Sports and Recreation for Children and Youth with Developmental Disabilities

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Abstract

Participation in inclusive sports and recreation programming has shown to be a promising approach for improving physical and psychological outcomes for youth with developmental disabilities. The present review provides an overview of common barriers faced by participants and their families, and identifies thirteen key components of successful inclusive sports and recreation programs. The review discusses best practices for adapting the physical and institutional environment as well as instructional styles and program activities to meet the needs of young people with developmental disabilities. The review concludes with a brief summary of current practices within the Department of Defense (DoD), implications and suggestions for future research, and a list of helpful resources.

Sports and Recreation for Children and Youth with Developmental Disabilities

Developmental disabilities, also referred to herein as disabilities, refer to a collection of severe, chronic physical and mental impairments (The Developmental Disabilities Assistance and Bill of Rights Act, 2000). The prevalence of developmental disabilities is growing in the United States, with rates increasing over 17% between 1997 and 2008. The most recent prevalence estimate in the United States indicates that just under 14% of children and youth ages 3 to 17 are living with a developmental disability (Boyle et al., 2011). Applied to the population of approximately 2 million military youth (Department of Defense, 2012), it can be estimated that over 275,000 military youth may be currently living with a developmental disability.

In comparison to their civilian counterparts, military children and youth with developmental disabilities face a unique set of challenges (e.g., coping with parental deployment and adjusting to a highly mobile lifestyle). Military children and youth also face similar challenges to civilians with disabilities including social isolation, marginalization, comorbid emotional disorders (Murphy & Carbone, 2008), and of increasing concern, elevated risk for being overweight or obese (Bandini, Curtin, Hamad, Tybor, & Must, 2005). This elevated risk of obesity is problematic due to its numerous physical and psychological consequences, such as decreased cardiovascular fitness, circulation, mobility, self-esteem, independence, and social acceptance (Murphy & Carbone, 2008).

Participation in inclusive sports and recreation programming has shown to be a promising approach for improving physical and psychological outcomes for youth with developmental disabilities. More specifically, participation in sports and recreation programs has improved participants' independence, coping abilities, and teamwork skills (Patel & Greydanus, 2002); encouraged the development of friendships, creativity, self-identity, and a sense of purpose in life (Dykens et al., 1998); and increased physical strength and functioning (McBurney, Taylor, Dodd, & Graham, 2003).

Participation in inclusive sports and recreation programming has shown to be a promising approach for improving physical and psychological outcomes for youth with developmental disabilities.

However, children and youth with disabilities often lack equitable access to sports and recreation programs in comparison to their peers. As discussed below, characteristics of the environment can discourage youth with developmental disabilities from participating in sports and recreation programming, thereby contributing to the elevated risk for obesity. While encouraging participation in inclusive sports and recreation programs is a promising approach, creating an inclusive environment is expensive in terms of resources, time, and effort. It is important for programs interested in implementing inclusive practices to minimize common barriers faced by participants while simultaneously adapting the physical, institutional, and social environment of their programs.

The present review begins by defining inclusion in terms of sports and recreational programs and describe common barriers associated with implementing effective inclusive programs. Key components of effective inclusive programs are discussed, best practices and implementation strategies are presented, and current practices within the Department of Defense (DoD) are summarized. The report concludes by presenting implications, suggestions for future research, and resources for those interested in implementing inclusive programming.

Current Status of Research

The literature on inclusive sports and recreation programming is fairly small and largely anecdotal, relying heavily on parental reports of their children's positive and negative experiences. Current research has established key components of inclusive sports and recreation programs. However, additional research is needed to establish a connection between effective programming and participant outcomes (i.e., physical strength, friendships, social inclusion, and newly acquired skills). This research will need to take a comprehensive view of effective inclusive practices as well as a clear depiction of the development and maintenance of successful programming (Miller, Schleien, & Lausier, 2009).

Origins of Sports and Recreation Programs for Individuals with Disabilities

The first recreational program for individuals with disabilities was created in the 1950's by Eunice Kennedy Shriver. Shriver created a backyard camp for people with intellectual disabilities in an attempt to provide them with positive relationships and equal opportunities for play. This camp became the Special Olympics in the late 1960's, with the first Summer Games occurring in 1968 and the first Winter Games occurring in 1977 (History of Special Olympics, 2014).

