

Special Issue

Through the Lens of a Camera

Exploring the Meaning of Competitive Sport Participation Among Youth Athletes with Disabilities

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Abstract

This study explores the meaning of competitive sports participation among youth athletes with disabilities who are members of a sled hockey team affiliated with a community-based therapeutic recreation (TR) and adaptive sports organization. The study draws upon theories of Social Role Valorization and Perceived Freedom in Leisure, and employs the Socio-Ecological Model to (a) examine the role of adaptive sports programs as bridging organizations, mediating the space between individual capacities, collective identities, and valued social roles for youth with disabilities; and (b) identify barriers and enablers of participation. Photovoice was employed utilizing the template analytic method. Findings suggest that competitive sports participation: (1) facilitates identification with valued social roles, (2) supports outcomes associated with Perceived Freedom in Leisure, and (3) empowers youth with disabilities to discuss barriers and enablers to social inclusion. This study highlights the role of Photovoice as a tool for informing TR and adaptive sport practice, and facilitating

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transdisciplinary partnerships that work toward developing more inclusive sports opportunities for youth with disabilities.

Keywords

Adaptive sports, participatory action research, Photovoice, Socio-Ecological model, social role valorization, youth athletes with disabilities

People with disabilities comprise 12.6% of the United States (U.S.) population, and 15% of the global population (Lauer & Houtenville, 2016). Children and youth (aged 5-17) account for 7.2% of the population living with a disability in the U.S. (Lauer & Houtenville, 2016). From a public health perspective, participation in sports and recreational activities is especially important for persons with disabilities. Nearly half of all adults with disabilities experience no aerobic physical activity and are 50% more likely to have heart disease, strokes, diabetes, and cancer than those without disabilities who achieve recommended levels of physical activity (Kraus & Jans, 2014). Additionally, people with disabilities have a higher likelihood of being obese (40%), compared to those without disabilities (25.4%) (Aytur, Jones, Stransky, & Evenson, 2015).

Chronic diseases are major contributors to escalating health care costs, which the U.S. Congressional Budget Office projects will be the main driver of the national debt over the coming decades (Bipartisan Policy Center, 2013). The current epidemic of childhood obesity, for example, is a serious and costly public health problem in the U.S. that puts approximately 12.7 million (17%) youth at risk for immediate and long-term impacts on physical, social, and emotional health (Ogden, Carroll, Fryar, & Flegal, 2015). In comparison with their nondisabled peers, youth with disabilities are more restricted in their physical activity participation, are more likely to be sedentary, have lower levels of fitness and muscular endurance, and have higher levels of obesity (Elmahgoub et al., 2009; Fowler et al., 2007; Rimmer, 2001). Further, the psychosocial implications of inactivity among youth with disabilities may include decreased self-esteem and social acceptance, and greater dependence on others for daily living (Murphy & Carbone, 2008). Overall, the participation of youth with disabilities in physical activity and sports has the potential to decrease costly complications of immobility and sedentary lifestyles.

Regular physical activity for children with disabilities has been shown to help in managing or slowing the progression of chronic disease, improving overall health and function, and mediating the psychosocial impact of their conditions (Murphy & Carbone, 2008). Emerging research suggests that, in addition to promoting physical activity and reducing obesity, engagement in sports and recreational activities may support better mental health (Maller et al., 2009), stress reduction (Thompson et al., 2012), positive self-esteem (Barton, Griffin, & Pretty, 2012), and social engagement (Riley, Rimmer, Wang, & Schiller, 2008).

Accordingly, the World Health Organization's (WHO) International Classification of Functioning, Disability, and Health framework (ICF) promotes inclusion of persons with disabilities in all social sectors (World Health Organization, 2001). The ICF

considers function across multiple health dimensions and is focused on how people with disabilities are actually able to live in their communities. The ICF's recognition of a person's life context as a key determinant of functioning is a critical aspect of successful health promotion programs for people with disabilities, and sport has emerged as an important mechanism through which to facilitate these multidimensional health benefits (Roult, Carbonneau, Chan, Belley-Ranger, & Duquette, 2014; Wilhite & Shank, 2009). Participation in sport is a context in which youth with disabilities can form friendships, develop skills and competencies, express creativity, achieve physical, mental, and emotional health, and determine meaning and purpose in life (Law, Petrenchik, King, & Hurley, 2007).

Physical Activity and Sport Outcomes for Youth with Disabilities

In the U.S., the Individuals with Disabilities Education Act (Individuals with Disabilities Education Act, 2004), Section 504 of the Rehabilitation Act (Section 504 of the Rehabilitation Act, 1973), and the National Prevention Strategy (National Prevention Council, 2011) aim to ensure equitable opportunities for physical activity, physical education, and extracurricular athletics, among other mandates, for youth with disabilities in community and K-12 public school settings. The U.S. Government Accountability Office (GAO) defines extracurricular athletics as voluntary sports activities that fall outside the required school curriculum, including club, intramural, and interscholastic sports opportunities at all education levels (2010).

Playing sports at any level can be a critical part of the school experience and has a lasting impact on youth development. Research suggests that access to, and participation in, extracurricular sport opportunities provides important physical, psychological, cognitive, and social health benefits for youth with disabilities (Shank, Coyle, Boyd, & Kinney, 1996; Sherrill & Williams, 1996). Specifically, sports can promote independence, identity formation, teamwork and leadership skills, mental focus, physical fitness, social connections, and can serve as a means to progress towards life goals for individuals with disabilities (Harada & Siperstein, 2009; Huang & Brittain, 2006; Rimmer, Rowland, & Yamaki, 2007; U.S. GAO, 2010).

Researchers have documented the key social role played by sports and physical activity participation, particularly among persons with disabilities (Roult et al., 2014), asserting that making sports more inclusive and developing more accessible community environments benefits the whole population, not just persons with disabilities. For example, inclusive sports opportunities raise awareness among the general population of the unique strengths, capacities, and challenges faced by people with disabilities (Struthers, 2011; Wilhite & Shank, 2009), and may enable persons with disabilities to contribute to economic and civic life. Dowling, Fitzgerald, and Flintoff (2012) further suggested that even noninclusive adaptive sport opportunities may have a positive effect on the way athletes with disabilities are perceived by their nondisabled peers, when performed at a high level.

Despite considerable evidence supporting the health and social benefits of sports, and the convergence of policy support in the U.S., the Government Accountability Office (U.S. GAO, 2010) report shows that youth with disabilities are not being

afforded equitable sport and physical activity opportunities in community and school environments. The GAO report suggests that, in comparison with their nondisabled peers, youth with disabilities participate in integrated extracurricular athletics at consistently lower rates, continue to experience integration challenges in general physical education in school settings, and have limited opportunities to participate in traditional community-based sports programs. Numerous participation barriers persist, including discriminatory and stigmatizing societal attitudes, misinformed and unaccommodating providers, inaccessible facilities and outdoor spaces, limited marketing and communication, prohibitive costs, limited staffing and equipment resources, insufficient staff expertise and training, lack of public transportation options, and little support and guidance on school responsibilities under the law (Arnhold, Young, & Lakowski, 2013; French & Hainsworth, 2001; Kraus & Jans, 2014; Rimmer, 2014).

