

**FACTORS RELATED TO SPORT PREFERENCES AMONG YOUTH  
WITH PHYSICAL DISABILITY IN RWANDA**

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## KEYWORDS

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Sport preference

Sport enjoyment

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Parental encouragement

Physical ability

Challenges

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## ABSTRACT

Sport participation can play a vital role in enhancing life of youth with physical disabilities. This is because of the rehabilitative influence sport can have not only on the physical body but also on rehabilitating people with disability into society. A successful sport programme in which the youth with disabilities are involved should possibly respect youth's wishes regarding the preference of the sport. The Review of the literature revealed that little has been documented about the status of disability sport in developing countries. Given the psychosocial and physiological benefits of sport in everyone's life, including those with physical disabilities, there is a need for a study to document the status of sport of this sub-population in Rwanda. This study, therefore, aimed to identify the factors associated with sport preferences among youth with physical disabilities in Rwanda. A sequential mixed model design was used to collect data, specifically the sequential explanatory strategy. Data was collected by means of a self-administered questionnaire and a total number of 204 participants voluntarily answered the questionnaire. Semi-structured interviews were conducted among four (4) NPC staff to collect data regarding the challenges experienced by youth with physical disabilities with regard to sport preferences. The Statistical Packages for Social Sciences (SPSS) version 19 was used for data capturing and data analysis. Descriptive statistics were employed to summarize demographic information as means, standard deviation, frequencies and percentages. Inferential statistics (chi-square and independent samples t-tests) were used to test the associations between different categorical variables ( $p < 0.05$ ). For the qualitative data, audiotaped interviews were transcribed and translated from Kinyarwanda into English, and the expressed ideas were coded and reduced into subthemes and categories. Thematic analysis was then done under the generated sub-themes. Permission to conduct this study was obtained from the concerned authorities. Ethical issues pertaining to

informed consent, anonymity, confidentiality and the right to withdraw from the study were respected in this current study. The results of the current study revealed that the top five sports played by youth with physical disabilities were sit ball, sitting volleyball, volleyball, table tennis and wheelchair basketball. It also showed that youth with physical disabilities were committed to and enjoyed their sport experience. Additionally, they have had strong feelings about their physical abilities. Discouragingly, the results indicated that the youth with physical disabilities have had low perception that their parents were supportive of their participation in sport. The findings further showed that age, gender, use or non-use of mobility aids, and type of impairment influenced the choice of sport. However, there was no statistically significant association between demographic characteristics and some sports codes played in Rwanda. During the semi-structured interviews, the participants reported the challenges experienced by youth with physical disabilities with regard to sport preferences including physical factors (lack of accessible facilities, uneven playgrounds, transport to and from sport fields, resources and limited sporting codes available), social factors (lack of parental support and models) and financial factors (inhibit the implementation of many sport codes, high cost of adaptive equipment) which influence the youth with physical disabilities to choose a sport with sufficient facilities even if they do not like it. Factors that emerged as facilitators for sport preferences include: sport availability, perceived ability to handle a sport, friendship, facilities, improved individual competences, independence in mobility gained, and to take part in international tournaments. Based on the results of this study, and the role of sport in preventing many chronic diseases, it is apparent that there is a need to widen the spectrum of sport opportunities and to create awareness among youth with physical disabilities. Furthermore, there is a need to provide social and a local barrier-free environment that promote disability sport preferences. Therefore, this study suggested the

inclusion of various stakeholders in recommending and designing sport programmes for the youth with disabilities.



**DECLARATION**

I hereby declare that this study entitled **“Factors related to sport preferences among youth with physical disabilities in Rwanda”** is my work and I have not submitted it for any degree or examination to any other university. All the sources that I have used or quoted have been indicated and acknowledged by means of complete reference.

Pierre BARAYAGWIZA

Signature .....Dated ....November 2011

Witnesses



Supervisor: Prof Julie PHILLIPS

Signature .....Dated.... November 2011

## DEDICATION

I dedicate this thesis to my father Damien RWAZIYE and my late mother Bernadette



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## ABBREVIATIONS

**ASC:** Australian Sports Commission

**CDC:** Center for Diseases Control and Prevention

**CP-ISRA:** Cerebral Palsy International Sport and Recreation Association

**DPSA:** Disabled People South Africa

**IBSA:** International Blind Sports Federation

**ICC:** International Coordinating Committee

**ICF:** International Classification of Functioning, Disability and Health

**INAS-FID:** International Sports Federation for Persons with Intellectual Disability

**IPC:** International Paralympic Committee

**IPSD:** International Platform on Sport and Development

**ISMGF:** International Stoke Mandeville Games Federation

**ISOD:** International Sports Organisations for the Disabled

**IWAS:** International Wheelchair and Amputee Sports Federation

**NPC:** National Paralympic Committee

**PWD:** People with Disability

**SD:** Standard deviation

**WHO:** World Health Organization

**YWPD:** Youth with Physical Disability

**%:** Percentage

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 INTRODUCTION**

This chapter provides the background to the study. It presents the role of sport in the lives of people, especially people with disabilities, and pays particular focus on sport participation for people with physical disabilities in developing countries. In addition, it highlights the rationale of the study. Furthermore, it presents the statement of the problem, research questions, aim and objectives of the study. It also provides the definitions of key terms used in the study, and ends with an outline of the chapters of the study.

### **1.2 BACKGROUND**

The World Health Organisation (2008) estimates that 650 million people worldwide live with disabilities of various types. Furthermore, this number is increasing due to the rise of chronic diseases, injuries, car crashes, falls, violence and other causes such as ageing. Of the total number of people with disabilities, 80% live in low-income countries; most of them are poor and have limited or no access to basic services, including rehabilitation facilities. This rising incidence of disability, particularly in developing countries has the potential to place further burden on governments and health care systems. Sport has been identified as a low-cost and effective means to foster positive health and well-being, social inclusion and community building for people with disability (Australian Sports Commission (ASC), 2005).

The International Platform on Sport and Development (IPSD) (2010) noted that today, the idea of people with disability (PWD) being able to participate in sport is not so uncommon. In many countries, opportunities exist from the grassroots to elite levels for PWD to showcase their abilities in sport. This is however not the case for all parts of the world. Whilst there has been progressive and positive change in quality of life, including sport participation, for PWD in many developed countries, this progress is often not reflected in developing countries (ASC, 2005). PWD in developing countries face major barriers that limit their access to and participation in sport (IPSD, 2010). Within a development context, these barriers impact on both: building activity pathways for people with disabilities and using sport programmes to reach wider development goals (Miller, 1995). It is every person's right to have the opportunity of participating in sport on a fair and level playing field (Miller, 1995). For the able bodied people of our society, it is deemed a social norm for participation in sport to be classified following age, gender or experience. However, this social norm may not always include all people who wish to participate in sport such as minority groups, women and people with a disability (ASC, 2005).

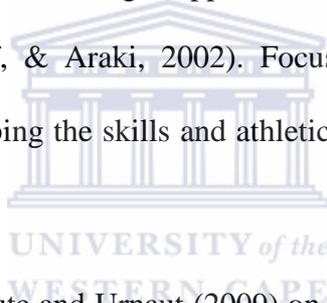
Sport has a positive impact on the lives of PWD but many face challenges to getting involved in sport, especially in developing countries. Furthermore, sport can play a key role in the lives and communities of PWD, the same as it can for people without disability (Murphy, 2008). There is a wealth of evidence to support participation in sport for PWD concerning trends, barriers and benefits of participation. Over the past three decades, numerous studies have revealed that sport participation result in improved functional status and quality of life among

people with selected disabilities (IPSD, 2010). The benefits of participation in sports were found to include improved fitness, flexibility, strength, social interaction, and self-concept (DePauw, 1992). According to Fox (1992), self esteem is probably the most frequently used indicator of mental well being, sports and exercise may be important vehicles for its promotion. Jones (1995) highlighted that the experience of sport could lead to benefits such as the enhancement of physical and mental well-being; facilitation of integration by breaking down social barriers and improvement of quality of life.

According to Whyte, Harries, and Williams (2005), PWD can take part in virtually every sport available including high risk sports such as mountain climbing, subaqua diving, and skiing. Some sports are conventional in which little or no modification is required. Other sports may require specific adaptation or may be especially developed for a certain disability. The preference of sport may be influenced by various factors such as personal preference, characteristics of the sport, medical condition, availability of the facilities (equipment, appropriate coaching), cognitive ability and social skills of the person (Whyte et al., 2005). Therefore, Humbert et al. (2006) stated that many options are available when it comes to good sport and the most important factor in preference will be determining which sport to enjoy the most. Therefore, there is no one best sport for everybody, considering individual's own personality in choosing a sport, and the cost and accessibility of necessary equipment. The more enjoyable sport the more likely consistent in practice (Shaw, Klieber, & Caldwell, 1995).

The Centers for Disease Control and Prevention (CDC) (1997) recommended that when people decide to start sport, it is very important to choose a sport that will

not cause boredom after a while. It might not seem so important at the beginning, because sport should not be regarded as interesting or boring, but that might be essential. Sport participation should last for a long time; and should be applied throughout the entire life (CDC, 1997). Therefore, choosing a sport that will always remain interesting is very important. The best sport for youth is one that the youth finds fun and interesting. In order to encourage a healthy and active lifestyle, it is necessary to expose youth to a variety of sports and let the youth's desires and abilities act as a guide to further commitment (Hill & Hannon, 2008). Youth are likely to enjoy sport more if allowed to learn in a relaxed atmosphere while having fun and receiving support and encouragement from adults (Huddleston, Mertesdorf, & Araki, 2002). Focussing on a single sport, youth spend more time developing the skills and athletic abilities required for that sport (CDC, 1997).



A study conducted by Vute and Urnaut (2009) on a sample of 85 institutionalized physically disabled youth, aged 13–21 from Slovenia indicated that the most popular sports in which they actively participated were table tennis, basketball and wheelchair hockey. Wishes for sports participation were directed towards swimming, horseback riding and motor sport. Cohesive elements such as accessibility, attractiveness and tradition were noticed. According to Sit, Lindner, and Sherrill (2002), basketball, soccer, badminton, and swimming were the preferred sports according to gender, school level, and different disability groups while rhythmic activities (e.g. aerobic dance, dancing, and gymnastics) and combative sports such as boxing, wrestling, karate, taekwondo, and judo were the least favored sports among Hong Kong Chinese children with physical disability,

visual impairment, hearing impairment and mild mental disability. Thus, a successful sports programme in which youth are involved should, whenever possible, respect their wishes regarding the choice of sports (Hill & Hannon, 2008).

In Rwanda, Thomas (2005) reported that after the Rwandan civil war the access to basic education was increasingly being provided throughout the country. However, recreation and sport opportunities were seen as a privilege and were rarely available to PWD. In the absence of government action, it has devolved on the National Paralympics Committee (NPC) of Rwanda to take the lead to advocate and provide appropriate and safe sporting opportunities for the PWDs. Therefore, Nzeyimana (2009) reported that the Development of Sports and Rights for People with Disabilities project has been established by NPC with a vision of the use of sport for PWDs as a vehicle for social integration based on four objectives: to get people with disabilities out of their social isolation; to promote unity and reconciliation via sport; to organise and manage sporting activities for PWDs in Rwanda; and to use sport as a means to promote the rights of people living with disabilities. Bizimana (2008) stated that whenever, the activities were also open to schools for young PWDs and their peers without disabilities to try to bridge the gap between them. The demand for increasing sport opportunities for PWD and in the schools was very high.

According to Nzeyimana (2009), the Development of Sports and Rights for PWD gave around approximately 300 people and about 100 youth with disabilities and their peers without disabilities the opportunity to access sport and recreation. The

target group was all sports men and women, who are members of NPC Rwanda and young people in schools (Nzeyimana, 2009).

### **1.3 STATEMENT OF THE PROBLEM**

All people have the right to choose what kind of sports they do, as well as with whom and where they would like to do it. Yet PWDs often are denied access to the full range of sports opportunities that constitute this right. One of the challenges that YWPDs are faced with is choosing appropriate sport based on their desires and their disability. Since evidence shows that a successful sport programme respects the choice of player, it is recommended that YWPDs choose their sports for further commitment. It is therefore important to determine the factors associated with sport preferences among youth with physical disabilities in Rwanda.



### **1.4 RESEARCH QUESTION**

What are the factors influencing sport preferences among youth with physical disabilities in Rwanda?

### **1.5 AIM OF THE STUDY**

The aim of this study was to determine the factors associated with sport preferences among youth with physical disabilities in Rwanda.

### **1.6 OBJECTIVES**

- To determine the types of sport in which youth with physical disabilities participate in Rwanda.

- To determine sport enjoyment, sport commitment, perceived physical ability and parental sport encouragement and support among youth with physical disabilities in Rwanda.
- To determine the factors associated with sport preferences among youth with physical disabilities in Rwanda.
- To explore the challenges experienced by youth with physical disabilities in Rwanda with regards to preferred sport.

### **1.7 SIGNIFICANCE OF THE STUDY**

The results of this study will highlight different types of sport in which youth with physical disabilities are involved. They would also contribute to the knowledge of sport levels, facilitators, and barriers to sport preferences in youth with physical disabilities in Rwanda. In addition, the study will provide information on sports promotion and health education needs for youth with physical disabilities. The findings will further contribute to a better general understanding of disability sport and widen the spectrum of sport opportunities for the disabled population, particularly for youth.

### **1.8 DEFINITION OF KEY TERMS USED**

**Disability:** “the outcome of the interaction between a person with impairment and the environmental and attitudinal barriers he/she may face” (Mulcahy, 2005).

**Youth:** An extended period ranging over a broad age span between the ages of 14 and 25 (Ben-Amos, 1994). The United Nations, for statistical purposes, defines

‘youth’, as those persons between ages 14 and 25 years without prejudice to other definitions by member states.

**Participation:** involvement in a life situation (WHO, 2001).

**Participation restrictions:** problems an individual may experience in life situations (WHO, 2001).

**Physical disability:** any impairment which limits the physical function of one or more limbs or fine or gross motor ability (WHO, 2001)

**Disability sport:** Sport that has been designed for or is specifically practiced by athletes with disabilities. This might include sports that were designed for a selected disability group (e.g. goal ball for blind athletes), sports practiced by able-bodied individuals that have been modified or adapted to include athletes with disabilities (e.g. wheelchair tennis), as well as those that require little or no modification to allow individuals with disabilities to participate (e.g. athletics) (DePauw & Gavron, 1995).

**Sport commitment:** A psychological state representing the desire or resolve to continue sport participation (Scanlan, Carpenter, Simons, Schmidt, & Keeler, 1993a).

**Sport enjoyment:** An individual’s positive affective response to his/her competitive sport experience which reflects feelings and/or perceptions such as pleasure, liking, and experienced fun (Scanlan & Lewthwaite, 1986).

## **1.9 OUTLINE OF THE CHAPTERS OF THE STUDY**

Chapter one describes the background of the current study, in which the role of sport for disabled people and impact of preference on sport persistence are highlighted. It is followed by the problem statement, research questions, aim, objectives of the study and significance of the study. The chapter ends with the definitions of terms used in the study.

Chapter Two presents the literature review relevant to this study, which includes the disability sport participation, benefit of sport to PWD, barriers as well as facilitators for disabled people, and factors influencing preferences.

In Chapter Three the methodology is discussed. The study setting, selection of participants and sample for both phases are described. Furthermore, other methodological issues including the study instrument for the quantitative phase of the study, the data gathering procedure for both phases of the study and analysis are described. Finally, the ethical considerations adhered to during the execution of the study are explained.

Chapter four presents the results of both quantitative and qualitative phases of the study. The section A of results comprise both descriptive findings and associations, which illustrate the general picture of the quantitative part of the study. The section B reports qualitative data gathered during semi-structured interviews.

Chapter five discusses the quantitative and qualitative results relative to available literature and the implications of the findings were discussed. The discussion

centres on an attempt to interpret the current study findings, and a comparison of the study results is made with similar studies.

The final chapter entitled 'Summary, conclusion, and recommendations', concludes the thesis by highlighting key issues and making some recommendations.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

This chapter reviews the literature sources concerning sport for youth with physical disabilities. Disability, disability models, disability and sport, participation and benefits of sport to people with disabilities were also reviewed. Furthermore, sports preferences together with barriers and facilitators to sport preferences and participation of youth with disabilities are also documented.

#### **2.2 DISABILITY**

Disability is a complex term and has undergone many interpretations. It has been defined as the loss of the ability to perform in the range considered normal for a human being (Hagedorn, 2001), and according to Disabled People South Africa (DPSA) (2011a) disability is defined as (i) “an illness or impairment in the biomedical approach, with most emphasis falling on curing the disabled individual,” (ii) “a tragedy or object of sympathy and charity,” (iii) “a form of human indifference or deviation from the social norms of the acceptable levels of activity performance”. These definitions referred to people with disabilities as being disadvantaged and needing hand-outs because of the way certain bodily structures were not socially accepted. According to WHO (2001) all these interpretations have been superseded and replaced by the preferred version for defining disability, “disability is an umbrella term for impairments, activity limitation and participation restriction”. From their point of view, Hagedorn (2001) and WHO (2001) impairments are the occurrences of problematic bodily

functions or structures. In other words impairment can be described as the loss or damage of body organ that affect physiological or psychological functioning (Kielhofner, 2005). Activity limitation refers to the individual having difficulty to execute activities while participation restriction refers to real life situations that an individual may encounter (WHO, 2001).

According to Thomas (2005) there is no clear definition of disability in Rwanda; therefore, there is inaccurate data on prevalence of disability, but according to the 2002 census about 3.8% of the population is disabled. However, it is likely that this figure is too low; this figure seems to be underestimation. There was no accurate data on prevalence of different types of disabilities, but physical disabilities were the most common, followed by deafness, mental deficiencies, blindness and trauma (Thomas, 2005). Blaser (2002) noted that the main causes of disability were: genocide and war; poverty (malnutrition, lack of adequate and appropriate medical care); ignorance (use of traditional healers, poor care in pregnancy etc.); disease, accidents and congenital causes. Furthermore, Yousafzi and Edwards (2004) noted that the 1994 genocide and civil war resulted in an increase in disability in Rwanda, not only as a direct result of the violence, but also because of the breakdown of health, vaccination and rehabilitation services.

‘Social exclusion’ is not a concept that is widely used in Rwanda, but disabled people were both actively and passively excluded in Rwandan society (Yousafzi & Edwards, 2004). They were underestimated and overprotected, and their potential and abilities were not recognised. Thomas (2005) reported that disabled children were hidden in their house or simply abandoned by their parents in the

bush. Numerous negative expressions were used by the society to describe disabled persons.

The National Paralympic Committee of Rwanda (NPC) which regulates the participation of sports on all levels for persons with disabilities, and under its umbrella recognizes several types of disabilities (Thomas, 2005). As this study only includes youth with physical disabilities, the literature will focus on physical disability.

### **2.2.1 Physical disability**

Physical disability also known as mobility impairment refers to a condition that limits an individual's ability to move about and perform activities of daily living (DPSA, 2011b). The degree of difficulty to move, in this instance, is much different than a visually impaired person's experience. Since the body represents the obvious source of disability it is often devalued and viewed as a limiting factor in an individual's life (Blinde & McClung, 1997). Due to the visible disability, society's expectations impede the opportunity to choose an appropriate sport based on desires and ability. Therefore, having a disability may affect the individual on a personal and a social level (Iwasaki & Mactavish, 2005). Recreation participation may mitigate the negative impressions youth with disabilities, especially those with mobility impairments, might have by enhancing self-confidence and social skills acquisition (DaGama, 2000). It is unfortunate that the causes of disability whether it is at birth, a disease or trauma such as motor car accidents cannot be controlled by the individual. While causes cannot be

controlled, perceptions about disability can be guided to be viewed in a much more positive light.

## **2.3 DISABILITY MODELS**

Disability models play a role in the perception of disability. Every model views disability differently, yet are all relevant. Respectively, medical and social models are conceptual models and the bio-psychosocial model is a model of integration.

### **2.3.1 The medical model of disability**

The medical model of disability aims to provide treatment. Its philosophy is to help people with disabilities as part of the deserving poor (Barton, 1993). According to the ICF (WHO, 2001), the medical model views disability as a health condition or a feature of the person that requires the intervention of professional medical care to correct the problem. In this case the medical model highlights that medical treatment is the primary and only intervention to relieve severe disability. It is also based on a linear “cause and effect” perspective of disability by which the patient needs treatment from the doctor. It further focuses on dependence and the nature of the impairment which results in designing programmes without consideration of the disabled people’s preferences. These programmes seldom addressed their social needs and instead isolate them from mainstream society. This simultaneously disempowers them and denies them the access to the full range of sports and social rights (WHO, 2001). The medical model of disability places emphasis solely on the individual needing treatment without societal changes. It ultimately leads to the perception of disabled people being weak or needing assistance, and not being able to function independently.

This medical model was challenged by disability activists who reconceptualised disability as primarily a social phenomenon (Hundermark, 2004).

### **2.3.2 The social model of disability**

The social model of disability is based on the belief that the discrimination the individual with disabilities faces is a socially created phenomenon and has nothing to do with the impairments of that person with a disability (Seirlis, 2003). The disability rights movement was deduced that the cure to the problem of disability lies within the reconstruction of society (Gray, 2009). This implies a paradigm shift in how we perceive disability.

