



# Comparing participation in physical recreation activities between children with disability and children with typical development: A secondary analysis of matched data



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## ABSTRACT

**Background:** Facilitating participation in physical recreation among children with disability is an increasingly important aim of paediatric rehabilitation.

**Aim:** To compare the extent (diversity and frequency), context (where and companionship), experience (enjoyment) and preference for participation in physical recreation activities outside-of-school between children with disability and children with typical development.

**Methods and procedures:** One hundred and sixty-three children with physical, intellectual, sensory or multiple disabilities (67 girls; mean age 10.8 yr) were matched with 163 children with typical development for age, sex, geographical location and socioeconomic status. Participation in 16 physical recreation activities (including walking, cycling, team sports) was compared between these two groups using non-parametric statistics and relative risk ratios.

**Outcomes and results:** There were significant differences between the groups in 14 activities. A lower percentage of children with disability reported participating in 5 physical recreation activities. A higher percentage of children with disability reported not participating in their preferred activities. Children with disability were less likely to participate on their own in some day-to-day physical recreation activities such as walking and cycling.

**Conclusions and implications:** Differences between the groups related to the context (companionship) and preference for participation. Understanding and addressing these differences may enhance participation among children with disability.

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## What this paper adds

Previous research on the participation of children with disability in physical recreation activities, and how they compare to their peers with typical development, has focused on broad domains of activity such as formal or informal activities. This study builds on this literature by investigating the participation (extent, context and experience) and the preferences (a known predictor of participation) of children with disability (physical, intellectual, sensory or multiple disabilities) in 16 specific physical recreation activities participated in outside-of-school including swimming, dancing and gymnastics, and how their patterns of participation in these activities compare to typically developing children. Our research found differences between children with disability and children with typically development relating to the extent (diversity), context (companionship) and preference for participation in physical recreation activities. A lower percentage of children with disability reported participating in 5 physical recreation activities and a higher percentage reported not participating in their preferred physical activities (team sports, non-team sports, individual physical activities and athletics). Also, children with disability were less likely to participate on their own in some day-to-day physical recreation activities such as walking and cycling.

## 1. Background

Participation in physical activity is a vital part of a healthy lifestyle for all children, including those with physical, intellectual, sensory and multiple disabilities. Physical activity is any bodily movement produced by skeletal muscles that results in energy expenditure (Caspersen, Powell, & Christenson, 1985). Physical recreation is a type of physical activity and is defined as:

An activity or experience that involves varying levels of physical exertion, prowess and/or skill which may not be the main focus of the activity and is voluntarily engaged in by an individual in leisure time for the purpose of mental or physical satisfaction. (Australian Bureau of Statistics, 2008, p. 8).

Physical recreation includes organised formal activities structured by rules (for example, team sport), and spontaneous informal activities requiring little preparation and training (for example, play). It encompasses a range of physical intensities but excludes sedentary activity. Participation in physical recreation can positively influence a child's physical and psychological health and can help to develop healthy lifestyle behaviours (Telama et al., 2005). An inability to participate in physical recreation has been shown to negatively impact the quality of life of children with disability (Dahan-Oliel, Shikako-Thomas, & Majnemer, 2012).

Research suggests that compared to their typically developing peers, children with disability spend more leisure time in sedentary activities (Maher, Williams, Olds, & Lane, 2007). In particular, they have been shown to participate less in formal physical recreation (Arim, Findlay, & Kohen, 2012; Imms, 2008; Westendorp, Houwen, Hartman, & Visscher, 2011). However, most previous studies have analysed participation in physical activity including physical recreation by measuring the amount of physical activity performed; for example, using activity monitors (Carlon, Taylor, Dodd, & Shields, 2013) or the level of engagement in categories of activity; for example, formal or informal activities (Arim et al., 2012; Bedell et al., 2013). These approaches provide broad information about participation in physical recreation only (i.e. overall amount of movement per day). Categorising activities is problematic as activities included with the same domains can have vastly different characteristics. For example 8-ball (or snooker) and bicycling are both considered informal recreational physical activities, but occur in different environments and require different physical skills and levels of exertion. There is a lack of information about the extent (diversity and frequency), context (where and companionship), experiences of (enjoyment), and preferences for participation in specific physical recreation activities outside-of-school among children with disability and how they compare to their typically developing peers.

Four published studies have investigated participation among children with disability in one or more specific physical recreation activities outside-of-school compared to children with typical development (Imms, Reilly, Carlin, & Dodd, 2008; King, Law, Hurley, Petrenchik, & Schwellnus, 2010; Westendorp et al., 2011; Zwier et al., 2010). However, each of these studies measured rates of participation (diversity) only and none compared the groups statistically or included samples of children with disability matched to those with typical development. Therefore, it is unclear if the extent, context and experiences of children with disability in physical recreational activities are different to those of their typically developing peers.

Facilitating participation in physical recreation outside-of-school among children with disability is increasingly recognised as an important aim of rehabilitation (Dahan-Oliel et al., 2012). Health professionals need to understand the pattern of participation in specific physical recreation activities among children with disability to help realise this aim (Imms et al., 2008). This information can also assist with identifying areas where therapy, sport and recreation services could provide better access to programs for children with disabilities.

The aim of this study was to compare the extent (diversity and frequency), context (where and companionship), experiences of (enjoyment) and preferences for participation in specific physical recreation activities between children with disabilities and children with typical development.

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