Youth with disabilities who do not have access to physical activity and sports opportunities are susceptible to sedentary lifestyles and, as a result, face substantial risk of developing health-compromising secondary conditions to their disability (Taub & Greer, 2000; Wilhite & Shank, 2009). Thus, improving access to physical activity and sports should be a national public health priority for persons with disabilities, especially youth. Creating partnerships among school officials, community providers, policy-makers, and health professionals can help fill the existing gaps by supporting and enhancing sport participation opportunities for youth with disabilities across a variety of settings. Therapeutic recreation specialists can play an important role in this collaborative process.

Role of Therapeutic Recreation

Therapeutic recreation specialists use purposeful and carefully facilitated recreation engagement and experiences as the context to facilitate increased access to community resources and individual strengths and skills that support well-being across multiple health domains (Anderson & Heyne, 2013). Therapeutic recreation (TR) services are commonly founded on a strengths-based approach wherein each client's abilities and capacities are explored in an effort to build upon those capacities for positive change (Austin, 2013). Within this context, adaptive sports and recreation can support health and general quality of life, enhance social connections, and reinforce positive aspects of identity among individuals with disabilities (Ashton-Shaeffer, Gibson, Autry, & Hansen, 2001; Groff & Kleiber, 2001; Zabriskie, Lundberg, & Groff, 2005).

Community-based TR organizations that provide adaptive sports and recreation opportunities are uniquely situated to facilitate empowerment, identity formation, community integration, and engagement in valued social roles for individuals with disabilities (Hutchison & McGill, 1992; Lundberg, Taniguchi, McCormick, & Tibbs, 2011; Walton, Schlein, Brake, Trovato, & Oakes, 2012). In New England, one such organization is Northeast Passage (NEP), an innovative community-based TR and adaptive sports and recreation organization housed within the University of New Hampshire's Department of Recreation Management and Policy.

Northeast Passage (NEP) partners with K-12 public school personnel and administrators, students, families, and community providers to ensure that school-aged youth with disabilities are provided an equal opportunity to participate in athletics and physical activity through their competitive youth sports program, which

includes teams in sled hockey and power soccer. State licensed Certified Therapeutic Recreation Specialists (CTRS®/L) and non-CTRS adaptive sports staff use adaptive sports to leverage internal strengths and external environmental factors that contribute to robust growth and positive development among youth athletes with disabilities.

This study explores the meaning given to the competitive sports experience by youth athletes with disabilities, and identifies outcomes, barriers, and enablers associated with their participation. In order to develop more equitable and inclusive sports opportunities for youth with disabilities, a transdisciplinary approach is required—one that facilitates a shared understanding of the life experiences of youth with disabilities and forms a foundation for collective action to transcend multidimensional barriers. The purpose of this qualitative study was to explore the meaning of competitive sport participation among youth with disabilities who are members of the Northeast Passage sled hockey team. Three central research questions guided this study:

1. What is the meaning of competitive sport participation among youth athletes with disabilities who are members of the Northeast Passage sled hockey team?
2. What outcomes do youth athletes associate with sport participation, particularly with respect to social role and perceived freedom in leisure?
3. How do youth athletes describe barriers and enablers to social inclusion, within the context of sport participation?

Theoretical Constructs

A Blended Theoretical Approach

A transdisciplinary research team was convened for this study. The team included faculty and graduate students from Therapeutic Recreation, Health Management and Policy, Public Health, UNH's Institute on Disability, and CTRS®/L and adaptive sports staff from the Northeast Passage competitive youth sports program.

As such, two primary disciplinary perspectives were synthesized: (1) The public health perspective, grounded in socioecological theory (Stokols, 1995), which focuses on how multiple levels of influence affect population health (policy, organizational/community, interpersonal, individual); and (2) the TR perspective, which draws upon a variety of theories including Social Role Valorization (Wolfensberger, 1983) and Perceived Freedom in Leisure (Witt & Ellis, 2009), and focuses on person-centered aspects of participation by addressing unique needs, strengths, interests, and goals of clients in the environments in which they live, work, and play (Anderson & Heyne, 2013).

Socioecological theory. Used extensively in the public health literature, socioecological theory posits that health is influenced by interrelated factors, much like the layers of an onion, that cascade from macrosocial levels (environment and policy), to meso-levels (community, organizations, social networks) to micro-levels (individuals' psychosocial, physiologic, and genetic characteristics) (Bronfenbrenner, 1979; Stokols, 1995). Socioecological theory, as applied to disability, connects to the ICF as well as to Fougeyrollas's (2011) model, which contends that disabling situations result from interactions between an individual's personal characteristics and his/her physical and social environment (Cavallo, Majnemer, Duffy, & Feldman, 2014). These theories underscore the concept of Universal Design, which recommends shifting

away from merely removing barriers to intentionally designing inclusive physical and social spaces that emphasize equitable use and flexibility for persons with diverse needs (Gray, Zimmerman, & Rimmer, 2012; Iwarsson & Stahl, 2003).

Social Role Valorization theory. Social role valorization (SRV) (Wolfensberger, 1983) is a social science theory that “advocates for each individual’s right and responsibility to assume a valued social role in society, and society’s obligation to allow individuals to pursue that role without constraint” (Bullock & Mahon, 2017, p. 46). The basic premise of SRV is that people are more likely to experience a better quality of life if they hold valued social roles than if they do not. Therefore, the major goal of SRV is to create or support socially valued roles for people in society (Osburn, 2006).

Two ways to create, support, and defend valued social roles are to (1) enhance one’s social image, which is influenced by such factors as physical setting, relationships and groups, activities, programs, other uses of time, language, symbols and images; and (2) enhance one’s sense of competency, which is similarly influenced by such factors as physical setting, relationships and groups, and activities, programs, and other uses of time (Bullock & Mahon, 2017). Image and competency enhancement are considered “reciprocally reinforcing processes” (Bullock & Mahon, p. 46); for example, individuals with high perceptions of competency tend to have greater positive images of themselves, while those with low perceptions of competency are often associated with negative images of themselves. The same can be said for images influencing competencies—“those with positive social images are generally afforded more opportunities and experiences to enhance their competencies” (Bullock & Mahon, p. 47).

Perceived Freedom in Leisure. Ellis and Witt (1984) suggest that one’s “involvement” becomes leisure when a person perceives him/herself to be competent, believes he/she can control the initiation and outcomes of experiences, and is motivated to participate in activities from intrinsic desire rather than extrinsic reward expectations. Individuals who meet these conditions are said to be in a better position to derive maximum benefits from their leisure involvement (Ellis & Witt, 1984).

Perceived freedom in leisure comprises five major elements: (1) perceived competence, which are beliefs about one’s ability to control outcomes and avoid failure; (2) perceived leisure control, which is the degree to which one can control or influence what occurs during the leisure experience; (3) leisure needs, which is the extent to which one perceives that leisure experiences satisfy intrinsic needs or wants; (4) depth of involvement, which is the ability of leisure engagement to facilitate the elements of optimal arousal or “flow”; and (5) playfulness, which is the degree to which an individual feels free to do the “unexpected” and how comfortable one feels being spontaneous and engaging in behaviors outside the norms of a given situation. Collectively, these five domains may be used to interpret an overall understanding of an individual’s sense of freedom within leisure experiences (Ellis & Witt, 1984).