The social model of disability can be used to draw attention to the barriers in society experienced by disabled people (DPSA, 2011b). The identification of these barriers within the society serves to ease the facilitation of social integration for people with disabilities. This is not to say that an individual's impairment could not affect the degree to which an activity is executed. In an attempt to coalesce vital points from the medical model of disability and the social model of disability the bio-psychosocial model was developed (WHO, 2001).

### **2.3.3 The Bio-psychosocial model of disability**

Both the medical model of disability and the social model of disability highlight that disability is a complex phenomenon and it could be viewed as problem of the person's individual features and the social environment (WHO, 2001). The bio-psychosocial model describes disability not just an inevitable consequence of something which has happened to an individual, but a result of a combination of

adverse factors in the individual's life, including medical, physical, psychological and social factors (Hagedorn, 2001).

The bio-psychosocial model is an integrated, holistic approach dealing with the physical, psychological, social and environmental aspects of the individual's situation (Hagedorn, 2001). This model focuses on the different aspects affecting the disabled individual. With effect the disabled person recognizes his/her need to take responsibility of his/her life (Kielhofner, 2005). Coleridge (1993) states that the process of attitude change starts with the disabled people. Furthermore, Coleridge (1993) emphasizes that the initial social change has to come from the people with disabilities. This had not eliminated society's restrictions upon disabled people's lives. Society and the environment in which the disabled people were placed needed to come to terms with disability (Coleridge, 1993).

The medical model of disability stigmatizes disabled people as being weak and dependant on others. It claims that individuals with disabilities need medical treatment. On the other hand the social model of disability reinforces the importance of social integration for disabled people by mobilizing themselves and demanding the reconstruction of society. However, bio-psychosocial model synchronizes important points from the above-mentioned models while accommodating factors such as the cause of disability and the environment. The bio-psychosocial model aims to facilitate people with disabilities accepting and taking ownership of their disability together with society adjusting to the needs of the people with disabilities.

## **2.4 DISABILITY AND SPORT**

Sport for athletes with disability has existed for more than 100 years, which proved that sport activities were very important for the re-education and rehabilitation of PWD (IPC, 2011a). Pensgaard and Sorensen (2002) highlighted that sport for individuals with disability was originally guided by a rehabilitative philosophy. However, the literature within disability studies recognises that disabled people are disadvantaged by society and may experience exclusion in many spheres of life (Armstrong & Barton, 2007). The athletes with a disability that will be discussed are those that are eligible to enter the Paralympic Games which includes according to IPC (2011a) the following disability groups: amputee, visual impairment, cerebral palsy, intellectual disability, others (les autres in French) and spinal cord injury. However, this current study focuses only on physical disabilities also known as mobility impairments (e.g. amputee, deformities, spinal cord injury etc.).

### **2.4.1 Paralympic History**

All international games activity ceased during World Wars I and II but recommenced soon afterward. According to IPC (2011a) sport for PWD was introduced after World War II, to assist the medical and psychological needs of the large number of injured ex-servicemen, - women and civilians. In researching new methods to minimize the consequences of their immobility, sport provided a new and great possibility for reviving the idea of treatment and rehabilitation. The most significant post-war developments were the birth of the Stoke Mandeville Games in 1948. Sport for rehabilitation grew into recreational sport and then into competitive sport. The pioneer of this approach was Sir Ludwig Guttmann of the

Stoke Mandeville Hospital in England. In 1948, while the Olympic Games were being held in London, he organized a sports competition for wheelchair athletes at Stoke Mandeville. This was the origin of the Stoke Mandeville Games, which evolved into the modern Paralympic Games. The first Paralympic Games were held in Rome in 1960. In 1976, the games expanded to include other disability groups and the first Paralympic Winter Games were held in Sweden (IPC, 2011a).

The Paralympics have always been held in an Olympic year; however, since the Seoul 1988 Paralympics and the Albertville 1992 Winter Paralympics they have taken place in the same city and venue as the Olympic Games (Lauff, 2007). The word “Paralympic” represents “parallel” and “Olympic” highlighting the close relationship of the Paralympic and Olympic movements. Official Paralympic sports include four disability-specific sports: boccia, goalball, powerlifting and wheelchair rugby. Some sports have also been adapted for athletes with a disability such as sitting volleyball and wheelchair basketball (Lauff, 2007). Paralympics provide international competition for six different disability groups including amputee, cerebral palsy, visual impairment, spinal cord injuries, intellectual disability and others. However, athletes with intellectual disability competed in the Sydney 2000 Paralympics but since then have been withdrawn from Paralympic competition whilst eligibility criteria for intellectual disability is refined and developed (IPC, 2011c).

According to IPC (2011b) the governing body for the Paralympics is the International Paralympic Committee (IPC) which was created in 1989. As the Paralympic Games grew from its earliest form, the Stoke Mandeville Games, the International Stoke Mandeville Games Federation (ISMGF) was responsible for

the early development of the Games. In 1964 the International Sports Organisation for the Disabled was established, after which each disability group started to form a governing body. To bring all disability organisations together under the one body, the International Coordinating Committee (ICC) was established in 1982 and this became the IPC in 1989 (Scruton, 1998). The IPC, located in Bonn, Germany, is now an umbrella organisation that is also the representative body for four International Sports Organisations for the Disabled (ISODs) Cerebral Palsy International Sport and Recreation Association (CP-ISRA), International Blind Sports Federation (IBSA), International Sports Federation for Persons with Intellectual Disability (INAS-FID) and International Wheelchair and Amputee Sports Federation (IWAS) (IPC, 2011a).

According to IPC (2011d) the mission statement of IPC was reviewed in March 2003 and the new vision is "To Enable Paralympic Athletes to Achieve Sporting Excellence and Inspire and Excite the World". The IPC currently has 161 Members from five IPC regions: Africa, America, Asia, Europe and Oceania.

The Paralympic Games are the world's second largest sporting event after the Olympic Games. "Spirit in Motion" is the motto of Paralympics (IPC, 2011a). An agreement signed between the International Olympic committee and the I.P.C. in 2001 stipulates that from 2012, the host cities would organise the Olympic Games as well as the Paralympic Games (Lauff, 2007).

#### **2.4.2 Disability sport**

Disabilities are often defined as individual differences in appearance, structure, function, and performance that society sees as undesirable (Pensgaard &

Sorensen, 2002). Goffman (1963) noted that undesired differentness could lead to stigma. He further defined stigma as the situation of the individual who is disqualified from full social acceptance. This disqualification has been particularly evident in sport where a disabled body often does not meet the guidelines of the ideal sporting body (Hardin, 2003). As reported by Benson (1997), the body is the medium through which messages about identity are transmitted; thus a disabled body would not convey the image of an athlete. Historically the ideal of sporting body was one reflected in the physique of an able-bodied male (DePauw & Gavron, 2005). The concept of the athletic body and its attributes is one of strength, skill, endurance, and speed; thus the idea of a strong body is central to the notion of sport (Hargreaves, 1987).

Disability sport is a term that refers to sport designed for, or specifically practiced by athletes with disabilities. Therefore, it has been adapted from its original context to take into consideration the modifications dictated by the disability (DePauw & Gavron, 2005). Disability sport has been identified as a forum where stereotypes about people with disabilities can be altered, particularly perception of competence (Hedrick, 1986). Therefore, the primary goal of disability sports is not to normalize, but to liberate people with disabilities (Ashton-Shaeffer, Gibson, Holt, & Willming, 2001). In general, people with disabilities enjoy sports for the same reasons as able-bodied participants (Page, O'Connor, & Peterson, 2001).

### **2.4.3 Classification in disability sport**

Disability classification is the method used throughout the Paralympics movement to create and administer equitable athletic competitions (Lauff, 2007). As Sherrill

(1999) suggests, a basic goal of classification is to ensure that winning or losing an event depends on talent, training, skill, fitness, and motivation rather than unevenness among competitors on disability-related variables (e.g. spasticity, paralysis, absence of limb segments). The mission of Paralympics sports is to be as inclusive as possible regarding athletes who possess one of a broad range of physical and intellectual disabilities (IPC, 2011b). It is the equity of the classification process that is an asset of the Paralympics movement, which seeks to promote elite athletic performance within an ever-expanding range of events.

Disabilities are often unique to each athlete, and to ensure fair competition, the IPC developed rules regarding the manner in which athletes would be classified in each sport (Howe & Jones, 2006). Moreover, Howe and Jones (2006) said that the classification process involves both technical and physical assessments of each athlete, in concert with observations of the athlete both in and out of competition. The rules of the Paralympics movement with respect to the determination of the appropriate classification of an athlete or team begin with the consideration of the appropriate disability category. There are six broad Paralympics categories (Hilvoorde & Landeweerd, 2008; DePauw & Gavron, 2005; Tweedy, 2002): amputee, cerebral palsy, intellectual disability, wheelchair, vision impairment, and "others."

Once an athlete has been categorized, the classification process then is conducted within each sport (Howe & Jones, 2006). For example an amputee athlete who is missing a leg below the knee will compete against athletes with a similar extent of disability; athletes with a single above-the-knee amputation or athletes with a double amputation will compete in their distinct events.

Track and field (known in the Paralympics rules as athletics, consistent with the Olympic nomenclature) and swimming are the sports that have the greatest number of individual Paralympics event classifications (DePauw & Gavron, 2005). Thus, track and field is divided into over 50 classifications; swimming has over 14, and each classification supports a number of different competitions.

## **2.5 PARTICIPATION IN DISABILITY SPORT**

The World Health Organization's (WHO) (2001) new International Classification of Functioning, Disability and Health, defines 'Participation' as "involvement in a life situation". For children and youth, involvement in life situations includes participation in recreational and leisure activities as well as school and work activities. Recreational and leisure activities include artistic, creative, cultural, active physical, sports, play, social, and skill-based activities (King et al., 2003). Participation in sport activities is the context in which people form friendships, develop skills and competencies, express creativity, achieve mental and physical health, and determine meaning and purpose in life (Lyons, 1993).

The PWDs have been active in different sports adapted towards their disability. At the present time, disabled people have the choice to be involved in Disability Sport Organizations or to opt to participate in a wider range of activities (Sherrill, 1999). Whyte, Harries, and Williams (2005) noted that there are a wide range of sports that have been adapted to be played by people with varying types of disability, as well as several that are unique to disabled people.

International sporting competition is dominated by developed countries. The gap between developed and developing countries has become so wide that the latter

have lost any hope of closing it (Andreff, 2001). Andreff (2001) claimed that this gap is related to a shortage of physical education and sport for all programmes, a lack of financing for sport, few sport facilities and little equipment, a ‘muscle drain’ to developed countries, and no capacity to host major sporting events with the result that developing countries have fewer world-level sport performances than developed countries. Limited access to sport services, sports information and the issue of doping are becoming increasingly problematic (IPSD, 2010).

Developing countries also face a range of social and cultural barriers that impact on sport participation including: religion, culture, language, and the lingering influence of colonialism in many parts of the world (Chappell, 2001). Women in developing countries experience additional barriers to sport participation. More than two-thirds of the world’s women live in developing countries, but the overall participation rate for sport is minimal. This has been linked to issues such as the male dominated world of sport, class, culture, body image and dress in addition to religious, traditional and cultural beliefs regarding the role of women (Chappell, 1999). The experience of sport for people with disability in developing countries is further compounded by religious and cultural beliefs and attitudes towards disability (Hart, 2001). The additional cost of sport-specific equipment and technological advances in disability sport are also prohibitive for developing countries.

Lauff (2007) highlights the lack of participation from developing countries in international disability sport competition. In total, 23% of developing countries have not participated in either Dearlympic, Paralympics or Special Olympics World games competition. Oceania is the region with the least participation

historically, followed by Africa and Asia. Auberger (2006) noted the growing importance of sport and the benefits for all. This Auberger (2006) used the growth of the Paralympic Games as an illustration of the influence of Paralympic sport in the world and the needs in less developed countries. Unfortunately, accessing sport remains a dream for many individuals worldwide. Persons with disabilities, which make up an estimated 650 million worldwide, have limited access to sport facilities. The limitations are even more exacerbated in less developed countries (UN, 2008). The reality, according to IPC (2011c) is that thousands of PWDs have the potential to become Paralympic athletes; however the barriers present significant limitations. Practicing sport is meaning of hope for many of them and is also means of integrating PWD as productive members of society. Therefore, a call to action was made to the global sports movement and media to assist in supporting the growth and development of the Paralympic Movement (IPC, 2011c). Compared to youth without disabilities, youth with disabilities tend to engage in fewer recreational and social activities (Brown & Gordon, 1987). The sport participation of children and youth with disabilities decreases as children grow up so that, by adulthood, their participation is restricted; typically, they take part in passive, often home-based activities (Stevenson, Pharoah, & Stevenson, 1997). Youth with disabilities often feel socially isolated (Law & Dunn, 1993).

According to Thomas (2005) Rwanda count 279 athletes with disability: 86 women and 193 men, and 13 disability sports (sitting volleyball, standing volleyball, athletics, cycling, table tennis, boccia, sit ball, swimming, wheelchair basketball, power lifting, goal ball and tricycle racing).

## **2.6 BENEFITS OF SPORT FOR PEOPLE WITH DISABILITY**

The benefits of sport for PWDs has been well-documented, however, sport for PWD is often given little attention in developing countries. Sport has value in everyone's life. It is even more important in the life of a person with disability. This is because of the rehabilitative influence sport can have not only on the physical body but also on rehabilitating PWD into society (DePauw & Gavron, 2005). Furthermore, sport teaches functional independence (Whyte et al., 2005). High performance sport, has become important in the rehabilitation process for physically disabled individuals because many research studies find that reduced sport activity and reduction in muscles mass often occur as a consequence of a variety of progressive neuromuscular diseases (Greenberg, Dintiman, & Oakes, 2004). Increasingly, King et al. (2003) stated that the goal of rehabilitation interventions is to enable youth with a disability to participate fully in the life of their family and community. In the World Health Organization's ICF (2001), participation is regarded as a chief indicator of health, irrespective of diagnosis or functional ability. Howard, Russoniello, and Rogers (2004) noted that involvement in sports and socially active recreation may promote physical fitness and improve mental health, which are the key health indicators. Research evidence related to the benefits of engaging in sport and physical activity are well-documented. These include increased fitness and health; a longer life span; greater mental, social, and spiritual well-being; increased self-esteem; self-concept; socialization; lower levels of anxiety and decreased stress (Martin, 2006; Kristen, Patriksson, & Fridlund, 2003; CDC, 1997).

PWDs continue to increase their participation in sport activities because they typically experience the same mental and physical health benefits, enjoyment, opportunity to increase self-esteem, enhanced self-concept, and opportunities to build and engage in social relationships as do non-disabled individuals (Greenberg, et al., 2004). The need for exercise training for individuals with physical disabilities is critical to prevent the vicious cycle of deconditioning, functional deterioration, and hypo-activity and to promote general health and an active lifestyle, both of which may prevent medical complications and promote maximal functional independence (Miller, 1995).

### **2.6.1 Sport enjoyment**

The children who participate in regular physical activity often enjoy lots of positive experiences such as fun, enjoyment, and success and peer relationship (Yang, Leino, Telama, & Viikari, 1999). Huddleston, Mertesdorf, and Araki (2002) highlighted that most of the highly scored reasons for participation in physical activity among the young adults, were having fun/enjoyment and competitions with others. This is a strong benefit of physical activity for socialization. The WHO makes it clear that play, games and other physical activities give young people opportunities to have social interaction and integration as well as learning the spirit of solidarity and fair play, among others (WHO, 2005). WHO goes further to say that active lifestyles through physical activity provide people of all ages with opportunities to make new friends, maintain social networks, and interact with others.

### **2.6.2 Socialization**

Sport is typically not a solitary activity and therefore, there is a socialization process inherent in introducing participation to both people with and without disabilities (Gaylord, Lieberman, Abery, & Lais, 2003). Socialising agents are typically a child's family, peers and friends. The degree of support that is provided by each group is crucial to the socialization process (Doubt & McColl, 2003). In a study of people with cerebral palsy Whidden (1986) found that family was the most important social agent to participation while Sherrill and Rainbolt (1986), also in examining people with cerebral palsy, identified peers, friends, and spouses as the most socializers for participation. More recently, Ruddell and Shiness (2006) further found that elite wheelchair basketball players were typically influenced by multiple agents including coaches and players with disabilities, therapists, and wheelchair sport camp. In addition, the importance of social agents was often dictated by type of disability, age of participant, and other relative demographic factors. It is important to note that the socialization process, and thus the role of social support, will be different for athletes with disabilities in comparison to those without disabilities (Williams, 1994).

Martin and Mushett (1996) in an examination of athletes with disabilities found that parents, friends and coaches were the most frequent providers of support. Therefore, friends, mothers, and coaches provided the greatest amount of listening support while friends provided shared social reality support. Mothers, friends, and fathers, in that order, provided emotional support. Furthermore, Martin and Mushett (1996) noted that technical appreciation and technical support were primarily provided by coaches although parents and friends were also providers.

Unlike parents of able-bodied athletes, these parents provided support in all areas, including those that were sport specific (e.g. assisting with practice), likely because the athletes were so dependent on their families for functional and emotional support and lacked a great deal of support outside of their families (Martin & Mushett, 1996).

King et al. (2003) identified a number of factors related to social supports that play a role in participation rates and the reduction of stigma. A number of factors are directly tied to the presence of supportive relationships for both the child and parents and a supportive home environment (physical, mental, social well-being of parents). In addition, child factors such as the child's emotional, behavioural and social functioning can also influence the impact of social support and how they are socialised into sport.

For children, parental support is highly important to success in children's participation in disability sports as parents can influence not only participation, but also competence, motivation and satisfaction levels (Martin, 2006; Kristen et al., 2003). PWDs can be stigmatized and in a disadvantaged social position, yet family support can reduce social isolation, exploitative attitudes and hostile dependence (Tam, 1998). Parental influence on participation and performance is high yet so is the emotional, financial and time investment (Collins & Barber, 2005). Yet, girls with disabilities often do not enjoy the same support as boys with disabilities. In a study of children with disabilities, Appleton et al. (1994) found that girls perceived lower support from parents perhaps due to lower self-esteem and the perception that they did not deserve support. This illustrates the fact that the reactions of peers, lack of role models and over protective parents can also put

up barriers to participation (Doubt & McCoil, 2003; King, Shultz, Steel, Gilpin, & Gathers, 1993).

It is evident that family and friends can play an important role in the facilitation of involvement of youth in disability sports. One would assume that the implications of social support in the lives of youth with disability would reach far beyond sport participation. For instance, Pines and Aronson (1998) argued that social support can be not only comforting but also protective and can help people maintain both psychological and physical well-being. Therefore, a greater understanding of the relationship between social support and sport participation would be instrumental to advancing disability sport opportunities for youth.

Few studies on youth with disabilities have been conducted from the children's point of view (Kristen, Patriksson, & Frilund, 2002). Certainly there is a dearth of literature examining the critical role of parental support in the lives of children with disabilities, particularly within the context of disability sport. Researchers are quite aware of the benefits of physically active recreation ranging from increased physical health to benefits to mental health and reductions in stress. However, youth with disabilities face unique barriers to participation that an examination of parental support mechanisms may help explain and ultimately alleviate. Due to the lack of research on this population, there are many unanswered questions regarding how to better introduce and retain youth with physical disabilities (YWPD) to organised physical activities, particularly sport.

### 2.6.3 Sport commitment

It is important to understand potential antecedents of sport commitment because sport commitment reflects the desire to continue sport participation (Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993b). Thus it provides an indication of continued involvement that is critical to achieving on-going psychological and physiological benefits (Rejeski, Brawley, & Shumaker, 1996). The sport commitment model has been used to describe and identify factors that predict levels of sport commitment in athletes (Scanlan et al., 1993b). These factors include social constraints, personal investment, involvement opportunities, attractive alternatives, enjoyment and social support (Carpenter & Coleman, 1998; Scanlan et al., 1993b).

Children who experience fun in sport are more likely to remain committed compared to children who do not find the sport experience a positive one. Importantly, enjoyment or fun has, independently of Scanlan's sport commitment research (Carpenter, Scanlan, Simons, & Lobel, 1993; Scanlan et al., 1993b), been shown to be an important motive for youth sport participation (Gill, Gross, & Huddleston, 1985; Gould, Feltz, & Weiss, 1985).

Many sport and exercise scientists have indicated that a critical psychological and achievement based determinant of sport participation is athletes' perceived competence (Marsh, 1987; Harter, 1982). In brief, children who possess an adequate sense of competence in their physical capabilities are likely to participate in sport and physical activity and be committed. Children who have doubts about their physical ability tend to report weaker participation motivation. In brief,

belief in one's physical capabilities is a primary achievement based determinant of motivated physical activity behaviour (Brustad, 1996). Furthermore, Weiss and Chaumeton (1992) have asserted that the distinguishing characteristic between youth sport participants and drop-outs is perceived competence.

Brustad (1993) noted that the parents who were encouraging of their children's physical activity participation raised children with stronger perceptions of their physical competence compared to children with less encouraging parents. However, Nixon (1988) suggested that parents of children with disabilities worry about the potential for injury in physical activity and might be reluctant to encourage their children to play sport.

Generally, greater sport enjoyment, involvement alternatives, personal investments, social constraints, and involvement opportunities, and less attractive involvement alternatives lead to high level of sport commitment (Scanlan et al., 1993b).

