ways in which society, and namely PE, has marginalized disabled people (Freeman, 2017). It has been suggested to use dialectical thinking when working with partners throughout the research process, which lends itself to pair well with participatory research (Freeman, 2017). Dialectical thinking brings together different and opposing forces to form new ideas, however, is not without its challenges (Freeman, 2017). Capturing each individuals' transformative capacities is critical but researchers should be careful not to impose a particular outcome (Freeman, 2017). The balance of combining dialectical thinking and participatory research is delicate and was monitored closely throughout the research process.

Positionality & Reflexivity

As a researcher who identifies as non-disabled, I attempted to be reflexive in my practice to avoid positioning myself as virtuously ethical, and minimize the impact and perspective my own biases may have been portrayed (Goodwin & Howe, 2016). I am aware that my lived experiences and assumptions may be different than the partners and participants, and thus aimed to listen to the partners within this project to lead and guide the research from their experiences (Adamson et al., 2022). I identify as a cisgender White woman who has an interest in improving the PE experiences of blind and visually impaired youth. I have a master's degree in adapted physical activity and three years of professional teaching experience at a public school. Given the nature of my background and the proposal for this research project, I made every attempt to remain as a facilitator of the project and allowed the partners to guide the process. However, it is

critical to note that interaction took place between myself as the researcher, and partners; I attempted to remain reflexive about all interactions and noted them within the findings.

As posited by Fitzgerald et al. (2021) it is integral to this research process for the researcher to examine the questions ‘What does it mean to be ‘included’ in research? In what ways can ‘participation’ be considered? What does it mean to be ‘empowered’ within and through research?’ (p.424). I acknowledge the critical aspect of examining my own thoughts and ideas surrounding inclusion and attempted to maintain an understanding of the multifaceted nature it can entail, allowing the partners to define what being included in this process meant to them (Fitzgerald et al., 2021).

Preliminary Study

A preliminary study for this project included individual one-on-one interviews with each partner that used an interpretive phenomenological lens which inquired about their experiences within high school health and PE class(es), transition services, and their opinions on improving PE for blind students. Each partner had the option to opt in or out of this research study. The results from the preliminary study were used to help guide the discussions and decisions for providing the co-constructed resources and recommendations to teachers. Overall, the participants’ PE experiences were negative and did not foster enjoyment or desire to participate in physical activity. The participants felt as though they were seen as incapable, noting that they were not able to make decisions regarding their preferences. All of the participants expressed that general PE and transition services were inadequate and they were not permitted access to PE in the way that their non-disabled peers were. For most, that meant not being allowed to take the class and for one individual, who was enrolled in general PE, not being provided accommodations to be able to participate successfully and safely with their peers. However, one

participant found value within PE at a school for the blind, noting that their experience proved her capabilities and contributed to her participation in physical activity into adulthood. For the others, most of the value they now attribute to their physical activity participation was intrinsic, self-directed, or supported by others in their lives, such as an adapted PE teacher, friends, or family members. Additionally, most of the participants were not provided transition services that took into account their interests and preferences for community experiences or post school living objectives in relation to physical activity. However, and despite the negative experiences, many of the participants expressed finding enjoyment in participating in physical activity despite their negative PE experiences and nonexistent transition services related to physical activity.

Partners and Participants

This study included two groups of individuals who took part in the study: research partners and research participants. The subsections below describe each of these groups.

Partners

Research partners for the first study included those that were previously recruited for a preliminary study that inquired about their phenomenological experiences in high school PE and with transition services. Inclusionary criteria for study partners included adults between the ages of 18 and 22 who self-identified as blind (B1 – No light perception in either eye or some light perception with an inability to recognize the shape of a hand at any distance or in any direction) (United States Association of Blind Athletes, n.d.) and had no additional disabilities. The partners must have attended and graduated high school in the United States. They must also have had access to a computer to be able to join interviews, focus groups, and complete other methods of data collection via Zoom. At the time of the preliminary study, research partners were informed about this study and all expressed interest in also being part of this study. As this study

utilizes a participatory methodology, all study partners were required to further agree to participate throughout each phase of this project, while maintaining autonomy to withdraw at any point in time, for any reason. Study protocols were approved by the researcher's university.

Partners who agreed to participate in the first research study included four young adults: Andrew, a 19-year-old White man, Nina, a 22-year-old White woman, Marie, an 18-year-old Hispanic woman, and Julia, an 18-year-old White woman. Andrew and Nina attended public schools in the Northeast, Julia attended a private school in the Midwest, and Marie attended a public school, school for the blind, and a credit recovery school in the West. Andrew and Marie's blindness was acquired, while Julia and Nina's were congenital; all of these individuals reported having B1 vision currently and when enrolled in high school.

Focus Group Participants

Physical educators were required to act as participants for the second study because they are the target recipient and user of the co-constructed resources and recommendations. Focus group research participants were recruited using an email database list of PE teachers throughout the United States. Potential participants were sent an inquiry email that included the requirements (a) self-identify as a high school PE teacher in the U.S. (b) are between the ages of 18-89, incentive information, and a Google link that included the consent form to opt into the study. Within the second study, focus group participants included nine high school PE teachers from Alabama, Illinois, Massachusetts, New Jersey, Pennsylvania, and Virginia. They ranged from 26 to 58 years old and had from two to 30 years of teaching experience. There were four women, four men, and one non-binary individual who all identified as White.

Data Collection and Fieldwork Strategies

This dissertation study was part of a multi-stage project. The research group aimed to complete each stage within a specific timeframe, as the partners were able to commit to meetings, while keeping in mind that the needs, lives, and preferences of the partners was the priority. Stage one was composed of four meetings and had two aims. The first aim was to understand the needs of the partners to successfully engage in the project, and the second was to learn about the partners experiences and opinions for improving PE for future generations (Vaughn & Jacquez, 2020). Stage two involved constructing resources and recommendations to provide to PE teachers to help improve PE for blind youth. All meeting sessions were conducted via Zoom for convenience purposes, as the participants were located in various locations around the U.S. Within each of these stages, according to the Institute of Development Studies (n.d.), the facilitator was careful to avoid facipulation. Facipulation can happen when a facilitator manipulates the conversation in ways that force a set agenda or they may steer conversations in a particular direction because of preconceived opinions or feelings (Institute of Development Studies, n.d.). As such, the facilitator aimed to let the research partners guide meetings and times as they saw fit.

Within this project, a product was developed to provide resources and recommendations to disseminate to PE teachers. Throughout stage one and stage two the facilitator and partners discussed, shared, and examined how PE can be improved for blind students through various resources and recommendations. Both pedagogical strategies and curriculum content were discussed and incorporated into the final product. Pedagogical strategies encompassed how the partners wish they had been taught in PE to be more physically active into adulthood, which includes the knowledge of how to do physical activity in various spaces. Curriculum content

suggestions were also created regarding what concepts the partners found beneficial or wish they had learned to aid in their physical activity participation as adults. For instance, this included program design and nutrition information. Additional information was also provided, such as resources for purchasing equipment, and is detailed below.

Stage One

The purpose of stage one was to understand and learn about the needs of the partners to engage in the project, and secondly to learn about their experiences and opinions for improving PE for future blind students (Vaughn & Jacquez, 2020). Aligning with Vaughn and Jacques (2020), this study first employed partners to identify their goals of the research process, their needs within and for the project, and then the needs of the research in order to achieve the desired result of the project. It was fundamental to this research that roles and expectations were established first, in order to set a precedence that all voices should be respectfully listened to (Smith et al., 2022). After identifying roles and expectations, the following prompt was initiated:

this research is designed to learn about your PE experiences and how your experiences and opinions can help improve PE for future generations. Why don't we have each person share with the group a little bit about yourself and a quick synopsis of the experiences you had in high school PE that you recounted in the preliminary study.

Dialogue between partners can be helpful for understanding different viewpoints and for partners to get to know each other (Smith et al., 2022). Partners were then invited to share any thoughts or concerns regarding the project, and partners were asked to self-reflect about the meeting and contemplate how they would like to proceed with the project to create suggestions for PE teachers to teach blind students in ways that may be more beneficial and result in more positive experiences.

The second group meeting was semi-structured and used discussion prompts to initiate conversation within the group and attempt to minimize interaction with the facilitator. Some examples of discussion prompts for the session included:

1. After listening to each person's recount of their experience, reviewing the findings from part one, and reflecting on the first meeting, has anyone identified common themes or patterns among the group that you would be willing to share?
2. Within these themes or patterns does anyone have any immediate recommendations they feel might be beneficial for PE teachers to improve PE for blind students today?
3. What skills or content knowledge do you wish you had learned that may have aided in your physical activity participation from youth to adulthood?

After the group meeting, partners were asked to self-reflect about the discussion and contemplate how they would like to proceed with the project. The facilitator encouraged partners to be reflexive throughout the project regarding the cohesiveness of the group, how they responded to differing views, power, assumptions, and experiences that influenced the research (Smith et al., 2022). The facilitator provided space for the partners to request individual meetings with the facilitator, if the partner wanted to ask additional questions based on information the individual shared, or wanted to share any thoughts or concerns they were not comfortable sharing with the whole group. One partner requested an individual meeting. The researcher also inquired about additional thoughts, feelings, concerns, or other comments that occurred during the group meetings.

The group Then reconvened to discuss the synthesis of information gathered from the group and individual interviews by the facilitator and developed themes based on the data. The

researcher explained how themes were constructed using questions developed by Boeije (2002) such as:

Which codes are used to label the categories in this particular interview? What is the core message of this interview? How are all the fragments related? What are the similarities and differences between interviews? Which themes appear in one group but not in the other group and vice versa? (pp. 397-398)

The researcher presented all of the information to the group to receive feedback regarding the next steps and about the accuracy of the interpretation of the themes. The group then used the themes, concepts, and notable findings from the group and individual interviews to decide on the next step of the process. The facilitator also explained and educated partners about additional method options for conducting and continuing with the participatory research: focus groups, interviews, personal logs, or questionnaires (MacDonald, 2012). As seen in the participatory research by Anderson et al. (2019) partners could choose to enter and exit the process throughout the study at their discretion. Redefining roles was discussed, such as who would facilitate the remaining meetings, however, the group decided that the researcher would remain the facilitator as to not have the partners responsible for additional work outside of the meeting times (Pain et al., 2011).

Stage Two

Based on the group's decision(s) in stage one, the research continued moving forward with constructing recommendations and resources to provide to PE teachers to improve PE for blind youth. This was the purpose and focus of stage two. Improvement was subjective based on the research partners perspectives with the aim to increase enjoyment in PE and physical activity participation in blind youth and into adulthood. Partners decided how and what was created to

disseminate to PE teachers that provided resources and recommendations for teaching blind students. Involvement from the partners was as detailed or minimal as they saw fit. The research partners, in conjunction with the facilitator, determined that the product would be a website that was accessible for teachers, students, and parents to be able to access, that included website links, written suggestions, and more. The co-constructed content included a *Dear Teacher* section that detailed how teachers can be mindful of their attitudes, behaviors, and beliefs, teaching strategies, and curriculum that would be most beneficial for blind students. The second section created was a *Resource* section that detailed some accessible fitness opportunities, such as YouTube channels, organizations, and apps, information about adaptive techniques, equipment, and funding, and lastly information regarding advocacy.

Data Analysis

The data analysis for manuscript one entailed [Author 1] transcribing and reflecting upon the conversations that occurred. Throughout the research process [Author 1] used a constant-comparative technique in order to consistently compare and reflect on the data presented (Boeije, 2002). Doing so allowed for the possibility of answering questions that had been previously posed and aided in the discovery of relationships between categories (Boeije, 2002). Additionally, this technique required the group to keep track of all ideas, which increased the probability of creating a product that is clear, close to the data, and could be well integrated and operationalized for use by PE teachers (Glaser, 1965). Within the constant-comparative analysis, [Author 1] constructed three themes that highlighted both the opinions and desires of the research partners, as well as the content of the resources and recommendations: *Awareness*, *Accessibility*, and *Generalizability that Fosters Individuality*. The first theme, *Awareness*, described instances where the partners reflected about a need to be more aware of resources as a

high school student, wanting to promote awareness of resources for future blind students and their teachers, and wanting to construct recommendations that brought about awareness to PE teachers of perspectives of being a blind student in PE class. The second theme, *Accessibility*, described the importance of the constructed online resource being useable and beneficial for both teachers and students, as well as the importance of accessibility for blind students to access and share materials. Lastly, *Generalizability that fosters Individuality* described the need to create resources and recommendations that could be used by a wide variety of individual preferences.

For manuscript two, each of the interviews were recorded and then transcribed by [Author 1]. Reflexive thematic analysis was then used to analyze the data, based on recommendations by Braun and Clarke (2022). [Author 1] acted as a lead analyst. She began the analysis by listening to, reading, and rereading each of the interviews, familiarizing herself with the data, and critically engaging with the information presented to her by each of the participants (Braun & Clarke, 2022). Next, she coded the data set using both semantic and latent codes which led to the generation of initial themes (Braun & Clarke, 2022). At this stage, [Author 1] shared initial themes with [Author X], who provided probing and exploratory questions to help stimulate [Author 1]'s thinking regarding the thematic development. Following, [Author 1] revisited the data to review the potential themes, the relationship between the potential themes, and how they are situated within the context of the research project (Braun & Clarke, 2022). As reflexive thematic analysis is not a linear process, there were several times [Author 1] returned to the dataset to review the themes, and discussed potential themes with [Author X], as she moved forward refining, defining, and naming the themes, and writing up the analysis (Braun & Clarke, 2022). Lastly, final themes were identified and described by [Author 1], drafted using exemplary quotes from participants, and presented as findings.

