Sports participation and physical disabilities

Jaarsma, Eva

Chapter 1

General Introduction

Sports participation in general

In the past decade people have become less physically active[1]. Office jobs require employees to sit at a desk during the day, and after work many people like to watch television or use different types of social media. Sports are a less popular activity after work, either because people do not have the time to exercise or because they are not motivated to participate in sports after work[2]. This physical inactivity could have negative consequences for a person's health, such as higher chances of cardiovascular diseases, obesity and type 2 diabetes mellitus[3].

Generally, approximately two-thirds of the Dutch population participate in sports[6]. But even though the majority of Dutch people are physically active, the percentage of people being overweight has increased over the years (2000: 44 %, 2010: 48%)[7]. The Dutch national government is therefore investing in programs to increase sports participation in general and is cooperating with local authorities to provide easily accessible and safe sports facilities[8].

Sports participation in people with physical disabilities

The sports participation of people with physical disabilities is lower compared to people without physical disabilities. In the United States, for example, 44% of people with physical disabilities participate in sports[5]. In the Netherlands, people with physical disabilities show similar percentages for sports participation, namely 37%[6]. The benefits of sports participation for people without physical disabilities are similar for people with physical disabilities. Besides health related benefits of sports such as reducing chances of heart disease, obesity, type 2 diabetes[5,9], active people with physical disabilities also mentioned better balance and psychosocial benefits such as fun, social contacts, acceptance of the disability and improved self confidence[2,10-12].

In 1944, Dr Ludwig Guttmann (neurologist of the Spinal Cord Injuries Centre at the Stoke Mandeville Hospital, United Kingdom) was one of the first to recognise these benefits and introduced sports in the rehabilitation program. He even stated that:

> *"If I ever did one good thing in my medical career it was to introduce sports into the rehabilitation of disabled people."*[13]

He developed rehabilitation sports into recreational and competitive sports by organising the first Stoke Mandeville Games in 1948, which would eventually evolve

into the Paralympic Games.

Today, sports are still part of the rehabilitation program, to familiarise patients with physical disabilities with different sports possibilities and increase their physical fitness and quality of life[14,15]. The Paralympic Games of London in 2012 were more popular than ever with 2.7 million spectators to watch the Games, which exceeded the Paralympic Games of Beijing (2008) with 900.000 spectators. In total 4,237 athletes from 164 different countries competed in 20 sports compared to 3,951 athletes from 146 countries in Beijing[16]. With more (international) interest in Paralympic sports than ever, one would expect that the sports participation of people with physical disabilities in general might also increase. But despite the presence of sports in the rehabilitation program and the growing attention for Paralympic sports, the majority of people with physical disabilities still are not physically active.

In order to try to increase sports participation of people with physical disabilities, it is important to understand what withholds them from participating and how they can be stimulated to become active in sports. It is also important to establish whether inactive and active people with physical disabilities experience different barriers and facilitators of sports participation.

Even though the United States and the Netherlands show similar percentages for sports participation in people with physical disabilities[5,6], little information is known whether these percentages also represent percentages in other countries or continents. The functioning of a person with a physical disability depends on the environmental context he/she lives in[17], which could indicate that influences such as the attitude of society and policies of the government could affect sports participation of people with physical disabilities[18].

Aim and research questions

The overall aim of this thesis was to study which barriers and facilitators influence sports participation of people with different types of physical disabilities and whether inactive and active persons experience different barriers and facilitators of sports participation.

This thesis therefore aimed to answer the following research questions:

- Which barriers and facilitators of sports participation do people with physical disabilities experience?
- Do active participants experience different barriers and facilitators of sports than inactive participants? If so, what are these differences?

To also address the possible differences in barriers and facilitators of sports

participation within different countries, a third research question was added:

- What cross-cultural differences in barriers and facilitators of sports participation can be found worldwide?

Theoretical frameworks used in this thesis

This thesis uses two theoretical frameworks to structure experienced barriers and facilitators of sports participation. The framework is the International Classification of Functioning, Disability and Health (ICF; Figure 1)[17] of the World Health Organisation. The ICF model is a classification of health and health-related domains, which classifies health on both individual and population level.

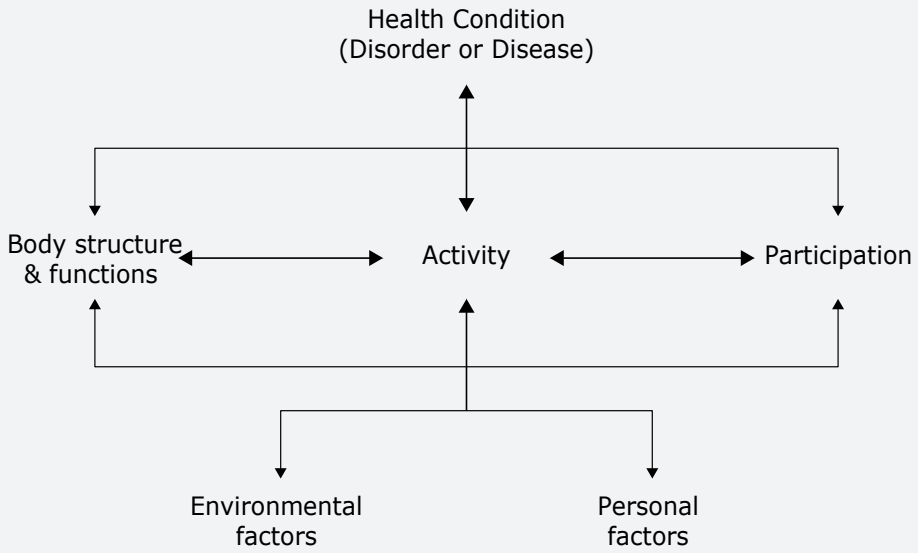

Figure 1: Diagram of the International Classification of Functioning, Disability and Health

The ICF model divides functioning into three components, namely body structure and functions, activities and participation. This thesis will focus on participation, as sports participation falls under this domain. As functioning is a complex interaction of an individual in a context, the ICF also acknowledges environmental and personal factors[17].