## **2.7 FACTORS INFLUENCING SPORT PREFERENCES**

A successful sports programme in which youth are involved should, whenever possible, respect their interests and needs regarding the preference of the sports (Pate, Dowda, O'Neill, & Ward, 2007; McKenzie et al., 2004; Greenwood & Stillwell, 2001). According to Coakley and Donnelly (2004) the sport preferences are influenced by various factors that include (i) the personal preference of the person; an emphasis on enjoyment and participation in a sport that stimulates the person may be important for continued participation, (ii) the characteristics of the sport; physiological demands, collision potential, team or individual, coordination

requirements, (iii) the medical condition; beneficial and detrimental aspects, (iv) conditions associated with the condition; although motor dysfunction may initially appear to be the major limitation to participation there may be for example an associated cardiac condition to consider, (v) the cognitive ability and social skills of the person; ability to follow rules and interact with others, (vi) availability of facilities, (vii) availability of appropriate coaching and support staff; for example, lifting and handling, (viii) equipment availability and cost; as disability sport has evolved, so has the technology. Specialist chairs are available for sports such as tennis, rugby, and basketball. In addition, societal and environmental influences, gender, age, and skill level also influence the selection of sport (Eyler, Nanney, Brownson, Lohman, & Haine-Joshu, 2006; Hill & Cleven, 2005; Fromel, Formankova, & Sallis, 2002; Sallis, Prochaska, & Taylor, 2000).

### **2.7.1 Society and environment**

Societal and environmental influences may affect adolescents' choices of activities by directing youth to mainstream activities and limiting exposure to other activities (Young et al., 2007). As a result, youth may select specific activities because they are most familiar with them. This influence may also be reinforced by media focus on specific activities, ethnic or cultural values, or positive role models associated with specific recreational sports (Bruce & Saunders, 2005). Other factors that contribute to adolescents' choices are availability of equipment, facilities, expertise of physical educators, and previous involvement on recreational athletic teams (Hill & Cleven, 2005).

Young Canadian men and women (aged 25 years or younger) are more likely to report preferences for a variety of activities in terms of intensity, competitiveness, skills challenge, and team or individual orientation. Moreover, they are more likely to state preferences for activities that allow friends only to participate together (Canadian Fitness and Lifestyle Research Institute, 2008).

According to Nakornkhet (1989), the Southeast Asian students showed great concern for the health aspect of sport. Thus, their preferred sports were those sports which contribute to their health and well-being. However, popular sports among Southeast Asian, the Malaysian, and Thai, are those games without body contact such as badminton, tennis (Nakornkhet, 1989). Many scientific studies show that there is a significant relationship between demographic variables such as age, gender, education, and marital status and the preference of sport activities that individuals engage in (Demir, 2003).

As noted by Sherril and Williams (1996), little research has addressed preferences of individuals with disabilities in relation to specific recreation and competitive sport contexts. However, there is evidence that individuals with disabilities often prefer to participate in sport with other individuals with disabilities (Neumayer, Smith, & Lundegren, 1993) because of such factors as uneven sport skill levels and attitudes, and beliefs, and behaviors of individuals without disabilities.

### **2.7.2 Age**

Age may impact choice of activities. Pate et al. (2007) found that vigorous recreational activity among adolescent girls declined steadily from 8<sup>th</sup> grade to 12<sup>th</sup> grade. This decline was explained by age-related decreases in participation in

team and individual sport activity, particularly basketball, bicycling, running, soccer, and softball (Hill & Hannon, 2008). Additional research has demonstrated that sport activity levels decline with increase of age and tend to be lower in girls than boys (CDC, 2004; Kimm, Glynn, & Kriska, 2002). Specifically, Trost et al. (2002) monitored students in grades 1-12 and reported a rapid decrease in moderate to vigorous physical activity, as measured by accelerometers, in both boys and girls from childhood through adolescence.

### **2.7.3 Gender**

Gender may influence the adolescents' choice of activity. Bradley, McMurray, Harrell, and Deng (2000) reported that middle school girls prefer non-competitive or individual activities, whereas middle school boys tend to choose traditional team sports. Hill and Clevlen (2005) found in comparing the activity selection of 9<sup>th</sup> grade boys and girls, that girls were more likely to select individual and non-contact activities such as swimming, volleyball, contemporary dance, aerobics, gymnastics and jump rope while boys more frequently selected contact and power activities such as weight training, floor/street hockey, and football. Studies involving middle school students have revealed that boys appear to conceptualise those activities as providing opportunity for competitive experiences whereas girls may focus more on the socializing nature of activities (Greenwood & Stillwell, 2001).

### **2.7.4 Impairment**

Children with disabilities tend to be sedentary and demographic factors such as gender, age, ethnic group, and type of disability may affect children's sport

preferences (Longmuir & Bar-Or, 2000). Furthermore, Longmuir and Bar-or (2000) found that type of disability was the most consistent indicator of sport preferences for youth with disabilities. However, in a study among pupils with disabilities in Sweden, Almqvist and Granlund (2005) found that there was no relationship between the level of participation in recreational activities and the form of disability.

### **2.7.5 Mobility aids**

Physical and cultural factors impact on performance and participation for PWD (Wee, 2006). Therefore, according to Wee and Lysaght (2009) mobility aids, whether it is a wheelchair, a walker, or a prosthetic limb, give their users the independence in their everyday lives to work, play, and perform their activities of daily living. However, in some settings beneficial equipment for maximising functional ability may be unavailable or unaffordable (Wee, 2006). The dramatic advancements in technology in the past decades have allowed mobility aids to be accessible to a far greater population of users, and have given users, even those with very limited functional mobility, the means to participate in whichever activities they please and also to perform their normal daily activities (Wee & Lysaght, 2009).

Participation in adaptive sports has been steadily rising due to the development of better equipment and an increase in opportunities for participation. This ability to participate in adaptive sports is largely due to the advancing technology, which has produced adaptive equipment (Cooper, Boninger, Rice, Shimada, & O'Connor, 2005). Technology advances have produced adaptive equipment

allowing individuals with disabilities to achieve and even surpass records held by individuals without disabilities (Cooper et al., 2005).

## **2.8 CHALLENGES OF SPORT PARTICIPATION**

The international classification of functioning, disability and health model (ICF) provides a conceptual framework for understanding the interaction between youth and their environment as a barrier or facilitator in their daily activities (WHO, 2001). This is a component of the strategies to address activity and social participation of youth with disabilities, to achieve health and wellbeing. This aims to reduce the proportion of PWDs reporting environmental barriers to participation at home, school, work, and/or community activities (Howard et al., 2004). The following sections discuss literature on barriers and facilitators youth with disabilities experience with regard to sport participation.

### **2.8.1 Facilitators to sport participation**

Adolescents with physical disabilities give high premium to social participation in the meaning of being accepted and also being included in peer group (Hemminsson, Borell, & Gustavsson, 2003). Kristen, Patriksson, and Frilund (2002) found that youth with physical disabilities participate in sports to get emotional and social benefits, including making new friends and learning, to achieve improvement in functional impairment (strengthening), for body perception (becoming someone), to experience nature, and to have fun. Heah, Case, McGuine, and Law (2007) found that youth with physical and neurological disabilities participate in the sport that they enjoyed and perceived successful in performing. However, MacPhail, Kirk, and Eley (2003) found that youth with

disabilities want to have more time for sport in school, and a wider choice of sports. In addition, Law et al. (2004) found that supportive environments (i.e. environments that are accessible, accommodating, socially supportive, non-discriminatory, and resource ready) influenced sport participation through their effects on youth's functional ability. Greater social support from friends, parents, and teachers also enhanced participation by affecting youth's sport preferences (Law et al., 2004). Therefore, literature shows various factors perceived to facilitate sport participation among youth with disabilities.

### **2.8.2 Barriers to sport participation**

The legal and ethical ideal is that all exercise programs and facilities should be equally accessible to all people (Miller, 1995). In addition, Miller (1995) noted that everyone, not only people with disabilities, encounters some conditions that can diminish the enjoyment of an activity, but people with disabilities probably face them more often. These obstacles include perception, physical, financial and social may be potential barriers to participation that can render facilities and programmes inaccessible.

#### **2.8.2.1 Perceived barriers**

In order for individuals to invest time and resources in an activity, they must first perceive a high probability of achieving a positive outcome from that activity (Grubbs & Carter, 2002). Torkildsen (1986) subdivides perception into (i) awareness, which is the information available; (ii) attraction, which was the advertising and marketing and; (iii) motivation to participate in recreational sport.

The awareness of the availability of recreational sports and the recreational facility, affects the participation levels.

Perception does not only refer to the awareness of the facilities, where it is situated as a means of attraction or motivation for attending the recreational activities, but it also refers to the assessment of one's own capabilities in relation to the recreational sport being offered (Manfredo, Yuan, & McGuire, 1992). Manfredo et al. (1992) suggest that behaviour is a function of one's perception of the situation in which the attitude object is encountered. Furthermore, perceptions exert influence by controlling the information that is processed. Attitudes toward the object influence behaviour by affecting the perception of the situation. In this instance, recreational sport would be the object and the person with the disability, behaves according to his/her perception of the situation. If the disabled person's assessment of his/her ability is low then he/she will avoid a similar situation because of the fear of failure.

The low assessment of ability would consequently lead to avoidance through the fear of failure (Haywood et al., 1995). The fear of failure and humiliation are significant factors in whether a person with a disability decides to become physically active (DePauw & Gavron, 1995). This feeling could be the same for an able-bodied person. However, Haywood et al. (1995) reported that a person with a disability that has low self-esteem, the fear of attempting a challenging sport may be greater. For example, if a person with a physical disability perceives that he/she could not engage in adapted basketball because he/she could not shoot, the fear of embarrassment could de-motivate and negate any skill ability this

person might actually have and thereby reducing his/her chance to experience new sports activities.

Miller (1995) found that this class of obstacles to free movement includes the perceptions and consequent attitudes of members of society toward people who are disabled, as well as the perceptions and attitudes of people who are disabled themselves.

### **2.8.2.2 Physical barriers**

Physical accessibility is probably the most common term associated with the notion of accessibility (Haywood et al., 1995). The view that physical accessibility is all encompassing of “accessibility” is supported by Rimmer, Riley, Wang, Rauworth, and Jurkowski (2004) and Promis, Erevelles, and Matthews (2001). For example, the lack of accessible facilities and transport are frequently referred to as the barriers to accessibility.

According to Torkildsen (1986) physical accessibility includes the mode of transport, travelling distance, location and distribution of facilities. In addition the availability and method of transport could affect recreational participation positively or negatively (Kennedy, Austin, & Smith, 1987). However, lack of transport often prevents people with disabilities from enjoying the benefits of recreation. Gibson, Macintyre, Wood, Kemp, and Pearson (1997) report that the travelling distance involved in transporting disabled people to and from a facility can be problematic. According to DePauw and Gavron (1995), persons with disabilities do have difficulty accessing opportunities in sport and recreation programmes. The expense (time and money) and the distance (to and from the

location to participate in recreational sports) were a few of the factors that affect recreational sports opportunities. The further the distance travelled to a specific venue the more expensive it becomes to engage in recreational pursuits (DePauw & Gavron, 1995). Once again, Promis et al. (2001) and DePauw and Gavron (1995), also report that the lack of accessible transport and facilities are two of many reasons for the low levels of participation in recreation.

Although a balance has to be struck between equal access to and the adaptation of facilities, the cost benefits need to be taken into consideration (Robbins, Pender, & Kazanis, 2003). The way in which older facilities were constructed was not meant to cater for disabled people. The re-designing and reconstruction of these facilities are often too expensive (Wold & Hendry, 1998). Therefore the constraints and inequalities of access for recreation will continue to escalate unless concerns about equity outweigh the concerns about cost (Haywood et al., 1995). Resources that are unavailable but necessary for participation in a particular recreational activity are considered as resource-related barriers (Robbins et al., 2003). Lack of money, transportation, equipment, and moral support are all potential resource-related barriers (Miller, 1995).

In their study, Rimmer, Riley, Wang, and Rauworth (2005) found that barriers to recreational facilities arose from the way the buildings were designed, types of equipment in use, unavailability of information, lack of policy on clients with disabilities and the poor attitude of the staff towards persons with disabilities. In addition, Miller (1995) noted that physical barriers include more than just architectural barriers, such as stairs, curbs, narrow hallways, or doors that are hard to open; they also include natural physical barriers such as steep hills, thick tree

growth, and other frustrating obstacles for many people with impaired mobility. Physical barriers experienced by athletes with disabilities affect their sporting choice and participation, these barriers include accessible facilities/buildings, and mode of transport.

### **2.8.2.3 Financial barriers**

Torkildsen (1986) raises the issue of financial accessibility regarding recreation and subdivides it into hiring charge, pre- and post-activity costs and transport costs. It is noted in a study by Kennedy, Austin, and Smith (1987) that the lack of transport for persons with disabilities often prevents disabled people from experiencing the benefits of recreation. Almost twenty years later and little had transpired regarding the transportation costs as it was still viewed as an economic barrier which directly affected the access to recreation facilities (Rimmer et al., 2004). This could affect youth with disabilities who do not live near the sport training venues.

Irrespective of whether disabled youth paid for public transport or the hiring of specialized transport, the financial burden remained disheartening (Sherrill, 1999). The hiring charge for specialized equipment for a specific recreational sport was another aspect that was quite expensive. For example, physically disabled youth that wished to participate in aerobics would require specialized equipment that could include supported steps, additional bars for support and/or special balls, the utilization of which depended on the weakest muscle group that needed support (Sherrill, 1999). This was supported by Rimmer et al. (2004) who found that the adapted equipment for recreation was quite costly resulting in its unavailability to

the participants. The hiring of special transport and equipment definitely placed a financial strain on persons with disabilities and affected their decision of participating in recreational activities.

#### **2.8.2.4 Social barriers**

Social accessibility pertains to uncommitted time, socializing, programmed content and the management policy of the facility (Torkildsen, 1986).

To maximize socializing between able-bodied individuals and persons with disabilities, the concept of reverse integration (Promis, Erevelles, & Matthews, 2001) is suggested. Introducing this concept of “reverse integration” would shift the focus from disability to ability. Reverse integration provides a context where persons without disabilities participate alongside persons with disabilities concentrating on the execution of skills required when participating in a recreational sport (Promis et al., 2001). If management introduces this concept (Promis et al., 2001) the social interaction between persons with and without disabilities could increase. For this to take place successfully, a proper facility for the desired recreational sport will be needed. Social interaction could be further enhanced by the type of recreational sport being offered. Interacting in an activity that required less skill and participation of everyone, increases the level of satisfaction and positive experience. Smith and Theberge (1987) stated that the expectations of satisfaction in an activity are directly affected by prior positive experiences. However, to experience this fulfilment during participation there needs to be sufficient time available to do so. The time allocated to engage in an activity may serve as a constraint.

In a study among persons with disabilities aged between 17 to 69 years Kinne, Patrick, and Maher (1999) found that self-efficacy, lack of motivation and lack of appropriate exercise advice, were key barriers to sport participation experienced by persons with disabilities. According to MacPhail, Kirk, and Eley (2003), adolescents with physical disabilities do not participate in sports activities because they lack enjoyment, parents control their decisions, lack of time or friends to play with, have limited access to sport activity opportunities, lack preferred choice, and need more encouragement. In contrast, adults with disabilities perceive the cost of a sport programme in recreational facilities, lack of energy, transportation problems and not being aware of suitable exercise facilities, and ignorance of the benefits of sport as the major barriers to sport participation (Rimmer, Rubin, & Braddock, 2000). This shows that the barriers to sport participation vary according to the age group.

Taub and Greer (2000) noted that addition to physical barriers to participation in peer activities is bad attitudes manifested in the unpleasant utterances that those without disability express towards the youth with disabilities. For instance it was noted that able bodied peers used such expression as wooden leg (Skär, 2003). Some people with disability may sit at home and not become involved in things they enjoy because of the potential embarrassment and alienation from people who are not disabled due to their performance. People who are disabled may choose isolation to avoid the stares of others (Miller, 1995).

Social obstacles to continued participation in sport persist. Children with disabilities are at higher risk to withdraw from physical activity due to issues such as low self-esteem and socialization (Dunn, 2000). In addition, Dunn (2000) noted

that children with disabilities are often socialized into the role of spectator early in life by family and friends. Overprotection of children with disabilities by parents and other adults can also be a barrier to participation (Kristen et al., 2003; Taub & Greer, 2000). For these reasons, friends and family, through reinforcement and modelling of behaviors that they deem important, can serve as facilitators or barriers to participation (DePauw & Gavron, 2005).

#### **2.8.2.5 Gender barriers**

Sport is an integral part of the culture of almost every nation. However, its use to promote gender equity and empower girls and women is often overlooked because sport is not universally perceived as a suitable or desirable pursuit for girls and women (Mikosza & Phillips, 1999). It is true in all countries that girls and women are less likely than boys and men to participate in sport, and sport continues to be dominated by males. In particular, women and girls with disability have been historically disenfranchised from physical recreation due to double whammy of being female and having a disability (Anderson, Wozencroft, & Bedini, 2008). In addition to fewer opportunities, societal perceptions of weakness as well as barriers tied to fear for safety, poor self-esteem and body image, and numerous other gender and disability specific obstacles all lend themselves to lower participation levels (French & Hainsworth, 2001). Jones (2003) reported that girls and women with disability are still overlooked in recreation programming for variety of reasons including low levels of social support.

While participation by women and girls in sport has increased in developed countries, gender stereotypes, lack of funding, lack of appropriate programming,

lack of role models, and other issues still constrain their participation (Anderson, Bedini, & Moreland, 2005; French & Hainsworth, 2001). Participation in sport for girls with disabilities in particular, however, has been compromised greatly by a lack of social support (Dunn, 2000). Brittain (2004) found that getting interested and involved in sports is difficult for women and girls with disabilities because of the limited exposure they get to sports, especially when they are young. Those who become disabled during their adult life, by things like accident or illness, are many times already involved in athletics. When that is the case, they are highly likely to remain active in sports (DePauw & Gavron, 2005).

According to Anderson et al. (2008) women with physical disabilities expressed that societal expectations of their "place" (or lack thereof) in sport and physical activity arenas tended to negatively affect their participation. The socialization of women into gender appropriate roles has negative ramifications for both girls and women with disabilities. Thus, Henderson, Bedini, and Bialeschki (1993) have asserted that a lack of support for expanding the roles of women (e.g. as an athlete) through therapeutic recreation, rather than simply restoring their abilities to engage in "appropriate" female roles, does them a disservice. Researchers such as Brittain (2004) and Kristen et al. (2003) have also found that the presence or absence of social support has a significant impact on the participation of girls and women with disabilities in organized sports programmes.

PWD are among the vulnerable especially in developing countries. Therefore, they face various forms of barriers preventing them from fully participating and enjoying sport. This implies a need for further study about barriers to structured sports in PWD.

## **2.9 SUMMARY OF THE CHAPTER**

The review of the literature clearly showed that there are interrelated factors that affect the choice people make regarding sport participation. The models of disability illustrate the way in which disability is perceived. The perception of one's ability; the awareness of the facility recreational sports takes place; the location of the recreational sport facility; the available finances to participate in recreational sport; benefits of sport and environment were some of the factors that contributed to an individual's choice and continuation participation level in recreational sports.



## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter highlights the methods and procedures used for this study. It gives the background of the study setting, the study design used, the population that participated and how it was selected, the sample size and the procedure used to collect the data. The chapter also gives the details of the data analysis method used and statements of ethical considerations are also included.

#### **3.2 RESEARCH SETTING**

The study was carried out in Rwanda. Rwanda is a landlocked developing country located in the great lakes region of eastern-central Africa, bounded on the north by Uganda, to the east by Tanzania, to the west by Democratic Republic of Congo and to the south by Burundi (Chrétien, 2003). To Cairo due north, it is approximately 3650 km; and to Cape Town due South it is approximately 3750 km. On the other hand, it is about 2200 km to Cabinda and 1500 km to Dar es Salaam (UNICEF, 1998). According to the 2002 census, just less than 5 % of the Rwandan population is disabled, but this is likely to be an underestimate. There is no accurate data on prevalence of different types of disabilities but, according to the census, physical disabilities are the most common, followed by deafness, mental deficiencies, blindness and trauma (Thomas, 2005). Sports for disabled persons are governed by the National Paralympic Committee (NPC) in Rwanda. NPC Rwanda is a non-profit sport organisation under the Rwandan Ministry of Sports and Culture, and is also a member of the International Paralympic

Committee and African Sports Confederation of Disabled. NPC has 18 mixed registered clubs of which 11 have physically disabled youth members (NPC, 2010). According to Nzeyimana (2009), NPC Rwanda accounts for 13 disability sports, which include sitting volleyball, volleyball, athletics, cycling, table tennis, boccia, sit-ball, swimming, wheelchair basketball, weightlifting, goal ball and tricycle racing.