The Special Olympics aims to provide year-round training and competition in Olympic-type sports for young people and adults with intellectual disabilities. It offers a wide variety of sports including skiing, swimming, bowling, cycling, and snowboarding. However, the Special Olympics still largely offers segregated programming in which only individuals with intellectual disabilities are eligible to participate in activities (http://www.specialolympics.org/).

Although segregated programming was once the gold standard for sports and recreation programs for young people with disabilities, it is no longer considered a best practice.

Although segregated programming was once the gold standard for sports and recreation programs for young people with disabilities, it is no longer considered a best practice. Practitioners have begun implementing inclusive programs, or programs in which individuals both with and without disabilities play and compete together. While inclusive programming has proven to be more difficult to design and implement than segregated programming, these programs have demonstrated promising outcomes for all involved.

What is Inclusion?

In the past, individuals with disabilities have been excluded or segregated from organized physical activity (DePauw, 1997). However, in recent years, full inclusion has become a popular practice, providing participants with opportunities to engage in programming without conditions, limitations, or prejudice.

Fully inclusive programs implement three types of practices: physical integration, functional inclusion, and social inclusion (Schleien, Green, & Stone, 2003). Physical integration refers to the use of physically accessible facilities. Functional inclusion refers to the successful functioning of participants within the program, and includes the use of adaptations to ensure active participation by all (Schleien et al., 2003). For example, functional inclusion may be supported by hiring staff and/or volunteers who provide participants with individual support (Pegg & Compton, 2003). Lastly, social inclusion, arguably the most complex of all the practices, occurs when participants experience social acceptance and positive

interactions with their peers (Schleien et al., 2003). Social inclusion can be facilitated in a number of ways, including utilizing cooperative rather than competitive activities, aligning program activities with participants' interests, welcoming and encouraging participation by all, and preventing social barriers from affecting participation in and enjoyment of the programming (Pegg & Compton, 2003).

Fully inclusive programs implement three types of practices: physical integration, functional inclusion, and social inclusion.

Inclusive service models are often used to guide the development and maintenance of programming. While many service models exist, the Inclusive Recreation Service Delivery (ISD) model is currently considered a best practice (Miller, Schleien, & Bowens, 2010). ISD is a service model based on the philosophy that recreational services should be available to all individuals equally (Miller et al., 2010; Stroud, Miller, Schleien, & Stone, 2011). Programs following the ISD model strive to meet the following four goals: (1) ensure all participants experience social inclusion; (2) ensure participants with and without disabilities participate successfully together; (3) provide similar benefits to all involved; and (4) ensure participants trust that the physical environment and program activities will be adapted whenever necessary (Miller et al., 2009, 2010). The ISD model challenges the viewing of individuals with disabilities to be different, as expressed through segregated activities (Miller et al., 2010).

Regardless of the specific service model, fully inclusive sports and recreational programs require careful design and implementation (Lieberman & Houston-Wilson, 2009), often necessitating a shift from previous approaches in both ideology and physical structures. Inclusion may be added to the program mission, and encouraged through supportive policies, leadership, and physical adaptations of facilities and equipment (Promis et al., 2001).

Barriers to Child and Youth Participation in Inclusive Programming

The participation of children and youth with disabilities in all areas of life, including sports and recreation programming, is influenced by five aspects of the physical and social environment: (1) products and technology; (2) characteristics, design, and layout of the environment; (3) support and relationships; (4) attitudes, values, and beliefs; and (5) services, systems, and policies (World Health Organization, 2007). These five environmental components often serve as barriers to participation in programming, with the intensity and frequency of occurrence increasing with the age of young people (Law et al., 2007). Programs can benefit from developing a firm understanding of each barrier to participation and how to address and/or overcome each issue.

Products and Technology

Technology can serves as a barrier to participation in sports and recreation programs among youth with developmental disabilities in a variety of manners. Some programs do not have adequate access to products (e.g., communicative tools or transportation devices) that are necessary for young people with developmental disabilities to fully participate. Other programs lack the necessary technology for young people to fully participate, such as adaptations for musical or artistic activities (World Health Organization, 2007). Programs that lack these products and resources are unlikely to attract and retain young people with developmental disabilities in their activities.