In a disability context, people who perceive competence and control will have a greater sense of perceived freedom to enjoy and engage in leisure. Conversely, persons with disabilities who perceive decreased competence and control may not experience freedom in leisure and, thus, may exhibit decreased motivation to participate, disengage entirely, or develop a learned helplessness response in leisure experiences.

Integrating disciplinary perspectives through participatory action research. Empowerment theory (Freire & Freire, 1994; Wallerstein & Bernstein, 1988) is a cross-cutting theoretical orientation bridging the TR and public health disciplinary

perspectives and underpins the methodological choice of including Photovoice as a participatory action research (PAR) method. Over the past decade, there has been a rapid increase in the number of studies using Photovoice to enable persons with different life experiences to express their perspectives.

Dassah, Aldersey, and Norman (2017) conducted a scoping review to assess the use of Photovoice in physical disabilities research. Their review of 20 articles revealed that Photovoice seems to be used most frequently with people with physical disabilities to document their experiences related to physical barriers and facilitators to participation (e.g., physical accessibility and navigation of space). They also highlighted knowledge gaps and recommendations to accommodate people with physical disabilities in Photovoice projects, including paying more attention to ethical issues and engaging in deeper critical analysis.

This study contributes to the literature by filling these research gaps. In alignment with core competencies of inter-professional education (Interprofessional Education Collaborative Expert Panel, 2011), our team utilizes participatory action research (e.g., Photovoice method) to blend the person-centered, strengths-based approach of TR with the population-centered, socioecological public health perspective to explore the meaning of a competitive sports experience for youth athletes with disabilities (See Figure 1).

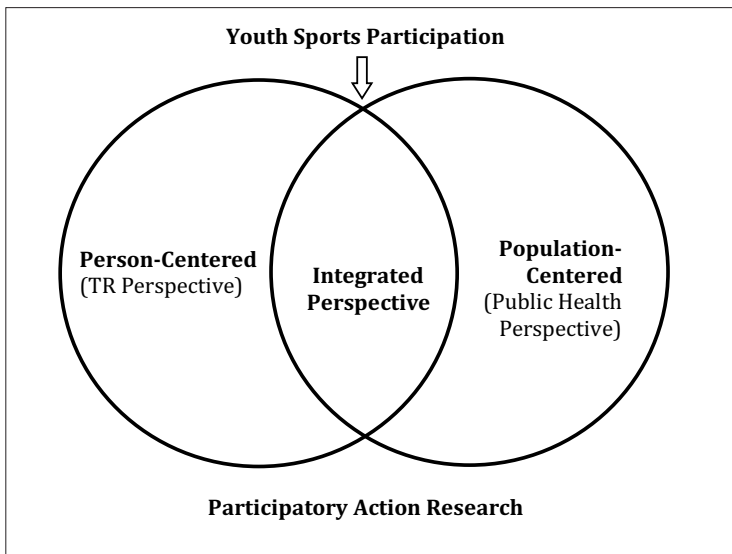


Figure 1. Integrated Disciplinary Perspective

Methods

This research utilizes an interpretive phenomenologic paradigm, which posits that social reality is multifaceted and built upon individual perceptions and social interactions that change over time (Paillé & Mucchielli, 2012). The origins of Photovoice can be traced back to Hermeneutic (interpretive) phenomenology (Evans-Agnew, Boutain, & Rosemberg, 2017; Hagedorn, 1994). Within the phenomenologic

paradigm, Photovoice is a participatory action research (PAR) method (Baker & Wang, 2006) grounded in Empowerment Theory (Freire & Freire, 1994) that combines participant-initiated photography with grassroots social action.

Wang and Burris (1997) developed Photovoice as a method that facilitates understanding the world from the viewpoint of marginalized, underrepresented groups in order to influence changes in attitudes, perceptions, and social policies. Participants are asked to take photographs representing community concerns, assets, health barriers, and enablers. These photographs are collaboratively interpreted, and the photos and narratives are used to better understand participants' perspectives as well as to plan health interventions or inform public policy.

Participatory action research (PAR) is consistent with the values of both TR and public health research, and is well suited to the needs of this study due to its emphasis on empowering youth with disabilities. For example, this study used Photovoice to critically examine the role of competitive sports participation for youth athletes with disabilities on the Northeast Passage sled hockey team.

In PAR, participants are encouraged to be active in all phases of the research study (Kemmis & McTaggart, 2005). For example, participants in this study defined the situation (e.g., participating on a competitive sports team), engaged in self-reflexive activity (e.g., taking photos of important aspects of participation; writing captions that illustrate the meaning of the images), and shared their experiences with teammates, family members, and researchers using the "SHOWeD" method (Wang, 1999), which is described more fully in the Data Collection section. Participants also guided selection of the format and forum for a public exhibition of their Photovoice project.

Setting

The setting for this study is an adaptive sports organization that serves the northeastern United States. Northeast Passage (NEP) provides community-based TR services, including adaptive sport and recreation programs for individuals with disabilities, members of the University of New Hampshire community, and school and community providers throughout New England. The NEP adaptive sports and recreation program offers a spectrum of services, including entry-level instruction, regular recreation programming, and competitive sports teams for adults and youth with disabilities. Northeast Passage offers ongoing programs in 12 different sports and recreation activities, with offerings rotating by season. The competitive youth sports program currently includes teams in sled hockey and power soccer.

Sled hockey. Sled hockey is an ice sport that allows individuals with disabilities the opportunity to enjoy and participate in the popular winter sport. Although commonly referred to as "sledge hockey" in Canada and Europe, we use the U.S. term "sled hockey" to remain consistent with the terminology used within the NEP adaptive sports program and utilized by participants in this study. Sled hockey is played as a team sport on a regulation ice hockey rink and the concepts and rules are the same as "stand-up" hockey. Instead of standing up to skate, participants sit on an adaptive device known as a sled and propel themselves using two shortened hockey sticks with a blade on one end and metal picks for propulsion on the other end. The game is played across a wide spectrum of age and ability levels, from grass-roots recreational programs to high-level international competition, including the Paralympic Winter Games, where it is now officially known as Para Ice Hockey.

The NEP youth sled hockey program is designed for youth aged 5-18 interested in developing skills to advance within the sport. The team practices weekly during the winter season and participates in regional tournaments and scrimmages. The sled hockey program focuses on youth with physical disabilities who are seeking a competitive outlet and team environment.

Sample

After obtaining Institutional Review Board approval from the university, we used purposeful sampling to recruit study participants from the NEP youth sled hockey team during the spring 2015 hockey season. The sampling frame comprised 15 sled hockey athletes (14 male, 1 female) who were 9-16 years of age, had some form of congenital or acquired physical disability (e.g., cerebral palsy, spina bifida, muscular dystrophy, neurological impairment, brain injury), lived in the New England region, and agreed to participate in the study. Participants were recruited through a flyer distributed via email by the NEP youth sled hockey Program Coordinator. Interested study participants were put in touch with a researcher, who provided further information about the purpose of the study, informed consent and assent procedures and forms, and the date for a research and photo training meeting.

The sample included eight youth athletes (seven males, one female) with congenital or acquired physical disabilities ranging in age from 9-16 years ($m = 13.6$). Seven of the participants were Caucasian, and one was African-American. The average length of time participants had been involved in adaptive sports was 5.6 years. While the specific diagnoses differed, all participants had some difficulty with mobility, and would find typical “stand-up” ice-skating exceedingly difficult or impossible. Pseudonyms are used to protect participant confidentiality.