### **3.3 RESEARCH DESIGN**

A sequential mixed model design was used to collect data, specifically the sequential explanatory strategy. The strategy is characterized by the collection and analysis of quantitative data followed by collection and analysis of qualitative data (Creswell, 2003). The purpose of this method is typically to use the qualitative data collected from the NPC staff to assist in explaining and interpreting the findings of a primary quantitative data collected from the youth with physical disabilities (Creswell, Plano Clark, Gutmann, & Hanson, 2003). Borkan (2004) also stated that “mixed methods give the researcher additional perspectives and insights that are beyond the scope of any single technique”. Creswell, Fetters, and Ivankova (2004) noted that because of the expanded use of qualitative research in health studies, mixed methods research holds potential for rigorous, methodologically sound studies. Creswell et al. (2004) assert that: “When used in combination both quantitative and qualitative data yield a more complete analysis they complement each other”. The underlying logic of mixing is that neither quantitative nor qualitative methods are sufficient in themselves to capture the trends and details of the situation. However, Creswell (2003) highlights that this form of research is more than simply collecting both

quantitative and qualitative data; it indicates that data will be integrated, related, or mixed at some stage of the research process to provide a multi-dimensional analysis. This study design was found to be most suitable as sport preferences and factors related to it are determined quantitatively and then further explained by the qualitative component (Creswell, 2003).

### **3.4 PHASE I: QUANTITATIVE PHASE OF THE STUDY**

#### **3.4.1 Study population and sampling**

The targeted population governed by the NPC included youth with physical disabilities in 11 registered clubs. Each of these clubs has a total membership ranging from 20 to 30 of members with physical disabilities.

A purposive sampling of youth was used in all the 11 clubs to achieve the diversity of the sample and retrieved information. Neumann (2006) stated that purposive sampling is suitable for the difficult-to-reach special target population. So this approach was used to select youth with physical disabilities in clubs. However, in this form of sampling, the researcher is not certain whether the selected youth represent the target population (Neumann, 2006). All members of the 11 clubs with physical disabilities aged between 14 to 25 years form a sample for the quantitative phase of the study.

The sampling procedure was mainly purposive, as the aim was to capture a sufficiently wide range of youth experiences views. According to De Vos (2002), purposive sampling is based on the judgment of the researcher, in that a sample is composed of elements that contain the most characteristic, representative or typical attributes of the population.

### **3.4.1.1 Inclusion and exclusion criteria**

For the quantitative phase of the study, because the study was purposive, targeting youth with physical disabilities in their respective clubs, only those between the ages of 14 to 25 years and who had physical disabilities were included in this research. Those above or below this age bracket or had intellectual disabilities or were blind or deaf were excluded. Both male and females were represented.

### **3.4.2 Data collection method**

Data was collected with a self-administered questionnaire for quantitative phase of the study.

#### **3.4.2.1 Study instrument for quantitative phase of the study**

A data gathering instrument (questionnaire) was used to collect information concerning demographic characteristics, sport preferences, and psychosocial construct factors of sport in youth with physical disabilities in Rwanda (Appendix A).

The questionnaire for this study comprised an introductory letter on the first page, which explained the purpose of the study, the request for the respondents to participate and ethical issues considered. The questionnaire was comprised of three sections requesting for socio-demographic data, sport preferences data and psychosocial construct factors of sport such as sport enjoyment, sport commitment, parental encouragement and perceived physical ability among youth with physical disabilities in Rwanda. At the beginning of each section, instructions of how to complete the section were provided.

## **Sections of the questionnaire**

Section A included the socio-demographic scale. The participants completed a demographic scale indicating age, gender, disability type, education level, use of mobility aids, disability sport experience and their clubs. The participants were required to fill in their age in years for the question A1, the physical impairment for the question A3, the club they belonged to for the question A6, and the starting time of playing in the present club in years for the question A7. The rest of the questions in this section required that the participants should tick in the appropriate box or provide Yes/No responses.

Section B addressed the sport preference which was assessed by using the Sport Preference List that has been used by the Kinesiology Activity of Physically Handicapped Youth in Slovenia (Vute, 1986), this section contained 32 different sports including adapted ones namely: archery, athletics, badminton, basketball, boccia, bowling, boxing, chess, cycling, dancing, darts, gymnastics, handball, hockey, judo, karate, motor sport, orienteering, rhythmic gymnastics, roller skating, sitting soccer, sitting volleyball, soccer, swimming, table tennis, tennis, volleyball, weightlifting, wheelchair basketball, wheelchair hockey, and wrestling. Participants were requested to tick each sport with one of three options: (1) I am active in this sport, (2) I wish to participate in this sport, and (3) I have no interest in participating in this sport.

Section C measured the psychosocial construct factors of sport such as sport enjoyment, sport commitment, parental encouragement and support, and perceived physical ability. The participants requested to tick an appropriate box,

which indicated 5-point Likert rating scale responses. Likert scales are very popular among social scientists. The reason being that they have a high degree of validity even if the scale contains only a few items it provide single scores from a set of items, has very high reliability and allows ranking of the respondents and are relatively easy to construct (Sarantakos, 2000). Section C comprised of the following subsections:

Subsection A measured the sport enjoyment, the participants completed Scanlan et al.'s (1993b) 4-item sport enjoyment scale, asking if they enjoyed, had fun, were happy, and liked playing disability sport. Participants responded on a 1 to 5 point Likert scale with anchors of not at all and very much. All four questions were modified by adding "disability" in front of "sport".

Subsection B measured the sport commitment, the participants completed Scanlan et al.'s (1993b) 6-item sport commitment scale. Participants responded to four questions asking how dedicated and how determined they were to playing disability sport, one question asking how hard it would be to quit disability sport. Participants responded on a 1 to 5 point Likert scale with anchors of not at all dedicated/determined/hard and very dedicated/determined/hard. The sixth question asked "What would you be willing to do to keep playing disability sport" with anchors of nothing at all and a lot of things. All six questions were modified by adding "disability" in front of "sport".

Subsection C measured parental encouragement and support the participants reported their perceptions of parental encouragement and support by responding to Brustad's (1996) 8-question parental encouragement and support of physical

activity and sport scale. Questions were modified to reflect disability sport instead of physical activity. For instance, participants were asked if their parents/guardians “encouraged their participation in disability sport”. Participants responded on 1 to 5 point Likert scale with anchors of strongly agree and strongly disagree.

Subsection D measured perceived physical ability. The participants’ perceptions of their physical abilities was assessed by Marsh’s (1990) physical abilities subscale of self- description questionnaire (SDQ-I) designed for adolescents and youth. For instance, two of the seven questions that participants responded to were “I am a physically strong person” and “I am good at endurance sports.” Anchors of not always and yes always on a 5 point Likert scale followed each question.

### **3.4.3 Reliability and validity**

The Sport Preference questionnaire has been used prior and found to be a reliable tool with a Cronbach’s Alpha coefficient of 0.86 (Vute & Urnaut, 2009). Reliability and validity for the scales regarding sport enjoyment, sport commitment, parental encouragement and perceived physical ability have been established with similar aged boys and girls. Cronbach’s Alpha coefficients for sport enjoyment (0.93), sport commitment (0.85), physical ability (0.76), and parental encouragement (0.65) scales were all acceptable (Nunnally, 1978).

After the research instrument was compiled, it was subjected to a peer review, by the study supervisor and colleagues knowledgeable in the field of physical activity, exercise, sports and recreation among youth, as this is essential for

content validity (Domoholdt, 2000). Suggestions were considered to make changes before proceeding to the main research.

#### **3.4.3.1 A Pilot study**

Although the questionnaires had been used in different contexts and had excellent validity and test-retest reliability, its subsequent modification for this study could have had implications on this validity. In addition, because the contexts were different in culture and the demography of the sample, it was necessary to pre-test the validity of the modified version.

A pilot study was then conducted to pre-test the research questionnaire in Rwanda among sixteen (n=16) youth with physical disabilities who were not included in the main study. According to Domoholdt (2000), piloting is used to determine the duration taken to complete the questionnaire and assess its clarity, rate of return, and presence of extraneous responses provided for individual questions. The pilot study found clarity of all the questions except Section B, which is composed of different sports and presented many unknown sports by youth with physical disabilities in Rwanda. All participants in the pilot study finished filling in the questionnaire within thirty minutes after explanations of each sport in section B. The data for the section B was therefore collected by explanation of each sport to ensure that all participants understood the content and meaning of the questions in this section.

Kinyarwanda language was used as the maternal language used by all Rwandans. To maintain the content of the questionnaire, a professional translator first translated the questionnaire from English to Kinyarwanda after which another

translator translated it back to English from Kinyarwanda. The second version was similar to the original questionnaire set in English. This verification of the translated questionnaire was also done to ensure the validity of the instrument.

#### **3.4.4 Quantitative data collection procedure**

After obtaining the permission to conduct the study as described in the section on ethical considerations, data was collected following various procedures. A research assistant was recruited to assist the researcher with data collection. The research assistant had enough training and practical sessions before starting data collection. During the training process, the researcher and the research assistant discussed about the study to promote a good understanding of the study in general, the aim of the study, the ethics of the study, location of the clubs, and the role of research assistant as well as the understanding of questionnaire. The research assistant was advised at the beginning that his work will be checked for accuracy.

The list of club directors' telephone numbers was obtained from NPC Rwanda. The appointment was made by telephone to the club directors for a suitable place, time and date for meeting so that the club members and the researchers could meet. At the beginning of every meeting, the researcher and research assistant introduced themselves. The study was verbally explained to all club members and an information sheet with further details about the study was given to every participant who fulfilled all inclusion criteria. All the instructions were provided before any data collection, to allow clarification. After informed consent was obtained from the participants, the questionnaires were distributed and explained

section by section to the participants. Before leaving, the researcher and the participants fixed another appointment to meet at the same place for collection of completed questionnaires. Data collection started mid-December 2010 and ended mid-February 2011.

### **3.4.5 Quantitative data analysis**

The SPSS (19.0 version) was used to analyse the quantitative data. Based on the descriptive nature of the study, the data analysis included descriptive statistics as frequency distributions and percentages. The mean and standard deviation were used for the age, enjoyment, commitment, parental encouragement and perceived physical ability. The data was presented in the forms of tables and cross-tables. Chi-square test was used to test for significant relationships between variables: sport preferences and factors related to sport preferences such as gender, age, impairments, and use of mobility aids. An independent samples t-test was conducted to compare the sport enjoyment, sport commitment, parental encouragement and perceived physical ability scores for socio-demographic characteristics. The significance level was set at  $p < 0.05$  for all tests.

## **3.5 PHASE II: QUALITATIVE PHASE**

### **3.5.1 Study population and sampling**

Representative/attribute that was considered for the purposively selection was being the staff member of NPC. NPC in Rwanda comprises of four staff members, all of them were approached for participation in the qualitative phase of the study.

### **3.5.2 Method of data collection for qualitative phase of the study**

The data was collected by means of semi-structured interviews. The interviews were guided; an interview guide (Appendix C) was developed on basis of the forth study objective, the literature, together with the researcher's experience. This interview guide was translated from English to Kinyarwanda as the participants were more fluent in Kinyarwanda. Within this frame, the structure of the interviews was designed to be free and open. Interviews were audiotape-recorded. Furthermore, the researcher assistant took notes during the interviews.

### **3.5.3 Trustworthiness**

In qualitative research, reliability and validity is referred to as establishing trustworthiness. Flick (2002) transmitted the idea of trustworthiness to be more suitable criteria for qualitative research than these referring to validity and reliability that are used in quantitative research. Cromie, Robertson, and Best (2003) support this by substituting validity and reliability with trustworthiness to emphasize the descriptions and perspectives produced in qualitative research. Trustworthiness of qualitative data is measured by its credibility, confirmability, transferability and dependability (Shenton, 2004). The credibility in qualitative research is determined by the match between the constructed realities of the participants and the reality presented by the researcher (Lincoln & Guba, 1985). Therefore, to enhance credibility of the qualitative data, the themes presented were illustrated with representative quotations from the transcribed texts (Graneheim & Lundman, 2004).

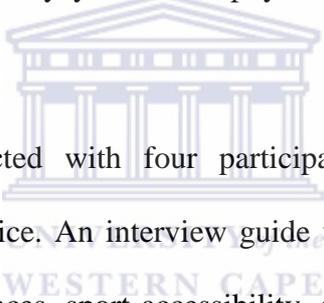
Confirmability is signifying that data are sincere and reliable. Baumgarthner, Strong, and Hensley (2002) further emphasise confirmability as referring to neutrality or impartiality of the data. To achieve this in the current study, face to face interviews, member checking, an independent review from colleagues and a peer review by the study supervisor who went through field notes and transcriptions, data reduction and analysis products (condensed notes), data reconstruction and synthesis products (thematic categories, interpretations) were used by the researcher (Lincoln & Guba, 1985).

Transferability refers to the degree to which the results of qualitative research can be generalized or transferred to other contexts or settings. However, Polit and Hungler (1995) inform that, the researcher needs to provide sufficient descriptive data so that others can consider the applicability of the data to other settings. It is in this regard the researcher in this study provided a clear and distinct description of the study setting, the selection and characteristics of participants, data collection and process of analysis (Graneheim & Lundman, 2004).

Stability of data over time and conditions through inquiry that involves scrutiny of the data and relevant supporting documents by an external reviewer in quantitative research is referred to as dependability (Polit & Hungler, 1995). In this study, the researcher provided the satisfactory facts of participants' word for word citations (code-recode procedure) during data analysis to permit the reader to consider its dependability as suggested by Krefting (1991).

### **3.5.4 Qualitative data collection procedure**

This phase of the study was conducted by individual interview process as a method of inquiry. Although interviews are generally considered as two people having a conversation, a researcher knows that it “involves a set of assumptions and understandings about the situation which are not normally associated with a conversation” (Wilkinson & Birmingham, 2003). The individual interview sessions lasted approximately 15 minutes. Each interview was conducted in Kinyarwanda as each participant felt comfortable expressing themselves in this language. The purpose of the interviews was to provide a better understanding of the challenge experienced by youth with physical disabilities in choosing their sport.



Interviews were conducted with four participants (NPC Staff) purposively selected in their own office. An interview guide was prepared so that key issue concerning sport preferences, sport accessibility, challenges, were addressed and that the interview flowed logically. The participants were asked if they were interested to volunteer in a research study. The willing participants signed a consent form and were aware that they were expected to share their experiences about sport preferences among youth with physical disabilities. The participants were made aware of the procedure of the interview process and that it would be recorded. All interviews were conducted by the researcher and research assistant took field notes. The relevance, acceptability and clarity of the questions were constantly considered during the conduct of the interviews. A probing technique was used to clarify the participant’s responses and to obtain more information (Britten, 1995). The interviews were tape recorded with the permission of the

participants to ensure all information was captured. In this way the interpretations of the participants were not misinterpreted by the researcher. At the beginning of the interview sessions, the participants were informed of the aim of the study and reminded that participation was voluntary. The selective “one-on-one” interviews allowed the individual to disclose more personal and in-depth information that might not have been exposed in a focus group discussion.

### **3.5.5 Qualitative data analysis**

Thematic analysis procedure was used to analyse qualitative data collected from the interviews. This was because in phenomenology interview, ideas that emerge can better be managed and understood under the control of a thematic analysis (Aronson, 1992).

The analysis of the qualitative data began while the tape-recorded interviews in Kinyarwanda were being transcribed verbatim in full by the researcher. The transcriptions were read and compared to audio tape recordings and field notes several times to verify accuracy (Neumann, 2006). An independent translator translated the transcriptions into English and the researcher analysed those transcriptions to identify and recognise recurrent ideas and patterns of responses, consistencies and divergences across participants (Jones, 1985). This process involved familiarization with the material on several readings. Common concepts were coded, producing sub-themes that were then classified into broader categories (Ritchie & Spencer, 1994).

In order to maintain anonymity participants were coded. The qualitative data analysis was controlled thematically in ways that endeavoured to be unbiased equally to the research questions and to the concerns of the participants.

### **3.6 ETHICAL CONSIDERATIONS**

Permission to conduct this study was obtained from the Senate Research Grants and Study Leave Committee at the University of the Western Cape (Appendix D), and the National Paralympic Committee of Rwanda (Appendix E) under recommendation of Ministry of Sport and Culture of Rwanda. The purpose and importance of the study was explained to all relevant parties and participants. After agreeing to participate, the youth who were 18 years and above were requested to sign the consent form (Appendix L). Youth less than 18 years brought signed consent forms (Appendix O) from their guardians/parents before they were allowed to participate in the study. Then, these under 18 years sign an assent form (Appendix N). Personally, all NPC staff agreed to participate in the audiotape interview, and signed the participant consent form (Appendix L). Participation in the study was voluntary and it was made known to the participants that they had a right to withdraw at any stage without negative effect. Participants were assured of anonymity and confidentiality as the information gathered would be used for research purpose only. The obtained information was handled in the strictest confidentiality and the final version of the study results will be made available to the respective ministry, NPC Rwanda, and the University of the Western Cape.

### **3.7 SUMMARY OF THE CHAPTER**

The chapter described the research setting in which the study was based; it also examined the methods of sequential mixed model used to collect the data and the importance to the study. The study design, study population, sampling methods and instruments were well described together with the motivation for choosing the methods. The pilot study, the data collection issues relating to the study were given. The procedure to ensure the study was conducted in an ethical manner was explained. The next chapter will therefore outline the results of the data analysis.



## **CHAPTER FOUR**

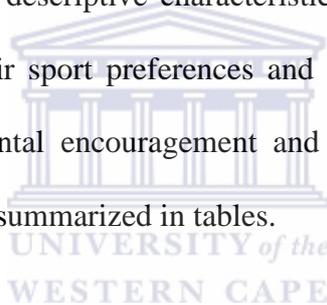
### **RESULTS**

#### **4.0 INTRODUCTION**

This chapter comprises of two sections, the first section presents the results of quantitative part of the study, and second section presents the results of qualitative part of the study.

#### **SECTION A. QUANTITATIVE RESULTS**

This section presents the results of the analysis of the data of the quantitative phase of the study. The descriptive characteristics of the sample of youth with physical disabilities, their sport preferences and their level of sport enjoyment, sport commitment, parental encouragement and perceived physical ability are reported. The results are summarized in tables.



#### **4.1 DESCRIPTIVE CHARACTERISTICS OF THE SAMPLE**

##### **4.1.1 Socio-demographic characteristics**

Two hundred and sixteen eligible youth were contacted in the eleven clubs. From the eleven clubs, two hundred and six consented to participate in the study and returned their questionnaires. Of the 206 returned filled questionnaires, two questionnaires were poorly filled and were discarded. Therefore, the response rate was 94.5%. Of the total sample of 204, 29.4% were minors (aged between 14 and 17 years) while 70.6% were young adults (aged between 18 and 25 years). Fifty eight point three percent (58.3%) reported to have primarily level of education, 37.7% secondary level, 2.5% tertiary level and three (1.5%) not any level of

education. A small percentage (2.5%) reported to have at least six years of experience in sport whereas 97.5% have at most five years of experience in disability sport. The mean age was 19.78 years (SD=3.452) and a median of 19.50 years with ages ranging between 14 and 25 years. Out of 204 participants, 58.3% youth reported using mobility aids as summarized in table 4.1.

**Table 4.1 Socio-demographic characteristics of study sample (n=204)**

<b>Variables</b>	<b>Frequency (n)</b>	<b>Percentage (%)</b>
<b>Age</b>		
14-17	60	29.4
18-25	144	70.6
<b>Gender</b>		
Female	56	27.5
Male	148	72.5
<b>Use of mobility aids</b>		
Yes	114	55.9
No	90	44.1
<b>Level of education</b>		
No education	3	1.5
Primary	119	58.3
Secondary	77	37.7
Tertiary	5	2.5
<b>Experience</b>		
1-5 years	186	91.2
6 -10years	18	8.8

#### **4.1.2 Reported impairments**

One hundred and fifty five participants (76%) indicated their physical impairments which were grouped into three subtypes as illustrated in Table 4.2. These included lower limb amputations and deformities (68.1%), upper limb amputations and deformities (3.4%), spinal cord injuries and vertebral column

deformities (4.4%). Forty nine respondents (24%) did not specify their physical impairment.

**Table 4.2 Percent distribution of impairments (n=204)**

Variables	Males n=148	Females n=56	Total %
Lower limb amputations and deformities	50.5	17.6	68.1
Upper limb amputations and deformities	2.5	1.0	3.4
Spinal cord injuries and vertebral column deformities	4.4	0.0	4.4
Unspecified physical disabilities	15.2	8.8	24.0

## 4.2 SPORT PREFERENCES

### 4.2.1 Structure of sport preferences

Participants were provided with a list of thirty two (32) different sports their sport choices. They were requested to indicate the sports in which they were actively involved in, in which they wished to participate in and those that they were not interested in at all. The results (Table 4.3) show that physically disabled youth were active particularly in sit ball (85.3%), sitting volleyball (32.8%), and volleyball (18.1%). At the top of the list of sports youth wish to participate in were sitting volleyball (52.5%), wheelchair basketball (30.9%), sitting soccer (27%), motor sport (23%), swimming (23%) and wheelchair hockey (21.6%). No interest to participate were expressed for wrestling (94.6%), hockey (93.6%), judo (93.6%), darts (92.2%), orienteering (92.2%), roller skating (91.7%), chess (90.7%), gymnastics (90.7%) and bowling (90.2%).

