

## Article

Moll A, Bester G. (2019). Factors that relate to sport participation of adolescents with a mobility impairment. *Afr J Disabil.* 8(0), 614-621. <https://doi.org/10.4102/ajod.v8i0.614>

## Adaptive Sports/Recreation Topic Categories

- Participation in sports/recreation.
- Psychosocial.

## Research Question

- How do inevitable, structural (environmental), and personal factors affect sports participation of adolescents with mobility impairment?
- Among inevitable, structural, and personal factors, which contributes the most to successful or unsuccessful sport participation?

## Methodology

- Participants: 140 adolescent participants were recruited via purposeful sampling of schools that accommodate adolescents with a mobility impairment. The definition of mobility impairment was quite broad, ranging from severe to minimal.
  - Inclusion criteria were any mobility impairment and proficiency in Afrikaans or English.
  - Individuals younger than adolescents were excluded as it was felt that they would be unable to appropriately answer questionnaire (Emotion Profile Index) as well as those with severe intellectual limitations, as the data was patient-reported rather than via caregiver.
- Questionnaires were provided in individual or group sessions at schools to elicit inevitable (gender, age, grade, language, mobility impairment) and structural (sport environment, school type, with learners who have a disability and/or learners without a disability) factors.
- The Emotional Profile Index (EPI), developed by Plutchik & Kellerman in 1974 uses 12 traits to define emotional dimensions and was provided to measure personal factors.
- A parent-adolescent relationship questionnaire (Fourie, 2001) was also provided to participants.
- Primary outcome measures: Participation in sport, responses from questionnaires and EPI.
- Secondary outcome measures: Mobility impairment, current state of health rated on 6-point scale.

## Results

- In total, 140 adolescents (78 boys, 62 girls) ages 14-20 (average 16.8 years) participated. Eighty-nine participated in sports, 51 did not.
- Those with congenital mobility impairment made up the majority (78%) versus acquired (22%).
- Etiologies of mobility impairment included cerebral palsy (CP) (44), spinal cord injury (SCI) (36), spina bifida (and other bone disorders) (25), muscular dystrophy (and other muscle weaknesses) (22), multiple sclerosis (8), and amputee (5).

- More boys (74%) participated in sports than girls (50%). Basketball and cycling were in the top 3 sports of both genders.
- No difference was noted among factors of structure (type of school, physical environment), dwelling, type of mobility impairment, onset of disability or enjoyment from relationships between sport participants and non-participants.
- Those who participated in sport reported better current states of health.
- The EPI revealed that sport participants with a mobility impairment had a higher level of trust and lower distrust and were more gregarious than those who did not participate. No other significant differences among personality traits were found.
- Age accounted for 9% of the variance between the groups of participants vs non-participants, followed by trust (8%), gender (2%) and health (2%).

### **Discussion/Conclusion**

- The study reports 4 factors made a difference among adolescent learners with mobility impairments who play sports and those who did not.
  - 3 inevitable factors: age (most prominent differentiating factor), gender, and health.
  - 1 personal factor: trust.
  - No structural factors.
- Younger age was associated with higher participation, felt perhaps to be related to onset of “imaginary audience” in adolescent ages, whereas younger participants may be less affected by negative comments. No difference was seen in age of onset of mobility impairments, although other literature assumes that those with congenital disability are better able to adapt.
- Boys were more likely to participate in sports among those with mobility impairment, similar to typically developing boys and girls.
- While health played a role as predicted, it was not the most important factor.
- According to the EPI, trust is a marker of emotional stability and generally describes acceptance, hope and confidence. Not only may these individuals choose to do something beneficial for their bodies and minds, but sport itself offers opportunities to improve trust in self and others.

### **Article Strengths**

- Large number of participants.
- Interesting discoveries of variable personality traits among adolescents participating in sport and those who do not.
- Unique insights provided by investigators with a psychology background.

### **Article Weaknesses**

- Difficult to discern whether certain factors (e.g. personal factor of trust) lead to or are a result of sport participation.
- Specific physical characteristics of the participants were not fully defined. For example, spinal cord injuries were divided into hemiplegia, paraplegia and quadriplegia, whereas the physical impairments among participants with cerebral palsy were not delineated. Acquired brain injury was not discussed. Use of a gait aid was not discussed. Definitions of severity of impairments were not provided and data was not stratified by severity. Future studies could include these definitions and

evaluate for differences in sport participation based on impairment severity/baseline function.

- Access to or awareness of sport opportunities was not addressed.
- Factors only explained 22% of variance. Perhaps more factors could have been investigated.

### **Take Home Messages**

- There are inevitable factors that correlate with sport participation among adolescents with mobility impairment that cannot be manipulated but can be considered in increasing engagement with sport.
- Fostering trust is correlated with increased sport participation, but it is unclear if this leads to or is a result of sport participation.