Characteristics, Design, and Layout of the Environment

The characteristics, design, and layout of the physical environment may support or impede participation of children and youth with developmental disabilities in sports and recreation programming. The natural environment negatively impacts participation when the weather, temperature, lighting, noise, and crowding interfere with the young person's ability to access and enjoy the activity (Harding et al., 2009; Law et al., 2007; Rimmer, Riley, Wang, Rauworth, & Jurkowski, 2004). The built environment refers to the physical accessibility of the building, and can impede participation when facilities are inaccessible or unsafe (Council on Sports Medicine and Fitness & Council on School Health, 2006; King et al., 2003). Common barriers associated with the built environment include difficulties with utilizing or providing adaptive equipment and accessible facilities (Devine & Kotowski, 1999), and inaccessible building structure and access routes (Rimmer et al., 2004).

These environmental barriers are of key concern for programs. Characteristics of the natural and built environment are consistently reported to be the strongest barrier to participation for children and youth with developmental disabilities in extracurricular sports and recreation programs (Law et al., 2007). In addition, the experience of the physical environment is often indistinguishable from the experience of activities done in this environment (Harding et al., 2009). A negative experience with the physical environment of a program will likely transfer to memories for and experiences of program activities.

Support and Relationships

Support systems are of key importance for those involved in inclusive programming; as inadequate support for young people and their families is a commonly cited barrier to participation in sports and recreation programming (Law et al., 2007; Murphy & Carbone, 2008). Young people engaged in sports and recreation programs often experience a negative social environment (e.g., stereotypes, negative attitudes associated with their disabilities) that can be challenging to overcome (King et al., 2003; Law et al., 2007). Parents may also experience negativity associated with their child's participation in inclusive programming, and report not enrolling their children in inclusive programming for fear of harassment, prejudice, and discrimination (Tsai & Fung, 2009). On a larger scale, a national survey of park and recreation programs found that a lack of community support prevented programs from adopting inclusive practices (Devine & Kotowski, 1999).

Inadequate support for youth and their families is a commonly cited barrier to participation in sports and recreation programming.

Attitudes, Values, and Beliefs

Negative attitudes, values, and beliefs about disabilities and inclusive programming are held by some young people with disabilities, their families, peers, youth centers and programs, and industry personnel. Such beliefs by all of these groups can serve as barriers to child and youth participation in sports and recreation programs.

Youth with disabilities. Similar to most young people, children and youth with developmental disabilities may form a strong sense of self- and social-awareness. Young people with disabilities are often aware of their personal needs, adaptability, problem-solving skills, and attitudes within different environments (Harding et al., 2009), and tend to perceive sports and recreational programs as physically and emotionally unfriendly. These perceptions are largely due to the negative attitudes and behaviors of program staff and peers (Rimmer et al., 2004). Young people with disabilities also report social and

emotional constraints to participation, including different interests than their peers and an inability to control their social environment (Harding et al., 2009). Self-esteem and self-concept are important concerns for all young people, including those with disabilities. For example, a systematic review of the research found that female adolescents with cerebral palsy held a lower self-concept than their peers without disabilities in terms of physical appearance, social acceptance, athletic abilities, and academic abilities (Shields, Murdoch, Loy, Dodd, & Taylor, 2006). Furthermore, health issues, skill deficits (i.e., physical, social, recreational), and lack of time and energy also negatively impact child and youth participation in sports and recreational programming (Harding et al., 2009; Mactavish & Schleien, 2004; Verschuren, Wiart, Hermans, & Ketelaar, 2012).

Family. Family activity preferences have a major influence on participation in recreational programming (King et al., 2003), such that families who do not place value on physical activity are unlikely to encourage their child's participation in these programs (Tsai & Fung, 2009; Verschuren et al., 2012). Children only remain active as long as their parents initiate and support the activity (Menear, 2007), and similar to peers, parents of youth with developmental disabilities tend to impose restrictions on their child's physical activity (Harding et al., 2009). Moreover, parents of young people with developmental disabilities may refrain from enrolling their children in inclusive programming for fear of harassment (Tsai & Fung, 2009) or a lack of acceptance for their child (Verschuren et al., 2012).

Young people. Young people without developmental disabilities tend not to accept their peers with developmental disabilities during competitive sporting events and activities, potentially due to perceptions that young people with developmental disabilities will negatively impact the outcome of the game (Menear, 2007). These perceptions may result in belittling, bullying, and taunting of young people with developmental disabilities (Verschuren et al., 2012); all of which can severely deter further participation in sports and recreational activities.