**Table 4.3 Sport preferences of study sample (n=204)**

<b>Sports</b>	<b>Sport active n(%)</b>	<b>Wish to participate n(%)</b>	<b>No interest n(%)</b>
Archery	0(0.0)	40(19.6)	164(80.4)
Athletics	7(3.4)	19(9.3)	178(87.3)
Badminton	0(0.0)	25(12.3)	179(87.7)
Basketball	10(4.9)	29(14.3)	165(80.9)
Boccia	8(3.9)	15(7.4)	181(88.7)
Bowling	0(0.0)	20(9.8)	<b>184(90.2)</b>
Boxing	0(0.0)	30(14.7)	174(85.3)
Chess	0(0.0)	19(9.3)	<b>185(90.7)</b>
Cycling	7(3.4)	26(12.7)	171(83.8)
Dancing	2(1.0)	27(13.2)	175(85.8)
Darts	0(0.0)	16(7.8)	<b>188(92.2)</b>
Gymnastics	2(1.0)	17(8.3)	<b>185(90.7)</b>
Handball	3(1.5)	23(11.3)	178(87.3)
Hockey	0(0.0)	13(6.4)	<b>191(93.6)</b>
Judo	0(0.0)	13(6.4)	<b>191(93.6)</b>
Karate	1(0.5)	34(16.7)	169(82.8)
Motor sport	0(0.0)	<b>47(23.0)</b>	157(77.0)
Orienteering	0(0.0)	16(7.8)	<b>188(92.2)</b>
Rhythmic gymnastics	0(0.0)	21(10.3)	183(89.7)
Roller skating	0(0.0)	17(8.3)	<b>187(91.7)</b>
Sitting soccer	0(0.0)	<b>55(27.0)</b>	149(73.0)
Sit ball	<b>174(85.3)</b>	3(1.5)	27(13.2)
Sitting volleyball	<b>67(32.0)</b>	<b>107(52.5)</b>	30(14.7)
Soccer	0(0.0)	22(10.8)	182(89.2)
Swimming	5(2.5)	<b>47(23.0)</b>	152(74.5)
Table tennis	<b>29(14.2)</b>	34(16.7)	141(69.1)
Tennis	3(1.5)	33(16.2)	168(82.4)
Volleyball	<b>37(18.1)</b>	24(11.8)	143(70.1)
Weightlifting	17(8.3)	11(5.4)	176(86.3)
Wheelchair basketball	<b>27(13.2)</b>	<b>63(30.9)</b>	114(55.9)
Wheelchair hockey	0(0.0)	<b>44(21.6)</b>	160(78.4)
Wrestling	0(0.0)	11(5.4)	<b>193(94.6)</b>

### 4.3 PSYCHOSOCIAL CONSTRUCTS OF SPORT PARTICIPATION

Various psychosocial constructs have been identified by researchers as important for youth in their involvement in sport (Weiss & Stuntz, 2004). These include sport enjoyment, sport commitment, parental encouragement and perceived physical ability. The overall scores (mean and standard deviation) for each of these scales is illustrated in Table 4.4.

**Table 4.4 Mean and standard deviation for psychosocial constructs (n=204)**

Factors	Range	Minimum	Maximum	Mean	SD
Sport enjoyment	10	10	20	17.05	1.92
Sport commitment	17	17	30	25.46	2.75
Parental encouragement	22	8	30	18.7	4.404
Perceived physical ability	28	7	35	26.6	6.734

#### 4.3.1 Sport enjoyment

The sport enjoyment scale consisted of four items. The highest score that each item could get was 20, and a higher score indicated more enjoyment as oppose a lower score. The results (Table 4.4) show that the physical disabled youth had high enjoyment scores with the overall mean of 17.05 (SD=1.920). The variables for sport enjoyment were collapsed as follows: not at all and very little as one variable and much and very much into one variable. Out of 204 participants, 93.1% reported that they enjoy playing disability sport, 94.6% were happy playing disability sport, 85.3% reported to have a fun and 87.3% reported to like playing disability sport (Table 4.5).

**Table 4.5 Percent distribution of sport enjoyment (n=204)**

<b>Variable</b>	<b>Much and Very much</b>	<b>Neutral</b>	<b>Not at all and little</b>
Enjoy to play this season	93.1	6.4	0.5
Happy to pay this season	94.6	5.4	0.0
Have fun this season	85.3	13.2	1.5
Like to play this season	87.3	9.3	3.4

The association between sport enjoyment and selected socio-demographic characteristics were investigated. The results (summarised in Table 4.6) indicate that there was a statistically significant difference in the mean sport enjoyment for youth aged 14-17 years and youth aged 18-25 years ( $p=0.001$ ). Whereas there was no statistically significant difference in the mean sport enjoyment found for males and females, and for users and nonusers of mobility aids. The results also highlighted that youth with less experience participating in sports for physically disabled were significantly more likely to enjoy sport than those with more years' experience ( $p<0.005$ ).

**Table 4.6 Socio-demographic characteristics by sport enjoyment (n=204)**

Variables	Sport enjoyment			Significance level
	N	Mean	SD	
<b>Age group</b>				0.001*
14-17	60	17.72	1.617	
18-25	144	16.78	1.973	
<b>Gender</b>				0.743
Female	56	16.98	2.031	
Male	148	17.08	1.883	
<b>Mobility aids</b>				0.835
Yes	114	17.08	1.987	
No	90	17.02	1.842	
<b>Experience</b>				0.007*
1-5 years	186	17.17	1.804	
6-10 years	18	15.89	2.654	

\* significant at 5% level

### 4.3.2 Sport commitment

The results (Table 4.4) show that physically disabled youth were highly committed to sport with the overall mean of 25.46 (SD=2.750). The variables of sport commitment were collapsed as follows: not at all and little dedicated/determined/hard as one variable and dedicated/determined/hard and very dedicated/determined/hard into one variable. Of the 204 participants 91.7% were proud to tell others that they play disability sport, 92.6% were determined to keep playing disability sport, 91.2% were dedicated to play disability sport, 95.6% were willing to do things to keep disability sport, 72.1% reported that it would be hard to quit disability sport, and 86.8% rate being determined to keep playing disability sport (Table 4.7).

**Table 4.7 Percent distribution of sport commitment (n=204)**

<b>Variable</b>	<b>Very committed and committed</b>	<b>Neutral</b>	<b>little and not committed</b>
Being proud	91.7	6.9	1.5
Want to keep playing	92.6	5.4	2.0
Being dedicated	91.2	7.8	1.0
Things to do to keep playing	95.6	2.9	1.5
Hard to quit playing	72.1	12.3	15.7
Keep playing	86.8	10.8	2.5

The association between sport commitment and selected socio-demographic characteristics were investigated. Table 4.8 indicates that no statistically significant association was found between socio-demographic characteristics and sport commitment.

**Table 4.8 Socio-demographic characteristics by sport commitment (n=204)**

<b>Variables</b>	<b>Sport commitment</b>			<b>Significance level</b>
	<b>N</b>	<b>Mean</b>	<b>SD</b>	
<b>Age group</b>				0.852
14-17	60	25.52	3.067	
18-25	144	25.44	2.617	
<b>Gender</b>				0.227
Female	56	25.84	2.996	
Male	148	25.32	2.647	
<b>Mobility aids</b>				0.819
Yes	114	25.50	2.665	
No	90	25.41	2.867	
<b>Experience</b>				0.490
1-5 years	186	25.42	2.374	
6-10 years	18	25.89	2.785	

### 4.3.3 Parental encouragement

Low parental encouragement and support was found among physically disabled youth to do sport with the overall mean of 18.7 (SD=4.404) as indicated in Table 4.4. The variables for parental encouragement and support were collapsed as follows: strongly agree and agree as one variable and disagree and strongly disagree into one variable. Of the 204 physically disabled youth, 73.5% of the study sample reported that their parents did not practice sport skills with them, 65.2% reported that their parents did not tell them that they are good in sport, 65.7% reported that their parents did not encourage them to play sport, 65.2% reported that their parents did not play sport with them as summarized in Table 4.9.



**Table 4.9 Percent distribution of parental encouragement (n=204)**

Variables	Strongly agree and agree	Neutral	Disagree and strongly disagree
Parents practice sport skills with me	9.3	17.2	73.5
Parents tell me that I am good in sports	18.1	16.7	65.2
Parents encourage me to play sports	8.8	25.5	65.7
Parents play sports with me	9.3	25.5	65.2
Parents give me sports equipment	25.5	27.0	47.5
Parents help me to be good at sports	19.6	23.5	56.9
Parental financial support for sport participation	22.1	29.4	48.5
Parents take me to the sporting courses	25.5	22.1	52.5

The association between parental encouragement and selected socio-demographic characteristics were investigated. The results (Table 4.10) indicate that no statistically significant association was found between socio-demographic characteristics and parental encouragement and support.

**Table 4.10 Socio-demographic characteristics by parental encouragement (n=204)**

Variables	Parental encouragement			Significance Level
	N	Mean	SD	
<b>Age group</b>				0.683
14-17	60	18.5	4.355	
18-25	144	18.78	4.437	
<b>Gender</b>				0.971
Female	56	18.71	4.902	
Male	148	18.69	4.218	
<b>Mobility aids</b>				0.233
Yes	114	18.35	4.586	
No	90	19.11	4.15	
<b>Experience</b>				0.932
1-5 years	186	18.70	4.325	
6-10 years	18	18.61	5.293	

#### 4.3.4 Perceived physical ability

The descriptive results (Table 4.4) indicated that physically disabled youth had strong feelings about their physical abilities with overall mean of 26.60 (SD=6.734). The perceived physical ability variables were collapsed as follows: always and most times as one variable and not always and occasionally into one variable. The results (Table 4.11) show that of the 204 participants, 67.2% perceived themselves as physically strong, 75% perceived good who they were and what they do physically and 79.4 % perceived that they had endurance.

**Table 4.11 Percent distribution of perceived physical ability (n=204)**

<b>Variable</b>	<b>Always and most times</b>	<b>Neutral</b>	<b>Not always and occasionally</b>
Physically strong person	67.2	3.9	28.9
Flexibility of the body	72.5	6.9	20.6
Coordination of movements	72.5	7.8	19.6
Sport skills	66.2	10.3	23.5
Physical feelings	75.0	4.4	20.6
Frequency of playing sport	72.1	5.4	22.5
Endurance	79.4	2.5	18.1

The associations between perceived physical ability and selected socio-demographic characteristics were investigated. The results (Table 4.12) indicate that there was a statistically significant difference in the mean perceived physical ability for males and females. The results also indicate that youth with more experience participating in sports for physically disabled were significantly more likely to perceive physical able than those with less experience ( $p < 0.05$ ).

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**Table 4.12 Socio-demographic characteristics by perceived physical ability (n=204)**

<b>Characteristics</b>	<b>Perceived physical ability</b>			
	<b>N</b>	<b>Mean</b>	<b>SD</b>	<b>Significance level</b>
<b>Age group</b>				0.226
14-17	60	27.48	6.779	
18-25	144	26.23	6.704	
<b>Gender</b>				0.023*
Female	56	24.86	8.227	
Male	148	27.26	5.975	
<b>Mobility aids</b>				0.371
Yes	114	26.97	6.610	
No	90	26.12	6.895	
<b>Experience</b>				0.050*
1-5 years	186	26.31	6.746	
6-10 years	18	29.56	6.002	

\* significant at 5% level

## **4.4 SOCIO-DEMOGRAPHIC FACTORS RELATED TO SPORT**

### **PREFERENCES**

Sports preferences indicated by participants were summarised in Table 4.3. These included the sports in which they were participating in, those they wished to participate in, and those they were not interested in at all. To determine the factors related to these preferences, only the sporting codes that participants indicated to be actively involved in were included in the analysis.

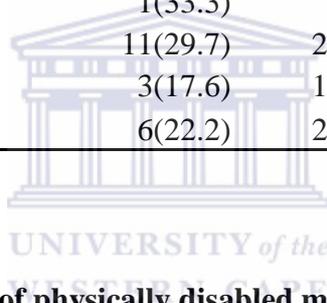
#### **4.4.1 Sport preferences by age**

Table 4.13 indicates that the top active participation of participants aged 14-17 was in sit ball followed by sitting volleyball and table tennis. The results also indicated the top active participation of participants aged 18-25 years old was in sit ball followed by sitting volleyball, volleyball and wheelchair basketball. At a 0.05 level of significance, the chi-square test of sport preferences versus age group was found to be significant for tennis ( $p=0.000$ ), karate ( $p=0.002$ ), table tennis ( $p=0.015$ ) and basketball ( $p=0.013$ ). This indicates that youth aged 14-17 years were significantly more likely active and interested in basketball, table tennis and tennis, than those aged 18-25 years.

**Table 4.13 Distribution of sport preferences by age group (n=204)**

<b>Sports</b>	<b>14-17 n(%)</b>	<b>18-25 n(%)</b>	<b>Significance (p-value)</b>
Athletics	4(57.1)	3(42.9)	0.216
Basketball	5(50.0)	5(50.0)	0.013*
Boccia	3(37.5)	5(62.5)	0.263
Cycling	2(28.6)	5(71.4)	0.515
Dancing	1(50.0)	1(50.0)	0.105
Gymnastics	0(0.0)	2(100.0)	0.795
Handball	1(33.3)	2(66.7)	0.200
Karate	0(0.0)	1(100.0)	0.002*
Sit ball	51(29.3)	123(70.7)	1.000
Sitting volleyball	26(38.8)	41(61.2)	0.096
Swimming	3(60.0)	2(40.0)	0.243
Table tennis	15(51.7)	14(48.3)	0.015*
Tennis	1(33.3)	2(66.7)	0.000*
Volleyball	11(29.7)	26(70.3)	0.069
Weightlifting	3(17.6)	14(82.4)	0.494
Wheelchair basketball	6(22.2)	21(77.8)	0.099

\* significant at 5% level



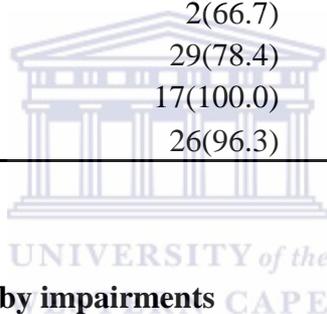
#### **4.4.2 Sport preferences of physically disabled male and female youth**

The results (Table 4.14) indicated that males' top active participation was in sit ball, followed by sitting volleyball, volleyball, and wheelchair basketball. Females indicated their top sport active participation in sit ball and sitting volleyball. At a 0.05 level of significance, the chi-square test of sport preferences versus gender was found to be significant for dancing ( $p=0.001$ ), weightlifting ( $p=0.003$ ), wheelchair basketball ( $p=0.012$ ), sit ball ( $p=0.021$ ), and sitting volleyball ( $p=0.033$ ). This indicates that females were significantly more likely interested in dancing than males. Males were significantly more likely participated in weightlifting and wheelchair basketball than females. Females were significantly more likely participated in sit ball than males.

**Table 4.14 Distribution of sport preferences by gender (n=204)**

<b>Sports</b>	<b>Male n(%)</b>	<b>Female n(%)</b>	<b>Significance (p-value)</b>
Athletics	6(85.7)	1(14.3)	0.414
Basketball	10(100.0)	0(0.0)	0.129
Boccia	8(100.0)	0(0.0)	0.215
Cycling	6(85.7)	1(14.3)	0.466
Dancing	2(100.0)	0(0.0)	0.001*
Gymnastics	2(100.0)	0(0.0)	1.000
Handball	3(100.0)	0(0.0)	0.501
Karate	1(100.0)	0(0.0)	0.007*
Sit ball	121(69.5)	53(30.5)	0.021*
Sitting volleyball	50(74.6)	17(25.4)	0.033*
Swimming	4(80.0)	1(20.0)	0.592
Table tennis	22(75.9)	7(24.1)	0.306
Tennis	2(66.7)	1(33.3)	0.557
Volleyball	29(78.4)	8(21.6)	0.396
Weightlifting	17(100.0)	0(0.0)	0.003*
Wheelchair basketball	26(96.3)	1(3.7)	0.012*

\* Significant at 5% level



#### **4.4.3 Sport preferences by impairments**

Table 4.15 presents the sport preferences according to impairment. Active participation for youth with lower limb amputations and/or deformities was found in sit ball followed by sitting volleyball, and volleyball. Youth with upper limb amputations and/or deformities were active in athletics. Those with spinal cord injuries and/or vertebral column deformities were active in sit ball. Those with unspecified physical deformities were active in sit ball. At a 0.05 level of significance, chi-square test of sport preferences versus impairment was found to be significant for athletics ( $p=0.000$ ), sit ball ( $p=0.008$ ) and sitting volleyball ( $p=0.035$ ). This indicates that those with upper limb amputations and/or deformities were significantly more likely participated in athletics than those with

other types of physical disabilities. Those with lower limb amputations and/or deformities were significantly more likely participated in sit ball and sitting volleyball than those with other types of physical disabilities.

**Table 4.15 Distribution of sport preferences by impairment (n=204)**

<b>Sports</b>	<b>L/L A&amp;D n(%)</b>	<b>U/L A&amp;D n(%)</b>	<b>SCI&amp;VCD n(%)</b>	<b>UPD n(%)</b>	<b>Significance p-value</b>
Athletics	2(28.6)	5(71.4)	0(0.0)	0(0.0)	0.000*
Basketball	10(100.0)	0(0.0)	0(0.0)	0(0.0)	0.136
Boccia	7(87.5)	0(0.0)	1(12.5)	0(0.0)	0.421
Cycling	5(71.4)	0(0.0)	0(0.0)	2(28.6)	0.720
Dancing	1(50.0)	1(50.0)	0(0.0)	0(0.0)	0.309
Gymnastics	2(100.0)	0(0.0)	0(0.0)	0(0.0)	0.594
Handball	3(100.0)	0(0.0)	0(0.0)	0(0.0)	0.936
Karate	1(100.0)	0(0.0)	0(0.0)	0(0.0)	0.648
Sit ball	123(70.7)	3(1.7)	6(3.4)	42(24.1)	0.008*
Sitting volleyball	47(70.1)	2(3.0)	1(1.5)	17(25.4)	0.035*
Swimming	4(80.0)	1(2.0)	0(0.0)	0(0.0)	0.452
Table tennis	20(69.0)	0(0.0)	0(0.0)	9(31.0)	0.829
Tennis	3(100.0)	0(0.0)	0(0.0)	0(0.0)	0.598
Volleyball	27(73.0)	0(0.0)	2(5.4)	8(21.6)	0.764
Weightlifting	16(94.1)	0(0.0)	0(0.0)	1(5.9)	0.325
Wheelchair basketball	20(74.1)	0(0.0)	3(11.1)	4(14.8)	0.092

\* Significant at 5% level

L/L A&D: Lower limb amputations and deformities

U/L A&D: Upper limb amputations and deformities

SCI&VCD: Spinal cord injuries and vertebral column deformities

UPD: Unspecified physical disability

#### **4.4.4 Sport preferences according to the usage and non-usage of mobility aids**

Table 4.16 indicates that the users of mobility aids were active in sit ball, sitting volleyball, and in wheelchair basketball. The nonusers of mobility aids were active in sit ball, volleyball, and in sitting volleyball. At a 5% level of significance, the chi-square test results display statistically significant differences according to their usage of mobility aids in volleyball (p=0.000), wheelchair

basketball (p=0.001), tennis (p=0.009), athletics (p=0.012), gymnastics (p=0.012), weightlifting (p=0.017), handball (p=0.020), karate (p=0.047), and basketball (p=0.050). This indicates that the nonusers of mobility aids were significantly more likely to participate in volleyball, tennis, athletics, gymnastics, handball, karate and basketball than those who use mobility aids. The users of mobility aids were significantly more likely to participate in wheelchair basketball and weightlifting than the mobility aids nonusers.

**Table 4.16 Distribution of sport preferences by use of mobility aids (n=204)**

<b>Sports</b>	<b>Aid users n(%)</b>	<b>Nonusers n(%)</b>	<b>Significance (p-value)</b>
Athletics	1(14.3)	6(85.7)	0.012*
Basketball	4(40.0)	6(60.0)	0.050*
Boccia	6(75.0)	2(25.0)	0.288
Cycling	4(57.1)	3(42.9)	0.346
Dancing	0(0.0)	2(100.0)	0.296
Gymnastics	0(0.0)	2(100.0)	0.012*
Handball	0(0.0)	3(100.0)	0.020*
Karate	0(0.0)	1(100.0)	0.047*
Sit ball	97(55.7)	77(44.3)	0.752
Sitting volleyball	42(62.7)	25(37.3)	0.344
Swimming	2(40.0)	3(60.0)	0.404
Table tennis	17(58.6)	12(41.4)	0.901
Tennis	0(0.0)	3(100.0)	0.009*
Volleyball	11(29.7)	26(70.3)	0.000*
Weightlifting	15(88.2)	2(11.8)	0.017*
Wheelchair basketball	22(81.5)	5(18.5)	0.001*

\* Significant at 5% level

## **SECTION B. QUALITATIVE RESULTS**

This section reports on the qualitative data gathered during semi-structured interviews conducted with staff members of NPC to explore the challenges experienced by youth with physical disabilities with regards to sport preferences in Rwanda. This section will start with a description of the interview participants, and will follow with the presentation of sub-themes and categories that emerged. The challenges expressed by the participants can be grouped into four main sub-themes which are types of sports played in the country, sport availability, factors influencing sport choice, and disability sport classification. In the presentation of the findings, verbatim quotations from interviews will be used to illustrate response sub-themes and categories. The participants' quotes are presented in italics, to distinguish them from the literature. For purposes of anonymity and confidentiality, the transcribed quotations of data from the interviews will be cited in the cryptogram P1 to P4.

