



Research article
**RESEARCH PERSPECTIVES ON THE NEED FOR ENHANCING
ADAPTED PHYSICAL EDUCATION FOR PERSONS
WITH DEAF BLINDNESS**

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Abstract

The present day life has an increased emphasis on physical fitness, wellness and health promotion through active living during one's life span. It is important for all individuals to be physically active irrespective of disabilities. Physical Education has become an integral part of education which facilitates opportunities for creative expression, social interaction and well integrated personality. The role of Physical Education in the lives of people with disabilities is inevitable. Among the disabilities, "Deaf-blind" are those individuals who are unable to utilize their distance sense of vision and hearing to receive non-distorted information. Research has established that there is a fundamental need to focus on enhancing physical activity and recreation for individuals who are deaf-blind. Adapted Physical Education (APE) is a specially designed instruction in physical education intended to address the unique needs of individuals. By providing due emphasis on adapted physical education for children with deaf-blindness, we can promote independence into their lives. This paper is an attempt to analyze various research perspectives on the need to enhance adapted physical education to meet the challenges of children with disabilities. Certain important deficiencies and barriers in the current practices that hinder the participation of children with deaf-blindness in physical activities are also highlighted in this paper.

Key words: Physical Education, Adapted Physical Education, Children with Deaf Blindness.

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INTRODUCTION

Physical activity is an integral aspect of human life. The constructive uses of physical education are emerging as an important goal and determiner of a quality life experience. Regular physical activity benefits both physical and psychological health and reduces risk for heart disease, diabetes, high blood pressure, obesity, and stress-related illnesses (U.S. Department of Health and Human Services, 1996).

Physical activity is defined as any bodily movement produced by skeletal muscle, resulting in substantial increase over resting energy expenditure (Bouchard & Shephard, 1994). Increased physical activity can decrease the chances of dying from heart disease, plus the risk of developing diabetes, high blood pressure, dangerous cholesterol levels, and high stress levels (Surgeon General, 1996). Furthermore, the social and psychological benefits of increased physical activity are tremendous. Being physically active is important to all individuals including persons with disabilities. Physical education plays an important role in the development of cognitive, psychomotor and social behavior of a person with disability.

Adapted Physical Education (APE) is a specially designed instruction in physical education intended to address the unique needs of individuals. APE covers a much broader spectrum of activities beyond school settings. It is the art and science of developing, implementing, and monitoring a carefully designed physical education instructional program for a learner with a disability,

based on a comprehensive assessment, to give the learner the skills necessary for a lifetime of rich leisure, recreation, and sport experiences to enhance physical fitness and wellness. It is a comprehensive service delivery system that identifies problems of children in physical and motor fitness, fundamental motor patterns, sports skills and game. It is important to know that adapted physical education follows the same principle of least restrictive environment (LRE) as all other special education services.

Persons with deaf blindness have distinct needs unlike other disabilities. Deaf-blindness is a combination of a vision and hearing impairment that significantly affects the ability of an individual to communicate and to move about in the world. For persons with one sensory loss (vision or hearing) the alternate sensory system that is still intact can be utilized to take in information and understand the world around them. Such losses make it difficult to function in a seeing and hearing world and result in unique and very specific educational and support needs.

Students must not necessarily be profoundly deaf and totally blind to qualify as deaf-blind. A person who is deaf-blind has a unique experience of the world. For people who can see and hear, the world extends outward as far as his or her eyes and ears can reach. For the young child who is deaf-blind, the world is initially much narrower. If the child is profoundly deaf and totally blind, his or her experience of the world extends only as far as the fingertips can reach. Such

children are effectively alone if no one is touching them. Their concepts of the world depend upon what or whom they have had the opportunity to physically contact.

If a child who is deaf-blind has some usable vision and/or hearing, as many do, her or his world will be enlarged. Many children with deaf-blindness have enough vision to be able to move about in their environments, recognize familiar people, see sign language at close distances, and perhaps read large print. Others have sufficient hearing to recognize familiar sounds, understand some speech, or develop speech themselves.

It may seem that deaf-blindness refers to a total inability to see or hear. However, in reality deaf-blindness is a condition in which the combinations of hearing and visual losses in children cause "such severe communication and other developmental and educational needs that they cannot be accommodated in special education programs solely for children with deafness or children with blindness or multiple disabilities ". Children who

are called deaf-blind are singled out educationally because impairments of sight and hearing require thoughtful and unique educational approaches in order to ensure that children with this disability have the opportunity to reach their full potential.