Child and youth programs and industry personnel. Misconceptions about program policies frequently discourage young people with disabilities from inquiring about, or participating in, inclusive programs. For example, research suggests that many universities and practitioners believe that individuals with disabilities are uninterested in participating in inclusive recreational activities (Promis et al., 2001; Rimmer et al., 2004). Some sports and recreation program staff also seem to hold negative attitudes and misconceptions toward inclusion, with many reporting inclusion as either a "necessary evil" or unimportant, also reporting liability concerns (Rimmer et al., 2004). Furthermore, staff of inclusive programs hold lower performance expectations for young people with disabilities, have negative attitudes toward these young people, occasionally turning away or rejecting young people from enrolling in programs (Devine & Kotowski, 1999; King et al., 2003; Rimmer et al., 2004; Tsai & Fung, 2009).

Services, Systems, and Policies

Structural characteristics of programs and exclusionary or restrictive policies can also function as significant barriers to participation (King et al., 2003; Law et al., 2007; Murphy & Carbone, 2008). Many programs lack an understanding of the Americans with Disabilities Act (ADA) and building codes (Rimmer et al., 2004); lack training courses for staff regarding implementing adaptations, behavior plans, and adaptive equipment (Devine & Kotowski, 1999; Miller et al., 2009); report a lack of financial resources for program demand (Devine & Kotowski, 1999); and do not have direct support staff to encourage successful program implementation (Miller et al., 2010; Rimmer et al., 2004). Parents report difficulty obtaining transportation to and from activities (Devine & Kotowski, 1999; King et al., 2003;

Rimmer et al., 2004; Verschuren et al., 2012); a lack of suitable programs matched to their child's ability level; (King et al., 2003; Law et al., 2007; Mactavish & Schleien, 2004; Menear, 2007; Verschuren et al., 2012); a need for specialized supports that are unavailable in their area (Law et al., 2007; Menear, 2007); and high costs in terms of time and financial resources, exacerbated by the high costs associated with health care and the labor intensive daily routines prevalent in this population (Council on Sports Medicine and Fitness & Council on School Health, 2006; King et al., 2003; Mactavish & Schleien, 2004; Menear, 2007; Verschuren et al., 2012).

In sum, inclusive programming can have a positive impact on children, youth, and their families. Although it is important that program staff design and implement programs that address the barriers young people and their families face in ensuring active participation in sports and recreation programs.

Key Components of Inclusive Sports and Recreation Programs

Thirteen key components of inclusive sports and recreation programs have been identified utilizing Brofenbrenner's (1979) social-ecological framework to describe the complex interconnections between each young person and the larger contexts of which he or she is a part (King et al., 2003, 2006; Miller et al., 2010). This framework categorizes each component within one of four contextual domains: environment, family, young people, and program (see Table 1).

Table 1. Thirteen Key Components of Inclusive Sports and Recreation Programs

Environment	Family	Young People	Program
Strong external support systems	Absence of excessive financial and time impact	Self-perceptions of athletic competence	Program design
Supportive relationships for Young People	Supportive home environment	Activity preferences	Staff training
Supportive relationships for parents	Family preference for recreation	Physical, cognitive, communicative, and socio-emotional functioning	Adaptations to instruction and activities
Supportive physical and institutional environments			

Environment

Four environmental components of successful inclusive sports and recreation programming have been identified: (1) strong external support systems; (2) supportive relationships for young people; (3) supportive relationships for parents; and (4) supportive physical and institutional environments (King et al., 2003, 2006).

Strong external support systems. Strong external support systems refer to emotional, institutional, and instrumental support from the community at large, including community government and schools. These support systems shape each young person's values and support the development of positive coping strategies (King et al., 2003, 2006). Successful inclusive sports and recreation programs forge partnerships among families, practitioners, and other community-based organizations to promote the health and wellness of young people and their families (Murphy & Carbone, 2008, 2011). Administrators, teachers, family members, youth, and the larger community are involved in the inclusion process such that everyone collaboratively develops the program's philosophy, goals, staff responsibilities, and evaluation processes (Block & Conatser, 2002).