CHAPTER IV: STUDY MANUSCRIPTS

Manuscript 1:

Lessons Learned using Participatory Research to Develop Physical Education Resources and Recommendations for Blind Students

(Formatted for Submission to Journal of Participatory Research Methods – 8,000 words)

Abstract

Using a participatory research methodology, the purpose of this manuscript was to describe the experiences of co-constructing resources and recommendations for PE teachers, with blind individuals as research partners, aimed to enhance PE for blind students. Four blind young adults served as research partners within the project. The project meetings consisted of 15 meetings over 19 weeks and two stages, and took place entirely on Zoom. Stage one consisted of four meetings and focused on exploring the needs of the partners and their experiences and opinions for improving PE for future blind students. Stage two consisted of 11 meetings and focused on constructing resources and recommendations to provide to PE teachers. A constant-comparative technique was used throughout to analyze all meeting transcriptions to help compare, keep track of, and reflect on all ideas. Four themes were constructed based on the analysis: *Awareness*, *Accessibility*, and *Generalizability that fosters Individuality*. We conclude this manuscript by disclosing the challenges, successes, and messiness of this project. Moving forward, we encourage researchers to continue to conduct research that involves disabled individuals as knowers, and in mindful and meaningful ways, to respect their needs.

Keywords: Participatory Research, Blind Students, Physical Education, Adapted Physical Education, Critical Disability Studies

Background

Physical activity has been shown to have numerous physiological, psychological, social, and cognitive benefits. For example, studies have identified that individuals who engage in recommended amounts of physical activity may decrease their risk for cancer, type two diabetes, cardiovascular disease (Zhao et al., 2020), osteoporosis (Ferrer et al., 2022), and obesity (Ahmadi et al., 2023), while also reducing the likelihood of mental health disorders such as anxiety (Xiaoliang & Huaping, 2022; Zhu et al., 2019), depression (D'Angelantonio et al., 2022; Zhu et al., 2019), and schizophrenia (García-Garcés et al., 2021). To access these positive benefits, the United States Department of Health and Human Services (2018) recommends for youth to be physically active for 60 minutes per day. Despite these benefits, research shows that a high percentage of blind and visually impaired youth are not meeting physical activity guidelines (Hou et al., 2023), and therefore may not enjoy these health-enhancing benefits. A host of barriers have been identified by blind and visually impaired youth that may influence their ability to engage in recommended amounts of physical activity, including a lack of transportation, accessibility, dependence on and support from others, and a variety of personal barriers (Greguol et al., 2015; Gür et al., 2020).

Physical education (PE) is a class youth participate in throughout their K-12 education that is intended to provide instruction and experiences that promote physical literacy and lifetime physical activity participation (Spencer-Cavaliere & Rintoul, 2012; Walseth et al., 2018). As such, PE is a context that may help promote movement for youth during the school day, and provide education for individuals to understand the importance of and skills to lead a physically active lives outside of the school context (Centers for Disease Control and Prevention, 2022; Colabianchi et al., 2016). However, and unfortunately, an overwhelming amount of research has

shown that blind and visually impaired students tend to not be able to access PE in equitable ways compared to their non-disabled peers (Haegele, Hodge, et al., 2020; Miyauchi, 2020). That is, blind and visually impaired youth have reported a lack of adaptations (Bredahl, 2013), instances of bullying (Ball et al., 2022), feelings of exclusion (Haegele & Zhu, 2017), and feeling like a burden (Holland et al., 2020) with respect to their PE experiences. These elements have resulted in blind and visually impaired youth feeling like they don't belong, are not accepted, and are not valued within integrated PE classes (Haegele et al., 2022; Haegele, Hodge, et al., 2020). It has also been noted that limited instruction, different expectations, and a lack of autonomy may contribute to negative feelings toward and perceptions of PE (Holland et al., 2020). Negative experiences within PE, like these, may lead to an apprehension for blind and visually impaired youth to participate in physical activity outside of schools and into adulthood (Miyauchi, 2020; Yessick & Haegele, 2019). Finding ways to enhance the PE experience for blind and visually impaired youth may help create more enjoyable PE experiences, which may help contribute to their understanding of themselves as being capable of being physically active individuals.

Currently, there are a number of limitations with current strategies suggested to help enhance PE for blind and visually impaired youth. For example, most strategies to teach blind and visually impaired youth have been constructed from the perspective of non-disabled individuals (Eales & Goodwin, 2022) and lack input from blind and visually impaired individuals themselves (Keene et al., 2023; Maher & Haegele, 2022). Further, most research within adapted physical activity and adapted PE has been dominated by scholarship that fails to take into account the perspectives of the individuals researchers aim to represent (Spencer & Molnár, 2022). Thus, little is known about blind and visually impaired individuals' perspectives

and opinions on strategies that may promote positive PE experiences (Keene et al., 2023; Peers, 2018). Finally, most explicated instructional strategies make blanket recommendations for all visually impaired individuals, and therefore there is a lack of specific recommendations for blind (B1) individuals within PE (Ruin et al., 2021).

While still an emerging research method in adapted PE research, participatory research may help support disabled people within research more positively and provide a better understanding of the issues surrounding disabled individuals needs and interests (Fitzgerald et al., 2021). Participatory research aims to interrupt normative research beliefs and utilize practices that are mindful and meaningful for the community's research aims to represent (Peers, 2018) by involving research partners in determining the research goals, conducting data collection, analyzing data, and other actions (Baum et al., 2006). This involves working with individuals as active research partners within the research process and aims to provide agency through collaboration (Vaughn & Jacquez, 2020). Research partners are most often untrained in conducting academic research, but rather have life experiences that can contribute to a better understanding of the needs researchers aim to represent within research (Vaughn & Jacquez, 2020). As such, individuals who are part of this research project are referred to as *partners* as opposed to *participants*, posited by Smith et al (2022), as this is a better reflection of their role within the research. This research methodology may help prioritize the possibility for real-world impact by involving and engaging disabled individuals within the research as active partners and not as subjects (Vaughn & Jacquez, 2020). Ultimately, the aim was to amplify the voices and views of the research partners to be shared in ways that benefit their needs, wants, and preferences (Bergold & Thomas, 2012).

In this study, we employed participatory research to help amplify the voices of blind individuals, and involve them in contributing to resources and recommendations provided to PE teachers, in order to be more attentive and proactive to their needs, and facilitate more meaningful experiences (Cook-Sather, 2002; Spencer-Cavaliere & Rintoul, 2012; Walseth et al., 2018). We found this to be critical to helping better understand, respect, and meet the needs of disabled students in PE classes (Peña et al., 2016). With that, the purpose of this manuscript was to describe the experiences of co-constructing resources and recommendations for PE Teachers, with blind individuals as research partners, aimed to enhance PE for blind students.

Methods

This study was rooted in a participatory research approach, a qualitative research approach that supports the participation of research partners to co-construct resources and recommendations to help enhance PE for blind students. Research partners were involved in conducting data collection, analyzing data, and constructing a product to disseminate to PE teachers and other invested parties (Baum et al., 2006). Under the assumption of an interpretivist paradigm, this participatory research project aimed to construct knowledge from the perspective of the partners, instead of collecting it from passive participants (Eckhoff, 2019). The partners moved beyond traditional research power structures to make decisions within the research process, propose recommendations, resources, and ideas that may be beneficial to students and teachers, disabled and non-disabled, alike. This process was demanding, required patience and time, and blended science and practice to help individuals understand one another (Bergold & Thomas, 2012).

Positionality & Reflexivity

As a researcher who identifies as non-disabled, [Author 1] aimed to be reflexive in their practice to avoid positioning themselves as virtuously ethical, and minimize the impact and perspective their own biases may have portrayed (Goodwin & Howe, 2016). [Author 1] was aware that their lived experiences and assumptions may be different than the partners, and thus aimed to listen to the partners within this project to facilitate the research from their experiences and opinions (Adamson et al., 2022). [Author 1] identifies as a cisgender White woman who has an interest in improving the PE experiences of blind and visually impaired youth. They have a master's degree in adapted physical activity and three years of experience teaching at a public school. Given the nature of their background and the proposal for this research project, [Author 1] made every attempt to remain as a facilitator of the project and allow the partners to guide the process.

Partners

Blind individuals can provide unique, valuable perspectives on the world. As such, the willingness of the research partners to contribute to this project was invaluable as the research could not have been completed without their knowledge, perspective, time, and efforts (Wendell, 2001). Research partners for this study were recruited via email using prior contacts, blindness and low vision databases, and various adapted sports organizations throughout the US. The email invitations detailed the purpose of the study, incentive structure (i.e., participants received a \$25 gift card at the completion of each meeting), and data collection procedures. Requirements for this study included partners to have (a) self-identified as blind (B1 – i.e., no light perception in either eye or some light perception with an inability to recognize the shape of a hand at any distance or in any direction) (United States Association of Blind Athletes, n.d.), (b) no additional

disabilities, (c) attended and graduated from high school in the US, and (d) been between the ages of 18-22 at the time of recruitment. Partners must also have had access to a computer to be able to join interviews via Zoom and to complete any digitized information. As this study utilized a participatory methodology, partners agreed to participate throughout each stage of this project while maintaining autonomy to withdraw at any point in time, for any reason. An accessible google form was used for partners to consent to participate in the study electronically. Participants also completed demographic information on this form, by reporting their age, gender, race/ethnicity, if their blindness was congenital or acquired, and what their vision level was while in high school and is currently. The questionnaire also asked potential partners to answer the following open-ended questions: ‘What year did you graduate from high school?’, ‘In which state did you attend high school?’, ‘Please describe your high school (approximately how many students, rural/suburban/urban, zoned school, vocational school, etc.)’, and ‘Can you please describe your high school physical education placement?’ Partners who participated in the entire project were given the option to disclose their names, providing autonomy to acknowledge their role within the project, or be presented through a pseudonym. Andrew, Julia, and Nina each elected to disclose their actual names in the manuscript, whereas Marie is represented through a pseudonym. The protocol was approved by the College Human Subjects Committee at the researcher’s university.

Andrew

Andrew identifies as a 19-year-old White man, whose blindness (B1) was acquired prior to high school. He graduated from a public New York high school in 2021 and described his high school as being ‘very small’. According to Andrew, the entire school, kindergarten through 12th

grade, included approximately 500 kids; his graduating class was composed of approximately 35 students. In high school, he was in an integrated general education PE class.

Julia

Julia identifies as an 18-year-old White woman whose blindness (B1) was congenital. She attended a private high school with about 800 students, in the middle of a mid-sized city in Michigan. Julia graduated from high school in 2022 and was exempt from PE requirements during high school. Julia participated in PE throughout elementary and middle school.

Nina

Nina identifies as a 22-year-old White woman whose blindness (B1) was congenital. She attended a suburban high school in New York with approximately 1200 students. She graduated from high school in 2018 and was in an adapted PE class.

Marie

Marie identifies as an 18-year-old Hispanic woman whose blindness (B1) was acquired. Marie went to three different high schools in the western US. The first one was a public school with over 2000 students. Following, she attended a school for the blind, and lastly graduated from a credit recovery school that had a class of about 150 students. Marie participated in stage one of the project and is a pseudonym for confidentiality purposes.

Procedure

This project took place entirely on Zoom, as it was convenient with all partners being located in different geographic regions. Meetings were scheduled based on the availability of each of the research group members. All meetings began with a statement that reiterated the researcher's appreciation for the partners commitment to the project, reminded partners to

respect the privacy of others in the group, and their autonomy to withdraw or refrain from participating in any aspects of the project they did not wish to be part of.

This study was composed of two stages of meetings. Stage one was composed of four meetings and had two aims. The first aim was to understand the needs of the partners to successfully engage in the project, and the second was to learn about the partners experiences and opinions for improving PE for future generations (Vaughn & Jacquez, 2020). Stage two involved constructing resources and recommendations to provide to PE teachers to help enhance PE for blind youth. Within each of these stages, and according to the Institute of Development Studies (n.d.), the facilitator was careful to avoid facipulation. Facipulation can happen when a facilitator manipulates the conversation in ways that force a set agenda or steers conversations in a particular direction because of preconceived opinions or feelings (Institute of Development Studies, n.d.). As such, the facilitator aimed to let the research partners guide meetings and times as they saw fit.

Meetings began in October of 2023 and concluded in February of 2024. When the project began, the research group planned to meet each week. However, due to scheduling conflicts and other responsibilities, the weekly schedule was deemed to be unreasonable to maintain, and therefore, some weeks were skipped to reflect the availability of all participating individuals. Meetings ranged in time from 39 minutes to 78 minutes, and most often concluded when partners had other obligations to attend to or expressed fatigue.

Data Analysis

After each meeting, [Author 1] transcribed and reflected upon the conversations that occurred. Throughout the research process [Author 1] used a constant-comparative technique in order to consistently compare and reflect on the data presented (Boeije, 2002). Doing so allowed

for the possibility of answering questions that had been previously posed and aided in the discovery of relationships between categories (Boeije, 2002). Additionally, this technique required the group to keep track of all ideas, which increased the probability of creating a product that is clear, close to the data, and could be well integrated and operationalized for use by PE teachers (Glaser, 1965). Within the constant-comparative analysis, [Author 1] constructed three themes that highlighted both the opinions and desires of the research partners, as well as the content of the resources and recommendations: *Awareness*, *Accessibility*, and *Generalizability that Fosters Individuality*. The first theme, *Awareness*, described instances where the partners reflected about a desire to be more aware of resources as a high school student, wanting to promote awareness of resources for future blind students and their teachers, and wanting to construct recommendations that brought about awareness to PE teachers of perspectives of being a blind student in PE class. The second theme, *Accessibility*, described the importance of the constructed online resource being useable and beneficial for both teachers and students, as well as the importance of accessibility for blind students to access and share materials. Lastly, *Generalizability that fosters Individuality* described the need to create resources and recommendations that could be used by a wide variety of individual preferences. These themes are embedded and exemplified throughout the subsequent meetings section and discussed further in the reflection section.