They often face challenges in the areas of assessment, exploration, mobility, communication, social skills, independent living, self-determination, functional academics, and transition planning. Without an understanding of the unique challenges and needs of students with deaf-blindness, the setup and teaching strategies of a classroom may hinder the student's learning potential. A trans-disciplinary team approach that utilizes an integrated therapy model and generalization into natural environments is a critical component when working with students who are deaf-blind. Although persons with deaf-blindness present unique challenges, given the appropriate supports and accommodations, all can learn and be successful.

Inclusion of Physical Activity for the disabled:

Inclusion is a major trend in today's education for students with a disability. It focuses on multiple components, including an appropriate setting, services, and the development of educational objectives for the child (Stinson & Lang, 1994). These trends indicate that inclusion is more than just placement. It includes an education in an age-appropriate class within the home, school, community as well as proper

support to make education meaningful and successful. Today's inclusion goes beyond the legal requirements of the Individual with Disability Education Act (IDEA) and the American with Disability Act (ADA), which only mandate inclusion for school-based education. It especially considers inclusion in a community setting, which covers the whole lifespan (Horvat, 2003).

In recent decades, inclusion of people with disabilities in mainstream sport has been a key focus and has created new opportunities for participation and competition. On a larger scale, participation in disability sport also contributes to nation building and national identity and can also promote rehabilitation of people with disabilities.

Commonly, inclusion is associated with subjects that emphasize writing and calculating, not with physical activity (Butterfield, 1991). The current legislation in the United States has mandated physical education for all students since 1975, with the latest trends

moving towards inclusive physical education. The legislation states as follows: "Physical education services, specially designed if necessary, must be made available to every child with a disability receiving [Families and Advocates Partnership for Education] FAPE" (Council of Exceptional Children, n/a). Based on this definition, physical education should be considered a subject for inclusion. But reality shows that physical education is often a subject that is not integrated into an Individual Education Plan (IEP); it is considered unnecessary.

Need for Adapted Physical Activities for Deaf Blind:

Educating students who are deaf-blind comes with a unique set of challenges and joys. With the loss of sight and hearing, an individual's sensory input and experiences are reduced and overall development may be delayed. As a result, limits or predetermined expectations are sometimes placed on individuals who are deaf-blind by parents, professionals, agencies, and people who are deaf-blind themselves. This is equally true regarding recreational activities. Creative adaptations can alter recreation activities and programs so they will meet unique needs and provide fun and healthy exercise for all who participate. (Lieberman, 1996)

Studies show that individuals with deaf blindness consistently exhibited lower levels of fitness than their sighted peers. The need for fitness in children who are deaf-blind might be greater because of the increased energy required to complete activities of daily living.

They can improve their levels of physical activity, thereby improving comfort and success of movement which facilitates the completion of activities of daily living. Through making adaptations in activities such as running, bicycling, swimming, aerobics, or using equipment at health clubs or in the home, individuals with deaf blindness can address the components of health related fitness.

Research indicates that children who are blind tend to have more body fat, and less cardiovascular endurance, muscular strength and muscular endurance than their sighted peers (Lieberman & Carron, 1998; Winnick & Short, 1985). Winnick (1985) has also determined that children who are blind are behind in activities such as throwing, catching, balancing, striking, and body and spatial awareness. Researchers attribute these various delays not to genetic limitations of performance, but rather to over-protection and discouraging

attitudes on the part of the parents or teachers (Nixon, 1988; Winnick, 1985). To date, research on the fitness and motor ability of individuals who are deaf-blind is limited, yet one can logically conclude that children who are deaf-blind, due to their additional communication and mobility needs, will exhibit the same or more severe characteristics.

Children and youth who are deaf-blind often experience isolation (Kroksmark & Nordell, 2001; Petroff, 1999) and need opportunities for socialization (Haring & Romer, 1995; Smith, 2002). Experiencing physical activities with siblings, parents, neighbors, and friends can be enjoyable and memorable and promote and strengthen bonds.

Just like other children, those who are deaf-blind need physical activity for recreation, improving fitness, and building relationships with others. In a recent study, parents reported that their

children and youth who are deaf-blind often have a great deal of free time but have limited recreational opportunities at home (Lieberman & MacVicar, 2003).

There is a combined need to both increased opportunities for inclusion of students who are deaf-blind into physical education activities and to increase awareness of the specifics of deaf-blindness and the challenges deaf-blind people face with regard to physical activity, especially physical education. Additionally, it is essential that those working with people who are deaf-blind are fully aware of the benefits that come with active participation in physical activity for this population. By knowing the challenges and benefits it is anticipated that a new level of enthusiasm for overcoming these challenges might be generated, and a change of perspective regarding the inclusion of students who are deaf-blind into physical education can be developed.

