The Experience of Physical Activity in Adolescents With Cerebral Palsy

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For adolescents with cerebral palsy (CP), participating in physical activity (PA) can be difficult due to functional limitations that not only affect an adolescent’s ability or willingness to participate in PA but also create particular social concerns. Research in the area of PA and adolescents with CP is limited. This research study utilized hermeneutic phenomenology to gain a more comprehensive understanding of the lived experiences of 14 adolescents with CP who participated in PA. The interpretations of each participant offered common understandings and themes to be identified and warranted as valid by the interpretive team. Common understandings identified were (a) developmental tasks of typical adolescents, (b) place of friends, (c) purpose of PA, (d) importance of support, and (e) wanting to be like the primary researcher. Most of the 14 participants had similar experiences within the identified common understandings and themes. Physical activity, in part, helps adolescents find out about themselves and their place within their community. The experiences of adolescents with CP and PA show that participation in PA is a way to connect with friends, meet new people, and gain a feeling of freedom from their disability. We offer healthcare providers a starting point to talk about PA and to help adolescents with CP find activities within their community.

Introduction

For adolescents with cerebral palsy (CP), participating in physical activity (PA) can be difficult due to functional limitations that not only affect an adolescent’s ability or willingness to participate in PA but also create particular social concerns such as lack of support or acceptance. As healthcare providers, it is important to know why adolescents participate in PA so that interventions can be tailored to their specific needs.

Cerebral palsy is an umbrella term used to describe a group of nonprogressive, but often changing, motor impairments secondary to lesions or anomalies of the brain that occur early in development (“Cerebral Palsy,” n.d.). Cerebral palsy prevalence is in four per 1,000 live births (Centers for Disease Control and Prevention [CDC] & National Center on Birth Defects and Developmental Disabilities [NCBDDD], 2014; Christensen et al., 2014). Unfortunately, the cause of CP is not always precisely known (Schifrin & Longo, 2000). Whatever the underlying cause of CP, the result is a neurological defect that interferes with motor function, activities of daily living, and positioning (Gormley, 2001; “Stroke,” n.d.); life expectancy is dependent on the severity of CP (Strauss et al., 2008). The severity of impairment can also play a direct role in the child’s functional ability, which, in turn, affects how a child participates in PA.

Physical activity is described as body movements from skeletal muscles that require energy to be expended. Activities, such as swimming, bicycling, softball, tennis, skiing, and walking or sport activities, would be considered PA (World Health Organization, 2018). These activities can be difficult for adolescents with CP due to weak muscles, contractures of the joints, and low endurance (Fowler et al., 2007; Verschuren et al., 2012). For adolescents with CP to engage in PA, they must first feel like they have the necessary physical tools to participate (Kramer & Hammel, 2011). These authors also found that children and adolescents with CP each constructed their own sense of competence through practice and problem solving in activities they each considered fun and important (Kramer & Hammel, 2011). Research has shown that preadolescents who are more physically adept are more readily accepted by their peers (Livesey et al., 2011). Teens with CP may be less physically adept than their nondisabled peers due to neurological damage.

Understanding why a PA experience is either positive or negative will allow healthcare providers to better promote a healthy lifestyle across the life span of individuals with CP. For individuals with CP, participating in PA can be difficult due to functional limitations that not only affect an adolescent’s ability or willingness to participate...
in PA but also create particular social concerns. These social concerns underscore the crucial role that support and acceptance play in the overall experiences of adolescents with CP. If an adolescent feels unwelcome, or like they are being treated without respect and compassion, the experience may be negative, and they may not be willing to participate in that activity again.

**Methods**

The purpose of this study was to generate, by interpreting the stories of adolescents with CP, a more comprehensive understanding of their lived experiences, in particular, their experiences with PA. This information was gained through a team working with an interpretive paradigm to understand the perspectives of adolescent participants aged 12–18 years with a diagnosis of CP.

**Hermeneutic Phenomenology**

Hermeneutic phenomenology was used as the research method because it allows for the meaning of a selected phenomenon to be known and enables the researcher to “interpret the data collected in terms of their own experiences and knowledge” (Mapp, 2008, p. 308). Hermeneutic phenomenology “is a research method based on phenomenological philosophy” (Cohen, 2000, p. 5). Phenomenological philosophy can be defined as the study of “lived experiences” (Cohen, 2000, p. 1). The meaning of the term phenomenon can be translated as “our experience of things” (Cohen, 2000, p. 3). Hermeneutic phenomenology, generally speaking, is the investigation of the lived experience of individuals relevant to a certain state or occurrence.