Data Collection

Photovoice method. In accordance with typical Photovoice protocol, participants first completed a group orientation and training focused on trust building, defining photo subject matter, privacy, ethics, safety, and photography techniques (Shimshock, 2008). This training included setting ground rules, such as respecting others’ privacy, and not taking photos of other people without their permission. Participants learned about the different features of the digital camera, and were provided step-by-step instructions on how to use the camera, save the photos to their camera, and write captions for each photo. Each participant was provided with a digital camera and a photo-tracking log to record captions for a six-week time period. Participants took photos of what they considered meaningful about their competitive sports participation, and wrote descriptive captions accompanying the photographs in the photo-tracking log. They took pictures of whatever they wished, such as other people (i.e., teammates, family members, friends, coaches, members of other teams) who consented to participate, the facilities or places where training and/or competition took place, equipment, traveling to/from competitions, or they asked someone to take a picture of themselves participating in sports.

Once the six-week time period was over, the researchers collected the cameras and stored all of the participants’ photographs on an encrypted, online file-sharing/storage cloud platform available through the university, and deleted the photographs from the participants’ cameras. Researchers also collected participants’ photo-tracking logs, which included captions and descriptive details for each photograph.

The number of photographs taken by participants ranged from five to 40; the mean number of photographs was 14. As is typical in the Photovoice process (Evans-Agnew et al., 2017), participants were asked to select five photos and corresponding captions that they felt were most important to them, and which they wanted to share with the group during the subsequent focus group phase of the study. All five photographs selected by each participant (40 photos in total) were appropriate per the training guidelines (e.g., photo permissions obtained; appropriate topical content) and no photos or captions were discarded from consideration during the focus group phase.

Focus group method and guide. The next phase of the study included a 120-minute focus group exploring the meaning of the photographs and captions with six of the eight study participants. Participants' photos and captions were displayed on a large screen using a laptop and LCD projector, and a researcher facilitated the group dialogue using the SHOWeD method (Wang, 1999). The SHOWeD acronym stands for the following five prompts, which are used to facilitate group discussions in Photovoice: (1) what do you **See** here? (2) what is really **Happening** here? (3) how does this relate to **Our** lives? (4) **Why** does this situation or condition exist? and (5) what can we **Do** about it (Wang & Burris, 1997)?

To complement the SHOWeD method, a focus group guide was developed to explore certain contextual issues more deeply, including: (a) participants' history of involvement with NEP; (b) types of sports they played, including those outside NEP; (c) how sports participation affects their lives; (d) how sports participation makes them feel; (e) their biggest personal accomplishments and challenges; (f) their relationships with teammates and coaches; and (g) their ideas about helping others participate in sports.

Two of the eight participants were unable to attend the focus group meeting and, thus, participated in a 60-minute, individualized interview conducted by one researcher using the focus group interview guide and the SHOWeD method while displaying their photos and captions on a computer. Focus groups and individualized interviews were audiotaped and transcribed verbatim and field notes were taken.

Public exhibition of Photovoice project. The last procedural step in Photovoice encourages participants to choose a format and forum for public exhibition of the Photovoice project to amplify their photographs, stories, and make recommendations to policy makers and community leaders (Wang & Burris, 1997). Participants chose to host a public slideshow presentation of their photographs and captions at a regional invitational sled hockey tournament in which 20 youth and adult sled hockey teams participated. The Photovoice slideshow presentation was viewed over the course of one day by athletes, coaches, and staff from their own and other sled hockey teams; family members and friends of study participants and members of other teams; ice arena staff, vendors and sponsors; and, community spectators.

A modified member check procedure was employed through multiple touch points with participants. The photo selection process, the use of the SHOWeD method during the focus group, and the public exhibition of the Photovoice project provided a variety of forums for significant dialogue that enabled participants to contextualize their photographs and captions at both individual and group levels, and codify issues and themes that emerged during the Photovoice process (Evans-Agnew et al., 2017).

Data Analysis Procedures

Coding was conducted using the template method (Gale, Heath, Cameron, Rashid, & Redwood, 2013; King, Cassell, & Symon, 2004), in which an *a priori* “template” or framework is utilized (e.g., the Socio-Ecological Model), but inductive coding is employed to iteratively deepen and transform the framework as new concepts emerge from the data. The research team developed a codebook that was iteratively refined according to our review of theoretical and empirical literature (Gale et al., 2013). We utilized a collaborative team-coding process, pairing public health researchers with TR researchers to compare and contrast disciplinary viewpoints. Coding team members independently coded text and photographs by breaking down the data into manageable segments and identifying, labeling, and naming those segments (DeHart, 2017; Guise, Winter, Fiore, Regensteiner, & Nagel, 2017; Schwandt, 2001). Researchers used the NVivo (v11) software system for data management. Coding teams participated in a number of small team meetings to simultaneously identify, define and refine data categories. The researchers then met as a large team over five group meetings to synthesize categories and themes identified by all of the small coding teams into a “master” NVivo file, which the team used for discussion and further identification of themes.

A number of verification procedures were used to strengthen the credibility (qualitative equivalent of internal validity) and dependability (qualitative equivalent of reliability) of the findings. Alternative explanations to the interpretations were minimized by employing a modified member check procedure with participants that included multiple points of both individual and group contact to contextualize the photograph/caption data and codify issues and themes that emerged during the Photovoice process (Evans-Agnew et al., 2017). To establish trustworthiness for completeness and accuracy of the analyses and interpretations, the researchers thoroughly triangulated their descriptions and interpretations with each other in small coding teams that were representative of TR and public health disciplinary perspectives, and within large team meetings to iteratively discuss, define, and delineate the scope and boundaries of the categories and themes. Data triangulation was achieved by using multiple types of data (e.g., photographs, captions, focus group and interview transcripts), and by connecting the findings to the theoretical and empirical literature (Shenton, 2004). Emergent themes from the qualitative analyses were documented in relation to the Socio-Ecological Model and other relevant theoretical constructs from our review of the literature. This process follows the basic principles of qualitative research as identified by Paillé and Mucchielli (2012).

Findings

Our Conceptual Model Incorporating Thematic Findings

For the purposes of this study, a new conceptual model that integrates the TR and public health perspectives was developed using principles of empowerment, social role valorization, and a capabilities approach to social justice. This model was designed to better align with the ICF (WHO, 2001) by specifying dynamic relationships between individual-level, meso-level, and macro-level factors that ultimately contribute to more inclusive, resilient societies (See Figure 2).