Meetings

In an attempt to discuss the variable, confusing, and unclear situations that arose when undertaking this research project and method, we elaborate on such situations to provide clarity to future researchers as suggested by Fitzgerald et al. (2021). This includes direct quotes from research partners that highlight how and why some decisions were made throughout the process,

in an attempt to minimize participants feeling misrepresented, alienated, or betrayed (Peers et al., 2014). Stage one is presented below in a chronological order which reflects the various tasks completed in each of the meetings. Due to the messy nature of stage two, which is not uncommon to participatory research (Fitzgerald et al., 2021), this stage is described in a task-based manner.

Stage One

The first meeting began with [Author 1] providing space for the partners to introduce themselves and share about their personal experiences. [Author 1] read the following prompt:

This research is designed to learn about your PE experiences and how your experiences and opinions can help improve PE for future generations. Why don't we have each person share with the group a little bit about yourself and a quick synopsis of the experiences you had in high school PE that you recounted in the first interview with me.

After each partner shared their experiences, [Author 1] shared their findings from a recent study exploring high school PE experiences among blind people (citation anonymized), which included three categories of information: meaningful recollections, what teachers could have done better, and what they wish they had learned. [Author 1] then asked about their thoughts after listening to each person and the findings from the prior study. The second half of the meeting provided space for the group to discuss roles, needs and concerns, schedule the next meeting, and encouraged partners to reflect on the meeting after it concluded. Partners determined that they wanted the resource to be a framework for teachers, not a prescription, and it was important for this resource to be made easily available and accessible to both teachers and students, centering blind individual's voices, highlighting *accessibility* and a tool that could be *generalizable but foster individuality*. At the end of the meeting, and throughout subsequent meetings, [Author 1] let the

partners know that they could contact her via email or phone if they wanted to discuss anything privately or wanted additional support.

Meeting two revisited key points from the partners' prior experiences, and then inquired about their thoughts or recommendations that might be beneficial to provide to PE teachers, skills or knowledge they wished they had learned to promote physical activity as they transitioned into adulthood, ideas for the construction of a product, and their thoughts about the next steps. The research partners were vocal that "it'd be really cool to do something online for the simple fact that then anybody could access it, and that is a really powerful tool" (Nina), noting the importance of *accessibility*. Julia furthered that statement, acknowledging Nina's thoughts:

I think having something that students can also find, might be really useful. And not all of the sections will be relevant to students, but having a space where students can have access to a compilation of this is what I could advocate for, if I so desire.

Julia furthered the conversation of creating an accessible product that included resources that would promote *awareness* and *individuality*. After collectively agreeing to create a product that would be housed online, it had been noted that "maybe, since we have a few sessions and stuff together, I think maybe dividing them [key points] up into topics and kind of trying to tackle one topic at a time might be really helpful" (Nina), who furthermore expressed:

I think talking about resources might be a good place to start because we all have different knowledge of them. I think that that could inform future discussions on techniques and different things available.

From this point, the group decided to discuss resources they knew about or had previously used and found helpful. Discussion took shape about organizations, adaptive

equipment, self-advocacy, funding, and adaptations. At times [Author 1] interjected to pose questions, such as “would you want to be part of that game with all of the other students who are sighted?”, or “have you read through that?” in reference to a book recommendation, as the group moved through voicing their opinions and experiences regarding different resources.

After analyzing the data from meeting one and two, [Author 1] concluded that it was necessary to ask more in-depth questions to each of the partners to gain more clarification and insight regarding their individual opinions. Therefore, [Author 1] structured the next meeting to inquire about the partners opinions on what they enjoyed within their PE experiences, their opinions regarding how PE could have been a more positive experience, any beneficial resources that were accessed while they were a high school student, and how they thought we could account for individual preferences within the group. Unique to other meetings, this meeting was heavily led by [Author 1], while partners answered questions regarding their opinions and experiences. This helped facilitate partner reflections on a broader range of topics and provided space for each partner to listen to the experiences and opinions of the other partners with specific regard to this line of questions and thinking. Prior to meeting four, Marie asked to further discuss the project in an individual meeting with [Author 1], inquiring about the pace of the project, her role, and her opinions on the discussion points up to this point in the project. After the conclusion of the aforementioned meetings, [Author 1] analyzed the data from the first three meetings, and discussed it with the group during the fourth meeting.

At the beginning of meeting four, the final meeting of stage one, [Author 1] asked reflective questions about the partners' needs and opinion of the project up to this point. Some of the questions posed included: Do you need any support within this project that you have not received? Do we want to redefine any of the roles? Do you have any other thoughts or concerns? Overall, there were no concerns, and the partners wanted to proceed with the way things were currently structured. [Author 1] continued the meeting by explaining to the partners how she read, reread, coded, and developed themes from the data that was previously collected using a constant comparative method (Boeije, 2002). The initial topics [Author 1] identified as important for the construction of the content centered on accessible fitness opportunities, adaptive equipment, communication, PE relevance, and teacher qualities. Each of these topics are well aligned with the themes, for example, the partners wanted teachers and students to be *aware* of accessible fitness opportunities, what adaptive equipment could be used or purchased, how teachers could communicate with students, what PE elements would be most beneficial for blind students, and what teacher qualities they valued. The group then discussed the topics and organized them into two overarching sections, with three subsections each. At this stage, the two sections and three subsections represented manageable categories that became the outline for the content. After this final meeting of Stage One, Marie decided to discontinue her participation citing personal reasons.

Throughout Stage One various research intricacies were discussed, such as authorship, anonymity, how and what type of website to use to disseminate the product, how do we avoid 'inspiration porn' (Young, 2012), website disclaimer decisions, and ethics, in which the group came to autonomous, and when necessary, unanimous decisions. Within this stage, it was noted

that the partners wanted to ensure that the product highlighted that it was not representative of the needs or opinions of all blind people, emphasizing the need for the recommendations and resources to support *individuality*. The research partners spoke up and created a space themselves that was mindful of pronouns and other disabilities, as well as had an *awareness* of those within the group who had not spoken up and provided a space for them to share, voicing that their opinions and experiences mattered too.

Stage Two

Stage two was composed of 11 meetings. When needed, adjustments to meeting days or times were considered when individuals requested to make last minute changes. On two separate occasions, research partners worked independently to provide feedback on the co-constructed resources and recommendations, and then reviewed each other's feedback as a group during the next meeting. Stage two started with [Author 1] initiating a discussion focused on what information the group thought was appropriate to put within each section and subsection of the content (stage two, meeting one). The group decided that the content should be a tool for teachers to use that promotes critical thinking and teacher-student collaboration versus a prescription, as *individual preferences* for accommodations, modifications, and feeling included may be different. When discussing this information, a pivotal conversation occurred during the first meeting of stage two, which resulted in the creation of a worksheet intend to facilitate teacher-student collaboration. The conversation went as follows, when discussing accommodations, modifications, and feeling included:

Julia: I would want to go about it activity by activity to consider with the teacher what I might like to do, either instead, or to make it more accessible. I would want to bring some ideas, but I also would hope that a teacher would bring in ideas, too, because I know

about my experience of being blind, but I wouldn't necessarily know about the objectives of all of the activities or the ins and outs of activities. And then, I think, with any accommodations, it's so important to think about what the learning outcomes that you are expecting from the sighted students, because if you're trying to make an adaptive situation, you need to make sure that those learning outcomes are constant, ideally you have basically the same activity. But if that's not possible, how do you still get the same learning outcomes?

Within this conversation, Nina noted the importance of *awareness*, *accessibility*, and *fostering individuality*, touching upon each of the identified themes described in our analysis. This conversation continued with Nina highlighting the importance of creating equitable experiences for blind students in PE, acknowledging that safety also needed to be taken into account. However, it was not only the needs of blind students that were taken into consideration, but also the goal of providing teachers with a resource that would be beneficial to them long-term. Nina commented:

I think outlining more of the thinking process that someone can creatively come up with some ideas on their own, as opposed to going sport by sport by sport. I think that can help them adapt their own stuff, and where to look for equipment and stuff. Versus oh, for the sport do this, for this sport do that, cause that's out there.

Julia continued the conversation, highlighting that providing an equitable experience in PE is not solely reliant on providing accommodations. She stated:

One more thing to add is the social component when you're considering these accommodations or adaptations, right? So, it's the learning outcomes, make sure those are the same, and then trying to minimize the social cost whether that be a student feels

uncomfortable working with a partner, because they don't have someone athletically equal to them, or whether that be, the student not wanting to miss out on the activity.

There is a real social benefit to participating, or find[ing] an alternative, partly because of the social anxiety one can feel around PE as a blind person. I think that's also an important part of the equation.

Within the conversation, the need for autonomy was recognized, while also acknowledging the secondary, and sometimes more important, benefits to student's feeling included in PE. Andrew additionally noted:

I think it also depends on the person itself, because what might work for a fully blind person might not work for someone who has a little bit more vision.

Based on the preceding conversation, it became apparent that it was important to highlight the variance in accommodation needs within PE, not only due to differences between student personalities and preferences, but also vision level, stressing the need for *individuality*. This has not always been taken into consideration when providing adaptation recommendations for blind and visually impaired students within PE (Ruin et al., 2021). Nina additionally reinforced the desire to create a product that would provide teachers with a tool that would encourage autonomous decision making for both teachers and students. She stated:

I think that us illustrating the process is really important, because that teaches teachers and students how to think critically about the activity in a new way, and how to think through it and come up with alternatives on their own, because, maybe there's a specific school thing that they do. I think it's really important to show people how to figure that out on their own by giving them examples and resources, but also by outlining sort of

step by step, of things to think about and ways to approach it, I think that's really important cause that is not out there as much, as you know.

Nina reiterated that there were many resources already created that describe ways to adapt sports and activities, whereas the thought process to providing adaptations and modifications should be individualized. As this conversation continued, Nina suggested that we should create a worksheet to help teachers initiate a conversation with students, as her experiences indicated that a lot of PE teachers don't know how to talk about successfully integrating blind students into PE. This conversation reinforced the many perspectives the group took into account throughout the project. For each member of the group, the importance of producing recommendations that recognized the need to consider both the teacher and the student, as well as the *individuality* of each student, informed a desire not to provide a set prescription that may only be relevant or helpful to a select few. The group collectively agreed and proceeded with constructing the key elements of the worksheet which would later be named "Collaborative Planning Tool for PE Accommodations." [Author 1] took detailed notes throughout the duration of that meeting, and then constructed the worksheet based upon the discussion. Partners independently reviewed the worksheet and provided their opinions for alterations after the meeting and over the course of the following week. Julia and [Author 1] met separately on this particular week, prior to the rest of the group, due to a scheduling conflict. They discussed the feedback provided by each of the partners. When the rest of the group reconvened (stage two, meeting two), [Author 1], Nina, and Andrew discussed each of the partner's feedback, including content of the discussions [Author 1] and Julia had, as well as the wording of various elements. When the entire group met again during meeting three, they came to an agreement on the content of two major sections, a *Teacher*

Section and a *Collaboration Section*. They also wrote instructions and provided a place for the teacher and student to denote a chosen activity and a follow-up meeting time.

Throughout stage two there were times where suggestions were mentioned, and partners freely expressed their agreement or disagreement with suggestions. For example, when discussing how students would follow up with the teacher regarding the accommodations, the research group had varying opinions. Nina voiced:

I agree. But I also, disagree. I agree in the sense that we don't want to alienate blind students, and I think this should be instituted for all students. But I disagree in terms of, I think it might be a good idea even if we don't make a formal [follow-up] worksheet or survey, but we give suggestions. Because we don't want the collaborative worksheet tool to be completed in a vacuum, right?

Comments like these opened discussion points, which allowed for the research group to share varying opinions. Some partners reflected on their personal experiences, while others described and questioned hypothetical scenarios where they contemplated their desires for collaboration and a safe and supportive PE environment. At times, [Author 1] would also provide their opinions from their experiences as a PE teacher. Through these conversations the group was able to come to agreements with how they wanted to construct the worksheet and proceed with the project. Overall, it took three meetings, and one independent working session, to construct a product that each member of the research group was satisfied with disseminating.

After the construction of the worksheet, the group decided to work through the *Resource* section (stage two, meetings 4-7) and then the *Dear Teacher* section (meetings 7, 9-11) of the content. As the group worked through the *Resource* section, it was reinforced that they didn't want to 'reinvent the wheel' in terms of creating new resources, but rather, identified resources

they wanted to recommend, including those that had been constructed well by others or have been created or endorsed by blind individuals. Highlighting individual preference, when discussing some of the resources, not all members liked or used each of the suggested resources but noted that was due to their personal physical activity/exercise preferences and wanted to include a variety of resources that would appeal to a variety of individual preferences. For example, Nina stated that she “love(d) like mainstream things, like apple fitness, where [she] can share it with [her] sighted friends, and both get something out of it,” whereas Julia expressed that she “use(s) so few fitness apps” and “likes to use [her] brain as [her] fitness app”, to which Andrew agreed. Similarly, Andrew and Julia both expressed loving to run with a tether, and opposingly, Nina would “personally, absolutely hate that.” Overall, it was important to the group to bring about *awareness* of a variety of resources that were *accessible* and provided individuals with choices based on their individual needs and desires.