**Data Collection**

Study participants were recruited from three programs for children with disabilities in Montana and Colorado. Recruitment was facilitated through email by the program directors. Parents were given the option to reply directly to the researcher for more information about the research study, and how to set up the interview. Eligible participants were asked whether they would be willing to be interviewed and were given the researcher’s email. Inclusion criteria specified that all participants must be ambulatory and be able to tell their lived experience of PA. Of the 16 adolescents who volunteered, 14 met inclusion criteria.

This study received institutional review board approval through Washington State University and University of Colorado/Children’s Hospital, Aurora, Colorado. Since minors were interviewed, a parental consent and participant assent were obtained. All interviews were audio recorded to ensure accuracy and transcribed verbatim for analysis.

Each participant was interviewed in person or over the phone. Interviews were directed by participants but guided by the interviewer. For example, the open-ended question asked of participants was as follows: “I am a nurse who is interested in the PA experiences of adolescents who have CP. Can you tell me about a PA experience—it can be any experience—that you remember?” The interviewer asked for clarifying feedback as needed, and each interview lasted about 20–60 minutes.

**Data Analysis**

The data analysis was completed using Vandermause and Fleming’s (2011) eight criteria of analysis, first explicated by Diekelmann (2005). The process of data analysis was conducted by a research/interpretive team. The interpretive team comprised the primary researcher and three Washington State University committee faculty members familiar with Heideggerian Hermeneutic analysis. Throughout the data analysis, summaries of each transcript were compiled. Collectively, these interpreted interviews were utilized to build common understandings, patterns, and themes describing the lived experience of the participants relevant to the research question. Transcripts were reread, and patterns revised in a continuous process with each interview, until saturation was reached (Cohen, 2000; Patton, 2002). Trustworthiness was facilitated by following the same steps with each interpretation.

**Results**

**Background and Demographics**

The results were generated from 14 stories shared by participants with CP. Each of these participants was between the ages of 12 and 18 years. The majority of participants had spastic CP, whereas one participant had ataxic CP. The participants were involved in PA in either Montana or Colorado.

**Common Understandings and Themes**

Based on Heideggerian Hermeneutic data analysis, five main common understandings and themes for the 14 participants were identified through the deliberations of the interpretive team. The five identified common understandings were as follows: (a) developmental tasks of typical adolescents, (b) place of friends, (c) purpose of PA, (d) importance of support, and (e) wanting to be like the primary researcher who had CP. The following paradigm case, Josh, illustrates four of the five common understandings (the only common understanding not mentioned by Josh was “wanting to be like the primary researcher”, which was mentioned by all of the girls but none of the boys).

**Paradigm Case: The Story of Josh**

Josh is a 14-year-old adolescent boy with left spastic hemiplegic CP. He was interviewed as part of the pilot study in September 2014. During this interview, Josh shared a passionate, compelling story of his experience with PA. His lived experience shows how adolescents with CP experience the common understandings and themes identified in this study. During his interview, he talked about typical adolescent behavior, the place of friends, why he participates in PA, and how the support of his family makes it possible for him to work toward his dream of being part of the Paralympic Games.

**Developmental Tasks of Typical Adolescents**

Like most adolescents, Josh has a dream for his future. His dream is to compete in the Paralympics in Snowboarding. To achieve this goal, Josh takes part in a
competition center at a local ski resort that works with disabled athletes. To make this dream a reality, he goes snowboarding every weekend. Through his participation in snowboarding, Josh has identified that he likes to compete. Competing and participating in sports motivates him to train harder. During the interview, Josh talked about not only training for snowboarding but also participating in other sports as well. He specifically described how sports made him feel. The interviewer asked him whether there was a difference between how he felt training on the mountain and his participation in other sports. His answer demonstrates how for adolescents, friends are a critical element in their lives and part of typical adolescent growth and development (Berk, 2012). Josh's narrative demonstrates how friends are a critical part of his participating in sports:

Honestly, I think it is the same thing. I mean, I am out here playing soccer and basketball with my friends/my team, and it makes me feel good that I can play basketball with my friends. It makes me feel like all my other friends. It makes you feel normal. It doesn't make me feel abnormal. It makes me feel like I can do what everyone else can.