### **4.5 DESCRIPTION OF THE PARTICIPANTS**

Semi-structured interviews were conducted with 4 staff of NPC Rwanda. Table 4.17 describes the socio-characteristics of the participants. Out of four participants three were males and one was female. Two were married participants and two were single participants. The participants were aged between 27 and 33 years (mean age=30.25 years, SD=2.75). The mean work experience among participants was 5.5 years. Two were physical disabled and two were able bodied.

**Table 4.17 Characteristics of participants (n=4)**

Participants	Characteristics				
	Age	Gender	Marital status	Work experience	Disability
P1	33	Male	Married	9 years	Physical disabled
P2	27	Male	Single	2 years	Physical disabled
P3	29	Female	Married	4 years	Able body
P4	32	Male	Single	7 years	Able body

#### 4.6 CHALLENGES TO SPORT PREFERENCES

The purpose of this part of the study was to explore the challenges to sport preferences. The NPC staff highlighted the challenges the youth with physical disability face with regard to sport choice. In the semi-structured interviews with the participants, four sub-themes emerged as the challenges to sport preferences among youth with physical disability. The subthemes and categories are presented in Table 4.18.

**Table 4.18 Subthemes for challenges to sport preferences**

Subthemes	Categories
1 Types of sports played by physical disabled in Rwanda	Sport played: athletics, boccia, basketball, cycling, sitting volleyball, sit ball, swimming, table tennis, tennis, volleyball, weightlifting, wheelchair basketball
2 Sport availability	Most popular sports: Sit ball and sitting volleyball Limited number of sport available (Due to insufficiency of facilities and resources)
3 Influence of sport preferences	Barriers: Accessibility, facilities, limited sport available  Motivation: Sport available, facilities, ability, making friend, trip overseas etc.
4 Classification	Lack of classifiers in the country (Rwanda)

#### 4.6.1 Types of sport played by physical disabled in Rwanda

In Rwanda, sports played by youth with physical disabilities were athletics, boccia, sit ball, sitting volleyball, basketball, swimming, wheelchair basketball, volleyball, cycling, weightlifting, table tennis, and tennis. According to all participants interviewed, sit ball and sitting volleyball are the most popular sports played by youth with physical disabilities. The popularity of sit ball and sitting volleyball was based on the less resources and cheap equipment required by these sports as revealed by all participants interviewed:

*“...the popular ones are sit-ball and sitting-volleyball”...“resource availability plays a role in determining the popularity of the sport, because although fields are scarce, all that is needed is a net and some balls (P1),*

*“...sit ball and sitting volley-ball tended to be more popular because they require less expensive equipment” (P4).*

Two out of four participants interviewed revealed that sit ball and sitting volleyball were most popular due to the way are played (adapted sport), easy to play due to game rules as illustrated in the following quotes:

*“These are sports which are played while sitting that is why even the physical disabled people prefer them over others” “...and since some of the disabled people have physical problems and are not able to run, they find it easier to join the sit ball and sitting volleyball teams (P1). “...these sports also do not have many rules” (P4).*

Two participant interviewed revealed that the reason for popularity is that sit ball and sitting volleyball are played in team and were the first to be introduced in the country and therefore the NPC has created more awareness with regards to these sports compare to others sports;

*“...these sports are also played in a team which increases the number of players” (P1). “...sit ball and sitting volleyball were the first sports to be introduced by outside coaches”...”the NPC has put a lot of effort in creating awareness of these sports in order to show physical disabled people that they have the abilities to play” (P3)*

#### **4.6.2 Availability of sports for people with disabilities in Rwanda**

The majority of disability sports in Rwanda are there for the physical disabled category compared to other forms of disabilities. All participants stated that there is not enough sports for disabled, however all participants agreed that there is a challenge of proper implementation of many disability sports in Rwanda due to lack of funding and resources i.e. fields, wheelchairs and other equipment as illustrated in the following quotes:

*“...the sports which are available for the physically disabled are still not enough due to the lack of resources and facilities” (P1)*

*“There are only few games being played because NPC does not have enough technicians and facilities to facilitate and implement these sports, and also lack of funding from sponsors” (P4).*

#### **4.6.3 Influences of sport preferences**

Participants interviewed described factors influencing choice of sport in two categories; barriers and motivation. All participants revealed that the main barriers were lack of access to the facilities in terms of distance to the fields, equipment, and infrastructure (buildings) which can be accessed by mobility aid users. Furthermore, lack of awareness toward various sports due to limited sport availability was also regarded as barriers as illustrated in the following quotes:

*“...many disabled people live far from sport fields and even those who live closer to the fields find it difficult to access them, because they were not made to be accessed by wheelchairs or sitting sports” (P1)*

*“...many games are not available in Rwanda and therefore also unknown” (P4).*

Two out of four participants interviewed agreed that lack of funds needed to implement various sport activities, limited resources and facilities (e.g. transport) contribute to the sport preferences as illustrated in the following quotes:

*“...the lack of funds needed to organise matches and transportation” (P2)*

*“The other challenge is the lack of equipment and facilities which make people choose sports which have available facilities and equipment” (P3).*

Factors perceived to motivate sport preferences among youth with physical disabilities vary as do those that are perceived as barriers. People choose a sport for various reasons; all participants interviewed mentioned that people choose a sport based on its availability and their ability to play it as illustrated in the following quotes:

*“There are many who choose certain sports because they are the only ones available and yet others choose the only kind of sports they can manage” (P1)*

*“Physically disabled persons choose a sport based on the sports they know and what they can handle” (P4).*

Out of four participants interviewed three mentioned that sometimes people choose a sport based on the opportunities it brings i.e. trips overseas to compete internationally, create friendship as mentioned in the following quotes:

*“There are also those who also choose a sport because it will enable them to take part in international competitions” (P2)*

*“... among sports they are exposed to and also the ones being played by most of their friends” (P4).*

One participant interviewed revealed that youth with disabilities were influenced by equipment and facilities to choose sport (sport with available equipment and facilities) as illustrated in the following quote:

*“...youth with disabilities choose a sport based on the available equipment and facilities” (P2).*

#### **4.6.4 Classification in disability sports**

To ensure fairness in sport competitions, in disability sport individuals are categorized according to their disability and compete in such a category. For example those with mild disability in volleyball are classified in category A, moderate in category B and severe in category C. Further classification according to sporting code and specific condition are then done, e.g. in athletics individuals with an amputated arm are classified in category F46.

All participants interviewed revealed that no experts or professionals are available in Rwanda to carry out classifications as needed. This affects the people with disabilities negatively when choosing a sport because they do so without first undergoing proper procedures that would allow them to choose the appropriate sport taking into consideration their disability. Players get classification only when they get opportunity to take part in international games.

*“...there is no one to classify them in Rwanda and this is one of the things that we would like to achieve in the very near future” (P1)*

*“...it becomes necessary for outside classifiers to come in from other African countries to assist in categorising those who wish to participate in the competitions” (P3)*

*“...people are usually only get classification when they have an opportunity to go and compete internationally, and they are then classified once they get to the destination of the competition” (P4).*

#### **4.7 SUMMARY OF THE CHAPTER**

In this chapter the results were presented with regard to the objectives for the study. The types of sports the youth engaged in and psychosocial factors of sport such as sport enjoyment, sport commitment, parental encouragement and perceived physical ability were summarized. Cross tabulations were done between sports played and demographic characteristics and other independent variables. Important challenges to sport preferences were explored. Lack of facilities, resources and limited sporting codes available were some of the most important challenges identified in qualitative part of the study.

## **CHAPTER FIVE**

### **DISCUSSION**

#### **5.1 INTRODUCTION**

The purpose of this study was to examine the factors related to sport preferences of youth with physical disabilities in Rwanda. The discussion focuses on the factors influencing sport preferences and the psychosocial constructs related to sports for youth. Furthermore, the challenges related to sport preferences experienced by youth with physical disability are discussed.

#### **5.2 SPORTS PLAYED BY PHYSICALLY DISABLED YOUTH IN RWANDA**

The idea of people with a disability being able to participate in sport is not so uncommon (IPSD, 2010). This was originally guided by a rehabilitative philosophy (Pensgaard & Sorensen, 2002). Therefore, sport for disabled has been adapted from its original context to take into consideration the modifications dictated by the disability (DePauw & Gavron, 2005). Thus, the current study examined the sport preferences and factors that influence it among physically disabled youths in Rwanda.

The results showed that there is a high level of preference for sit ball and sitting volleyball among the youth with physical disabilities in Rwanda. On the contrary, a study by Vute (1994) which investigated the active participation of institutionalised physically disabled youth from Slovenia showed that table tennis, basketball, and wheelchair hockey were the most preferred sports among

physically disabled youths in that country. Furthermore, the five most popular sports among Chinese children in Hong Kong with physical disabilities reported by Sit, Lindner, and Sherrill (2002) were basketball, soccer, badminton, swimming, and table tennis. In the context of Rwanda, sit ball and sitting volley ball were the first sports to be introduced in the country. They are adapted, with easy game rules, require less expensive equipment and were used as sports model to showcase the abilities of physically disabled people to play sport. This is one of the reasons that have led to their popularity among the youth. Moreover, sit ball and sitting volleyball are successful and well organised sports nationwide in Rwanda. The second choice of youth with physical disabilities was found to be volleyball, table tennis and wheelchair basketball this may be due to the lack of exposure of the youth with physical disabilities to different sports and limited resources available since they are only found in the institutionalized centres or schools, which is the case presented in the study by Vute (1994). This difference in sport selection may be due to limited number of sport available which narrow the spectrum of sports and influence the choice of youth with physical disabilities. Therefore the youths in Rwanda can only choose sports which they are exposed to.

Based on the findings of this study, the sports which youth with physical disabilities in Rwanda wished to participate in were sitting volleyball, wheelchair basketball, sitting soccer, motor sport and swimming. Sitting volleyball seems to be interesting not only because of the way it is played, but also in Rwandan context; it gives other opportunities such as trips overseas for international competitions as compared to other sports. Soccer is popular among abled bodied

people in Rwanda, and this makes the youth with physical disabilities interested in adapted soccer (sitting soccer) which can be used as a tool for social integration. Motor sport seems is also interesting not only because of its dynamics and adventurous nature, but it is also a symbol of independent movement as stated by Vute and Urnaut (2009). Furthermore, Vute and Urnaut (2009) reported that many movement problems, dominant in physically disabled youth can be reduced through swimming and water activities, this emphasises the interest of youth with physical disabilities in swimming as in presented study.

Hockey, darts, and bowling are unknown sports in Rwanda as highlighted in the NPC report by Nzeyimana (2009) and hence these sports are not favoured by youth with physical disabilities. There was also a lack of interest in the orienteering, roller skating, chess and gymnastics among the youth. Combat sports such as wrestling and judo were undesirable among the youth with physical disabilities. These results are supported by Sit, Lindner, and Sherrill (2002) who mentioned that combative sports such as boxing, wrestling, karate, taekwondo, and judo as the least favoured among physically disabled children in their study conducted in Hong Kong. As a conclusion, based on what has been discussed thus far in light of sport preference among the youth with disabilities, it is evident that the youth prefer sports that will not inconvenience them physically such as sit ball and sitting volleyball, whereas sports such as wrestling, karate, judo, and boxing, will inconvenience them because they require standing and more physical energy. However, it is recommended that NPC introduce a more variety of disability sports so that each person can get a chance to choose a sport/s which will cause less or no inconvenience.

### **5.3 FACTORS INFLUENCING SPORT PREFERENCES**

In order to strengthen the sport participation and continuation, coaches and physical educators should consider the interests and needs of persons when selecting recreational activities (Pate, Dowda, O’Neill, & Ward, 2007; McKenzie et al., 2004). Therefore, there are several factors that may influence the selection of specific sport activities. These factors include age, gender, societal and environment influences, and skill level (Eyler, Nanney, Brownson, Lohman, & Haire-Joshu, 2006; Hill & Cleven, 2005).

#### **5.3.1 Age**

Literature indicates that age may influence athletes’ choice of recreational activities. According to a study by Pate, et al. (2007) vigorous recreation activities among adolescent decline steadily from 14 years to 18 years old. This decline was explained by age-related decrease participation in team and individual sport. Furthermore, CDC (2004) and Kimm, Glynn, and Kriska (2002) demonstrated that sport participation levels decline with increasing age and tend to be lower in girls than boys. In the current study it was interesting to find that the majority of participants’ ages were above 18 years (70.6%). These findings are contrary to the findings in the general population where research has proved that individuals become less sport active as they grow older (Pate et al., 2007). Disabled children are overprotected by their parents this may lead to less development of self-confidence or sense of personal worth. Therefore, the disabled children engage in sport later than they should. This may be the reason why participants aged between 14-17 years old were only 29.4% in the present study. Consistency of the findings of the current study as well as that of King et al. (2003) found that older

children with disabilities had a high mean sport participation score than the younger group.

The results of the current study showed that participants aged 14-17 years were active in sit ball, sitting volleyball, table tennis, and volleyball. The study also found that these same people wish to participate in sitting volleyball, wheelchair basketball, tennis, and karate. However, participants aged 18-25 years old were active in sit ball, sitting volleyball, volleyball, and wheelchair basketball. They also wish to participate in sitting volleyball, wheelchair basketball, swimming, and table tennis. These findings show the similarities in active participation and similarities of wishes to participate of two different age groups. The conclusion is that the lack of sufficient variety of sport types leads the youth to have limited choice of sport selection and thus affects their sport preferences. The recommendation is that more funding is crucial towards the resources needed such as facilities and equipment that are necessary in order introduce more sport games.

### **5.3.2 Gender**

Gender may influence the athletes' choice of recreational activities as will be explained later in this section. In the present study only 27.5% were female participants. It is not clear whether this low representation of female participation in sports is a reflection of disabled females being few in actual population number. This reality was highlighted by Hovell, Sallis, Kolody, and McKenzie (1999) who mentioned that in all countries females are less likely than males to participate in sport and sport continues to be dominated by males. This may be

due to various factors such as socio-economic, cultural and lack of social support. Furthermore, Anderson, Wozencroft, and Bedini (2008) said that females with disabilities were historically disenfranchised from sport due to double whammy of being female and having disability. According to the study conducted by Vute and Urnaut (2009) Slovenian male physically disabled youth's preferences were oriented towards activities which required minimal physical effort and just a person or two to play the game. Contrary to these findings, results of the current study demonstrated that male youth's sport preferences were towards active sport dynamics which require sufficient physical effort such as: sit ball, sitting volleyball, volleyball, wheelchair basketball, and table tennis. Sit ball and sitting volleyball at the top of the participation list suggested that physically disabled male youth's preferences were oriented towards non-contact adapted sports played in teams and on the ground. The results of the current study also indicate that desirable sports for male youth with physical disabilities was oriented toward dynamic sports including sitting volleyball, wheelchair basketball, swimming, and karate.

In the survey conducted by Vute (1994) show that female adolescents put a noticeable emphasis on activities which gave them more opportunities for relaxation and enjoyment rather than competition such as boccia, table tennis, volleyball and nature trips. Moreover, the study by Vute and Urnaut (2009) shows that females Slovenian youth who are physically disabled were active in swimming, table tennis, horseback riding, luge, and chess. However, the findings of the present study showed that Rwandan female youth with physical disabilities give priority to active participation in sit ball, sitting volleyball, volleyball and

table tennis. The most desirable sports activities expressed by female youth were sitting volleyball, wheelchair basketball, dancing, table tennis, tennis and swimming. The females were significantly more likely interested in dancing and participated in sit ball than males; and males were significantly more likely participated in weightlifting and wheelchair basketball than females. This is agreed with Greenwood and Stillwell (2001) who said that males appear to conceptualise sports as providing opportunity for competitive experiences whereas females may focus more on the socialising nature of sport activities.

Due to the fact that Rwandan male and female youth with physical disabilities are both exposed to the same few disability sports codes, they tend to choose the same sports despite their gender difference. However, based on the findings of the current study, recreation activity or sport promoting programmes should acknowledge the fact that males and females engage in sport for different reasons. It would be beneficial for NPC Rwanda to plan different sport activities for males and females depending on the interests of each group seeing that they are interested in different types of sports.

### **5.3.3 Impairment**

In addition to the socio-demographic factors, the type of impairment may affect participation in sport activities. Furthermore, the types of disability was found to be the most consistent indicator of physical activity for youth with disabilities (Longmuir & Bar-Or, 2000). The results of the current study indicated that the majority of the participants (68.1%) were lower limb amputation and/or deformities. This may be due to civil war and genocide as indicated by Thomas

(2005) that over ten percent of the Rwandan disabled population has had one or more limbs removed either hacked off by machete or destroyed by mines, bombs and bullets. In the current study youth athletes with upper limb amputations and/or deformities were statistically significant more likely to participate in athletics than those with other types of physical disabilities. Those with lower limb amputations and/or deformities were statistically significant more likely participated in sit ball and sitting volleyball than those with other types of physical disabilities. This shows that people with upper limb amputation and/or deformities prefer sports which require the use of lower limb, whereas those with lower amputation and/or deformities prefer sports which require the use of upper limb while sitting. The impression is that the type of disability influences the choice of sport and also puts an emphasis on the need for sport classifiers in Rwanda to make sure that people choose the appropriate sport that will not cause too much strain of their physical condition.

#### **5.3.4 Mobility aids (Use and non-use)**

Aids to mobility include wheelchairs, crutches, walking frames and special boots. The battery powered wheelchair increases mobility and therefore increases independence for those who cannot physically manage a manual chair. The results of the current study indicated that majority of the participants (55.9%) were mobility aid users. Consistent with the current study's results Vute (1986) found that physically disabled adolescents who are mobility aid users had more positive attitude towards sport participation than the non-users.

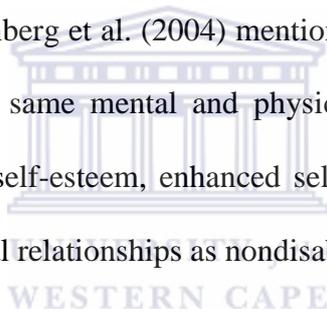
The current study showed that users of mobility aids were active in sit ball, sitting volleyball, wheelchair basketball, table tennis and weightlifting. Their wishes to participate were oriented towards reinforcement of the sports in which they were actively participating, such as sitting volleyball, wheelchair basketball, swimming and table tennis. The non-users of mobility aids were active mainly in sit ball, sitting volleyball, and volleyball. Their wishes to participate were towards sitting volleyball, swimming, wheelchair basketball, karate, and tennis. Furthermore, the statistical tests indicated that the non-users of mobility aids were significantly more likely to participate in volleyball, tennis, athletics, gymnastics, handball, karate, and basketball whereas the users of mobility aids were significantly more likely to participate in wheelchair basketball and weightlifting.

Contrary to the findings of the study conducted by Vute and Urnaut (2009), who found statistical significance in mobility aids usage in boccia, wheelchair basketball, wheelchair hockey, and tennis; the present study results display statistically significant differences in mobility aids usage in volleyball, wheelchair basketball, tennis, athletics, gymnastics, weightlifting, handball, karate and basketball. The difference in sport choice according to mobility aids usage and non-usage may be influenced by many factors such as the type of sports available to each group, and facilities availability as indicated in both researches which were conducted in different countries that have few things in common. The results of the current study highlight the impact of use or non-use of mobility aids in the choice and participation of sport. Based on the findings in this section, the use or non-use of mobility aids influences the choice of sport. The non-users of mobility

aids prefer the dynamic sports played in standing position whereas the mobility aids users prefer the sport played while sitting.

## **5.4 PSYCHOSOCIAL CONSTRUCTS OF SPORT PARTICIPATION**

The psychosocial benefit of sport participation is a subjective concept which is generally characterised by the presence of healthy characteristics such as self-esteem and ability to cope with sport demands (Harter, 1990). Therefore, psychosocial factors such as sport enjoyment, sport commitment, parental encouragement and support, and perceived physical ability were determined as factors that influence continuation in sport participation (Casper & Stellino, 2008). In addition, Greenberg et al. (2004) mentioned that people with disabilities typically experience the same mental and physical health benefits, enjoyment, opportunity to increase self-esteem, enhanced self-concept, and opportunities to build and engage in social relationships as nondisabled individuals.



### **5.4.1 Sport enjoyment**

Youth with physical disabilities participate in the sport that they enjoyed and perceived successful in performing (Heah, Case, McGuine, & Law, 2007). Huddleston, Mertesdorf, and Araki (2002) also highlighted that most of the highly scored reasons for participation in physical activity among the young adults, were having fun/enjoyment. Consistent with these sentiments athletes with physical disabilities in this study enjoyed their sport experiences. Among the athletes with physical disabilities, 87.3% reported liking playing sports, 93.1% enjoyed it, 85.3% had fun playing it, and 94.4% were happy to play it. These corresponds with the findings of the study conducted by Martin (2006) who reported that

youth athletes with physical disabilities were liking, enjoying and having fun and that they were determined to continue participating in sport in the future.

These results indicate the statistically significant difference in the mean sport enjoyment for youth aged 14-17 and 18-25 years. Thus, sport enjoyment varies according to age. The findings of this study also showed a statistically significant difference in the mean sport enjoyment among those who have less than 5 years' experience and those who have more than 5 years' experience, whereby increase of experience goes with increase of sport enjoyment. This corroborates with the findings of the study conducted by Yang, Leino, Telama, and Viikari (1999) who found that children who participate in regular physical activity often enjoy lots of positive experiences such as fun, enjoyment, and success and peer relationship. Hence participation in sport increases self-esteem, fun, and the more a person participates the more he/she enjoys it. Based on the results, it is recommended that disability sport promoters should encourage the youth to participate in sports from an early age in order to create for themselves enjoyment while still young which will ensure that they continue to participate even when they get older. This will give them a sense of worth, build their confidence and give them something worthwhile to do with their lives.