Supportive relationships for young people. Supportive relationships for young people include all social relations a young person encounters (i.e., social support from parents, other adults, and peers) that help him or her participate in daily activities and improve his or her social functioning (King et al., 2003, 2006). Successful inclusive programs strategically and systematically structure and implement activities that optimize involvement by, and interaction between, all participants and staff (Crilley, 1994). Successful programs also protect young people from social adversity, including loneliness, isolation, and peer rejection, and provide youth with meaningful and supportive peer relationships (Sandler, Ayers, Suter, Schultz, & Twohey-Jacobs, 2004).

Supportive relationships for parents. Parents of young people with disabilities often experience physical and mental health issues due to high stress (Goudie, Narcisse, Hall, & Kuo, 2014; Murphy & Carbone, 2011; Smith & Grzywacz, 2014). Successful inclusive programs support the well-being of families through the provision of social support. Social support for parents includes both informal relationships (e.g, with friends, family members, and community members) and formal relationships (e.g., emotional, informational, and instrumental support received from the community and programs; King et al., 2003, 2006).

Supportive physical and institutional environments. Successful inclusive sports and recreation programs develop supportive physical and institutional environments. Supportive physical environments are conveniently located, accessible ADA-compliant facilities with appropriate adaptive equipment, such as pool water chairs, upper-body aerobic exercise equipment, and pool lifts (Brannan, Arick, Fullerton, & Harris, 2000; Devine & Kotowski, 1999; Rimmer et al., 2004).

Supportive institutional environments consider inclusion as central component of their mission, and demonstrate this through their hiring practices, budgeting, marketing, and evaluation (Miller et al., 2010; Stroud et al., 2011). Program protocols are reviewed to ensure they are not discriminatory and safety considerations and emergency procedures are altered to apply for all participants (Block & Conatser, 2002). Successful programs provide the community and participants access to information and resources. In addition, inclusive programs understand that success is dependent upon thoughtful and systematic inclusion of all individuals, and that adaptations and accommodations are necessary (Stroud et al., 2011).

Family

The second contextual domain associated with the key components of inclusive sports and recreation programming addresses characteristics of participants' families. Families are influential in determining child and youth engagement in sports and recreation programming (King et al., 2003, 2006). Family members facilitate involvement through instrumental pathways (e.g., transportation and financial

support) and emotional pathways (e.g., development of values and attitudes toward athletics; Brustad, 1993; Martin & Choi, 2009). Sports and recreational programs are most beneficial for young people when they take a family-centered approach to service delivery; programs can develop and implement policies that bolster family resources, knowledge, and functioning (King et al., 2006). Three family-centered components of successful inclusive sports and recreation programming have been identified: (1) absence of excessive financial and time impact on the family; (2) supportive home environment; and (3) family preference for recreation (King et al., 2003, 2006).

Absence of excessive financial and time impact on the family. Families of young people with disabilities often face high health care costs and labor-intensive daily care routines that constrain free time and financial resources (King et al., 2003). Successful inclusive sports and recreation programs attempt to minimize financial and time constraints for families. While strategies for addressing this component should be tailored to each program's population, potential approaches include providing scholarships and transportation for families in need (Rimmer et al., 2004).

Supportive home environment. A supportive home environment includes the physical, mental, and social well-being of family members as well as how well the family functions as a unit (King et al., 2003, 2006). Successful inclusive sports and recreation programs understand that parental beliefs about, and encouragement of, physical activity are strongly related to young people's participation in physical activity; they therefore adopt strategies that encourage parents to watch programming, participate with their child, and provide positive reinforcement for participation in physical activity (Promis et al., 2001; Trost et al., 2003).

Family preference for recreation. Successful inclusive sports and recreation programs recognize that different families prefer distinct activities, and that these preferences are an important influence on youth participation (King et al., 2003, 2006). To address varying preferences, successful programs work with families before adopting activities, attempting to satisfy the preferences of all participants.

Young People

Successful inclusive sports and recreation programs also consider and adapt to characteristics of their participants. Therefore, three young people-centered components of successful inclusive sports and recreation programming have been identified: (1) young people's self-perceptions of athletic competence; (2) young people's activity preferences; and (3) young people's physical, cognitive, communicative, and socio-emotional functioning (King et al., 2003, 2006).

Young people's self-perceptions of athletic competence. Young people's perceptions of their athletic competence is directly related to attraction to physical activity, including vigorous exercise, liking of games and sports, enjoyment associated with physical exertion, and value placed on exercise (Brustad, 1993; King et al., 2003, 2006). Successful inclusive sports and recreation programs support the development of positive self-perceptions of athletic competence by matching activities to young people's ability levels and providing youth with successful athletic experiences.