The interpretation team identified two themes about adolescent development in Josh's narrative: (1) the need for friends and (2) the desire to fit into a peer group. These themes are also indicative of a typical adolescent (McLeod, 2013). Desiring to be like their friends is a theme that all of the participants verbalized during their interviews.

**Michelle**

Michelle is a 12-year-old girl with diplegic CP who loves playing volleyball. She started playing volleyball because her friends were playing. Her narrative is a little different from other participants because even after most of her friends quit the sport, she continued. Here is her narrative:

Interviewer: It sounds like you've really found your niche with volleyball? What do you like about volleyball?

Michelle: Well, uhmmm ... I kind of started because my friends at school were doing it and now I'm one of the only ones doing it because they have found other things to do. I kept with it, cause I like it a lot. And it's really fun. It's a really fun experience.

Interviewer: When your friends went on to different things did you think about quitting or what were your thoughts?

Michelle: well, ah ... I thought about it and wanted to keep doing it because I really liked it. And uhmmm and it's a good way for me to meet new people.

Michelle started playing volleyball to be with her friends and to fit into her peer group. As she played volleyball and realized that the sport was fun and that she was good at it, she wanted to continue to master her skills. As Michelle stated, she stuck with the sport because it was fun. The theme of participation in PA because it is fun was very prevalent with participants. The theme of fun motivates adolescents to try different activities, and as Michelle demonstrates, to stick with a sport or activity.

Adolescents try different activities to find out where they fit into their world. For Josh, it was playing basketball and soccer with his friends; he felt normal while playing these sports. The interview also demonstrates how for Josh the focus is on playing the sport or activity. Both the interviews with Michelle and Josh demonstrate the need for these individuals to feel normal with their peers. For adolescents with CP, participation in PA gives them a sense of freedom. All participants talked about freedom from their disability when participating in PA. For all adolescents, with and without disabilities, the goal is to fit in with their peers. Having a disability can make this difficult because they cannot do everything as efficiently as their peers.

**PLACE OF FRIENDS**

One of the common understandings identified was the place of friends within the peer group. Most participants chose to interact with a few select trusted friends. When adolescents with CP referred to friends, they noted that engaging in PA with friends made PA more fun. Having fun was identified as important by all participants.

**Josh**

Josh describes special friendships developed in the activity program:

They're out there like me, who was a little kid that couldn't relate to their friends at school. They can't really rely on their peers or anyone. Like my best friend that I met through the ski program, we have been friends for three to four years. It is something you can't define. It is a lasting relationship and it helps with getting over stuff. I could not have a best friend like him without the program.

This feeling of friendship and connecting with other adolescents with disabilities was identified as important by other participants.

**Sarah**

Sarah is a 13-year-old adolescent girl with diplegic CP who participates in a special golf program. Her narrative helps paint the picture of not only the social aspect of PA but also the theme of participating in PA with friends with disabilities.

Sarah: My friend Kara comes with me. She makes it fun. Hanging out with friends makes it fun.

Interviewer: Does Kara have CP?

Sarah: I'm not sure what she has, but she has a disability.

Sarah's story shows that her reason for participating is to have fun with her friend Kara. For female participants, there was a recurring theme of connecting PA with being social. For male participants, however, the focus was on the sport and how well the sport was played. These differences between male and female participants may be important factors in encouraging adolescents with CP to participate in PA.
Dave

Dave wanted to be part of the team and help his team to be the best they could be. Here is an excerpt from his story:

Dave: And that for me is a great challenge. It’s not how you do it, it’s memorizing the plays and running them right. It’s not about the tackling so much. I’m okay at that. It’s remembering everything.

Dave’s story is an example of how he fits into the team, while focusing on skills. This aligns with the theme of male participants relating best to mastery of the sport as a way of fitting in with their peers. Acceptance within the community is part of optimizing health according to the World Health Organization (2018). Hence, the meaning of friends for adolescents with CP and PA is not only about fun or freedom. It is about finding a community or group that helps them find their place in the world and knowing that they are not alone.

Purpose of PA

The idea of not wanting to be alone is carried over into the next common understanding: Purpose of PA. Almost all participants stated that they did PA either to meet new people or to make new friends, as well as to satisfy their need to feel “free.”