The theory used in this thesis is the Theory of Planned Behaviour (TPB)[19]. This theory assumes that behaviour (i.e. sports participation) is influenced by

intention, which in turn is influenced by attitude, subjective norm and/or perceived behavioural control. Attitude is the positive or negative outcome of behaviour, subjective norm refers to the social pressure regarding behaviour and perceived behavioural control is the belief that a person can control their own behaviour in certain situations[19].

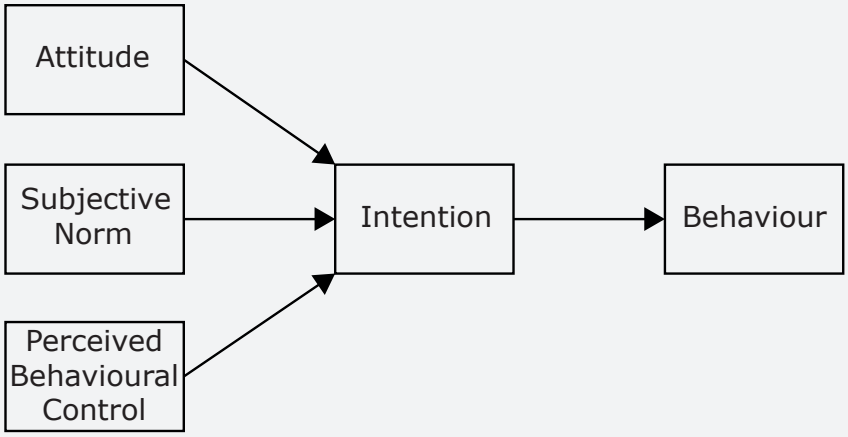

Figure 2: Diagram of the Theory of Planned Behaviour

Outline of this thesis

The above mentioned research questions will be answered in the following chapters:

As a starting point a systematic review was performed to determine what is known about barriers and facilitators of sports participation for people with physical disabilities (Chapter 2).

Consequently, because the group of people with physical disabilities is very broad and diverse, barriers and facilitators of people from different disability groups will be investigated. As a first glance of what barriers and facilitators of sports participation can be expected, Dutch Paralympic athletes were questioned about the barriers and facilitators of sports participation they have experienced. Paralympic athletes are a specific group of people with physical disabilities, who probably have experienced barriers at the start of participation in sports. Despite these barriers they have also experienced facilitators, as they are obviously still participating in sports (Chapter 3).

Children with physical disabilities might experience different barriers and facilitators of sports participation, especially when they attend a special school. Since children with physical disabilities have to rely on their environment (i.e. family, friends and professionals at school), different perspectives on the child's sports participation will provide a more comprehensive insight in a complex phenomenon such as sports participation[20]. This study therefore aimed to provide comprehensive information about the barriers and facilitators of sports participation of children with physical disabilities by triangulating data from children, their parents and their health care professionals (Chapter 4).

Little is known about possible barriers and facilitators of sports participation of people with visual impairments in the Netherlands. However, previous research reported that people with visual impairments have a poorer health status and higher rates of overweight and obesity compared to people without a visual impairment[21,22]. Also, participation in daily activities of people with visual impairments is strongly related to sports participation[23]. The aim of this study was to analyse barriers and facilitators of sports participation of people with visual impairments and compare differences in these factors between inactive and active participants. This study also aims to investigate differences in reasons to start and maintain participation in sports (Chapter 5). Experienced barriers and facilitators of sports participation from a different group of people with disabilities can help in providing new insight in developing strategies to increase sports participation.

From a rehabilitation medicine perspective, it is also important to gain knowledge about barriers and facilitators of sports of patients that were treated in our Rehabilitation Centre. A large group of people with physical disabilities will include both physically inactive and active persons, who might have experienced different barriers and facilitators of sports participation. A representation of the total population can also provide insight in differences in sports participation levels between diagnosis groups. Therefore the aim of this study was to analyse barriers and facilitators of sports participation of people with physical disabilities after rehabilitation and compare differences between inactive and active participants regarding these experienced barriers and facilitators (Chapter 6).

As functioning of a person with a physical disability depends on their environmental context[17], sports participation can also be influenced by cultural differences in barriers and facilitators. Most studies on barriers and facilitators of sports are from Northern America or Europe, which is why it is unknown whether these results are also applicable to other continents. As only little research has been done at possible differences between countries, the aim of this study was to analyse cross-cultural differences in barriers and facilitators of sports participation of Paralympic athletes between countries and continents (Chapter 7).

Finally, this thesis concludes with discussing the results of the abovementioned studies and provides clinical recommendations and suggestions for future research (Chapter 8).

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