Young people's activity preferences. Personal preferences regarding physical activity and games are a strong influence in child and youth participation in sports and recreation programming. Successful inclusive sports and recreation programs recognize that young people hold different preferences and attempt to encourage participation by explicitly considering their participants' preferences and motivations for engaging in physical activity (King et al., 2003, 2006).

Young people's physical, cognitive, communicative, and socio-emotional function. This category of functions includes physical skills, cognitive abilities, both receptive and expressive language, and socio-emotional functioning such as emotional regulation, impulse control, and social skills (King et al., 2003, 2006). Activities can be carefully matched to ability level, for young people cannot succeed at activities well above their ability level and will not grow from activities below their skill set. Staff in successful inclusive sports and recreation programs form a thorough understanding of each participant's functioning across a range of domains, and match each activity to each young person's functional ability. Staff also encourage growth through modeling, the development of supportive relationships, and positive interactions.

Program

At the program level, inclusive sports and recreation programs serving children and youth with developmental disabilities should carefully consider all aspects of the program Including program design staff training, and adaptations to program instructions and activities.

Program design. Successful inclusive sports and recreation programs follow a systematic process for program development that provides strong environmental support and addresses young people's abilities and preferences. Many programs, for example, utilize the Therapeutic Recreation Process (Miller et al., 2009), in which individual support plans are developed through a four step process: (1) participant assessment; (2) program planning; (3) program implementation; and (4) program evaluation. Successful sports and recreation programs combine the expertise of disability specialists (i.e., Certified Therapeutic Recreation Specialists and inclusion support staff) and general recreation program staff (i.e., coaches) during the design, implementation, and evaluation processes (Miller et al., 2010). Disability specialists are typically responsible for individual assessment, the development and implementation of inclusion and accommodation plans, and the evaluation of program effectiveness.

Staff training. Successful inclusive sports and recreation programs provide sensitivity and practical training for program staff, and occasionally peer participants (Block & Conatser, 2002). A national survey of park and recreation programs found that disability awareness training was the most pressing training need; this survey also found that program staff were interested in training on successful modification strategies for implementing inclusive programs, behavior management strategies, and federal/state regulations (Devine & Kotowski, 1999). Another promising strategy for training sessions includes providing staff with first-hand experience with assistive devices so they can develop a better understanding of participant perspectives (Rimmer et al., 2004). Mover, programs can work directly with staff to determine their most pressing training needs.

Disability awareness and sensitivity training can also be provided to other youth who are participating, often in the context of peer companion programs (discussed below; Miller et al., 2009). These training sessions inform peer participants of what they can expect in interactions with children and youth with disabilities (Promis et al., 2001) and how to interact with and support their peers with disabilities (Miller et al., 2010)

Adaptations to instruction and activities. Successful inclusive programs offer activities and instruction that encourage the participation of young people of varying ability levels. Decades of research on inclusive education has underscored the important role that teachers play in supporting inclusion, through encouraging active and participatory instruction, taking ownership of the education of all students, and having a willingness to learn from their students (Baumgart & Giangreco, 1996). These

approaches align with those found to be important within inclusive sports and recreation programs, such as giving encouragement, motivational support, and modeling. Teachers and program leaders can adapt programming to provide participants with additional time, practice, and alternative strategies for success when necessary, and create and utilize alternate methods of communication (Brannan et al., 2000).

Providing supportive relationships for young people with disabilities is vital in inclusive sports and recreation programming; however, without encouragement from adults, peers often show low acceptance of their peers with disabilities (Favazza, Phillipsen, & Kumar, 2000). Providing structured play time for young people with and without disabilities has shown to improve young people's attitudes toward their peers (Favazza et al., 2000). While this approach is unlikely to be successful with older children and youth, inclusive sports and recreation programs successfully encourage the development of these relationships with peer companion programs, or match youth with disabilities to trained peers without disabilities (Anderson, Schleien, McAvoy, Lais, & Seligmann, 1997; Brannan, Arick, Fullterton, & Harris, 2000; Devine & Kotowski, 1999; Miller et al., 2009). One form of peer companion programs, peer tutors, trains non-developmentally challenged students to assist their peers and provide support and interaction during program activities (Block & Conatser, 2002; Block et al., 2007). The success of these programs, however, is dependent on the availability of training for young people on how to best support their peers with disabilities (Miller et al., 2010).