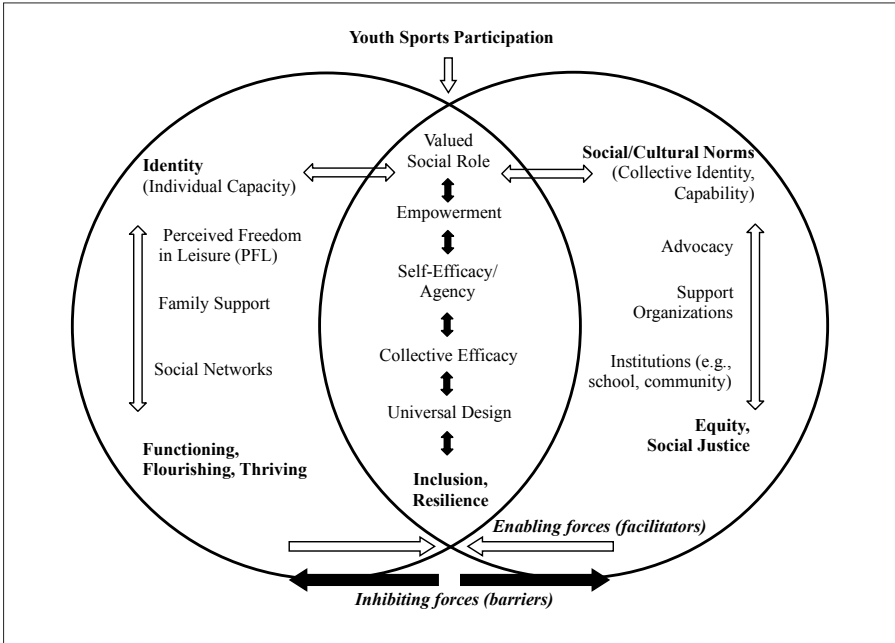


Figure 2. Conceptual Model of Youth Sports Participation

Several important themes emerged from the analyses, which prompted deeper critical reflection and dialogue, revealing dynamic relationships between elements within the conceptual model. Findings suggest that competitive sports participation: (1) facilitates identification with valued social roles; (2) supports outcomes associated with Perceived Freedom in Leisure, including perceived leisure competence and control; and (3) empowers youth to identify and discuss barriers and enablers to social inclusion.

Theme I: Competitive Sports Participation Facilitates Identification with Valued Social Roles

Individuals with disabilities are regularly stereotyped, negatively labeled, stigmatized and cast into devalued social roles in society (Goodwin, Thurmeier, & Gustafson, 2004). Participants’ photographs and narrative data uniformly suggest that a significant and meaningful aspect of competitive sport participation is having an opportunity to experience a variety of valued social roles from which they are typically excluded or constrained. Meaningful social roles identified by participants included athlete, recreator, teammate, and friend.

Athlete role. Participants’ photos and narratives reflected a desire to be a part of the culturally normative sports experience and, as a result, the athlete social role was most frequently cited in this study. Participants’ viewed their role on the sled hockey team as a way to enhance their social image in the eyes of others and enhance their self-perceptions of competence.

Eric, a 16-year-old male with a congenital mobility impairment, had been participating in sled hockey for seven years. His commitment and hard work as a member of the NEP youth sled hockey team paid off, as he quickly developed into a highly skilled hockey player who was subsequently recruited to join the U.S. Junior Development Hockey Team, a farm system team for U.S.A. Paralympic Hockey. Eric's photos and captions told the story of a talented and burgeoning athlete who was beginning to reap the benefits of his athletic abilities on the regional, national, and international stage. This photo captures Eric's sense of pride and perception of "feeling important" as an athlete on Team USA:



Figure 3. “This is my helmet from the national sled hockey development team that I play on. When I look at the USA logo on the helmet, it reminds me that I get to represent my country. And every time that I get to play for them—to pull that USA jersey over my head—I feel more important.”- Eric, male, age 16

Eric's photos not only painted a picture of a young man who was achieving a great deal of athletic success on the ice, but also illustrated how his role as an athlete allowed him to feel a sense of normalcy in comparison to “regular” hockey athletes. His caption under a selfie photo showing him getting ready for a game illustrates this point:

This is a picture of me just before we got ready for a game. Every time we get ready for a game, we get dressed up together and look nice together. The NHL and regular hockey players get dressed up together too. I personally feel better about that because I feel like a real hockey player.

Participants' photos and narrative data also reflected the symbolism associated with the athlete role, such as engaging in typical routines, uniforms and logos, equipment, schedules, and travel opportunities. Kevin, a 13-year-old male with a congenital mobility impairment, shared what it meant to own his sled hockey equipment:

Well, once I started getting good, playing more competitively, and started falling in love with the sport, my parents got me a sled for a holiday gift so I

wouldn't have to keep using the team's sled. So I just got more stuff of my own so I could practice anywhere.

Owning his own hockey sled empowered Kevin to freely choose where to participate, with whom, and when; however, it also presented him with the added responsibility of taking care of the equipment, and transporting it back and forth to practices and games. Equipment ownership and independent practice opportunities are common elements of the athlete experience, and Kevin's comments suggest that he valued those opportunities that enabled him to occupy the athlete role.

Tony, a 15-year-old male who uses a wheelchair due to a congenital disability, captured how his role as athlete fostered unique opportunities that he would not have otherwise experienced:

Being a competitive athlete and being disabled just gives me more opportunities in life than I would have without sports, whether it is traveling or just being a part of a team.

Teammate role. Participants described a number of important elements of being a teammate, such as “feeling a connection with everybody,” “working together,” fulfilling expectations and meeting responsibilities. Patrick, a 16-year-old male who uses a wheelchair as a result of a congenital disability shared this photo and caption (See Figure 4) illustrating the role of sled hockey in fostering teamwork and friendship:



Kevin highlighted the importance of reciprocity in the team concept by sharing this comment during the focus group:

I think my teammates expect that I work my hardest—that I work as a team—and I expect that back from them. I don't only expect that from them, but they should expect that back from me. It goes both ways.

Participants' photos and narrative data further highlighted how the teammate role resulted in the expression of social affiliation, belonging, and bonding. Eric's participation on the U.S. Junior Hockey Team provided him with a rare opportunity to play on a mixed team comprised of athletes with disabilities from the U.S. and other countries

(See Figure 5). Despite challenges in communication, and with a little creativity and good humor, he and his teammates were able to create a visual representation of the meaning of “team”:

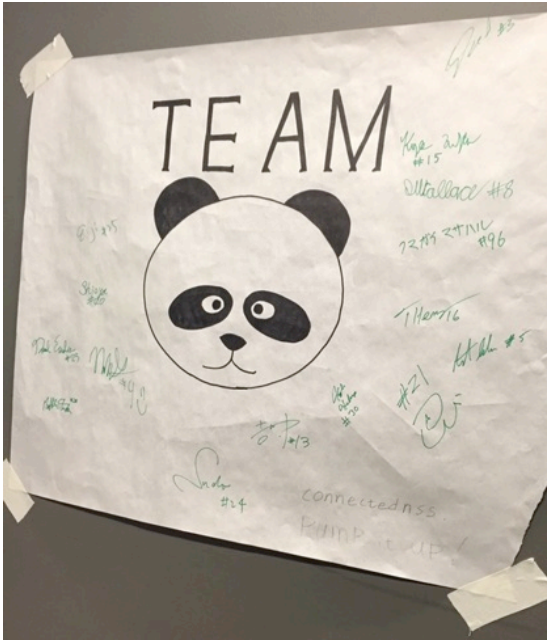


Figure 5. “When I was playing for team Japan in Buffalo, we did not have a real team name, so we called ourselves “Team Panda.” One of the Japanese player’s drew this picture and we all signed it. This picture embodied us as a team. It was one way we were all connected to each other and bonded. Team Panda included Japanese, American, and Canadian players, and we played against a team of Americans, Koreans, and Canadians. Most of my teammates did not speak English, so communication was challenging, but we figured it out and laughed about it.” -Eric, male, age 16

Recreator role. Another frequently cited social role was “recreator,” which was illustrated through participants’ engagement in a wide variety of recreational activities beyond sled hockey, such as basketball, snow-skiing, swimming and water sports, skateboarding, lacrosse, baseball, soccer, football, cycling, golf, and engaging with family pets. The extensive range of recreational pursuits suggests that participants exhibited a high level of perceived freedom in leisure, and had successfully negotiated potential constraints associated with these activities. Christopher, a 13-year-old male who uses a wheelchair due to a congenital disability, shared this photo and caption (See Figure 6), which aptly capture the recreator role.