Similar to the construction of the worksheet, the content of the Website sections was discussed, [Author 1] took detailed notes, and after meetings concluded she transcribed and organized the information into the Website document. Research partners then reviewed the document to ensure it aligned with the discussions, and that they agreed with the information that was included. Occasionally, partners identified changes that were needed, such as adding how certain apps could be made *accessible* and providing explanations for certain information, navigating how some information overlapped with multiple sections, and how we should best organize the data for consumers to access. The group also decided when they wanted to take on tasks independently, for example, Julia independently wrote a statement about advocacy, and Julia and Andrew wrote about their opinions under the *Teacher attitudes, behaviors, beliefs*, and *Teaching strategies* sections. Upon completion of those independent pieces, the group reviewed,

edited, and agreed upon the wording and details for each section. Attention to detail was pivotal among the group, oftentimes scrutinizing the structure, wording, and placement of each element to help ensure that critical details were not overlooked.

Throughout the discussions of which resources to include, missions of the organizations that were being included was highlighted and debated. For instance, the group did not want to include organizations they found via Google search but did not have any personal experience with, as they thought that they might not be a safe and beneficial resource for blind individuals. Supporting this, Julia noted that ‘if people want to find it, they can find it by Googling that. If I found it on the internet, anyone can find it on the internet.’ There was also some disagreement regarding the inclusion of one organization that aims to cure blindness, but oftentimes provides generous funding for blind students to receive adaptive equipment. Ultimately, the group decided to keep the resource listed within the content, noting:

let's add it, because it's up to the people to make their choice. I know a lot of people have had success with it and I don't want to discount that option, especially in somewhere where adaptive sports isn't really super developed yet. (Nina)

Additionally, the partners were frustrated with some of the resources not being fully *accessible*, or easy to access, despite them being a resource for blind or other disabled individuals. However, it was also decided to list them within the content, since they found the resources themselves valuable, but noted that accessing some of them was “gonna be a miserable experience” (Julia).

Approximately halfway through the project [Author 1, X, and Y] discussed the possibility of and subsequently decided to share content with and interview PE teachers to evaluate the product and provide their opinions on the usefulness, practicality, and understanding of the

content, after its completion. The group discussed who specifically should be recruited to speak to. Julia noted:

I think traditional PE teachers are probably most useful, but I wonder how many disabled students these teachers might have encountered, and I was thinking that might be helpful to get people who have both teaching experience, but also some more direct experience with disability. And teaching physical education specifically for disability... but in terms of getting different cross sections of people who have different perspectives on education and/or disability, and what that looks like from an educator's perspective.

Others shared their opinion based on their experiences with PE and adapted PE teachers, and how we could maximize feedback from varying perspectives. When the content was near completion the group discussed and wrote questions during meeting eight that would be asked to the focus groups regarding their opinions of the content. Due to time constraints, [Author 1] conducted the focus groups, of which the results will be part of a separate publication. It should be noted that this manuscript provides information regarding the construction of the content. The project will continue in other stages that will include revision of the content based on teacher feedback, discussion for dissemination of the content, and other unknown elements that arise in order to continually evaluate and improve the product.

Reflection

This research project was conducted in an attempt to position the *partners* as knowers, collaborators, and researchers to narrow the axiological gap within research and provide strategies to enhance PE for future generations of blind students (Peers, 2018). This study aimed to consider the needs for non-disabled researchers in PE to more thoroughly take into consideration the knowledge, truths, and opinions of blind individuals (Peers, 2018). In

alignment with Fitzgerald et al. (2021), we used this manuscript to expose the interworking of this participatory project to paint an authentic picture of the groups' experience with the process. This project began without a clear vision for how the project would take shape, but hopeful that the research partners would have ideas and suggestions and lead the project in the ways they thought best, based on their personal opinions and lived experiences, deepening the collaboration (Muller-Schoof et al., 2023). Additionally, we attempted to deviate from cultural norms, such as providing information about the needs for teachers to consider student feelings, that may have perpetuated unwritten exclusionary practices within PE (Kristén et al., 2022). Each meeting brought about new suggestions and ideas, shaping the product in ways that the group thought beneficial for blind students, and PE teachers of blind students. In total, the construction of the first draft of the product, as described in this manuscript, took 19 weeks, with the group meeting as frequently as schedules permitted.

Based on the constant-comparative analysis, three themes that highlighted both the opinions and desires of the research partners, as well as the content of the resources and recommendations, were constructed: *Awareness*, *Accessibility*, and *Generalizability that Fosters Individuality*. *Awareness* was highlighted throughout the project, as the partners wished for more awareness from their PE teachers, themselves, and others, reinforcing this in ways that took into account intersectionality, differences, and personal preferences. *Accessibility* was also key, noting the importance of blind students being able to equitably access PE class, and the product being accessible for both teachers and blind students. Lastly, within the theme *Generalizability that Fosters Individuality*, it was critical that the product was available to be utilized by a wide variety of individuals and could be tailored to personal preferences. Overarchingly, it was pivotal to note that the *awareness* of blind students' needs and desires for PE that is *accessible* should be

prioritized and fostered through *individual* needs and preferences, which reinforced Charlton's (1998) "nothing about us without us" (p. 3) call to include disabled people in the development of resources, recommendations, or products that effect this population.

Toward the beginning of this project, [Author 1] struggled with some suggestions that were made, afraid that this would become a resource of ideologies similar to those constructed by non-disabled, sighted individuals. For example, when discussing recommendations and resources, previously constructed recommendations for teaching blind students in PE were often referenced. In response to a call from Spencer and Molnár (2022) to examine paradigmatic trends in adapted physical activity research, [Author 1] reflected upon the need to examine whose knowledge is privileged, and if a resource co-constructed with blind individuals, that recommended information constructed by sighted, non-disabled individuals, might perpetuate harmful normative practices (Eales & Goodwin, 2022). With the desire to advance understanding, challenge ideas, and change injustices, through meaningful research (Peers, 2018), [Author 1] reflected and asked questions of the partners to gain a deeper understanding of their beliefs and opinions.

The concept of creating a novel resource was challenging. [Author 1] took the time to reflect upon how to communicate the goal of the project, wanting to amplify the partners' voices, while respecting their opinions, experiences, preferences, and views. Novice to participatory methodology, and with limited literature that includes disabled people other than as a participant within PE research (Spencer & Molnár, 2022), [Author 1] leaned on [Author X], who has extensive participatory research experience, for guidance on ways to address challenges and encourage group members to embrace and contribute to their full potential, was complex (Muller-Schoof et al., 2023). Oftentimes, this meant discussing recommendations for next steps

and [Author 1]’s reflexivity and positionality as the researcher and facilitator, wanting to ensure she was supporting the autonomy of and working with the partners, avoiding facipulation as much as possible (Institute of Development Studies, n.d.). At times this also meant reminding the research partners that their experiences and opinions were valuable without adding in non-disabled voices; at other times the partners would remind each other. For [Author 1], this reinforced the ideal that knowledge-production, within participatory research, should be a joint process between scholars, practitioners, and those with the lived experience (Bergold & Thomas, 2012). Echoing prior research, and the sentiments of the partners within this group, collaboration was often key, and demonstrated that perhaps a combination of knowledge and experience from blind individuals and PE specialists may result in better outcomes for blind students (Keene et al., 2023).

Throughout the project there were times the partners acknowledged that they didn’t know what they didn’t know, such as not being familiar with resources, recommendations, or accommodations that might be available that they had never been exposed to (Muller-Schoof et al., 2023). A major strength of the three participating partners was their willingness to challenge narratives, assumptions, [Author 1], and each other. For example, Nina interjected during an early meeting regarding the use of pronouns, asking “would we be able to go over everyone’s pronouns? Because I just realized when we’re referring to each other, I don’t know how everyone prefers to be referred to.” An oversight on [Author 1]’s behalf, as she had had individual conversations with each partner prior to the group meetings, this willingness to speak up helped create a higher level of respect among group members and acknowledgement of intersectional attributes. Seemingly, each partner was willing to be vulnerable, step in where they saw necessary, and admit where their knowledge or experiences were lacking. When [Author 1]

inquired about additional resources that would support the partners throughout the project, none were requested, however, it was noted to reach out to her in the event something arose that would support their involvement. [Author 1] had concerns that the partners would not speak up if there was something they needed, due to power dynamics or other factors, and tried to provide multiple avenues for partners to contact her or express concerns, such as providing them with her personal cell phone number (Fitzgerald et al., 2021). There were two occasions where partners requested and met with [Author 1] independently, once due to scheduling conflicts, and another to gain further clarification and insight regarding the previous meeting. However, equal power distribution could have been evaluated more often throughout the project, between research partners and [Author 1] (Muller-Schoof et al., 2023).

In this project, listening to, respecting, and amplifying the voices of research partners to help develop products to enhance PE practices for future blind students was central to our goals, objectives, and ideals. With that, it seems fitting to conclude our reflection about the project with displaying an unaltered reflection from one of the research partners, Julia, about her experiences within this product. We do so here for readers to gain an understanding of the process by exposing the views of those who engaged within it, differing from those of [Author 1]:

Participating in this project was an exciting opportunity to help shape physical education instruction. I participated in the research because when I was in high school, I had no idea how to adapt PE class, and my teachers decided I should be exempted from it. Although I didn't mind this much at the time, looking back, I am disappointed in all of the learning I missed out on and think that the lack of information I had was unfortunate. I had some accommodations in elementary and middle school PE class, but it wasn't until after graduation that I learned about the scale of adaptive PE opportunities. Because I

was exempted from PE class in high school, I often felt that I did not have much to contribute to the research. I did have opinions on everything we discussed from my broader experience of blindness, my accessible physical activity since high school and my limited PE class in elementary and middle school, but I often felt like I was learning much more than I was adding to the conversation. The format of the research felt like a productive way to integrate various experiences from blind individuals, and the facilitation was an excellent guide, without influencing the content. [Author 1]'s experience as an educator was an invaluable resource, since none of the blind individuals had any sort of background in education, and we needed some working knowledge of curriculum development. I think the product of the research could have been richer with more participants, and I would have appreciated more individual voices as part of our synthesis. I am very glad I participated in this research; I was able to learn a lot and contribute to a resource that will hopefully improve PE education for future blind children.

Conclusion

In an attempt to produce research that is mindful and meaningful for the individuals research aims to represent (Peers, 2018) and more positively support youth through research (Fitzgerald et al., 2021), this paper presents an attempt to move towards methodologies that challenge current research and prioritizes real-world impact by working with such individuals (Vaughn & Jacquez, 2020). We must continue to challenge current practices and provide opportunity for disabled individuals to infiltrate and positively engage with research (Fitzgerald et al., 2021), ideally helping to mitigate prior research that has been poor and tokenistic (Smith et al., 2022). In alignment with suggestions from Fitzgerald et al. (2021), we encourage researchers

to be transparent about their experiences with participatory research, ideally adding to the conversation and approaching participatory research with greater scrutiny and awareness. Moving forward, in order to disseminate the product, non-disabled scholars, practitioners, and others will need to be employed in order for the resource to reach as many individuals as possible, as the journals in which the research from this study will be published, oftentimes do not reach the individuals which it aims to affect (Chen et al., 2010).

Footnote

Identity first language is used (i.e., disabled person) in line with a social relational understanding of disability that supports the values and beliefs of identifying disability as being socially constructed through oppressive systems (Adamson et al., 2022; Bogart & Dunn, 2019). The social relational model recognizes that physical activity can be impacted by both society and impairment and may differ based on a plethora of factors (Martin, 2013).

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Manuscript 2:**Physical Education Teacher Perspectives of Strategies to Enhance PE for Blind Students**

(formatted for submission to *Sport, Education, and Society* – 7,500 words)

Abstract

Prior to this study, resources and recommendations were co-constructed with blind young adults to provide to PE teachers, in an effort to enhance PE for blind students. The purpose of this study was to examine PE teachers' perspectives on the usefulness, relevance, and practicality of the content co-constructed with blind young adults to help enhance PE. For this study nine high school PE teachers were interviewed, using an interpretivist research paradigm, to inquire about the usefulness, relevance, and practicality of using the co-constructed content within their teaching practices, which might alleviate some of the concerns and stress teachers note experiencing. Reflexive thematic analysis guided the data analysis, and three themes were constructed: (a) "You're gonna have to get to know the person": Awareness of needs, (b) "For a teacher that's on their own...this is phenomenal": More than a planning tool, and (c) "I should meet with the student": Conversations for student input. Many of the participants noted that the content was useful and relevant, however, there were some mixed opinions about the practicality of using some of the content, given time and curriculum constraints. The co-constructed content may be a first step in working with blind individuals and PE teachers, to enhance PE experiences for blind students.

Keywords: Adapted Physical Education, Physical Education, Blind Students, Teacher Resources, Teacher-Student Communication

Background

Disabled youth are often integrated into physical education (PE) spaces with their non-disabled peers without taking into account the integrity, autonomy, influence, or participation the individual will experience (Goodwin & Howe, 2016). With that in mind, integrated PE may not always be the best option for all students (Goodwin & Howe, 2016). For example, blind and visually impaired students often find that they are not active within this space, are often separated from their peers, and are excluded from participating in activities (Haegele, Hodge, et al., 2020; Miyauchi, 2020). As a result, blind and visually impaired students often report negative experiences within integrated PE classes which stem from a lack of adaptations (Bredahl, 2013), experiences with bullying (Ball et al., 2022), feelings of exclusion (Haegele & Zhu, 2017), and feeling like a burden (Holland et al., 2020). With that, blind and visually impaired youth tend to report that they do not feel as though they belong, are accepted, or valued within integrated PE classes (Haegele et al., 2022; Haegele, Hodge, et al., 2020). These experiences in PE may stem from or be informed by ableist perspectives of PE teachers or other school personnel, which may result in blind and visually impaired individuals experiencing instances of discrimination, oppression, stereotyping, or prejudice within and throughout their PE experiences (Bogart & Dunn, 2019). With this in mind, PE is often a missed opportunity for blind and visually impaired individuals to work on skills that may provide benefits for everyday life (Ruin et al., 2021) and create an autonomous relationship with physical activity (Giese & Ruin, 2018), which may lead to lower levels of physical activity throughout childhood and into adulthood (Yessick & Haegele, 2019).