Successful inclusive sports and recreation programs modify program activities to ensure they are fair, safe, and fun for all involved (Block & Conatser, 2002; Block et al., 2007). For example, while it is helpful to minimize the use of competition in inclusive programs, a thoughtful and systematic approach to competition will allow young people with disabilities to stake a claim in contexts previously not available to them (Promis et al., 2001). If competitive sporting events are used in inclusive programs, teams can be re-organized to include individuals of varying abilities. This strategy encourages young people to view success as their ability to harness each other's strengths to achieve a common goal, rather than attempting to outperform their peers. Activities can also be modified in terms of group size, instructional settings, and environment (i.e., create a smaller or larger area for the activity as needed; Block & Conatser, 2002).

Successful inclusive sports and recreation programs modify program activities to ensure they are fair, safe, and fun for all involved.

Tasks within each activity may be broken into smaller steps (Brannan et al., 2000), and games developed specifically for inclusive programs can be implemented into daily programming. Low-organized games are an example of such an activity. Low organized games, or active group games, are designed to promote social, emotional, cognitive, and physical learning as well as foster a trusting environment between participants. These games allow youth to participate at their own developmental level, which ensures they are appropriate for young people with and without disabilities (White, Casebolt, & Hull, 2004).

In sum, these thirteen key components across the broader domains of environment, family, young person, and program, are each important when designing and enhancing inclusive sports and recreation programs. Although they are beneficial for young people with developmental disabilities, many of the components are also relevant to young people from a range of backgrounds. For example, providing transportation and scholarships for underprivileged young people and incorporating the activity preferences of children and youth are important for all sports and recreation participants.

Current Practices in the DoD

With the assistance of the Department of Defense's Office of Family Policy, Children, and Youth, information was solicited from the Army, Air Force, Marines, and Navy regarding current inclusive practices for child and youth sports and recreation programs. Responses were received from the Air Force and Marines. Results suggest that the availability of sports and recreation programming for children and youth with developmental disabilities varies in these branches.

Data from the United States Air Force (USAF) indicates they strive to be inclusive in all sports and recreation programs. A variety of camps are offered for children and youth; some are specific to individuals with disabilities, and others are open to all children and youth. Activities within these camps vary from equestrian riding to dancing to athletics, with many camps utilizing a variety of best practices. Specifically, these camps demonstrate strong external support systems through community partnerships, the encouragement of family involvement in activities, the use of disability specialists or direct support staff, the use of physically adaptive environments and equipment, and the alignment of activities to each participant's developmental level. Installations interested in opening a new camp are allowed to submit proposals to the USAF, and camps are funded with available dollars. In fiscal year 2013, the Air Force funded 56 Exceptional Family Member Program (EFMP) camps. Anecdotal feedback is positive, although the USAF does not perform any formal evaluations of these programs.

Data was also obtained about sports and recreational programming for young people with developmental disabilities from the United States Marines Corps (USMC) Fitness, Aquatics and Sports, Semper Fit and Recreation Branch, and the EFMP. Like the USAF, the USMC also reported that they offer both inclusive and separate programming. Although they do not excluded children or youth from participating in sports and recreation programming, some programs do not routinely alter activities or rules for children and youth with disabilities. Participation in inclusive programming is assessed on a case-by-case basis, and programs work with parents and coaches to successfully integrate young people into programming. Examples of programs include: aquatics programs where instructors used basic signs for deaf children and youth; aquatics programs that invited parents or caregivers into the water to provide additional support for young people with spina bifida; bowling programs that support adaptive equipment; building of accessible playgrounds; sensory movie events; and acquisition of adaptive equipment to promote recreation inclusion (e.g., beach wheelchairs, paramobiles, adaptive bicycles and skis).

Data from the USMC reflect their utilization of multiple best practices, such as encouraging family involvement in programming, utilizing accessible facilities and equipment, and utilizing alternative methods of communication. The Marines also has a partnership with the National Alliance for Youth Sports (NAYS) in which staff attend training regarding conducting effective child and youth sports programs.