Josh

Josh illustrated these findings by talking at length about why he pushes himself to train and do competitive snowboarding.

I just love sports. I will play anything. I am like a dog with a ball, I will keep going back and so sports are a way to (pauses and sighs). It cures me, it’s like I don’t have a disability, it’s like I can do this and do what I want. I play all kinds of sports. I play soccer and basketball at my high school; you know it’s fun times. The bad times comes after the sports, after I’m done, I will be really sore; you know to the point where my brother and dad will have to carry me around. But honestly, I think it is really worth it. I can’t express how I feel when I am out on the mountain, shooting the participants to try different activities in a safe environment.

Josh is very passionate about wanting to participate in sports because he feels “cured” and he feels free. Not all of the participants were as dedicated as Josh, but his message can help healthcare professionals understand that PA for adolescents needs to be fun, involve friends, and in some way provide a sense of freedom from their disability.

Susan

Susan, a 17-year-old adolescent girl with left hemiplegia, shared her story of meeting new friends through swimming after having surgery and being in a body cast for 6 weeks. Here is part of her narrative:

Susan: Yes, I was 11 and really felt out of place after spending my summer in a cast. Swimming not only gave me freedom of movement, but a way to connect with friends. My mom had arranged for me to have private lessons at our local pool, so after the lessons, I would stay and swim with my sister and friends. It was so fun to be able to just be me again and not the kid in a cast. Susan went on to explain how skiing provided a feeling of freedom to ski down the mountain and feel the wind on her face. “I think that the best part of skiing is being able to ski like anyone else. I ski with outriggers instead of ski poles due to my balance, but the feeling of freedom while on skis is the best feeling in the world.

Susan’s narrative is an example of how most of the participants felt as they participated in PA. This feeling of freedom from the disability is a reason to participate in different activities.

Susan’s remarks in the interview not only demonstrate the purpose of PA but also illustrate that many of the participants choose to do PA only with other adolescents with disabilities. When the participants did PA with friends with disabilities, they were able to forget about their disability.

Importance of Support

To experience the feeling of freedom, the adolescents need the support of family or friends to participate in PA.

Josh

For Josh, his family was instrumental in helping him with training and helping him keep his dream alive. Here is part of his narrative:

The other important thing is my family. I am one of the luckiest kids. I have a family that supports me through everything. I really could not be doing what I am doing or where I am today without them! They, my mom and dad, drive me to activities every day and my brother is there to encourage me to do my very best. My family is amazing. That is another thing you can’t put a price on is encouragement and support. My friends also encourage me. For Josh and most participants, family support was present, from parents, siblings and grandparents. This support enabled the participants to try different activities in a safe environment.

Susan

Susan shares how her family support helped her feel part of the swim team. Here is part of her narrative:

My family was amazing and supported me by paying for private swim lessons each week. In these swim lessons, I would practice a specific stroke that I would then compete in at the swim meet the next Saturday. I can’t say I ever won a race, but I always felt like I was improving and getting stronger. I stopped participating in swim team because my friends were not on the team.
Sarah's parents supported her by helping her master swimming and helping her fit into her community through participation in the local swim club. Each participant shared a story about level of support, but in every case, support played a direct role in how and when they did PA. In at least one example, less family support led to less participation.

**Jamie**

Jamie's narrative was somewhat different when it came to parent and peer relationships. Jamie was a 14-year-old adolescent girl with ataxic CP and a speech impediment and possible developmental delay. It is important to note that Jamie's mother took over answering the questions. Although Jamie may have had difficulty telling her story, it became clear as the interview went on that Jamie wanted to tell her story but felt that her mother was not letting her. Jamie stated: "Mom, I'm trying to tell her" and her mother's response was: "I know, I'm trying to help you. You're not telling her".

Within the last 7 years, Jamie has participated in horseback riding, bowling, roller skating, ice skating, miniature golf, bowling, biking, and swimming, and this year she will try skiing. With all of these activities, the focus of her mother's story was on how well Jamie did (e.g., how she has won two gold medals in horseback riding through Special Olympics). Her mother also makes a point of talking about how Jamie usually wins at miniature golf. Jamie's mother focused on her success as a way of showing the world that her daughter was "normal" or fit in. Jamie's parents needed the support of other families and friendships formed through her participation in PA. However, neither Jamie nor her mother ever mentioned peer friendships.