Despite these aforementioned negative experiences, some blind and visually impaired youth report preferring to be integrated with their peers in PE classes, and are optimistic that

positive changes could be made (Haegele, Hodge, et al., 2020). In order to better support blind and visually impaired students within physical education classes, strategies to support teachers who are responsible for constructing the spaces, classes, and activities that blind or visually impaired students are exposed to, need to be developed. Supporting this, a rich body of literature has demonstrated that teachers are not confident in teaching disabled students in an integrated PE class due to lack of training, support, and experience (Nowland & Haegele, 2023). Furthermore, PE teachers have identified a number of specific barriers to teaching blind and visually impaired students in integrated PE settings, which may include a lack of training, knowledge, equipment, programming, and time (Lieberman et al., 2002; Lirgg et al., 2017). Due to these challenges, it is perhaps unsurprising that blind and visually impaired students have expressed experiences in PE that have not been educational (Keene et al., 2023), were exclusionary (Haegele & Zhu, 2017), lacked instruction (Holland et al., 2020), and where they were not seen as capable participants (Haegele et al., 2022). Further, and problematically, many of the published guidelines for integrating blind and visually impaired youth often lack voice and input from blind and visually impaired individuals (Maher & Haegele, 2022), despite literature that encourages stakeholders, including higher education faculty and physical educators themselves, to do so (Eales & Goodwin, 2022; Keene et al., 2023; Maher & Haegele, 2022).

Given the need to support teachers to teach blind students within physical education (Tristani et al., 2020), we've set out to develop resources to share with physical educators to help better support blind students within PE (citation anonymized). Generally, teachers have expressed the need for resources that are easy to access and use (Kuo et al., 2024) and that electronic content delivered via website may meet such needs (Tristani et al., 2020). Furthermore, teachers have expressed the need for resources that are relevant, are perceived as

useful, and provide recommendations for specific disabilities to help support their teaching (Tristani et al., 2020). Taking these recommendations into consideration, a critical aspect of the construction of these resources for us was to work with blind individuals to create or recommend the types of support needed for blind students. That is, traditional PE practices are often underpinned and rooted in ableist ideals, often perpetuated from social and cultural norms that may oppress disabled students and hinder students feeling as if they belong, are accepted, and valued (Haegele & Maher, 2023). This is highlighted by Goodwin and Rossow-Kimball (2012), who suggest that individuals may experience disability as a result of the actions, or lack of action, of professionals, and furthermore, as well as Eales and Goodwin (2022), who argue that enforcing normative motor patterns or behaviors, while typically with good intentions, can result in a dangerous practice as it can remove autonomy and self-expression. As such, and within the call to action for research to include disabled individuals as knowers and collaborators (Peers, 2018), and provide resources to support PE teachers in teaching blind students in PE (Maher & Haegele, 2022), blind young adults served as research partners within our recent work, to construct recommendations to disseminate to PE teachers (citation anonymized), and ultimately, support blind students.

The current study aimed to extend, and support, our prior work by bringing the resources we have previously created with blind young adults to PE teachers to help explore the usefulness, relevance, and practicality of the co-constructed resources and recommendations. As noted previously, PE teachers have highlighted barriers to teaching disabled students in PE include a lack of knowledge, equipment, and time (Lieberman et al., 2002; Lirgg et al., 2017) and often face many other overwhelming concerns that contribute to low performance and motivation (Kul et al., 2018). With this, teachers have also expressed concerns regarding the stress of meeting the

needs of students (Hester et al., 2020; Robinson et al., 2023), overwhelming expectations (Robinson et al., 2023), and isolation (Spicer & Robinson, 2021). They have also noted that resource design, relevance, and perceived usefulness would impact their decision to adopt a resource (Tristani et al., 2020). As such, in this study, we aimed to further the conceptual development of the co-constructed resources and recommendations by examining the usefulness, relevance, and practicality of the content from the perspective of PE teachers in an attempt to provide a resource that PE teachers would ideally use within their teaching practices which might alleviate some of the concerns and stress teachers note experiencing. The purpose of this study was to examine PE teachers' perspectives on the usefulness, relevance, and practicality of the content, co-constructed with blind young adults, to help enhance PE for blind students.

Methods

This study was conducted using an interpretivist research paradigm, focusing on participants' understanding of a co-constructed and proposed resources and recommendations for enhancing PE for blind students, and its potential usefulness, relevance, and practicality for more successfully integrating blind students into high school PE classes (citation anonymized for review). This study adopted a relative ontology (Maxwell, 2012), where the interpretations of the participants' experiences as high school PE teachers reflect multiple subjectivities and realities, and a subjective epistemology (Goodwin, 2020), where the meaning of the data was constructed by the research group through their cognitive processes.

Participants

Research participants were recruited using an email database list of PE teachers interested in participating in research, as well as personal contacts, throughout the United States. Potential participants were sent an inquiry email that described the purpose, time commitment, incentive

information (i.e., \$25 gift card for completing the study), and participant inclusion criteria. Inclusion criteria for this study included those who (a) self-identified as a high school PE teacher in the U.S. and (b) were between the ages of 18-89. Those interested in participating were asked to click a Google link to express interest, complete a demographic questionnaire, and complete a consent form to opt into the study. Those who completed this step, and met each of the inclusion criteria, were invited to participate in the research study.

Nine high school PE teachers, ranging in age from 26 to 58 years, responded to the inquiry, met the inclusion criteria, and completed the semi-structured interview. The teachers had two to 30 years of teaching experience, of which six had experience teaching at least one blind student. Four participants identified as men, four as women, and one as non-binary. All participants identified their race/ethnicity as White. Participants taught in six different states, with three participants teaching in Virginia and two in Illinois. Detailed demographic information for each participant can be found in Table 1. The participant recruitment and data collection protocols were approved by the researcher's university.

Co-Constructed Content

Prior to interviews, the drafted co-constructed content, which was developed with blind young adults for use by PE teachers, to support blind students (citation anonymized), was shared with the PE teachers. The co-constructed content was sent in a Word document due to its drafted form, and to allow for comments/edits to be provided on the document itself, should the participants have desired. The co-constructed content contained a *Dear Teachers* and *Resource Section*, as well as a worksheet titled *Collaborative Planning Tool for PE Accommodations*.

Within the *Dear Teachers* section there were three subsections, (1) *teacher attitudes, behaviors, beliefs*, (2) *teaching strategies*, and (3) *PE curriculum*. *Teacher attitudes, behaviors,*

beliefs listed and discussed some thoughts and opinions of how PE teachers could be mindful of their attitudes, behaviors, and understanding with respect to the perspectives of being a blind student in an integrated PE class. The *teaching strategies* subsection discussed the importance of having an inclusive attitude as a starting point, however, noted that actively providing accommodations, and taking into account the considerations within the *teacher attitudes, behaviors, beliefs* section is necessary to create an equitable environment. It also listed some additional strategies that may be useful in creating a more equitable learning environment. Lastly, the *PE Curriculum* subsection discussed elements of desired curriculum content, relevant for blind students, that would focus on body and spatial awareness, and post K-12 fitness and well-being. These suggestions were based on commonalities found throughout the project, for the content of *PE curriculum*.

The *resource* section also included three subsections: (1) *accessible fitness opportunities*, (2) *how to adapt*, and (3) *advocacy*. Within the first subsection, accessible websites and apps, groups and organizations that provide adapted sport/fitness opportunities, and camps, were listed. The *how to adapt* sub-section included techniques, links to purchase equipment, and funding opportunities. Lastly, the *advocacy* section provided information about the legality of providing blind students with PE, self-advocacy information, and a place for others to share their successes.

Lastly, the *Collaborative Planning Tool for PE Accommodations* is a worksheet that was constructed intending to help PE teachers talk with their blind students to create a more equitable PE experience, aiming to meet the needs of the student and the objectives of the lesson plan. The worksheet included a teacher section and a collaboration section, a place for the teacher and student to decide on the activity/accommodations, and a place to note how they would follow-up.

The co-constructed content, in its current iteration, can be found here [website anonymized for review].

Data Collection

Each of the nine participants completed a one-to-one semi-structured Zoom call interview in the Spring of 2024. Prior to each interview, the participants were independently emailed and asked to review the co-constructed content. Each interview began with [Author 1] explaining who she was, as a nondisabled White woman who was a doctoral scholar and prior high school physical educator herself, and was part of the creation of the resource. She followed by describing the procedures for the interview, including the option to stop the interview at any time and for any reason. [Author 1] reiterated that the purpose was to learn about the participant's opinions about the usefulness, relevance, practicality, and understanding of the co-constructed content created as a resource for PE Teachers, to help enhance PE for blind students.

The semi-structured interview guide included questions focused on each of the three sections of the co-constructed content: *Dear Teachers*, *Resources*, and the *Collaborative Planning Tool for PE Accommodations* worksheet. Within each section teachers were asked about the relevance and usefulness (e.g., How do you find this section relevant for teachers?), what they would change (e.g., What would you change about the content of this section?), how they comprehended the section (e.g., Is there anything you don't understand within this section? If so, please elaborate.), and if they had any additional feedback. Throughout the interviews, [Author 1] asked follow-up questions based on participant responses to further probe participants on their perspectives (Roulston, 2010). Interviews ranged from 25 to 75 minutes. Each participant is referred to using a pseudonym to protect their anonymity.

Data Analysis

Each interview was recorded and then transcribed by [Author 1]. Reflexive thematic analysis was used to analyze the data, based on recommendations by Braun and Clarke (2022). [Author 1] acted as a lead analyst. She began the analysis by listening to, reading, and rereading each of the interviews, familiarizing herself with the data, and critically engaging with the information presented to her by each of the participants (Braun & Clarke, 2022). Next, she coded the data set using both semantic and latent codes which led to the generation of initial themes (Braun & Clarke, 2022). At this stage, [Author 1] shared initial themes with [Author X], who provided probing and exploratory questions to help stimulate [Author 1]’s thinking regarding the thematic development. Following, [Author 1] revisited the data to review the potential themes, the relationship between the potential themes, and how they are situated within the context of the research project (Braun & Clarke, 2022). As reflexive thematic analysis is not a linear process, there were several times [Author 1] returned to the dataset to review the themes, and discussed potential themes with [Author X], as she moved forward refining, defining, and naming the themes, and writing up the analysis (Braun & Clarke, 2022). Lastly, final themes were identified and described by [Author 1], drafted using exemplary quotes from participants, and presented as findings.

Quality of Research

Multiple strategies were used to support the quality of this research. For example, prior to each interview, [Author 1] exposed her professional and personal positionality, given the influence it has on the interview process, to the participants. As the primary data analyst, it should be noted that these particularities also likely influenced the data analysis and interpretation of the findings (Shaw et al., 2020). Further, [Author 1] aimed to be reflective and examine her ontological position, that influenced the interviews and interpretations, noting her

desires to provide recommendations that may enhance PE for blind students, and her prior experiences as a PE teacher (Grant & Lincoln, 2021). In congruence with this, and in alignment with Yardley (2000), [Author 1]'s shared understanding of teaching high school PE allowed for her to have sensitivity to the context in understanding some of the lived experience and perspective shared by each participant. Furthering the quality commitments referenced by Yardley (2000), [Author 1] was committed to rigor, transparency, and coherence throughout the data collection, analysis, and discussion of findings. In commitment to this, we were mindful to disclose both positive, and critical, perceptions of the materials, transparency is supported through the details of the data collection and analysis, and coherently is supported through disclosing all aspects of the process (Yardley, 2000). Additionally, disconfirming opinions were noted, when available, to provide a counternarrative to the themes to enhance the quality of the analysis (Brantlinger et al., 2005). Lastly, [Author 1] aimed to listen and amplify the voices of each participant, in an attempt to highlight the importance and impact of the research and meet the needs and desires of PE teachers (Yardley, 2000). However, as noted by Yardley (2000) the importance of this research is difficult to ascertain as authors and should be more so attributed to the way in which this research is received and consumed among those within the field.

Findings and Discussion

In this study, we explored the opinions of high school PE teachers regarding the usefulness, practicality, and understanding of the content co-constructed by blind adults, in an attempt to provide resources and recommendations for improving PE experiences for blind students. Throughout the interviews, it was clear that they found the content useful and relevant, noting that most of them would use this resource, particularly if they had a blind student in their class. To further highlight the perspectives of the participants, three themes were constructed

based on the interviews: (a) "You're gonna have to get to know the person": Awareness of needs, (b) "For a teacher that's on their own...this is phenomenal": More than a planning tool, and (c) "I should meet with the student": Conversations for student input.

"You're Gonna Have to Get to Know the Person": Awareness of Needs

Overall, the PE teachers expressed that the content made them aware of how blind students may feel or what they might be concerned with during PE. It was noted that this awareness would encourage reflection of their current and future practices and was thought to be a good resource not only for PE teachers but also parents, paraprofessionals, and administrators. For example, Elizabeth noted:

I think that it really does a good job of letting the teachers know what the student may be feeling, but also that it's not just gonna be cut and dry. You're gonna have to get to know the person, you're gonna have to get to know what works best for them, and that not each kid is going to be the same.