#### **5.4.2 Sport commitment**

Sport commitment reflects the desire to continue sport participation (Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993a). Children who possess an adequate sense of competence in their physical capabilities are likely to participate in sport and be committed (Brustad, 1996). The results of the current study indicated that

athletes with physical disabilities were committed to continue participating in sports. Furthermore, they have reported being proud to play, want to keep playing, being dedicated to playing, not willing to quit playing, they showed a lot of determination to keep playing. This may be due to the fact that disability sport is new in the country compared to sport of able bodied. Therefore, youth with disabilities use sports to express themselves physically, and as a way to socialise. Commitment to sport participation is determined by sport preference because when a person chooses a sport he/she likes, it becomes easier to be committed to it. Therefore sport promoters should emphasise the need to select a sport that the individual truly likes in order to encourage participation commitment.

#### **5.4.3 Parental encouragement**

Parental support is highly important to ensure success in children's participation in disability sports as parents can influence not only participation, but also competence, motivation and satisfaction levels (Martin, 2006; Kristen et al., 2003). Law et al. (2004) found that greater social support from friends, parents, and teachers enhanced participation by affecting youth's sport preferences. A study by Martin (2006) examined the psychosocial aspects of participation in youth disability sport using social-cognitive theory and the sport commitment mode, and found that youth athletes with physical disabilities perceived their parents as being very supportive of their participation in sport. However, these findings are contrary to the results of the current study. The youth athletes with physical disabilities reported low levels of parental encouragement and support in their sport participation. This discrepancy of findings may be due to a big number of orphans left after years of war and civil unrest period in Rwanda, and the

overprotective culture of parents over their children with disabilities. The results also indicated that parental encouragement did not vary according to the socio-demographic characteristics. Thus, it is discouraging to find that youth with physical disabilities reported low levels of parental encouragement in their sport participation. The consequences of the latter participation in sport is that many youths and children will not participate in sports, therefore sport promoters should try by all means to create awareness and encourage these parents to support their children and encourage them to partake in sports.

#### **5.4.4 Perceived physical ability**

Many sport and exercise scientists have indicated that a critical psychological and achievement based determinant of sport participation is athletes' perceived competence (Marsh, 1987; Harter, 1982). Children who have doubts about their physical ability tend to have weaker participation motivation. In short, belief in one's physical capabilities is a primary achievement based determinant of motivated physical activity behaviour (Brustad, 1996). The results of the present study demonstrate the strong feelings of the athletes with physical disabilities about their physical abilities. This may lead to the continuation in sport participation. Given the fact that every year there is a championship of sit ball and sitting volleyball organized by NPC Rwanda, the youth with physical disabilities in registered clubs play competitive matches and get the opportunity to test their physical ability levels. The results indicate the statistically significant difference in the mean perceived physical ability for males and females, and for those with less than 5 years' experience as well as that of those with more than 5 years of experience among young athletes with physical disabilities. Martin (2006) has

recognised that sport has historically been viewed as a male domain. As a result of this belief, males are perceived as being more able to play sport. The implications of participating in sports for a long time is that it increases a person's physical strength and allows him or her to gain more confidence in his or her physical abilities.

## **5.5 CHALLENGES TO SPORT PREFERENCES**

According to Nahas, Goldfine, and Mitchell (2003), several investigations have reported that a person's perceived challenges to sport are an important determinant of how active he or she becomes. Therefore, various investigations have identified challenges regarding sport engagement that can be used to assist in designing strategies that promote increase of access to opportunities and environments that promote active lifestyles for the youth with disabilities (Pivik, McComas, & LaFlamme, 2002). The latter is important because challenges are thought to undermine the choice of sport and maintenance of active lifestyle. The challenges experienced by Rwandan youth with physical disabilities with regards to choosing a sport were explored in the present study and will be discussed under the subthemes below emerged from the qualitative phase of this study.

### **5.5.1 Types and availability of disability sports**

The spectrum of sport availability influences the choice of sport. The spectrum of sports for the Rwandan physically disabled population is composed of athletics, boccia, sit ball, sitting volleyball, basketball, swimming, wheelchair basketball, volleyball, cycling, weightlifting, table tennis, and tennis (Thomas, 2005). Furthermore, availability of sport infrastructure, regardless of individual socio-

economic conditions influences patterns of sport activity (Wicker, Breuer, & Pawlowski, 2009). The results of the current study revealed that sport availability influences either negatively or positively the choice of sports. On one hand, youth with physical disabilities choose among the sports exposed to them. On the other hand, the limited number of sports available influences the youth to play a sport which might not necessarily be of their primary choice. The findings of the present study with respect to sport availability, suggest that the lack of sufficient resources/facilities is one of the main challenges of sport implementation, “*NPC does not have enough technicians and facilities to facilitate and implement various sports*”. This is due to very little funds being allocated to sports for those with disabilities. As a result of the latter, NPC has opted to focusing on developing the few existing sports in the country such as sit ball and sitting ball. Therefore it is recommended that NPC should collaborate with its partners such as the private sector, and other stakeholders to invest in disability sports. In their collaboration they need to highlight the importance of sports for physically disabled youth and the need for inclusion of more types of sports.

## **5.5.2 Influences of sport preferences**

### **Barriers to sport preferences**

Persons with disabilities have difficulty accessing opportunities in sport and recreation programmes (DePauw & Gavron, 1995). Furthermore, various researchers such as Promis et al. (2001) and Rimmer et al. (2004) reported that physical accessibility is all encompassing of accessibility. A critical review by Mihaylov, Jarvis, Colver, and Beresford (2004) found that mobility of people with

disabilities was impeded by uneven surfaces or steps, inappropriate footwear, pressure of time, difficulties with physical access and the dependence on assistance. Consistent with these sentiments, the current study revealed that the most important barriers the participants reported were physical accessibility which include lack of access to facilities in terms of “*distance to the field*” and infrastructure (“*buildings*”) which cannot be accessed by persons with disabilities, especially mobility aids users and were not designed for disability sports (e.g. uneven playground). Changes to improve accessibility to buildings for the physically disabled people are currently underway in Rwanda, hence these barriers could hopefully be addressed in the near future.

Transport is also frequently referred to as the barriers to accessibility. Torkildsen (1986) reported that physical accessibility including the mode of transport, travelling distance, location and distribution of facilities, influence the choice recreational activity. Thus, the availability and method of transport could affect recreational participation positively or negatively. A lack of transport often prevents people with disabilities from enjoying the benefits of recreation (Gibson, Macintyre, Wood, Kemp, & Pearson, 1997). Furthermore, Gibson et al. (1997) reported that the travelling distance involved in transporting disabled people to and from a facility can be problematic. Concurrence with the findings of the present study showed that youth with physical disabilities face various transport problems which affect their sport preferences. This may be due to the scattered housing in rural areas in Rwanda which increases the number of people who live far from the sport fields and sometimes the fields are situated on the mountainous

parts, therefore transport for going to and from the playing fields become one of the most challenging barriers for the youth with physical disabilities.

Participants in this study expressed concerns over the surrounding environment which does not facilitate their choice of recreational sport. This is similar to what was reported by WHO (2005) which highlighted that in most developing countries there are minimal resources, and sporting facilities are not prioritized. Even where there is political will there are minimal resources. The participants of the current study also revealed that the resources availability influence their sport preferences, this can be seen as one of the challenges to sport preference because *“people choose a sports based on its availability, facilities, and equipment”* and not because they like it.

Participants in this study also raised the issue of lack of resources as one of the barriers of implementation of many sports types. Since there are no community centres and fields around the communities, it is a challenge to implement sports which require adapted facilities. These findings are similar to that of Douglas et al. (2006) which reported lack of resources as one of the barriers to that hinders promotion of sport activity, particularly for those with disabilities. Furthermore, Gallardo, Burillo, Garcí'a-Tasco'n, and Salinero (2009) said that in most of the developing countries there is a lack of infrastructure in the peripheral and urban communities that becomes a barrier to sport participation by limiting access to the facilities and hinder proper implementation of many sport codes for those with disabilities.

The quantitative results of the current study show a low level of parental encouragement and support in sport participation. Family members, colleagues and friends can be either a negative or positive influence in sport preference as well as in other physical activities. This was supported by Katzmarzyk et al. (2007) who said that colleagues, friends or family members who do not want to take part in sport activity are obvious barriers to sport participation. Otherwise those who participate in recreation sport would support and encourage others to participate as well. According to Tergerson and King (2002), the peer motivation was a key factor contributing to choice of recreational activity among various populaces. Even in the current study, colleagues and friends were revealed to be the most influential factors in sport preferences, as many young people tend to choose a sport that is being played their friends. This is supported by Neumayer, Smith, and Lundergren (1993) who found that individuals with disabilities often prefer to participate in sport which other individuals with disabilities are played.

It has been noted in a study by Kennedy, Austin, and Smith (1987) that the lack of financial accessibility of persons with disabilities often prevents them from experiencing the benefits of recreation. Consistency in the findings of this study revealed that budgetary restraints are particularly a problem with regard to implementation of many sport codes because it affects the purchase or building of facilities in the Rwanda. Therefore, youth with physical disabilities choose the sport which has more facilities even if they do not like it. The cost of facilities, including facility equipment, was mentioned as another barrier. With respect to equipment, results indicated that the high cost of adaptive equipment makes its availability limited. This was supported by Rimmer et al. (2004) who found that

the adapted equipment for recreation was quite costly resulting in its unavailability to the participants.

Therefore, overall, despite shortage of literature on research done in Africa (see Chapter Two), this study is consistent with other research findings outside Africa that found that barriers to sport preferences are found in many contexts and are of diverse forms. As in those other research studies, the results of the present study found that barriers emanate from the physical (lack of transport to exercise spaces, uneven play grounds, lack of suitable facilities and lack of equipment), to social factors such as lack of parental support and peer models and financial.

### **Motivation for sport preferences**

Sport preferences are believed to be mediated by certain aspects of the individual's predisposition, social skill, and structural abilities, which are integrated to facilitate the individual's interaction with the environment (physical or social), the outcome of which is regarded to be successful if properly executed by the doer.

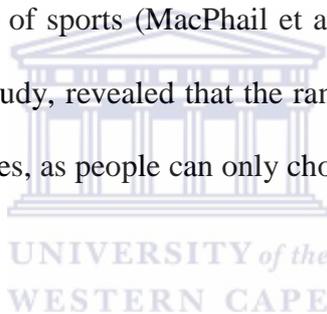
Many successful actions for everyday life are thought to be motivated by internal or external factors that the young athlete has power over, or can voluntary control, even though these factors may be present in the social or physical environments. Manipulation of available factors could result in higher outcomes of everyday activities. Although theorized, knowledge of factors that could be manipulated to facilitate or promote active lifestyle is worthwhile.

Self-efficacy/confidence refers to beliefs in one's capabilities to organize and execute the courses of action required for producing given levels of achievements (Ajzen, 2002). This deals with the ease or difficulty of performing an activity and may reflect existing internal and external factors (Ajzen, 2002). In the current study, it was found that the young athletes with physical disabilities preferred sports that they felt "*perceived able to handle*". This shows that self-efficacy is the most important facilitator for the youth with physical disabilities in the choice of sport. This study found that youth with physical disabilities enjoy sport and sometimes choose the sport that is played by most of their friends. This is similar to the findings of King et al. (2006) and MacPhail et al. (2003) that children with disabilities like to participate and enjoy activities in the company of friends.

Youth with physical disabilities participate in sports to get emotional and social benefits, such as making new friends and learning in order to achieve improvement in the functional impairment (strengthening), improvement of body perception (becoming someone), and to have fun (Kristen, Patriksson, & Frilund, 2002). A qualitative study by Taub and Greer (2000) showed that children with physical disabilities perceive physical activity as the context for demonstrating their competence in activities that other children without disabilities take part in. Consistent with these findings it was found that the most important psychosocial facilitator for adolescents with physical disabilities reported were: 85.3% having fun, 93.1% enjoy playing, being proud to tell the others that they play sport 91.7%. Similar to the findings of the present study, Hemminsson, Borell, and Gustavsson (2003) also found that youth perceive that sport participation provides them the opportunity to create friends. The present study also found that young

athletes with physical disabilities choose sport that will enable them to take part in international competitions.

Law et al. (2004) found that supportive environments (i.e. environments that are accessible, accommodating, socially supportive, non-discriminatory, and resource ready) influenced sport participation through their effects on youth's functional ability. Consistent with these findings in the present study found that accessibility of facilities play an important role in the choice of sport as the young athletes with physical disabilities tend to choose a sport based on the available equipment and facilities. Furthermore, young athletes with disabilities want to have more time for sport and wide spectrum of sports (MacPhail et al., 2003). Consistent with these findings in the present study, revealed that the range of sports availability has an impact in sport preferences, as people can only choose from the sports available to them.



Therefore, based on the findings of this study and also as it is evident in other studies used in this research, challenging to exercise are determining factors of participation in sport among youth with disabilities.

### **5.5.3 Classification**

The IPC has developed a method used to create and administrate equitable competition (Lauff, 2007). Furthermore, Sherril (1999) suggested that the basic goal of classification must be to ensure that winning or losing an event depends on talent, training, skill, fitness, and motivation rather than unevenness among competitors on disability related variables. However, the current study found that there is not even one classifier in the whole country (Rwanda). This influences the

people with disabilities negatively when choosing a sport because they do so without first undergoing proper procedures that would allow them to choose the appropriate sport taking into consideration their disability. Thus, many disabled youth in Rwanda choose a sport for the sake of playing and their talent remain undeveloped accordingly. This implication hinders many Rwandan disabled youth from taking part in international competitions. Disability sport has only been introduced in Rwanda after 1994 civil war and genocide and NPC Rwanda was only established in 2001 (Bizimana, 2008). It is for this reason that there is a lack of classifiers in Rwanda. The NPC's priority has been on creating awareness of disability sport and thus has not resolved the issue of classifiers. Therefore, NPC Rwanda should try to at least make a few classifiers available in the country in order to address this problem gradually.

## **5.6 SUMMARY OF THE CHAPTER**

This chapter discussed the main findings of the study in accordance with the objectives. The discussion further involved comparing results of the current study with other relevant studies. The main findings of the study is that youth with physical disabilities were active in sit ball, sitting volleyball, volleyball, table tennis, and wheelchair basketball. This study revealed that youth with physical disabilities enjoyed sport, were committed to continue playing, and had a perception of physical ability. However, the study also revealed that Rwandan youth with physical disabilities were less encouraged and supported by their parents. The findings also revealed that a person's choice of sport can be influenced by various factors such as age, gender, type of impairment, and the use or non-use of mobility aids. Finally the study revealed that young athletes with

physical disabilities face various forms of challenges with regard to sport preferences such as lack of facilities and accessibility to mention but a few.



## CHAPTER SIX

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### 6.1 INTRODUCTION

This chapter emphasizes the key findings of the present study. The important findings of this study are outlined. The summary and conclusions as well as the recommendation are also highlighted.

#### 6.2 SUMMARY

The purpose of the current study was to determine the factors associated with sport preferences among youth with physical disabilities in Rwanda. A sequential explanatory method was used. In the quantitative phase, two hundred and four (204) young athletes with physical disabilities of whom 72.5% were males, voluntarily participated in this study. Self-administered questionnaires were used to collect the data, this phase of study specifically investigated the demographic characteristics, sports played in Rwanda, and psychosocial constructs of sport such as sport enjoyment, sport commitment, parental encouragement and perceived physical ability.

The quantitative results indicated that the mean age of the population was 19.78 years (SD=3.452). As a corroboration to this study, the findings of 2002 national census found a high prevalence of impairment among lower limb amputations and/or deformities. The results indicated that the main sport played by youth with physical disabilities were sit ball, sitting volleyball, volleyball, table tennis, and wheelchair basketball. Furthermore, in this study findings show that young athletes with physical disabilities were committed to and enjoyed their sport

experience and they have strong feelings about their physical abilities. Discouragingly, the findings of the present study revealed that the youth with physical disabilities were not receiving enough support and encouragement from their parents with regards to sports.

The findings of this study revealed that there are several factors that influence the young athlete's selection of sport. These factors include age, gender, use or non-use of mobility aids, type of mobility impairment, and socio-environmental factors (e.g. sport available, availability of equipment and access to the facilities, sport awareness, perception of ability, etc.).

Using semi-structured interviews, the study also explored the challenges experienced by youth with physical disabilities with regard to sport preferences. In this phase of the study, interviews were conducted on four (4) NPC staff members of whom three (3) males participated.

In the qualitative results, NPC staff members revealed that there is a problem of limited sports codes availability; lack of access to the sport facilities in term of distance to the fields, equipment and infrastructures (buildings); and limited resources and facilities were among the major barriers that affect sport preferences. Additionally, the participants of the present study reported socio-environmental barriers comprising of lack of access to the facilities, lack of social support, lack of transport to attend and organize many sports tournaments.

Despite the barriers to sport preferences, the findings of this study were able to reveal that there are factors which motivate sport preferences. These include

sports availability, perception of physical ability, sport awareness, availability of equipment and facilities, and creation of friendship.

### **6.3 CONCLUSION**

The aim of this descriptive study to determine the factors associated with sport preferences among Rwandan youth with physical disabilities was successfully achieved. It demonstrated that age, gender, type of mobility impairment, use or non-use of mobility aids and socio-environmental factors influence the choice of recreational activity. The consideration of the factors influencing sport preferences could contribute to disability sports promotion and health education needs for youth with physical disabilities. The study findings also demonstrated that youth with physical disabilities enjoyed, and were able and determined to take part in sports. However, the youth with physical disabilities were faced with a challenge of playing the sports they do not like because of the limitation on their choice, limited equipment and facilities which impede heavily on their sport preferences.

### **6.4 LIMITATION OF THE STUDY**

A bias may have occurred on scales of psychosocial constructs since it was a self-report and some participants may have lied about their psychosocial constructs of sport.

The findings cannot be generalised to all youth with physical disabilities because this study was only focused on those who were the members of the clubs registered with NPC.

## 6.5 RECOMMENDATIONS

The following recommendations are offered, based on the results of the study:

1. While Rwandan government is attempting to increase participation in sport, more effective national and local policies are needed to reduce inequalities in sport. These efforts are particularly important when it comes to vulnerable populations like persons with disabilities. Policies and investments to harness sports' potential to benefit vulnerable children and youth are desirable.
2. The right of children and youth to choose sport called for the Rwandan government to ensure children's enjoyment of all human rights and fundamental freedoms through the Ministry of Youth, Culture and Sport, multilateral agencies, civil society, the private sector and the media. These rights should articulate the need for various sports types, equal access to recreational services, and accessibility to sport facilities in communities.
3. Communities need to strongly support recreational activity for children and youth, especially the vulnerable group. By providing a barrier-free environment in the community for children with disabilities, they will be able to access and enjoy sport programmes.
4. The Ministry of Youth, Culture and Sport needs to work with its partners to ensure that all communities have sport infrastructures that encourage recreational activities for all.

5. The continuation in sport participation goes with the aspect of the person's choice. It is in this regard that the Ministry of Youth, Culture and Sport in collaboration with NPC should widen the number of sports and find experts in disability sport classification to promote participation.
6. The Rwandan government through various ministries and sectors should increase the awareness of people with disability with regard to the benefit of sport, especially for the children with disabilities.

This final chapter summarized, and outlined the relevant points of the current study. It made recommendations for desirable future actions that could lead to better development of disability sport promotion programmes.



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## **APPENDICES**



UNIVERSITY *of the*  
WESTERN CAPE

## APPENDIX A

### QUESTIONNAIRE

Dear participant,

I am gathering information about the sport of youth with physical disabilities in Rwanda. This research is conducted as part of my Master of Science studies at the University of the Western Cape; South Africa. Your club has been selected to participate in this study, and I would like to ask you some questions about sport preferences.

You do not have to answer any question you do not want to. Any information you give me will be confidential. If you have any questions, please ask. Use the phone number provided.

*Instructions: Mark X in the circle or write in space provided*

#### Section I. Demographic data

1. What is your age? .....years
2. What is your gender? Male  Female
3. What physical impairment do you have? Please write.....  
(Example: *paralysis of both legs after polio or spinal cord injury after road traffic accident*).
4. Do you use mobility aids, such as a cane, crutches or a wheelchair? Yes  No
5. What is your level of education? .....
6. What is your club called? .....
7. When did you start playing in your club? .....

#### Section II. Sport preferences data

**Instruction:** Please tick in one of the three columns next to each sport based on your interest.

SPORTS	Sport active	Wish to participate	No interest
Archery			
Athletics			
Badminton			
Basketball			
Boccia			
Bowling			
Boxing			
Chess			
Cycling			
Dancing			
Darts			

Gymnastics			
Handball			
Hockey			
Judo			
Karate			
Motor sport			
Orienteering			
Rhythmic gymnastics			
Roller skating			
Sitting soccer			
Sitting volleyball			
Soccer			
Swimming			
Table tennis			
Tennis			
Volleyball			
Weightlifting			
Wheelchair basketball			
Wheelchair hockey			
Wrestling			

### Section III. Psychosocial constructs of sport

**Instruction:** Please encircle the number in the box on one of the responses given, which reflects your opinion on the following statements.