Figure 6. “I like riding my bike and going for walks with my dog. Handcycles are very expensive but mom found a company to pay for it.” -Christopher, male, age 13



Friend role. Pham and Murray (2016) report that while positive peer relationships are associated with quality of life, students with disabilities report social isolation at significantly higher levels than their nondisabled peers. This discrepancy may be reflective of lack of access to traditional environments where friendships are developed, such as through sport.

Forming friendships with individuals that one would not normally have the opportunity to meet was seen as a positive aspect of playing sled hockey for study participants. When asked to comment on benefits associated with sled hockey participation, Tony indicated, “being able to hang out with other kids that I don’t normally hang out with, with school or whatever.” For Bobby, a 9-year-old male who uses a wheelchair due to a congenital disability, participation in a variety of team sports, such as sled hockey and wheelchair basketball enabled him to establish and maintain friendships with other athletes with disabilities, as depicted in this photo and caption (See Figure 7).

Figure 7. “Mom took this photo for me. It’s me and my friend after our basketball game - we won! We are happy. We do lots of sports together. Our favorites to do together are basketball and sled hockey.” - Bobby, male, age 9



For marginalized groups such as youth with disabilities, the opportunity to attain experiences outside one’s typical social networks become limited. One way to increase exposure to new people is to expand one’s geographic scope. Participants in the study referred to travel for tournaments as a positive experience for fostering friendships despite the time and resources involved. For example, Eric noted:

I have made a lot of friends through NEP or the USA team that I play for... we are all close and tight knit, and we all communicate with each other, we hang out and bond.

Summary of SRV outcomes. These thematic findings illustrate how competitive sports participation for youth with disabilities can facilitate identification with valued social roles. Therapeutic recreation and adaptive sport practitioners can utilize the culturally valued sports experience to facilitate positive social images of youth with disabilities, while concurrently providing opportunities for skill development, success, and perceived competency. When individuals with disabilities assume valued social roles such as “athlete,” “teammate,” “recreator,” and “friend,” they are provided a forum to challenge negative cultural attitudes and norms regarding disability (Groff & Kleiber, 2001), can experience a heightened sense of affiliation/belonging, friendship,

and empowerment (Ashton-Shaeffer et al., 2001), and may be able to redefine themselves as both competent and valued social members of their communities (Brittain, 2004; Huang & Brittain, 2006; Lundberg et al., 2011).

Theme II. Competitive Sports Participation Supports Perceived Freedom in Leisure Outcomes

Bandura (2012) defines self-efficacy as an individual's beliefs in their "agentive capabilities," meaning the belief an individual has the ability to attain particular goals. People who have high self-efficacy are more likely to have higher expectations and commit themselves to longer and more difficult projects, and will persist more in the face of obstacles and failure. Furthermore, self-efficacy can be influenced by observing people like oneself succeed, a process Bandura refers to as "social modeling." Thus, giving youth with disabilities an opportunity to participate in a team environment where they can observe people similar to them demonstrate high levels of capability and competence is an important opportunity for developing self-efficacy.

The concept of self-efficacy, often described as "the skill and the will," is central to the theory Perceived Freedom in Leisure (PFL). For example, PFL focuses on domains specific to leisure competence, control, needs, depth of involvement, and playfulness, which are collectively used to interpret an overall understanding of one's sense of freedom within leisure experiences (Ellis & Witt, 1984). Notably, participants' photos and captions often reflected multiple PFL constructs, such as perceived leisure competence and leisure control. In this manner, the photos begin to represent a reconstruction of the athlete social role in the participants' own terms.

Leisure competence and control. Leisure competence and control were frequently cited as important elements of sports participation for participants in this study. Bobby shared this photo (See Figure 8) of himself skateboarding in his wheelchair at his town skateboard park. His caption reflects a high level of competence and belief in his ability to control the outcomes of a highly challenging and risky physical activity. While he recognizes that he is "the only one in a wheelchair" participating in the activity, his belief and confidence in his physical abilities allow him to perform just like everyone else, fostering a sense of normalcy and inclusion in a community setting.



Figure 8. "I am at the skate park dropping into the bowl. I'm the only one in a wheelchair here. But it's ok because when I'm here I am like everyone else. I watch the skateboarders and BMX'ers and try to make my chair do what they do. I can do the same things but I just do it in a different way."- Bobby, male, age 9

Adaptive sports equipment assumed important meanings for participants, not only in terms of providing access to a variety of sports but also as conduits to PFL and as key symbols of confidence in their new identities. Christopher shared this photo and caption (See Figure 9) to describe how he felt while using his new sports wheelchair:

Figure 9. “This is a photo of my new sports wheelchair. With this chair I can play basketball better! I am faster and can turn quicker. I love this chair because I feel athletic, strong, and powerful. I can do anything.”- Christopher, male, age 13



Similarly, while discussing a photo of his hockey sled, Christopher described a high level of confidence in his athletic abilities: “I feel like I can kick butt in this sled. It reminds me that I can do things that anyone else can do.” While the sled enables him to participate in sport, he perceives it as an equalizing force, allowing him to do what other people can do. This theme of leisure competence emerges repeatedly in the interviews. Eric shared this insight:

It [sports] makes me feel like I have more of a purpose, because being a disabled person sometimes you don't feel—you don't really feel like you can do a lot of the things that other people can do, and once you have sports then it makes you feel a lot better and more able.

Summary of PFL outcomes. These findings suggest that competitive sport opportunities are ideal mechanisms through which to facilitate perceived freedom in leisure (PFL) outcomes for youth with disabilities. Therapeutic recreation and adaptive sport practitioners are trained to create environments, strategies, and programs that can maximize perceptions of leisure competence and control for persons with disabilities. The PFL constructs of perceived leisure competence and control represent important outcomes from the perspective of both TR and public health, because they connect individual capacities with healthy behaviors (e.g., physical activity) and broader collective identities that are particularly valued in democratic societies, such as connection to others, civic engagement, and economic participation.

Theme III. Competitive Sports Empowers Youth to Identify and Discuss Barriers and Enablers to Social Inclusion

Barriers to social inclusion. Despite the perceived benefits of sports, participants in this study voiced many types of barriers that not only limited their participation,

but also generated feelings of social exclusion and isolation. “Equipment” was the most frequently cited barrier, and “interpersonal” barriers (including injuries, lack of time, and conflicts with school due to travel schedules) were the second-most frequently cited category. Notably, participants’ responses reflected a dynamic reciprocity between these types of barriers—specifically, an internalization or “embodiment” (Krieger, 2001) of barriers imposed by outer levels of the Socio-Ecological Model (e.g., lack of resources, poorly designed environments, and social exclusion). Christopher’s photo (see Figure 10) and caption are a powerful illustration of the ways in which environmental barriers can lead to social exclusion and isolation.