For Elizabeth, the content highlighted individuality and the importance of getting to know each student. Within the privilege that exists as a sighted individual, many of these teachers reflected on the unawareness of the lived experience blind students have when participating in PE class (Adamson et al., 2022), furthering the importance of listening to the voices of their students (Eales & Goodwin, 2022). In agreement, but more broadly speaking, Amy commented that "all of this is important to read, and I think [these are] things that we would already do for any student." Likewise, Carter remarked that "I would find it relevant just because it not only speaks to students with special needs, but just more or less, everybody in general." For these participants, the information reinforced the importance of understanding how concepts such as student insecurities, advocacy, communication, and participation are relevant to most, if not all,

students. Furthering this sentiment, Doug shared that the information was “forcing [him] to reflect on what [he] do(es),” particularly with regard to gaining awareness of student insecurities, which was one of the featured aspects within the content. In alignment with Smyth (2006), Carter asserted that educators, and other pivotal school personnel, should strive to understand the lived experiences and needs of students as that can promote engagement and enjoyment within PE.

In reflecting about the content, the teachers also acknowledged it as an important tool to bring awareness to parents, paraprofessionals, and other key advocates. For instance, Susan stated:

A parent needs to have a copy of this. I think that the PE department chair definitely needs to have a copy of it, and when that teacher is assigned to that student, it needs to be definitely discussed for sure, 100%.

Susan and others emphasized the importance of a team effort in making sure that the students’ needs are met and accommodated for, and how this content could help to initiate conversations with students by providing resources that would be beneficial for both teacher and student. Reinforcing this, Jordan discussed the importance of using the content to educate and bring awareness to others who work with blind students and may have ableist viewpoints. For example, Jordan discussed their experience with some paraeducators noting:

I work with a lot of paraeducators and a lot of paraeducators who maybe have a different view of disability than myself, I would say. I guess paraeducators who are like a little bit, inspiration porn-y about the students. We [want to] empower students to participate in PE and do all these things, practice independence, not do everything for them.

Jordan utilized the term *Inspiration Porn* here, which, as first used by Stella Young (2012), describes instances where non-disabled individuals objectify disabled individuals as inspirational for completing tasks they do every day, noting them as inspirational for doing so. This behavior generally hinders independence and often furthers ableist ideals that may be detrimental to student learning (Goodwin & Rossow-Kimball, 2012). To help promote independence among blind students, Ball et al. (2021) described the importance of providing opportunities for students to have opportunities to meet their potential, which can include supporting their dignity of risk to make independent decisions.

Our participants also suggested a broader application for the resources provided within the content, noting that such elements may provide awareness to students and parents to activities and opportunities outside of the school setting, such as camps. More specifically, Doug noted:

it's also valuable as you make relationships with the students and their families, obviously with the camps that you've listed and the other resources, to share with those families' things that they can do to help their student.

Similarly, Landon commented that:

I think the kids knowing it's other people like them out there and giving them a chance to be involved. Camps once again, they're able to reach out, meet new people like them.

Furthermore, Elizabeth noted that it was useful “if you're trying to find more things for them outside of school.” Here, it appears that these teachers understood the importance of and had the desire to be able to provide opportunities for their students to be active outside of school and saw the content to be an important tool to help facilitate these activities. This support is not surprising, given common understandings among physical educators that physical activity

outside the classroom can promote a sense of connection to the community (Azzarito & Ennis, 2003) and provide equitable and collaborative opportunities for students to be physically active (Physical Activity Alliance, 2022).

"For a Teacher That's on Their Own...This is Phenomenal": More Than a Planning Tool

When reviewing the content, the participants were particularly favorable of sections with links to purchase equipment, accessible fitness websites and apps, techniques for adapting, and funding options, which was viewed as informative and helpful. For example, Christina commented that:

For a teacher that's on their own, like may not know how to find some of this stuff, this is phenomenal. Y'all have done a great job about getting these resources, providing links.

Basically, just saying, hey here, if you need help in this area, here's a link. This [resource section] is great.

For Christina and others, they referenced that the *Resource* section could help reduce the need for them to spend time researching options for accommodations, modifications, and equipment, which have been areas previously identified as barriers to teaching disabled students (Lieberman et al., 2002; Lirgg et al., 2017). Ideally, providing resources, such as this, could help alleviate some stress that teachers experience regarding meeting the needs of students, being overwhelmed, and wanting to support students social and emotional well-being (Robinson et al., 2023). Furthermore, PE teachers have expressed feeling isolated and desire more support (Spicer & Robinson, 2021), as such these resources might provide connection and support which may work to minimize such feelings. Echoing Christina's sentiment, Carter explained that this content could "help teachers figure out how to come up with a game plan or a lesson to adapt towards

these individual students, [especially] if you don't really know where to even look or to get started.”

While many teachers noted this section of the content as a relevant resource for novice teachers, or those unfamiliar with working with a blind student, several also mentioned its utility for any or all teachers. Highlighting this, Landon noted that this section “gives you tools that you can definitely use, whether young or veteran teachers, throughout each one [section]” (Landon). The teachers emphasized the convenience and accessibility of the content, in that it would allow them to access a number of resources in one location, helping to prepare them, as it has been noted that blind students have felt as if their teachers were ill-prepared to support their needs (Haegle et al., 2021). The teachers noted that they were particularly impressed with the perceived utility of resources to help blind students participate in integrated PE classes, which have been identified previously as a setting where students tend to have limited participation (Haegle, Hodge, et al., 2020; Miyauchi, 2020). For example, Jordan commented about the auditory soccer balls and how a blind student could participate with their peers in an integrated PE class using that particular piece of equipment. These resources may help teachers plan their lessons in ways that are equitable for blind students to be integrated with the class and their peers. Providing options for adaptive equipment and funding resources to be able to acquire such equipment, this resource can ideally begin to close the gap between what has been provided for students, and their desire for their accommodations to be met (Keene et al., 2023). Furthermore, Landon expressed the importance of being able to collaborate and plan “activities that kids want to do and enjoy doing [as] they're more likely to participate and be involved”. Notably, students are more likely to participate in physical activity outside of school when they enjoy PE (Moore and Fry (2017), and their autonomy is supported (Leyton-Román et al., 2020), providing such

tools for PE teachers may contribute to such principles being put into practice for blind students. For James, who noted that the resources could help teachers plan to collaborate with the student, and “help align your learning objectives as far as PE,” which is critical for helping to provide the opportunity for disabled students to meet learning outcomes (Bertills et al., 2018).

While some participants identified specific sections of the content to have practical value for course planning, others expressed more global opinions about the impact a resource like this could have for them. For example, Doug expressed that the content, as a whole, could have an impact on planning, stating that:

As a planning resource, I think it's valuable ‘cause you have a combination of things that could be used. Say you're planning for that week, or that unit, you certainly could look at some of these things. But then it's also valuable as you make relationships with the students and their families, obviously with the camps that you've listed and the other resources to share with those families’ things that they can do to help their student.

The resources may help to minimize some stress teachers feel regarding supporting students’ needs (Robinson et al., 2023) and feeling isolated within their role (Spicer & Robinson, 2021) by providing support to meet their needs to teach students. The teachers viewed the content as more than just a planning tool, and rather as a resource that could help remediate some of the ill-preparedness of teachers to teach blind students in integrated PE classes (Haegeler et al., 2021).

“I Should Meet with the Student”: Conversations for Student Input

As discussed by Keene et al. (2023), one key element needed to help enhance PE for blind students is better communication between teachers and students. This has been corroborated by a number of studies, where blind or visually impaired students have noted the lack of teacher-student communication as a significant issue within PE (Holland et al., 2020;

Lieberman et al., 2006). Within the content, a worksheet was designed to facilitate this communication, titled *Collaborative Planning Tool for PE Accommodations*. When reviewing the worksheet, most of the participants provided support for this particular element, and emphasized that elevation of student voice, autonomy, and collaboration could be a result of it. Reinforcing this, Carter stated that the worksheet can:

Take some of the burden, or maybe guesswork, off the teacher's plate and kinda helps the student advocate for themselves. They're doing things that they're going to be enjoying and keeping them engaged, and that can kind of give the teacher a better understanding of where to go with the lesson based on the student's feedback so that way if there's, you know, something the student doesn't like to do, and the teachers unfamiliar with, rather than having an unsuccessful lesson where there's some kinda hesitation to want to do something because the students not comfortable doing it, [or] maybe the teachers just unaware because they haven't dealt with the situation. [They've] given the student some responsibility to kind of choose what they like to do to keep them engaged.

This teacher suggested that by using this tool, students may gain further agency, which has been shown to support more meaningful and enjoyable educational experiences (Leyton-Román et al., 2020; Shilcutt et al., 2020; Walseth et al., 2018). For some of the participants, the content and subsequent inclusion of the worksheet prompted reflection about taking time to meet with students, as Doug commented “it makes me think that I should meet with the student. It's a useful document because it makes me think of what to do if I was to meet with the student.” This type of worksheet was regarded as well needed, and would add to the existing literature where most guidelines for adapting and including blind and visually impaired youth in physical education

(Brian & Haegele, 2014; Lieberman et al., 2014; Lieberman et al., 2009; Stribing et al., 2019), do so without the active input of blind or visually impaired students themselves.

In discussing the worksheet, and the recommendation to speak with students, most participants noted their willingness and desire to use it as a tool to have a conversation with students regarding their needs and opinions, finding it useful to initiate such conversations. For example, James commented “it would be something that would not take long to fill out and to just give you both a perspective on what's gonna be best for the student”. Similarly, Elizabeth reflected about the practicality of having time to meet with the student, stating:

I feel like I would make time. Yeah, I would, either at the beginning of class, during warm up, just kind of pull the kid aside, talk to the student about it. I have to go to IEP [Individualized Education Plan] meetings for a lot of my students, so this could also be something done there. I think that I would, I would never think of time as a restraint in this. I think you could probably do the whole thing in like 5/10 minutes, if you had to.

For these teachers, making the time to talk to students was an important behavior that they were willing and interested in adopting. It is possible, perhaps, that this willingness came from an intrinsic motivation to equitably teach disabled students, which has emerged in prior research in this area of inquiry (Hersman & Hodge, 2010).

Despite the positive perceptions toward this worksheet, two participants suggested that there was limited practicality for its utilization and indicated that they would not have time to meet with a student. For example, Christina indicated that while it might be useful for IEP meetings, it likely wouldn't be for PE teachers themselves:

it would be hard for us [PE teachers] to do, just because our schedule doesn't permit us a lot of extra time. But this is something that could definitely be done with a student. Now,

I'm gonna be completely honest. This is probably something that wouldn't be done by us as a PE educator teacher, this is something that will probably be done by our Admin staff that we have.

While this teacher noted the importance and value of the worksheet, the practicality of collaborating with the student was not realistic from her viewpoint. Similarly, Susan indicated that completing the worksheet with the student was not feasible, indicating that the teacher could do their part, and the student could provide input separately with their case manager. Susan commented that, in her opinion and experience, teachers and students are not making curriculum or activity choices, stating:

We're not choosing the activity. We have a curriculum that is given to us, so that students are not going to get to choose the activity. If I have a blind student in my class, they are not going to get to tell me what activity they choose to do. Those are already set. I can accommodate that student in that activity. But it says chosen activity accommodations, our students go don't get to choose activities.

She further noted, "you can't always accommodate", when discussing the needs of students and the charge for teachers to be flexible to those needs. These quotes may be reflective of a general mindset of PE teachers and their unwillingness to accommodate (Haegele & Buckley, 2019; Haegele et al., 2021) or be open to change (Petrie et al., 2018) to ensure the success of disabled students within their classes. This unwillingness to change may be related to teachers' general perceptions toward the capabilities of blind students within their classes. This was additionally highlighted by Susan, who noted:

I think that it's hugely important that you try to include these students in regular classes rather than adaptive, if you can, and of course it depends on your level of your class. For

instance, I have a ninth-grade class that these blind students could very easily be in there accommodated with our curriculum there and then I have an elective class, which is juniors and seniors and our level of what we do daily is pretty high. It would be difficult to accommodate a blind student in that class without it hindering the rest of the class, because of me having to accommodate that one student. I would have 30 other students' kind of standing around chomping at the bits with 98%, 99% of them are males, and that would be difficult. I could accommodate a blind student in my ninth-grade class doing those same activities, because the level is lower and it's slower.

Here Susan clearly identified their views about blind students' abilities within classes, and their unwillingness to compromise the hypermasculine culture they support in PE to support those who cannot keep up. This finding should not be surprising, though, given that blind students themselves have previously identified that they perceive their teachers feel this way about them within their classes (Keene et al., 2023). For us, this is part of a larger problem that may not be able to be addressed by providing resources to PE teachers, and rather systemic changes would be needed to support blind or disabled students. This systemic issue was identified by Susan, who stated that:

Some teachers would not make the effort to accommodate. They dance to their own little deal, and they do what they want to do, and they don't follow the curriculum, they don't follow the rules, and they get away with it. And most of them are football coaches. I hate to say it, that's what their primary focus is on. And they don't, they're not worried about following the rules, so you could give it to them, but the only way in all my time of teaching that things get done is, parents, parents make stuff happen.

Reiterating concerns of students, parents, and other invested stakeholders, some PE teachers, as observed by Susan, do not have the willingness or desire to provide accommodations to disabled students and instead perpetuate masculine dominance within PE (Bourdieu, 2002) regardless of the negative experiences that may be therefore experienced by their students.

