

**Article** Frumberg, D., Gerk, A., Autruong, P., et al.. (2019). Adaptive skiing/snowboarding affects the quality of life of children with disabilities. *Palaestra* 33(3) 21-28.

### **Adaptive Sports/Recreation Topic Categories**

- Adaptive sports and recreation
- Quality of life
- Participation

### **Research Question**

- What is the impact of participation in an adaptive ski and snowboard program on Health-Related Quality of Life (HRQL) in children with physical disabilities?

### **Methodology**

- Children with a wide variety of physical disabilities between 8-21 years of age completed the KIDSCREEN-52 HRQL questionnaire prior to and upon completion of a winter sport season as part of the Adaptive Recreation for Childhood Health (ARCH) ski/snowboard program at Winter Park, Colorado between 2011 – 2015. Their guardians also completed a “proxy” measure.
- Children were excluded if they participated in fewer than four sessions/season.
- Athlete-guardian pairs who completed three or more years of consecutive seasons were further analyzed as a long-term cohort.

### **Results**

- Seventy-six child-athletes with physical disabilities between 8 -18 years of age (mean age = 12 years, 9 months) were included in the study.
- The 45 athletes who participated for only one year reported significant improvement in two of the HRQL domains: physical wellbeing and bullying..During this time, guardians reported improvement in six of the 10 HRQL domains: physical well-being, psychological well-being, moods and emotions, financial resources, peer and social support and bullying. Overall, parent and child agreement across all domains demonstrated only a moderate correlation.
- Twenty-nine athlete-guardian pairs were included in the long-term cohort. After three or more years of participation in the ARCH program, child-athletes reported significant improvements in 3 HRQL domains: financial resources, peers and social support, and bullying. Guardians also reported significant improvements in financial resources and bullying.
- Athletes in both the short-term and long-term cohorts reported a significant decrease in self-perception, whilst guardians in the short-term cohort reported an increase in their child’s self-perception.

### **Discussion/Conclusion**

- Athletes perception of improved physical well-being after one season of participating did not continue over multiple years.

- Positive changes in perceived bullying by athletes and guardians alike in both the short-term and long-term cohorts may indicate improved socialization in children with disabilities following participation in the adaptive sports program.
- Positive outcomes were reported more frequently by guardians than the child-athletes. This may be attributed to reporting bias and guardians' optimism for finding a suitable adaptive sport for their child.
- The difference in guardian and child-athlete reporting of self-perception highlights the importance of monitoring this domain, particularly during teenage years where lower self-esteem and self-image are more prevalent.

### **Article Strengths**

- One of few longitudinal studies addressing HRQL for children with disabilities involved in an adaptive sport program.
- Inclusion of a cohort with long-term follow up of at least three years.
- The questionnaire investigated 10 domains of HRQL allowing for greater understanding of specific areas that may be impacted by ongoing participation in an adaptive sport program.
- Combination of child-athlete and guardian reporting allows for comparison of perceptions between these groups and highlights the importance of assessing HRQL perceptions from both athletes and guardians.

### **Article Weaknesses**

- Multiple spelling errors.
- Heterogeneous participant population including a broad age range and variety of diagnoses associated with physical disabilities
- Limited participant demographics including lack of information regarding baseline functional level.
- The incidence of adverse events was not reported
- Total number of ARCH participants was not provided; therefore respondents may be a biased sample.
- Small sample size, particularly in the long-term cohort.

### **Take Home Messages**

- Participation in an adaptive ski and snowboard program results in many perceived benefits in HRQL in the short and long term for children with physical disabilities.
- Child and guardian reporting of HRQL measures are only moderately correlated; this highlights the need to separately assess outcomes in these two groups.