Barriers hindering Deaf-blind to participate in Physical Activities:

Three main objectives of physical education cited by Block (2000) are the development of psychomotor, affective, and cognitive skills. Psychomotor skills include the development of motor-skills as well as increasing the overall fitness-level. The utterance affective skills cover social interaction skills as well as feelings toward and interest in physical activity. Cognitive skill or intellectual development provides a broader understanding of the surrounding environment, activity, and body-awareness. Active participation in physical education will provide

development of these three skills and will have both a positive effect on the quality of life and decrease student-related barriers, such as social isolation, less communication opportunities, lack of confidence, and low awareness of the body and environment (McInnes, 1999).

To plan and reach an active participation level in physical education, the ecological approach provides an effective means of identifying the ability of a student with respect to his/her interests, needs, and environment (Block, 2000). These will vary from student to student, especially among students who

are deaf-blind, since deaf-blindness has varying degrees often coupled with multiple disabilities, which may have an additional influence on the functional abilities level. The results of the study review indicates a need for greater awareness within the community to overcome the main barriers for including students who are deaf-blind in physical education, and additional findings indicate the need for focusing more on the benefits of active participation in physical activity, resulting in an increase in the quality of life for these students. It takes

commitment from both the teachers and the parents to develop an approach that will successfully include a student who is deaf-blind into physical education in a way that he/she can benefit from it and experience fewer barriers to successful and meaningful participation.

Minimal research has been done in the area of including students who are deaf-blind in physical education. The following studies focus on the barriers to inclusive physical education for persons with deaf-blindness.

Teacher related Barriers:

Lieberman and Houston-Wilson (1999) stated that the lack of professional preparation, the general physical education curriculum, the pace of the lesson, and attitudes are main barriers to inclusion. Teachers often do not receive the necessary information about deaf-blindness, which causes poor preparation and hinders deaf-blind students being included in physical education appropriately. This lack of information is also a key reason for not being aware of opportunities that exist to modify games and equipment and the curriculum to overcome or eliminate activities that act as barriers to participation by students who are deaf-blind.

The lack of knowledge for adaptation and the low awareness of appropriate programming ideas, which relates to modification, are also indicated

as barriers experienced in the study from Lieberman and MacVicar (2003), which analyzes the recreational barriers 54 students who are deaf-blind faced. A study by Lieberman and Stuart (2002) that evaluates the self-determined recreational and leisure choices of 51 adults who are deaf-blind came to the conclusion that adequate recreational programs are missing and, thereby, produce a barrier.

Teachers' attitudes that influence inclusion are fear, overprotection, and limited expectations (Lieberman & Houston-Wilson, 1999). Because of their unfamiliarity with the disability, teachers often do not know how to interact with deaf-blind students and have problems in identifying the student's abilities. This again has consequences on the teacher's expectations for the deaf-blind child.

Student related Barriers:

This category contains parental overprotection, lack of opportunities, and lack of confidence as barriers to successful involvement in inclusive physical education (Lieberman & Houston-Wilson, 1999). It needs to be considered that in this study it is the teachers' perception which leads to that result. The authors of the study support their findings with information from Sherrill's study (Sherrill, C., 1998) that it is a common and reasonable behavior from the parent's perspective to want to guarantee their child's well-being. However, they might not recognize that this overprotection puts restrictive boundaries on their child's physical, emotional, and social development.

This lack of opportunity for those experiencing loss of hearing and vision often results in late intervention with appropriate resources and adaptive equipment. This aspect is supported by McInnes (1999), who lists several problems the deaf-blind child faces with regard to the disability. People who are deaf-blind have a decreased ability to interact and communicate with others

Administrative Barriers:

This category includes the challenges of time, lack of appropriate equipment, and covered medical excuses. (Lieberman, Houston-Wilson., 1999). One of the areas teachers mentioned as a barrier was time problems for scheduling physical education experiences for student who are deaf-blind. The validity of this as a legitimate barrier has been denied by the authors and defined as an

and, therefore, go through long periods of isolation. This isolation causes socialization problems. Loss of vision plays a primary role in that they have an imprecise perception of the world, including low body awareness. This limits their understanding of actions and outcomes as well as their understanding of future events. These aspects put burdens on physical education for this population and illustrate the need for adaptation and special approaches.

Other aspects mentioned by McInnes (2003), which should be considered by physical educators, are the disadvantage of not being able to use common motivation opportunities and the challenge of developing a long-term learning style for this population.