The Semper Fit and EFMP Program have developed a collaborative relationship and offer quarterly trainings between the two programs to educate and inform Semper Fit staff about inclusion, barriers that may prevent individuals with special needs from participating in activities, characteristics of particular disabilities, and reasonable accommodations to support inclusion. In turn, Semper Fit staff provide information to EFMP staff about the variety of programs available to families. Efforts to expand services by partnering with additional programs are currently underway.

Conclusions and Future Directions for Research

While increasing the availability of sports and recreation programs offers promise for improving physical and psychological outcomes, children and youth with developmental disabilities often lack equal access to such programming. It is important for programs to form a strong understanding of the common barriers faced by their participants and continuously work to overcome them.

The thirteen key components of successful inclusive sports and recreation programs (see Table 1) provide a framework from which programs can build and implement inclusive programs. This framework supports the need for inclusion which requires the successful integration of numerous factors, including: environmental, family, young people, and program factors. Programs benefit from continuous evaluation of their programming to ensure they are achieving desired outcomes for participants. The use of a systematic process for program development and evaluation (i.e., Therapeutic Recreation Process previously described) can facilitate the use of evaluations to assess program functioning and identify necessary changes.

Administrators and policymakers will need to understand the time and effort needed when transforming a program from a segregated to a fully inclusive service delivery program. Programs will need to have the support of stakeholders (i.e., program leadership, program staff, community members, participants, and participants' families) to achieve inclusive programming to meet the needs of young people with disabilities. This inclusive programming will require a new set of systematic procedures and processes that will be needed to be presented to all staff so these changes can be successfully implemented.

Future research could address the effectiveness of, utilization of, and satisfaction with inclusive programming. The Children's Assessment of Participation and Enjoyment (CAPE) and its companion measure, the Preferences for Activities of Children (PAC) scale are promising measures of young people's participation in sports and recreation, and can provide information about young people (both with and without disabilities) ages 6 to 21 (King et al., 2007). These validated assessments provide a vast amount of information including six dimensions of participation: (1) diversity; (2) intensity; (3) where; (4) with whom; (5) enjoyment; and (6) preference. These validated assessments also provide information on two categories of recreation and leisure activities (formal, informal) and five types of activities (recreational, active physical, social, skill-based, and self-improvement).

Inclusive programs for young people with developmental disabilities offer young people the opportunity to improve their physical and psychological health. Given the importance of these programs for this group, it is critical that programs be accessible to these young people.

Resources

The following organizations may serve as resources for programs interested in implementing inclusive practices. Many of these programs have successfully implemented full inclusion, and others provide resources for inclusive programs. While this list offers a range of programs with various missions, it is not a comprehensive view of inclusive programs across the United States.

Organization	Description
Health Matters Program	The Health Matters Program is located at the University of Illinois at Chicago. This program provides training and technical assistance at the local, state, regional, national, and international level to build the capacity of communities to advance inclusion and independence of people with disabilities. Health Matters offers a Train-the-Trainer program for those interested in opening an exercise and nutrition health education program as well as free evaluation tools for programs for people with developmental disabilities (http://www.healthmattersprogram.org/healthmatters.html).
The Arc	The Arc provides services to people with intellectual and developmental disabilities and their families. The Arc has a network of 700 state and local chapters, and provides information and referral services, individual advocacy, self-advocacy initiatives, residential support, family support, employment, and leisure and sports and recreational programs (http://www.thearc.org).
Easter Seals	Easter Seals, the nation's largest provider of recreation and camping services for people with disabilities, offers a variety of programs including sports and fitness, after school play, weekend events, and community outings (http://www.easterseals.com).
Special Olympics	The Unified Sports program within the Special Olympics promotes social inclusion among youth by creating athletic teams and events composed of people with and without intellectual disabilities (http://www.specialolympics.org/unified-sports.aspx).
YMCA	The YMCA supports inclusion in all aspects of their programming; however, inclusive programs and facilities vary by location. Local YMCA chapters can be contacted when inquiring about inclusive activities and classes (http://www.ymca.net).
Boys & Girls Club	The Boys & Girls Club of America, similar to the YMCA, inclusive programming at the Boys & Girls Club of America varies by location. Local chapters may be contacted when inquiring about inclusive activities and classes (http://www.bgca.org).
National Inclusion Project	The National Inclusion Project partners with programs and organizations across the nation, providing training for after school programs. The National Inclusion Project is currently partnered with 82 programs, including Boys & Girls Clubs, YMCAs, The Arc, and various universities (http://www.inclusionproject.org).

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