Reflection and Conclusions

In this study, we shared resources and recommendations with PE teachers, co-constructed with blind adults to help enhance PE for blind youth, to explore their perceptions of usefulness, relevance, and practicality of the content. While many of the participants noted that the content was useful and relevant, an integral element to the likelihood that teachers will adopt the resource (Tristani et al., 2020), some mixed opinions were shared about their practicality given time constraints (Malm, 2020) and stressors (Hester et al., 2020) experienced by physical education teachers while teaching disabled students. It is our hope that resources, such as the one provided, can help address student needs and alleviate some of the demands and expectations for teachers (Hester et al., 2020; Robinson et al., 2023). Additionally, providing such resources may help minimize teachers feelings of isolation and being on their own to design and create lessons that integrate blind students in PE (Spicer & Robinson, 2021). It is important to note that despite teachers viewing the content as relevant, the existence and utilization of the resource does not necessarily mean blind students will feel included, accepted, or will have good experiences within PE. This resource is an early step to provide resources to try to help these experiences. However, we contest that continuing to involve students in their educational decisions is vital to take into account the integrity, autonomy, influence, and participation the individual experiences (Goodwin & Howe, 2016) and support their individual needs (Maher & Haegele, 2022). We must continue to reconceptualize how dominant perceptions, performance measures, and other

qualities are valued in physical education in order to redefine normative practices and ensure that practices are safe and accessible (Fitzgerald, 2005). Doing so must involve disabled individuals as knowers and collaborators within research (Peers, 2018) in order to ensure that such work is in the best interest of the individuals it aims to serve (Goodwin & Howe, 2016; Spencer & Molnár, 2022).

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Table 1. Participant Demographic Information

Pseudonym	Gender	Race/Ethnicity	Age	Years Teaching High School PE	Taught a Blind Student?	State
Amy	Woman	White	35	3	No	Massachusetts
Carter	Man	White	39	12	Yes	Illinois
Christina	Woman	White	36	2	No	Alabama
Doug	Man	White	54	4	Yes	Virginia
Elizabeth	Woman	White	29	7	Yes	New Jersey
James	Man	White	42	16	No	Illinois
Jordan	Non-Binary	White	26	3	Yes	Pennsylvania
Landon	Man	White	46	25	Yes	Virginia
Susan	Woman	White	58	30	Yes	Virginia

CHAPTER V: SUMMARY AND CONCLUSIONS

When reflecting about their physical education experiences, blind and visually impaired youth have largely reported them as negative, and that they include high incidences of bullying (Ball et al., 2022), feelings of exclusion (Haegele, Hodge, et al., 2020), and a lack of instruction (Holland et al., 2020) and adaptations (Bredahl, 2013). These negative experiences may contribute to a sedentary childhood and adulthood, as youth may not develop a positive relationship with physical activity (Miyauchi, 2020). Within PE, most strategies to teach blind and visually impaired youth have been constructed from the perspective of non-disabled individuals (Eales & Goodwin, 2022) and lacks input from blind and visually impaired individuals (Keene et al., 2023; Maher & Haegele, 2022). As such, most research within adapted physical activity and adapted PE has also failed to take into account the perspectives of the stakeholders researchers aim to represent (Spencer & Molnár, 2022). Thus, little is known, to date, about blind and visually impaired individuals' recommendations that may enhance PE experiences, and if such opinions are being taken into consideration (Keene et al., 2023; Peers, 2018). This dissertation aimed to construct a resource with blind young adults that would be useful and relevant for PE teachers to use to enhance PE experiences for blind students.

The purpose of the first manuscript was to describe the experiences of co-constructing resources and recommendations for PE Teachers, with blind individuals as research partners, aimed to enhance PE for blind students. A participatory research methodology was used to help amplify the voices of blind individuals and involve them as research partners in co-constructing such resources. Four blind young adults served as research partners within the project. The project meetings, consisting of 15 meetings over 19 weeks and two stages, took place entirely on Zoom. Stage one consisted of four meetings and focused on exploring the needs of the partners

and their experiences and opinions for improving PE for future generations. Stage two consisted of 11 meetings and focused on constructing the resources and recommendations to provide to PE teachers. A constant-comparative technique was used throughout to analyze all meeting transcriptions to help compare, keep track of, and reflect on all ideas. Three themes were constructed based on the analysis: *Awareness*, *Accessibility*, and *Generalizability that Fosters Individuality*. In alignment with Fitzgerald et al. (2021), we used this manuscript to expose the interworking of this participatory project to paint a picture of the groups' experience with the process.

This project began without a clear vision for how the project would take shape, but hopeful that the research partners would have ideas and suggestions and lead the project in the ways they thought best based on their personal opinions and lived experiences, deepening the collaboration (Muller-Schoof et al., 2023). Additionally, we attempted to deviate from cultural norms, such as providing information about the needs for teachers to consider student feelings, that may have perpetuated unwritten exclusionary practices within PE (Kristén et al., 2022). Each meeting brought about new suggestions and ideas, shaping the product in ways that the group thought beneficial for blind students and PE teachers of blind students. Some challenges faced were the fear that this would become a resource of ideologies similar to those constructed by non-disabled, sighted individuals, and creating a novel resource with limited participatory research experience. In response to such challenges, [Author 1] reflected upon the need to examine whose knowledge is privileged (Spencer & Molnár, 2022) and asked questions of the partners to gain a deeper understanding of their beliefs and opinions. Within the project and reflection of the meetings, it was noted that collaboration was key (Bergold & Thomas, 2012). A

major strength of the three participating partners was their willingness to challenge narratives, assumptions, [Author 1], and each other.

In an attempt to produce research that is mindful and meaningful for the communities research aims to represent (Peers, 2018) and more positively support youth through research (Fitzgerald et al., 2021), study one presents an attempt to move towards methodologies that challenge current research and prioritizes real-world impact (Vaughn & Jacquez, 2020). We must continue to challenge current practices and provide opportunity for disabled individuals to infiltrate and positively engage with research (Fitzgerald et al., 2021), ideally helping to mitigate prior research that has been poor and tokenistic (Smith et al., 2022). In alignment with suggestions from Fitzgerald et al. (2021), we encourage researchers to be transparent about their experiences with participatory research, ideally adding to the conversation and approaching participatory research with greater scrutiny and awareness. Moving forward, in order to disseminate the product, non-disabled scholars, practitioners, and others will need to be employed in order for the resource to reach as many individuals as possible, as the journals in which the research from this study will be published, oftentimes do not reach the individuals which it aims to affect (Chen et al., 2010). In this project, listening to, respecting, and amplifying the voices of research partners to help develop products to enhance pedagogical practices for future blind students was central to our goals, objectives, and ideals.

To help continue the conceptual development of the product co-constructed in study one, the purpose of the second study was to examine PE teachers' perspectives on the usefulness, relevance, and practicality of resources and recommendations co-constructed with blind young adults to help enhance PE for blind students. For this study, nine high school PE teachers were interviewed, using an interpretivist research paradigm, to inquire about the usefulness, relevance,

and practicality of using the resource within their teaching practices, which might alleviate some of the concerns and stress teachers note experiencing. Reflexive thematic analysis guided the data analysis, and three themes were constructed: (a) "You're gonna have to get to know the person": Awareness of needs, (b) "For a teacher that's on their own...this is phenomenal": More than a planning tool, and (c) "I should meet with the student": Conversations for student input.

Within the first theme, the PE teachers expressed that the content made them aware of how blind students may feel or what they might be concerned with during PE. It was noted that this awareness would encourage reflection of their current and future practices and was thought to be a good resource not only for PE teachers but also parents, paraprofessionals, and administrators. The information reinforced the importance of understanding how concepts such as student insecurities, advocacy, communication, and participation are relevant to most, if not all, students. In the second theme, which discussed the resources being more than a planning tool, the participants were particularly favorable of sections with links to purchase equipment, accessible fitness websites and apps, techniques for adapting, and funding options, which was viewed as informative and helpful. The teachers referenced that this section could help reduce the need for them to spend time researching options for accommodations, modifications, and equipment, which have been areas previously identified as barriers to teaching disabled students (Lieberman et al., 2002; Lirgg et al., 2017). The teachers viewed the content as more than just a planning tool, and rather as a resource that could help remediate some of the ill-preparedness of teachers to teach blind students in integrated PE classes (Haegele et al., 2021). In the third theme, the *Collaborative Planning Tool for PE Accommodations*, was highlighted. Most of the participants provided support for this particular element, and emphasized that elevation of student voice, autonomy, and collaboration could result from it. It was suggested that by using

this tool, students may gain further agency, which has been shown to support more meaningful and enjoyable educational experiences (Leyton-Román et al., 2020; Shilcutt et al., 2020; Walseth et al., 2018). Despite mostly positive perceptions toward the worksheet, two participants suggested that there was limited practicality for its utilization and indicated that they would not have time to meet with a student. This may be reflective of a general mindset of PE teachers, and their unwillingness to accommodate (Haegele & Buckley, 2019; Haegele et al., 2021), or be open to change (Petrie et al., 2018) to ensure the success of disabled students within their classes. For us, this is part of a larger problem that may not be able to be addressed by providing resources to PE teachers, and rather systemic changes would be needed to support blind or disabled students.

It is our hope that resources, such as the one provided, can help address meeting student needs and alleviate some of the demands and expectations for teachers (Hester et al., 2020; Robinson et al., 2023). Additionally, providing such resources may help minimize teachers' feelings of isolation and being on their own to design and create lessons that integrate blind students in PE (Spicer & Robinson, 2021). It is important to note that despite teachers viewing the resource as relevant, the existence and utilization of the resource does not necessarily mean blind students will feel included, accepted, or will have good experiences within PE. This resource is an early step to provide resources to try to help these experiences. However, we contest that continuing to involve students in their educational decisions is vital to take into account the integrity, autonomy, influence, and participation the individual experiences (Goodwin & Howe, 2016) and support their individual needs (Maher & Haegele, 2022). We must continue to reconceptualize how dominant perceptions, performance measures, and other qualities are valued in physical education in order to redefine normative practices and ensure that practices are safe and accessible (Fitzgerald, 2005). Doing so must involve disabled individuals

as knowers and collaborators within research (Peers, 2018) in order to ensure that such work is in the best interest of the individuals it aims to serve (Goodwin & Howe, 2016; Spencer & Molnár, 2022).

The first study posited strategies and suggestions endorsed by blind individuals who recently graduated from high school, that they felt would have led to a more positive integrated PE experience [i.e., *how* should we teach, *what* we should teach]. Using the strategies created within this study, PE teachers can aim to provide experiences to current and future blind students that may make PE a more beneficial and positive experience. These opinions provide insight into what educational content might influence a higher desire to participate in physical activity during and after leaving the school system. Physical education teachers can use the information constructed from the study to better inform their teaching practices that is beneficial to blind individuals, which may help them successfully navigate physical activity and other healthy lifestyle choices. The second study examined the usefulness, relevance, and clarity of the online resource from the perception of current high school PE teachers. Their feedback was used to edit and improve the content for the online resource in order to make it more useable, relatable, and helpful for PE teachers to implement within their class.

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APPENDICES

APPENDIX A

Study One Recruitment Email

Hello,

My name is Ally Keene, and I am a doctoral student at Old Dominion University in Norfolk, VA. I am writing to you to see if you would be interested in participating in a study regarding your experiences in PE and opinions of improving PE for blind individuals. The study would consist of two parts, part one would include a zoom interview to discuss your experience in physical education. Part two would be determined by the group of participants, including yourself, to construct recommendations to provide to PE teachers, about improving PE from the perspective of blind individuals. To do this the group may elect to utilize focus groups, participant observation and field notes, interviews, diary and personal logs, questionnaires, or surveys. You are expected to take part in both part one and part two and will be compensated \$25 per interview or assignment for your time.

To conduct this study, we need the participation of blind adults 18 to 22 years old, who attended at least four years of high school and graduated, in the United States. Individuals must have no additional disabilities and have access to a computer for virtual meetings and interviews. All responses will be kept confidential, and all information will be reported anonymously.

Thank you again for your consideration in participating in our research. If you have any questions, please contact me at mkeen002@odu.edu. If interested, please fill out your information at this link: <https://forms.gle/US5b2KjU8gYqS6rA8>.

Sincerely,
M. Ally Keene
Old Dominion University

APPENDIX B

Study One Consent Form

PROJECT TITLE: Co-Constructing an Understanding of the Experiences and Needs of Blind Individuals in Physical Education

INTRODUCTION

The purposes of this form are to give you information that may affect your decision whether to say YES or NO to participation in this research, and to record the consent of those who say YES. This project, titled Co-Constructing an Understanding of the Experiences and Needs of Blind Individuals in Physical Education, will include individual interviews, focus groups, and independent reflection assignments.

RESEARCHERS

Justin A. Haegele, PhD, Associate Professor, Department of Human Movement Sciences, Old Dominion University

Mary A. Keene, MS, Health and Sport Pedagogy, Department of Human Movement Sciences, Old Dominion University

DESCRIPTION OF RESEARCH STUDY

Blind individuals have been reported to have lower levels of enjoyment and find less meaning in Physical Education classes. These experiences may be directly related to the behaviors of their physical educators. This study intends to learn more about individual physical activity experiences in PE, with transition services, and after graduation. Participants will also work together to construct recommendations for current physical education teachers to help improve PE experiences for blind impaired youth that represent their interests. If you provide consent to participate, we will conduct individual interviews, focus groups, and independent reflection assignments.