**Sarah**

Sarah, a 13-year-old adolescent girl with left hemiplegic CP, had PA experiences that were limited to skiing and dancing in her room by herself. Sarah was very reluctant to share her reason for dancing by herself. One of the main differences in her narrative was that her support system seemed less reliable and not as robust as some of the other participants. She stated that she felt anxious about being a seventh grader and dealing with her parents. Sarah felt like she needed permission from her dad to talk about why she was anxious. Her interview engendered a feeling of fragility. Here is her story:

**Interviewer:** Do you ski in the special program? Do you do any sports outside the hospital?
**Sarah:** Dance by myself, if that counts.

**Interviewer:** That works. Of course, it does.

**Sarah:** I don't dance with a group or anything. I dance by myself.

**Interviewer:** But you like dancing. What makes dancing fun?

**Sarah:** The music and daydreaming.

**Interviewer:** Daydreaming does it help you think of stuff you want to do?
others might think or do. This feeling of being safe was also thought to be a matter of trust. It was commonly understood that participants were motivated by friends to purposefully engage in PA.

**Purpose of PA**

The purpose of PA overlaps somewhat with the common understanding of friends. Many participants stated that they wanted to do sports to meet new people or because their friends were also participating in the activity. Sometimes, participants quit a sport if they were not able to keep up with their friends. Younger participants were less likely than older participants to connect quitting the sport with not being able to do the sport as well as their friends. Whether this is a denial of the disability, or an incomplete understanding of how CP affects their body, is unclear. The division between genders, and their purpose for PA, was much clearer.

For female participants, especially, PA was social in nature. There was a connection between friends, meeting new people, and having fun. For male participants, the focus was also on mastering the sport/position they were playing. The male participants were also more competitive and concerned with winning than the female participants. The reasons for engaging in PA vary by gender, but it is clear that the purpose of PA is to make friends and have fun.

**Importance of Support**

For the participants to do PA, they needed the support of family and friends. For most of the participants, their families were supportive and encouraged participation in PA. Josh’s family is a good example of how support can help an adolescent with CP achieve their dreams of competing. Other families, like Sarah’s, did not seem to show a lot of support, which made her seem fragile. Support was important, and lack of support made participants feel vulnerable and/or ignored.

For Jamie, her family’s support was different because her parents were involved in her interview to the point of speaking for her. Their emphasis on Jamie’s participation in so many activities led to the conclusion that the family encouraged Jamie to participate in so many activities, not only to help support her with her disability but also to provide psychological support to the family in dealing with her disability.

**Being Like the Primary Researcher**

Throughout the study, the primary researcher was asked a variety of personal questions about her journey from adolescence into adulthood. These questions came from both the parents and the participants. The interpretation team identified that the parents and participants were looking for a role model. The idea of a role model who also has CP, and the influence it might have on adolescents with CP, is an area of future research.

**Discussion and Implications**

The benefits of PA are well known. For adolescents, it is recommended that they have at least 1 hour of PA per day (Mitchell et al., 2015). Achieving this goal for adolescents with CP can be difficult due to the decreased muscle strength and endurance (Fowler et al., 2007). As a result, adolescents with CP may not be able to participate in community-based recreation programs but desire a program that focuses on adaptability to meet their abilities instead. The wide range of abilities for adolescents with CP may contribute to why an adolescent participates in PA or decides to stop an activity (Fowler et al., 2007; Mitchell et al., 2015).

Adolescence is a time to experiment with activities to discover what they like or what they want to do. As a result, most of the 14 study participants had participated in a variety of PAs. The reasons for participating were that they experienced fun, time with friends, and a feeling of freedom from their disability. The reasons for quitting were that the activity was no longer fun, their friends quit, or their friends moved up to the next level and they did not. Whatever the reason, when PA is discontinued, research has shown that strength and endurance decrease. Helping adolescents with CP optimize their health is a critical part of healthcare. The current study is a good first step for healthcare providers to begin to understand how and why adolescents with CP may or may not participate in PA.

Five common themes have been presented and the clinical implications touched on, including ways in which healthcare professionals can assist adolescents with CP to participate in PA within their community and in programs for those with disabilities. The idea of finding a community or sports program for those with disabilities is an important clinical implication identified during Jamie’s interview. Jamie’s mother made a point of telling the primary researcher how disappointed she was that it took a year, as well as Jamie dislocating her knee cap and being referred to the orthopaedic clinic, to find out about the ski program. Her mother felt that this delay caused Jamie to miss a whole year with the Hospital Special Program. The reaction from Jamie’s mother to not being told about the hospital sports program for those with disabilities brings up an important element when a new patient comes into a clinic with a disability. It is important for clinicians to not only focus on the individual’s immediate needs but also take the time to get to know the patient and family holistically.