Figure 10. “This is a picture of the baseball and soccer field at my school. Lots of times in the fall and spring PE classes are held up here or we get extra recess here. Even though there is a paved walkway to the field, I can’t get through the gate in the fence because it is too small. There is no other entrance. This makes me mad because they make zero effort to include me, so I just stay inside and don’t want to be with them anyways.” - Christopher, male, age 13

Participants also described the sacrifices that they and their family had to make on a regular basis to attend medical appointments and address clinical issues pertaining to their disability, which often reinforced their feelings of separateness from others. In a caption associated with his photo of a children’s hospital, Tony remarked: “This photo represents the sacrifices me and my family make to get me to a Dr.’s appointment. I missed school and my parents had to drive me 1 hour and 30 minutes to get me there.”

Enablers of social inclusion. The dynamic interactions between multiple levels of the Socio-Ecological Model were mirrored in terms of participants’ descriptions of enabling forces (facilitators) as well. For example, Bobby’s photo (See Figure 11) illustrates that even small adaptations, like placing a wider basketball hoop in the gym during basketball practice, can signal social inclusion that he perceived as empowering.



Figure 11. “This is at my basketball practice in CT. They hang a hoop over the net, so when you are small like me you can throw it through the hoop to score. I’m working on getting it through the regular net.” – Bobby, male, age 9

Discussion

The findings from this study contribute to the growing body of research demonstrating that participation in competitive sports is associated with important benefits for youth with disabilities. Research conducted by King et al. (2013) and Roulton et al. (2014, 2015) documented that competitive sports participation enabled youth with disabilities to transcend their limitations and attain the role of athletes. This theme was clearly reflected in the data from the present study as well, and confirmed the co-authors' conceptual model connecting sport participation to Social Role Valorization. This finding is important because it acknowledges that valued social roles are often constructed by persons who tend to have more status and power, so re-constructing these roles may provide a first step towards broader social change.

Research conducted by Duquette (2015) demonstrated that competitive sport involvement enables the development of various physical and psychological skills among youth with disabilities. Similarly, Roulton et al. (2014) emphasized that competition is healthy for youth with disabilities, documenting that many benefits linked to participation occur during the competitive event itself. They noted that inclusive sports events foster feelings of self-esteem, pride, and happiness, thus encouraging youth to initiate active lifestyle habits. Inclusive sporting events also served to raise awareness among able-bodied students about the unique strengths of youth with disabilities.

The results from the present study expand this notion by documenting that, although participants valued the competitive sporting events themselves, they perceived regular practice and training with teammates as among the most empowering aspects of the sport experience. They also connected their commitment to teammates and coaches to their identification with the "athlete" social role. As described by Hebblethwaite and Curly (2015), and Kleiber, Reel, and Hutchinson (2008), sports and leisure activities can provide a means to maintaining one's identity while also exploring new ways of being. The data from this study suggest that participation on the Northeast Passage sled hockey team shows promise in facilitating positive outcomes such as identification with valued social roles, perceived leisure competence and control, and inclusion among youth with disabilities.

Lee, McCormick, and Austin (2001) suggested meaningful relationships that are necessary for social integration can be facilitated through leisure. Social connectedness was viewed as an important step in the process of community integration for study participants. Community-recreation programs tailored to the needs of persons with disabilities were found to enhance agency and self-determination by providing more choice and control for these individuals (Lord & Hutchison, 2003). Haycock and Smith (2011) found that sports provided a mechanism for socialization and reduced isolation among youth with disabilities. Further, adaptive sports organizations may serve as bridging organizations by increasing social networks, promoting positive interactions between heterogeneous groups of people, and enhancing civic participation (Field, 2003).

Findings from this study are consistent with this literature, as participation in sled hockey for these youth athletes appeared to facilitate social connections and new friendships with other individuals with disabilities who are outside of their typical social networks. Domestic and international travel opportunities associated with their sled hockey participation enabled study participants to engage in social experiences

outside of their typical geographic region, leading to the development of new and lasting friendships with other athletes with disabilities with whom they typically did not engage.

Barriers

Prior literature has identified various barriers (e.g., environmental, social, financial, specialized resources) that hinder the participation of youth with disabilities in recreational activities. School and community environments have been shown to either foster participation in sports and recreational activities or obstruct it. For example, Carbonneau and Roullet (2013) and King et al. (2003) found that sports facilities were often in poor condition and were difficult to access, thus limiting the participation of youth with disabilities. In Quebec, Canada, Roullet et al. (2015) found that inclusive sports opportunities were scarce, particularly beyond the boundaries of the school environment. The Canadian researchers found that schools faced two major types of obstacles: (1) the purchase and renewal of adaptive sports equipment, and (2) the renovation of sporting facilities to make them more accessible (Roullet et al., 2014, 2015). Transportation was also cited as a very important barrier, particularly in rural areas. Other barriers included inadequate involvement from school personnel, lack of time, and a shortage of volunteers. There was broad consensus that the organization of inclusive sports events required more financial support. Roullet et al. (2015) also noted that although many teachers and practitioners reported looking forward to more diverse choices regarding inclusive sporting events, they sometimes felt powerless in terms of preparing for these events.

Findings from the present study in the U.S. revealed that, despite federal legislation ensuring equitable physical activity and extracurricular sport opportunities for youth with disabilities in the educational setting, barriers similar to those described in Canada still persist. As a result, community-based TR and adapted sports organizations such as Northeast Passage have emerged to fill the gaps by providing a cost-effective alternative for K-12 public schools and communities in New England.

Implications for TR Practice

While this study utilizes Photovoice as a method of inquiry, the process itself has been shown to have positive outcomes for participants. Foster-Fishman, Nowell, Deacon, Nievar, and McCann (2005) identify the impacts of Photovoice participation as “(a) increased self-competence, (b) emergent critical awareness of one’s environment, and (c) the cultivation of resources for social and political action” (p. 281). These positive outcomes associated with participation have led some researchers to explore the use of Photovoice as intervention rather than inquiry. For example, Mizock, Russinova, and DeCastro (2015) conducted a 10-week Photovoice intervention for individuals diagnosed with serious mental illnesses. Participants exhibited high rates of attendance and completion of Photovoice tasks throughout the 10-week intervention, and researchers identified qualitative outcomes related to identity and empowerment.

With the advent of easily accessible digital photography, the Photovoice method could be utilized as an intervention in a multitude of environments. Digital cameras are affordable, and smart phones are ubiquitous and capable of taking high quality photos. The ability to take and share photographs has never been more accessible. Social networks, blogs, video sharing sites, and other online communities provide opportunities for this form of participatory action research to have effects beyond

one's immediate geographic area. Although Photovoice originated as a group-process method, it is currently being explored as a potential way to augment individual counseling/motivational interviewing techniques and enhance client-provider interactions in a variety of practice settings, ranging from primary care (Dollar, Adachi-Mejia, Lyons, & Aytur, 2017) to oncology (Henry et al., 2017). Although the Photovoice method has great utility as both an intervention and evaluation strategy, TR practitioners considering this intervention/method should remain sensitive to their clients' financial status. Access to digital technologies such as smartphones, digital cameras, and/or computers may not be feasible for clients/patients with limited financial means, which could result in programmatic exclusion and stigma. To facilitate inclusion, TR programs should invest in digital technologies that could be either loaned to participants or could sponsor digital equipment that could be given to participants.