INCLUSIONARY CRITERIA

Participants must self-identify as blind (B1), are between the ages of 18-22, and have attended for at least 4 years and graduated from high school in the United States.

RISKS AND BENEFITS

RISKS: If you decide to participate in this study, then you may face a risk of confidential data release, additionally you have the option to self-disclose your identity as part of the public dissemination of the final product. If you decide to remain anonymous, the researcher will reduce risks related to confidential data by developing data handling protocols to reduce the likelihood of data release. This includes changing your name to a pseudonym and eliminating any data relating to your identity.

BENEFITS: There are no direct benefits to participation. The benefits of this study may contribute to our knowledge of how blind individuals experience Physical Education and the co-construction of information may help PE teachers provide better experiences to future blind students.

COSTS AND PAYMENTS

Participants will receive \$25 per interview for their time.

NEW INFORMATION

If the researchers find new information during this study that would reasonably change your decision about participating, then they will give it to you.

CONFIDENTIALITY

The researchers will take reasonable steps to keep private information, such as personal data, confidential. All data reporting will maintain confidentiality of the participant by referring only to participants in aggregate, should the participant wish to remain anonymous. The link between the data with pseudonyms and identifying information will be destroyed once data are analyzed. Identifiers might be removed, and the de-identified information used for future research without additional informed consent from the subject. The results of this study may be used in reports, presentations, and publications; but the researcher will not identify the participant, if the participant chooses such option. Of course, records may be subpoenaed by court order or inspected by government bodies with oversight authority.

WITHDRAWAL PRIVILEGE

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study at any time. Your decision will not affect your relationship with Old Dominion University. The researchers reserve the right to withdraw your participation in this study, at any time, if they observe potential problems with your continued participation.

COMPENSATION FOR ILLNESS AND INJURY

If you say YES, then your consent in this document does not waive any of your legal rights. However, in the event of harm arising from this study, neither Old Dominion University nor the researchers are able to give you any money, insurance coverage, free medical care, or any other compensation for such injury. In the event that you suffer injury as a result of participation in any research project, you may contact Dr. Justin A. Haegele, at jhaegele@odu.edu or 757 683 5338, Dr. John Baaki, the current chair for the DCOE Human Subjects Committee, at jbaaki@odu.edu or 757-683-5493.

VOLUNTARY CONSENT

By signing this form, you are saying several things. You are saying that you have read this form or have had it read to you, that you are satisfied that you understand this form, the research study, and its risks and benefits. The researchers should have answered any questions you may have had about the research. If you have any questions later on, then the researchers should be able to answer them:

Justin A. Haegele, PhD, 757 683 5338; jhaegele@odu.edu

If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should call Dr. John Baaki, the current chair for the DCOE Human Subjects Committee, at jbaaki@odu.edu or 757 683 5491.

And importantly, by signing below, you are telling the researcher YES, that you agree to participate in this study. The researcher should give you a copy of this form for your records.

Printed Name & Signature	Date
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INVESTIGATOR'S STATEMENT

I certify that I have explained to this subject the nature and purpose of this research, including benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human subjects and have done nothing to pressure, coerce, or falsely entice this subject into participating. I am aware of my obligations under state and federal laws and promise compliance. I have answered the subject's questions and have encouraged him/her to ask additional questions at any time during the course of this study. I have witnessed the above signature(s) on this consent form.

Investigator's Printed Name & Signature	Date
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APPENDIX C

Study Two Recruitment Email

Hello,

My name is Ally Keene, and I am a doctoral student at Old Dominion University in Norfolk, VA. I am writing to you to inquire if you would be interested in participating in a focus group regarding your opinions of a product created for PE teachers to help improve PE for blind individuals. The study would consist of a zoom focus group meeting to discuss your opinions. You will be compensated \$25 per meeting for your time.

Requirements:

- (a) self-identify as a high school PE teacher
- (b) are between the ages of 18-89 at the start of the interview process

All responses will be kept confidential, and all information will be reported anonymously. Thank you again for your consideration in participating in this research study. If you have any questions, please contact me at mkeen002@odu.edu. If you are interested, please fill out your information at the following link: <https://forms.gle/e2d9LT3hrGSe4Hg7>.

Sincerely,

M. Ally Keene

M. Ally Keene
Old Dominion University

APPENDIX D

Study Two Consent Form

PROJECT TITLE: Focus Group Analysis of PE Resources Co-Constructed by Blind Individuals

INTRODUCTION

The purposes of this form are to give you information that may affect your decision whether to say YES or NO to participation in this research, and to record the consent of those who say YES. This project, titled Focus Group Analysis of PE Resources Co-Constructed by Blind Individuals will consist of a focus group meeting with high school PE teachers.

RESEARCHERS

Justin A. Haegele, PhD, Professor, Department of Human Movement Sciences, Old Dominion University

Mary A. Keene, MS, Health and Sport Pedagogy, Department of Human Movement Sciences, Old Dominion University

Angela Eckhoff, PhD, Associate Professor, Department of Teaching and Learning, Old Dominion University

DESCRIPTION OF RESEARCH STUDY

Blind individuals have been reported to have lower levels of enjoyment and find less meaning in Physical Education classes. The focus group will review the products created from the participatory research project “co-constructing physical education pedagogical and curriculum strategies with blind young adults” which attempt to provide recommendations for improving PE for blind students. Focus groups participants will provide constructive feedback about the products, through open ended question prompting. The goal of this research is to determine if PE teachers understand the design of the product, their feelings about its useability, the practicality of other teachers using the product to help improve the PE experience for current and future blind students, and any recommendations for improvement or further clarification of the product(s). If you provide consent to participate, we will conduct a focus group meeting to learn about such opinions.

INCLUSIONARY CRITERIA

Participants must (a) self-identify as a high school PE teacher (b) are between the ages of 18-89 at the start of the interview process, (c) are willing to participate, and (d) have access to internet and a device that can access Zoom for the focus group meeting.

RISKS AND BENEFITS

RISKS: If you decide to participate in this study, then you may face a risk of confidential data release. The researcher will reduce risks related to confidential data by developing data handling protocols to reduce the likelihood of data release. This includes changing your name to a pseudonym and eliminating any data relating to your identity.

BENEFITS: There are no direct benefits to participation. The benefits of this study may contribute to our knowledge of how PE teachers perceive and understand the product that provides recommendations to PE teachers to improve PE for blind students.

COSTS AND PAYMENTS

Participants will receive \$25 per meeting for their time.

NEW INFORMATION

If the researchers find new information during this study that would reasonably change your decision about participating, then they will give it to you.

CONFIDENTIALITY

The researchers will take reasonable steps to keep private information, such as personal data, confidential. The researcher will not collect any identifiable private information. All data reporting will maintain confidentiality of the participant by referring only to participants in aggregate. All data will be stored in password protected accounts. The link between the data with pseudonyms and identifying information will be destroyed once data are analyzed. Identifiers might be removed, and the de-identified information used for future research without additional informed consent from the subject. The results of this study may be used in reports, presentations, and publications; but the researcher will not identify the participant. Of course, records may be subpoenaed by court order or inspected by government bodies with oversight authority.

WITHDRAWAL PRIVILEGE

It is OK for you to say NO. Even if you say YES now, you are free to say NO later, and walk away or withdraw from the study at any time. Your decision will not affect your relationship with Old Dominion University. The researchers reserve the right to withdraw your participation in this study, at any time, if they observe potential problems with your continued participation.

COMPENSATION FOR ILLNESS AND INJURY

If you say YES, then your consent in this document does not waive any of your legal rights. However, in the event of harm arising from this study, neither Old Dominion University nor the researchers are able to give you any money, insurance coverage, free medical care, or any other compensation for such injury. In the event that you suffer injury as a result of participation in any research project, you may contact Dr. Justin A. Haegele, at jhaegele@odu.edu or 757 683 5338, Dr. John Baaki, the current chair for the DCOE Human Subjects Committee, at jbaaki@odu.edu or 757-683-5493.

VOLUNTARY CONSENT

By signing this form, you are saying several things. You are saying that you have read this form or have had it read to you, that you are satisfied that you understand this form, the research study, and its risks and benefits. The researchers should have answered any questions you may have had about the research. If you have any questions later on, then the researchers should be able to answer them:

Justin A. Haegele, PhD, 757 683 5338; jhaegele@odu.edu

If at any time you feel pressured to participate, or if you have any questions about your rights or this form, then you should call Dr. John Baaki, the current chair for the DCOE Human Subjects Committee, at jbaaki@odu.edu or 757 683 5491.

And importantly, by signing below, you are telling the researcher YES, that you agree to participate in this study. The researcher should give you a copy of this form for your records.

Printed Name & Signature	Date
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INVESTIGATOR'S STATEMENT

I certify that I have explained to this subject the nature and purpose of this research, including benefits, risks, costs, and any experimental procedures. I have described the rights and protections afforded to human subjects and have done nothing to pressure, coerce, or falsely entice this subject into participating. I am aware of my obligations under state and federal laws and promise compliance. I have answered the subject's questions and have encouraged him/her to ask additional questions at any time during the course of this study. I have witnessed the above signature(s) on this consent form.

Investigator's Printed Name & Signature	Date
--	-------------

APPENDIX E

Study Two Interview Guide

Thank you again for agreeing to speak with me. I would like to remind you that the data from our discussion will be published, but all participants will be anonymous. If there are any questions you do not want to answer or do not wish to participate in, that is perfectly fine. This meeting will be recorded, if you are not comfortable with being recorded, you are welcome to leave the zoom at this time and we appreciate your consideration for being part of this project. As a reminder, I am interested in learning about your opinions about the usefulness, practicality, and understanding of the content created as a resource to help improve PE for blind students. Do you have any questions before we get started? *Did you have a chance to review the content?*

Dear Teacher Section

1. How do you find this section relevant for teachers?
2. What do you find useful about this section?
3. What do you find not useful about this section?
4. Could you foresee using this within your classroom? Why or why not? (ask how if conversation leads there)
5. What would you change about the content of this section?
6. What would you change about the format/organization of this section?
7. Is there anything you don't understand within this section? If so, please elaborate.
8. What additional feedback do you have regarding this section?

Resources (20 min)

1. How do you find this section relevant for teachers?
2. What do you find useful about this section?
3. What do you find not useful about this section?
4. Could you foresee using this within your classroom? Why or why not? (ask how, if conversation leads there)
5. What would you change about the content of this section?
6. What would you change about the format/organization of this section?
7. Is there anything you don't understand within this section? If so, please elaborate.
8. What other resources do you think should be included?
9. What additional feedback do you have regarding this section?

Worksheet

1. How do you find this worksheet relevant for teachers?
2. What do you find useful about this worksheet?
3. What do you find not useful about this worksheet?
4. What questions came to mind when you read the instructions?
5. What questions came to mind when you were reviewing the Teacher Section?
6. What questions came to mind when you were reviewing the Collaboration Section?
7. Could you foresee using this within your classroom? Why or why not? (ask how if conversation leads there)
8. What would you change about the format/organization of this worksheet?

9. What would you change about the content of this worksheet?
10. Is there anything you don't understand within this worksheet? If so, please elaborate.
11. What additional feedback do you have regarding this worksheet?

CONCLUSION: please complete demographic information to receive \$25 gift card:

<https://forms.gle/aj18USpV62ijHprw5>

VITA

M. Ally Keene

Human Movement Sciences
2004 Student Recreation Center
Norfolk, VA 23529-0196

EDUCATION

- 2024 **PhD**, Old Dominion University
Health and Sport Pedagogy
Specialization: Adapted Physical Education/Activity
Dissertation Topic: Co-constructing physical education resources and recommendations with blind individuals.
- 2018 **MS**, The University of Hawaii at Manoa
Kinesiology and Rehabilitation Science
Concentration: Adapted Physical Activity
Thesis Topic: Stand-up paddle board and kayak curriculum for individuals with visual impairments.
- 2012 **BS**, James Madison University
Kinesiology
Concentration: Exercise Science

SELECTED PUBLICATIONS

- Keene, M.A.**, Sanchez, O., Pigg, M., Shapiro, D., & Dillon, S. (2024). Advocating for physical education and extracurricular opportunities for students with disabilities. *Journal of Physical Education, Recreation, and Dance*.
- Keene, M.A.**, Haegele, J.A., Ball, L.E., Nowland, L.A., & Zhu, X. (2023). Exploring blind and visually impaired students' views on how to improve physical education. *Journal of Teaching in Physical Education*. <https://doi.org/10.1123/jtpe.2023-0013>
- Haegele, J. A., Brasiliano Salerno, M., Nowland, L., Zhu, X, **Keene, M. A.**, & Ball, L. (2023) Why modify? Visually impaired students' views on activity modifications in physical education. *European Physical Education Review*.
- Haegele, J.A., Ball, L.E., Nowland, L.A., **Keene, M.A.**, & Zhu, X. (2022). Visually impaired students' views on peer tutoring in integrated physical education. *Sport, Education & Society*. <https://doi.org/10.1080/13573322.2022.2125949>
- Keene, M.A.**, Haegele, J.A., & Zhu, X. (2022). Impact of neighbourhood walkability on weekly walking minutes among adults with visual impairments: A preliminary study. *British Journal of Visual Impairment*. <https://doi.org/10.1177/02646196221127121>
- Haegele, J.A., Ball, L.E., Zhu, X, **Keene, M.A.**, & Nowland, L.A. (2022). Absent, incapable, and "normal": Understanding the inclusiveness of visually impaired students' experiences in integrated physical education. *Adapted Physical Activity Quarterly*, 39(4), 424-445. <https://doi.org/10.1123/apaq.2022-0014>