The idea of holistic family-focused care is an important aspect of care for adolescents with CP. One of the main themes uncovered in this study was family support. For adolescents with CP, they see their healthcare providers more often than their peers with no disabilities do. As a result, healthcare providers have more interactions with the adolescents and their families. The clinician needs to prioritize identification of the adolescent’s level of support. This topic of support could be explored by asking the adolescent and the family whether they are involved in PA and, if so, how much PA are they currently doing. If not, why? Sometimes, the question of why may need to be asked to the adolescent privately and then to the parents, because there might be different perspectives. This suggests that open communication and developing a trusting relationship with the family can help the adolescent optimize health through PA (Palisano, 2012).
**Importance of Support**

Within this common understanding, two main themes emerged. The first one was family support, demonstrated by Josh's narrative of how his family was always there for him and did whatever they could to support his dreams of participating in the Paralympics. The second theme that emerged was fragility in respect to perceived lack of family support, which is evident in Sarah's narrative. The stories of Josh and Sarah are opposites. By participating in PA, Josh found freedom from his disabilities, he was involved in many activities, he appreciated the feeling of autonomy, and he enjoyed being with friends. Sarah's PA was limited to participating in the hospital ski program and dancing in her room alone to help reduce her anxiety about being a seventh grader. Fragility emerged from the fact that she felt dancing in her room alone was not a PA, as well as having to ask her father for permission to share why she danced alone. The interpretation team could not fully identify why there was perceived fragility, but the fragility came from Sarah saying that she was anxious about seventh grade and that she asked permission to share with the interviewer why she felt anxious.

Overall, the interpretation team felt that the importance of support was linked with how participants engaged in PA. When there is support, the idea of participating in PA can be introduced by healthcare professionals as a way of gaining strength, endurance, being part of their community, and having a greater chance of success while continuing to optimize the adolescent's health. Healthcare providers need to take time to assess the adolescent's support system to find what PAs or programs will fit into that adolescent's unique support system.

**Future Research**

Throughout the study, the primary researcher was asked questions regarding her life and how she achieved different milestones. These questions, and subsequent answers, provided statements that demonstrated that life with a disability can be what society considers “normal.” Therefore, the researcher became an example of what could be possible for both the participants asking the questions and their parents. The idea of being a role model was not an intended outcome of this study and is an area of research that should be further investigated. How role models help adolescents with CP to navigate through the different phases of adolescent development, as well as being successful throughout life, has received little research attention. One of the participants, Susan, brought up this idea of role models. During her interview, Susan talked about how she was friendly with one of the volunteers from the hospital special program, and how the volunteer had taught her how to change a tire on her car. The volunteer was role modeling independent behavior that Susan would need to be successful as she progressed into adulthood.

Another area of future research might investigate future impacts of programs on disabilities on the participants. During the current study, the participants touched on how the programs had helped them feel accepted and provided them a safe environment to try different types of PAs. The question that remained for the interpretation team was “what is the long-term impact of the disabled programs?”

**Conclusion**

Study results demonstrate that for healthcare professionals, there are practice changes that might help optimize the health of adolescents with CP. Healthcare professionals who provide care for adolescents with CP need to understand that sports programs for those with disabilities facilitate a connection with others with disabilities and a way to participate in PA in a safe environment. A safe environment decreases environmental barriers that exist for teenagers with disabilities. Healthcare providers can continue to decrease barriers and promote health by engaging in open communication about how and why an adolescent, regardless of their abilities, participates in PAs, as well as understanding the adolescent's support system to tailor the activities to the available support. Finally, it is important for healthcare providers to know that the purpose of PA is perceived differently for male and female participants.

It is also important to identify study limitations. As noted earlier, all 14 participants were ambulatory and were participants in one or more programs for those with disabilities. There is need for further research on the PA experiences of adolescents with CP who do not participate in sports programs. In addition, some interviews were conducted in-person, whereas others were conducted over the phone, which might have impacted researchers’ ability to interpret nonverbal cues.

**References**