Additionally, there has been a history of using photo data for the evaluation of programs, facilities, and experiences in the fields of tourism (Ekici & Cizel, 2017), outdoor recreation (Loeffler, 2004), and outdoor education (Smith, Gidlow, & Steel, 2012). Photovoice could provide a method for the evaluation of adaptive sport or TR programs by asking the participants to visually share their perceptions of the experience and outcomes through photographs and captions, and compare the data to a program's stated aims, goals, and objectives. For example, photos from this project are currently being shared with TR and adaptive sport practitioners in the Northeast Passage program to assist them in reflecting on the alignment of the themes with the mission and goals of their adaptive sports and recreation program.

Photovoice has also been combined with mobile phone applications (King et al., 2013) and Geographic Information Systems (GIS) (Forrester & Cinderby, 2011) to enable participants to identify locations that they perceive as barriers or enablers (King et al., 2013); which can ultimately be shared with city planners to facilitate barrier removal and also to evaluate "pre-post" changes in municipal landscapes.

Implications for Future Research

Results of this study suggest that participatory action research (PAR) may provide a springboard for collective action. Dassah et al. (2017) demonstrated that many participatory projects were associated with long-standing relationships between the community and researcher partners, and Photovoice appeared to facilitate an enhanced understanding of community assets, needs, and empowerment. The present study confirmed that Photovoice can raise awareness about barriers and enablers to participation by sharing experiences and perspectives between individuals with disabilities, community practitioners, and researchers. For example, photos and captions from the study were displayed in multiple venues that included interprofessional practitioners, researchers, educators, and decision-makers. Results are being used to inform state public health initiatives, such as the implementation of the NH Healthy People in Healthy Places Plan (Healthy Eating Active Living (HEAL) NH, 2014).

Evans-Agnew et al. (2017) recently reviewed the Photovoice process and its methodological congruence across various epistemologies and interdisciplinary applications. They found that Photovoice could be a powerful tool for addressing power relations and facilitating transformative change, particularly when used as part of an iterative discourse with photographs and captions serving as touchstones for diverse social actors to reflect on the concerns voiced by participants.

Community environments also create important barriers and enablers to physical activity. In fact, research suggests that youth with disabilities participated in almost no physical activity beyond the school setting (Dowling et al., 2012). However, as with the school setting, emerging research suggests that involving stakeholders in community engagement processes in collaboration with persons with disabilities can support transformative social learning in which barriers can be reconceptualized and collectively addressed.

Findings from prior studies suggest that community engagement techniques are effective in identifying and removing community-level access barriers. Drum et al. (2009) developed the Community Engagement Initiative Knowledge Translation (CEI-KT), a standardized community engagement method for improving community accessibility. The CEI-KT method was most successful when community members supported empowerment among disability advocates. Preliminary findings from a recent application of the CEI-KT process demonstrated that stakeholders who participated in this process raised awareness about accessibility issues and effected positive change in key areas, such as changing public transportation routes and schedules, transit schedules, improving the accessibility of public walkways, and prioritizing accessible amenities at local parks (Drum, Rainer, & Seekins, 2016). Lessons learned from these studies underscore the importance of knowledge translation and demonstrate how Universal Design concepts can be integrated into municipal planning and policy processes to promote equitable and inclusive sport opportunities. In public health, many state and local health departments, as well as non-profit groups, are committed to fostering these multi-sectoral collaborations and are building capacity to support “active living” through policy, environment, and systems change. By joining these collaborative efforts, TR practitioners may be able to extend their reach and add their voice to improve population health research and practice.

Limitations

Several limitations warrant mention. Some researchers and practitioners have raised concerns that the competitive nature of certain sports may hinder the enjoyment of physical activity among youth. They caution that a competitive atmosphere could potentially stigmatize youth with more severe disabilities (Goodwin, Johnston, & Causgrove Dunn, 2014). Because participants in the present study did not experience severe disabilities and were able to achieve high levels of functional success with the aid of adaptive equipment, results may not be generalizable to youth with other types of disabilities. Additionally, there was only one female participant in the study, which may reflect the gendered nature of sled hockey and also precluded an exploration of possible gender differences in perceptions of sport participation.

Findings from this study also revealed that, although Northeast Passage staff have successfully bridged the gap in terms of providing equipment and training to help schools address the needs of youth with disabilities, their roles have traditionally been more limited in terms of advocating for policy change and/or engaging with municipal and/or school planning processes. For example, prior research suggests that a major barrier to the provision of equal opportunities in extracurricular athletics at the school level is the lack of clarity regarding the IDEA law (U.S. GAO, 2010). School officials at the district level surveyed by the GAO cited a lack of information on ways to expand athletic opportunities for students with disabilities, a lack of clarity regarding schools’

responsibilities under the law, and budget constraints as key challenges in providing equal opportunities for youth with disabilities. While not addressing these barriers directly, the transdisciplinary relationships developed through this study may provide a foundation for further collaborations involving NEP and school staff to clarify policy issues.

In accordance with participatory action research (PAR), another focus group is being planned with parents/guardians of youth athletes with disabilities because parents articulated an interest in expressing their own viewpoints. A focus group with the NEP staff has been conducted to garner additional insights from TR and adaptive sports practitioners. Because this project created collaborative institutional structures for transdisciplinary research, future opportunities may involve co-mentoring graduate students and engaging with community-based organizations using the integrated theoretical approach. More research is required to study the policy implementation process at state and local levels to better address institutional barriers to sports participation. In this regard, mixed methods research could be used to strengthen research on outcomes in various settings with more diverse populations. Future research should also consider how PAR methods such as Photovoice can connect school-level and community-level dialogues to facilitate barrier resolution and inclusivity. For example, linking Photovoice with initiatives such as the CEI-KT process (Drum et al., 2009) could serve as a foundation for community members to advocate for change. The present study demonstrated that Photovoice data often provided richer insights regarding youth perceptions than did interview/focus group data alone.

Conclusion

Results from this study highlight important outcomes, barriers, and enablers linked to youth participation in competitive sports. Our results confirm findings from other research suggesting that participation in competitive sports confers many positive social and public health impacts. Youth with disabilities can experience increased self-efficacy and achieve valued social roles through sports, which may promote a commitment to physical activity across the life course. In order to develop more equitable and inclusive sports opportunities for youth with disabilities, a transdisciplinary approach—one that facilitates a shared understanding of the life experiences of youth with disabilities and forms a foundation for collective action to transcend multidimensional barriers—is warranted. This study also makes important methodological contributions. Participatory action research (PAR) and Photovoice are particularly well-suited to the study of youth sports participation among persons with disabilities because of the focus on empowerment, agency, and self-determination. Employing PAR and Photovoice enabled members of the research team to transcend disciplinary boundaries, engage in deeper critical analysis, co-create new knowledge, and actively involve participants in the research process.

In conclusion, this study demonstrates the importance of partnerships involving youth with disabilities, their families, researchers and practitioners from TR, adaptive sports, and public health disciplines to develop more inclusive sports and recreational opportunities. The participatory process utilized in this study generated a transdisciplinary dialogue that may facilitate knowledge translation, and provides an impetus for motivating personal, interpersonal, and social change.

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