Parental and teachers' overprotection combined with negative attitudes and fewer opportunities in several areas of life are foundations for low self-confidence. This will increase the fear of participating in unknown activities and lower the desire to interact and communicate.

excuse. Because law mandates physical education should be considered within the IEP. And time should be made if it is appropriate to complement physical activity with related services, but this incidental activity should not be used to meet physical education requirements. There is no other study supporting not finding extra time as a legitimate barrier.

Attitudinal Barriers:

Teachers state in their surveys that physicians prohibited students who are deaf-blind from participating in physical activities due to fear for students' safety and overprotective attitude towards the disability. The authors raise the concern that through denying physical activity the physicians hinder the quality of life of these students (Lieberman & Houston-Wilson, 1999).

Although the studies differ in age of participants and purpose, it still can be concluded that the barriers that people who are deaf-blind are facing in participating in physical activity over the life span are similar. The main barriers can be summarized as a lack of

knowledge of the needs and requirements of people who are deaf-blind and attitudes towards this population that result in exclusion rather than inclusion.

These studies strongly indicate the need for greater awareness and knowledge within the group of physical education teachers and professionals in fields related to physical education. In addition, an increase of awareness within the community would bring the purpose and goal of inclusion together, resulting in an understanding that inclusion goes beyond placement and provides opportunities and experiences that prepare all students for a life after school.

Communication Barriers:

Research has established that there is a fundamental need to focus on communication skills for participation in normal daily life activities including physical activity and recreation for individuals who are deaf-blind (Tedder, Warden, & Sikka, 1993; Stremel and Schultz, 1995). However, the provision of effective communication can be problematic. Lieberman and Stuart (2002) found that communication was a major barrier to participation in activities for adults who are deaf-blind; Lieberman and MacVicar (2003) reported a similar finding for children who are deaf-blind.

Communication with individuals who are deaf-blind may include sign language in close proximity, sign far away, tactile sign, or a combination of sign and speech; finding communication partners who are skilled in sign and in

adapting their signing style and method to the needs of the individual can be challenging across all environments. When considering the intricacies of communicating with someone deaf-blind while they are engaged in physical activity, which often involves the use of the hands, the issues become even more significant.

In addition to a potential communication barrier, there are other barriers to involvement in satisfying physical activity and recreational activities for adults who are deaf-blind (Lieberman & Stuart, 2002). Those barriers include lack of opportunities (Lieberman & Houston-Wilson, 1999) and lack of confidence (Shapiro, Lieberman, & Moffett, 2003) Research conducted with adults who are deaf-blind showed that those adults were unsatisfied

with their current level of recreation (Lieberman & Stuart, 2002). Furthermore, parents of children who are deaf-blind were not satisfied with their children's current level of recreation inside and outside the home (Lieberman & MacVicar, 2003).

Related specifically to children with visual impairments, complications in physical activity for children with visual impairments also include fear of movement and difficulty in establishing trust with others (Lowry & Hatton, 2002). In addition, lack of experience with complex sport activities severely limits sport participation in later life for children with visual impairments (Ponchillia, Strause & Ponchillia, 2002).

While these studies were not conducted with children who are deaf-blind, there are implications from this research for those children. Children and youth who are deaf-blind must manage not only the effects of a visual impairment but a hearing impairment as well. The

CONCLUSIONS

Adapted physical education is an essential part of the basic educational program which leads to the development of the children with deaf-blindness. A well-planned, APE program contributes significantly not only to the learning experiences but also to the social participation and communication of such children. It is imperative to encourage individuals who are deaf-blind to participate in physical activity in school and in their recreational time. The physical, social, and psychological benefits of physical activity will increase the likelihood of independence and

potential findings from Lowry and Hatton (2002) and Ponchillia, Strause, and Ponchillia (2002) would in some way apply to children who are deaf-blind seems a reasonable one. Lieberman (2002) has shown that recreational activities fulfil a variety of needs for individuals who are deaf-blind such as socialization, fitness, and normalization.

Additionally, recreation helps facilitate communication and is an essential part of transition from school to vocational life for youth who are deaf-blind (Haring & Romer, 1995). Finally, recreation can be a means of reducing physical, social and psychological isolation. Clearly being physically active is a powerful strategy to support children and youth who are deaf-blind. However, a lack of experience in physical activity and recreation coupled with communication barriers results in isolation and limited opportunities to engage in physical activity for youth who are deaf-blind.

improve the quality of life for these children. With respect to the review of the studies presented in this paper, understanding the need to enhance the adapted physical education for persons with deaf-blindness would promote better inclusion in home, school and society as well. Initiations need to be taken to overcome barriers that impede the inclusion of children with deaf-blindness in physical activities which would be possible only through the combined efforts of parents, teachers, administrators, stake holders and the individuals themselves.

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