#### a) SPORT ENJOYMENT

Not at all	Less	Neutral	Much	Very much
1	2	3	4	5

1. I enjoy playing in disability sport this season

1	2	3	4	5
---	---	---	---	---

2. I am happy playing disability sport this season

1	2	3	4	5
---	---	---	---	---

3. I have fun playing in disability sport this season

1	2	3	4	5
---	---	---	---	---

4. I like playing disability sport this season

1	2	3	4	5
---	---	---	---	---

**b) SPORT COMMITMENT**

<b>Not proud</b>	<b>Less proud</b>	<b>Neutral</b>	<b>Proud</b>	<b>Very proud</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

1. I am proud to tell other people that I play disability sport

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

2. I want to keep playing disability sport

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

3. I am dedicated to play disability sport

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

4. I would like to do things to keep playing disability sport

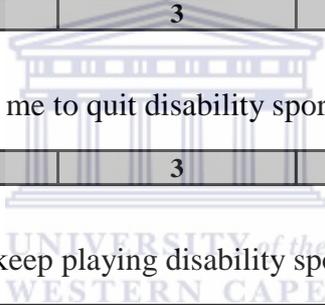
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

5. It would be hard for me to quit disability sport

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

6. I am determined to keep playing disability sport

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------



c) PARENTAL ENCOURAGEMENT

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	2	3	4	5

1. My parents practice sport skills with me a lot

1	2	3	4	5
---	---	---	---	---

2. My parents tell me that I am good at sports

1	2	3	4	5
---	---	---	---	---

3. My parents encourage me to play sports

1	2	3	4	5
---	---	---	---	---

4. My parents play sport with me

1	2	3	4	5
---	---	---	---	---

5. My parents give me equipment to play sports

1	2	3	4	5
---	---	---	---	---

6. My parents really help me to be good at sports

1	2	3	4	5
---	---	---	---	---

7. My parents give me financial support for my sport participation

1	2	3	4	5
---	---	---	---	---

8. My parents take me to the venues of my sporting courses

1	2	3	4	5
---	---	---	---	---

**d) PERCEIVED PHYSICAL ABILITY**

<b>No always</b>	<b>No sometimes</b>	<b>Neutral</b>	<b>Yes sometimes</b>	<b>Yes always</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

1. I am a physically strong person

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

2. My body is flexible

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

3. I am good at coordinated movements

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

4. I have good sports skills

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

5. I feel good about who I am and what I can do physically

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

6. I do sports almost every day

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

7. I am good at endurance activities

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
----------	----------	----------	----------	----------

## APPENDIX B

### Urupapuro rw'ibibazo

Muvandimwe

Ndimu gukora ubushakashatsi ku mikino y'abamugaye mu Rwanda. Ubu bushakashatsi ni kimwe mu bisabwa mu masomo ndimo kwiga kuri University ya Western Cape, muri Afurika y'epfo. Ikiye yanyu ni imwe muzikorerwaho ubu bushakashatsi, nkaba rero nifuzaga kukubaza ibibazo bimwe nabimwe byerekeranye n'umukino/imikino ukina.

Ntabwo uhatiwe gusubiza ibibazo udashaka, kandi nanone ibisubizo byose utanze ni ingirakamaro kuri nje. Nongere kukwibutsa ko ibisubizo byawe byose bizagirwa ibanga. Uramutse ufite icyo udasobanukiye ushobora kumbaza ukoresheje imirongo ya telefoni yatanzwe.

**Amabwiriza:** Subiza mu mwanya wabigenewe cyangwa ushyire X mu kaziga kabigenewe

#### Igice cya I. Irangamimerere

8. Ufite imyaka ingaha? .....
9. Igitsina: Gabo  Gore
10. Ni ubuhe bumuga ufite? .....  
(Urugero: *Ubumuga bw'ama-guru yombi bitewe n'imbasa, gucika umugongo biturutse ku mpanuka yo mu muhandu* .....
11. Waba ukoresha inyunganirangingo nk'imbago, inkoni, akagare icyo uri kugenda?  
Yego  Oya
12. Wize amashuri angaha? .....
13. Ukina mu yihe kipe/club? .....
14. Watangiye kuyikinamo ryari? .....

#### Igice cya II. Ibyerekeranye n'imikino ukina

**Amabwiriza:** Shyira akamenyetso X mu kazu gahuye n'uguhitamo kwawe kuri buri mukino

IMIKINO	Umukino ukina	Umukino wifuza gukina	Umukino utifuza gukina
Archery			
Athletics			
Badminton			
Basketball			
Boccia			
Bowling			

Boxing			
Chess			
Cycling			
Dancing			
Darts			
Gymnastics			
Handball			
Hockey			
Judo			
Karate			
Motor sport			
Orienteering			
Rhythmic gymnastics			
Roller skating			
Sitting soccer			
Sitting volleyball			
Soccer			
Swimming			
Table tennis			
Tennis			
Volleyball			
Weightlifting			
Wheelchair basketball			
Wheelchair hockey			
Wrestling			

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### Igice cya III. Ibyerekeranye ni imikino

**Amabwiriza:** Shyira akamenyetso X ku gisubizo kimwe mu byatanzwe ku bibazo bikurikira.

#### a) Gukunda umukino

Ntabwo nyikunze na gato	Buhoro	Ndifashe	Cyane	Birarenze
1	2	3	4	5

1. Ni kukigero kingana gute wumva ukunze gukina umukino ukina muri iki gihe?

1	2	3	4	5
---	---	---	---	---

2. Ni kukigero kingana gute wishimiye gukina umukino ukina muri iki gihe?

1	2	3	4	5
---	---	---	---	---

3. Ni kukigero kingana gute ushimisha abakureba (abafana) muri iki gihe?

1	2	3	4	5
---	---	---	---	---

4. Ni kukigero kingana gute wakunze gukina umukino ukina?

1	2	3	4	5
---	---	---	---	---

**b) Kwitangira umukino**

Nta na gato	Buhoro	Ndifashe	Cyane	Birarenze
1	2	3	4	5

1. Bigutera ishema ringana gute kubwira abandi umukino ukina?

1	2	3	4	5
---	---	---	---	---

2. Ni ku kihe kigero wifuza gukomeza gukina umukino usanzwe ukina?

1	2	3	4	5
---	---	---	---	---

3. Ni ku kihe kigero wumva wakina umukino ukina?

1	2	3	4	5
---	---	---	---	---

4. Wumva wifuza iki kugira ngo ukomeze gukina umukino ukina?

1	2	3	4	5
---	---	---	---	---

5. Wumva byagukomerera bingana gute kugira ngo uhagarike umukino usanzwe ukina?

1	2	3	4	5
---	---	---	---	---

6. Wumva wiyemeje ku kigero kingana gute gukomeza gukina umukino usanzwe ukina?

1	2	3	4	5
---	---	---	---	---

**C) Gushyigikirwa n’ababyeyi/Uruhare rw’ababyeyi**

Simbyemera na gato	Simbyemera	Ndifashe	Ndabyemera	Birarenze
1	2	3	4	5

1. Wemera kurugero rungana rute ko ababyeyi bawe bagufasha bihagije kwimenyereza no gushyira mu bikorwa ubumenyi ngiro bwa ngombwa mu gukina umukino ukina?

1	2	3	4	5
---	---	---	---	---

2. Ababyeyi banjye bambwirako nshoboye imikino

1	2	3	4	5
---	---	---	---	---

3. Ababyeyi banjye banshishikariza kwitabira/gukina imikino

1	2	3	4	5
---	---	---	---	---

4. Nkinana n’ababyeyi banjye/Nkorana sport n’ababyeyi banjye

1	2	3	4	5
---	---	---	---	---

5. Ababyeyi banjye bampa ibikoresho bya ngombwa ngo nitabire gukina imikino

1	2	3	4	5
---	---	---	---	---

6. Mu byukuri ababyeyi banjye baramfasha kugira ngo nshobore gukina neza imikino

1	2	3	4	5
---	---	---	---	---

7. Ababyeyi banjye baramfasha ku buryo bw’amafaranga kugirango nitabire imikino

1	2	3	4	5
---	---	---	---	---

8. Ababyeyi banjye banjyana ahatangirwa amahugurwa y’umukino nkina

1	2	3	4	5
---	---	---	---	---

c) Kumva ushoboye imikino

Nta na rimwe	Rimwe na rimwe	Ndifashe	Inshuro nyinshi	Buri gihe
1	2	3	4	5

1. Mfite imbaraga z'umubiri zihagije

1	2	3	4	5
---	---	---	---	---

2. Umubiri wanjye uragorotse/urarambuye/uranoze

1	2	3	4	5
---	---	---	---	---

3. Nshoboye gukoresha ingingo zanjye neza bitewe nicyo nshaka gukora

1	2	3	4	5
---	---	---	---	---

4. Mfite ubumenyi-ngiro buhagije mu mikino

1	2	3	4	5
---	---	---	---	---

5. Numva meze neza, uko meze no mu byo nshoboye gukoresha imbaraga zanjye.

1	2	3	4	5
---	---	---	---	---

6. Nkora sport buri muni

1	2	3	4	5
---	---	---	---	---

7. Nshoboye imikino imara igihe kirekire

1	2	3	4	5
---	---	---	---	---

## APPENDIX C

### SEMI-STRUCTURED INTERVIEW GUIDE

1. What are the main sports played by youth with physical disabilities in Rwanda?  
Why are they the most preferable sports?
2. What do you think about available sporting types?
3. What do you think about sport preferences among youth with physical disabilities?
4. What do you consider as challenges (facilitators & barriers) of sport preferences among youth with physical disabilities?
5. What do you say about classification in disability sport?



## APPENDIX D

**OFFICE OF THE DEAN  
DEPARTMENT OF RESEARCH  
DEVELOPMENT**

Private Bag X17, Bellville 7535  
South Africa  
Telegraph: UNIBELL  
Telephone: +27 21 959-2948/2949  
Fax: +27 21 959-3170  
Website: www.uwc.ac.za

27 October 2010

**To Whom It May Concern**

I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and the ethics of the following research project by:  
Mr. P Barayagwiza (Physiotherapy)

Research Project: Factors related to sport preferences among youth  
with physical disabilities in Rwanda

Registration no: 10/9/23

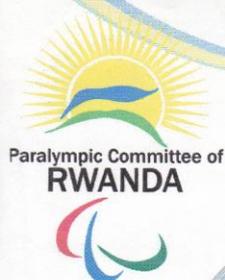
  
*Peter Syster*  
Manager: Research Development Office  
University of the Western Cape



**UNIVERSITY of the  
WESTERN CAPE**

A place of quality, a place to grow, from hope to action through knowledge

## APPENDIX E



Paralympic Committee of  
**RWANDA**

# NPC-RWANDA

NATIONAL PARALYMPIC COMMITTEE OF RWANDA  
KOMITE Y'IGIHUGU Y'IMIKINO Y'ABAMUGAYE MU RWANDA

Kigali, 23<sup>rd</sup> November, 2010

**Ref: 078/TH/NC/010**

**Pierre Barayagwiza**

**Re: Request to conduct a research study**

Dear Mr. Barayagwiza,

Refereed to your letter dated on 15<sup>th</sup> November 2010 requesting the permission to conduct a research study, NPC Rwanda is very happy to inform you that we positively accepted your request. In addition we would like to thank you on your decision of writing your Master Degree about people with physical disability and sports in Rwanda.

You are welcome in National Paralympic Committee of Rwanda.

Regards

**Dominique Bizimana**  
President



OUR MISSION IS TO USE SPORT AS A TOOL OF SOCIAL INTEGRATION FOR PEOPLE WITH A DISABILITY IN RWANDA AS WELL AS SPORT FOR COMPETITION. AMAHORO STADIUM OF REMERA : ENTRANCE No 7.

EMAIL : [info@npcrwanda.com](mailto:info@npcrwanda.com) / [sporthand@yahoo.fr](mailto:sporthand@yahoo.fr) , Tel : +250-078-8618220/president ,  
Tel : +250- 078-8672739/Secretary General. [WWW.NPCRWANDA.COM](http://WWW.NPCRWANDA.COM)

## APPENDIX F



# UNIVERSITY OF THE WESTERN CAPE

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*Tel: +27 21-9592524, Fax: 27 21-9591217*

E-mail: [mwarner@uwc.ac.za](mailto:mwarner@uwc.ac.za)

## INFORMATION SHEET

### **Project Title: FACTORS RELATED TO SPORT PREFERENCES AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA**

This is a research project being conducted by Pierre BARAYAGWIZA at the University of the Western Cape. We are inviting you to participate in this research project because you are a youth with physical disability, and you practice a disability sport in one of the NPC's registered club in which this research is taking place. The purpose of this research project is to determine the factors associated with sport preference among youth with physical disabilities in Rwanda.

You will be asked to complete the questionnaire gathering information about the sport of youth with physical disabilities. The questionnaire consists of three sections: section one consists of socio-demographic information such as gender, age, education level type of disability and use of mobility aids, section two consists of sport preferences and section three consists of factors which could be related to sport preferences such as sport enjoyment, parental encouragement and physical ability. For any difficulty which will arise when completing the questionnaire, the researcher will be available and ready to provide necessary information.

We will do our best to keep your personal information confidential. To help protect your confidentiality, you will not be requested to write down your name on the questionnaire. Identification codes using numbers will be used on data form to ensure anonymity and the researcher will collect the questionnaires personally and will be responsible of ensuring their storage in a locked and secure place.

If I write a report or article about this research project, your identity will be protected to the maximum extent.

In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning neglect of persons with disabilities.

There are no known risks associated with participating in this research project. However if you experience the traumatic problems, you will be referred to a counsellor for management.

This research is not designed to help you personally, but the results may help the investigator learn more about disability sport. We hope that, in the future, other people might benefit from this study through improved understanding of aspects that should be included in disability sport promotion and widen the spectrum of sport opportunities for people with disabilities.

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

This research is being conducted by *Pierre Barayagwiza* a student in Physiotherapy department at the University of the Western Cape. If you have any questions about the research study itself, please contact Pierre Barayagwiza at: +27730032857 or +250784889955 and [baray21@yahoo.fr](mailto:baray21@yahoo.fr) or [barapier@gmail.com](mailto:barapier@gmail.com)

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Head of Department: Prof. Julie PHILLIPS

Dean of the Faculty of Community and Health Sciences: Prof. Ratie MPUFU

University of the Western Cape

Private Bag X17

Bellville 7535

This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.



## APPENDIX G

# UNIVERSITY OF THE WESTERN CAPE

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Tel: +27 21-9592524, Fax: 27 21-9591217

E-mail: mwarner@uwc.ac.za

## **IBISOBANURIRWA UGIRA URUHARE MU BUSHAKASHATSI**

### **Ubushakashatsi: FACTORS RELATED TO SPORT PREFERENCES AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA**

Ubu bushakashatsi burimo gukorwa na Pierre Barayagwiza, umunyeshuri wiga muri kaminuza ya Western Cape, muri Afurika y'epfo. Murasabwa kugira uruhare muri ubu bushakashatsi kubera ko mwujye ibisabwa nabwo, nk'umuntu umugaye ingingo kandi ukina imwe mu mikino y'abamugaye mu ikipe imwe mu zemewe na komite y'imikino y'abamugaye (NPC) mu Rwanda. Intego y'ubu bushakashatsi ni ukumenya ibigenderwaho mu guhitamo umukino mu rubyiruko rumugaye ingingo mu Rwanda.

Urasabwa gusubiza urutonde rw'ibibazo uzahabwa kubyerekeranye ni imikino y'abamugaye. Ibyo bibazo birimo ibice bitatu, icya mbere kirebana ni umwirondora, icya kabiri kigizwe ni ibibazo byerekeranye no guhitamo umukino, icya gatatu kigizwe n'ibibazo ku bigenderwaho mu guhitamo umukino.

Tuzakora ibishoboka byose mu kukugirira ibanga. Kugirango tukumare impungenge, ntabwo uzasabwa kwandika izina ryawe ku rutonde rw'ibibazo n'ibisubizo. Mukukwizeza ibanga, ntamazina azakoreshwa, buri muntu azaba afite "code" ye. Hagize inyandiko yandikwa kuri ubu bushakashatsi, uzagirirwa ibanga rikomeye kubyo uzaba washubije.

Nta ngaruka n'imwe izwi wagirira muri ubu bushakashatsi.

Nta nyungu y'amafaranga uzabona muri ubu bushakashatsi, ahubwo ibizavamo bizafasha ukora ubushakashatsi kongera ubumenyi ku mikino y'abamugaye ingingo. Twizeye kandi ko mu gihe kizaza abandi bantu bazagira inyungu kuri ubu bushakashatsi hashingiwe mu kumva neza ibyagenderwaho mu guteza imbere no kongera umubare w'imikino y'abamugaye.

Kwemera kugira uruhare muri ubu bushakashatsi ni ubushake bwawe busesuye. Ushobora kwemera cyangwa kutemera kubugiramo uruhare. Wemerewe kwivana muri ubu bushakashatsi igihe cyose ubishatse nta nkurikizi, ntuzabihanirwa cyangwa ngo utakaze inyungu iyo ariyo yose wakagombye kubona.

Ubu bushakashatsi burimo gukorwa na Pierre Barayagwiza, umunyeshuri wiga muri kaminuza ya Western Cape, muri Afurika y'epfo. Ufite ikibazo kijyanye n'ubu bushakashatsi, wakwiyambaza: Pierre Barayagwiza telefoni igendanwa muri Afurika y'epfo +27730032857 cyangwa +250784889955 mu Rwanda na [baray21@yahoo.fr](mailto:baray21@yahoo.fr) cyangwa [barapier@gmail.com](mailto:barapier@gmail.com)

Hagize ikibazo cyose wagira cyangwa ushatse kumenyekanisha ibibazo wahuye nabyo birebana n'ubu bushakashatsi, wakwiyambaza:

Umuyobozi w'ishami ry'ubugororangingo: Prof. Julie PHILLIPS

Umuyobozi wa Faculty of Community and Health Sciences: Prof. Ratie MPUFU

University of the Western Cape

Private Bag X17

Bellville 7535



Ubu bushakashatsi bwemejwe na Sena ya Kaminuza ya Western Cape ishinzwe ubushakashatsi, ndetse na komite y'iyi Kaminuza ishinzwe iyubahirizwa ry'ikiremwa muntu mu bushakashatsi.

## APPENDIX H



# UNIVERSITY OF THE WESTERN CAPE

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E-mail: mwarner@uwc.ac.za

## PARENTAL/GUARDIAN INFORMATION SHEET

### **Project Title:** FACTORS RELATED TO SPORT PREFERENCES AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA

This is a research project being conducted by Pierre BARAYAGWIZA at the University of the Western Cape. We are inviting your child to participate in this research project because he/she is a youth with physical disability, and he/she practise a disability sport in one of the NPC's registered club in which this research is taking place. The purpose of this research project is to determine the factors associated with sport preference among youth with physical disabilities in Rwanda.

He/she will be asked to complete the questionnaire gathering information about the sport of youth with physical disabilities. The questionnaire consists of three sections: section one consists of socio-demographic information such as gender, age, education level type of disability and use of mobility aids, section two consists of sport preferences and section three consists of factors which could be related to sport preferences such as sport enjoyment, parental encouragement and physical ability. For any difficult which will arise when completing the questionnaire, the researcher will be available and ready to provide necessary information.

We will do our best to keep his/her personal information confidential. To help protect his/her confidentiality, he/she will not be requested to write down his/her name on the questionnaire. Identification codes using numbers will be used on data form to ensure anonymity and the researcher will collect the questionnaires personally and will be responsible of ensuring their storage in a locked and secure place. If I write a report or article about this research project, his/her identity will be protected to the maximum extent.

In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning neglect of persons with disabilities.

There are no known risks associated with participating in this research project. However if he/she experiences the traumatic problems, he/she will be referred to a counsellor for management.

This research is not designed to help your child personally, but the results may help the investigator learn more about disability sport. We hope that, in the future, other people might benefit from this study through improved understanding of aspects that should be included in disability sport promotion and widen the spectrum of sport opportunities for people with disabilities.

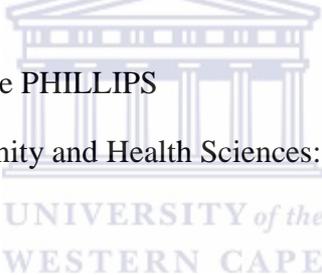
Your child's participation in this research is completely voluntary. He/she may choose not to take part at all. If he/she decides to participate in this research, he/she may stop participating at any time. If he/she decide not to participate in this study or if he/she stop participating at any time, he/she will not be penalized or lose any benefits to which he/she otherwise qualify.

This research is being conducted by *Pierre Barayagwiza* a student in Physiotherapy department at the University of the Western Cape. If he/she has any questions about the research study itself, please contact Pierre Barayagwiza at: +27730032857 or +250784889955 and [baray21@yahoo.fr](mailto:baray21@yahoo.fr) or [barapier@gmail.com](mailto:barapier@gmail.com)

Should he/she has any questions regarding this study and his/her rights as a research participant or if he/she wishes to report any problems he/she has experienced related to the study, please contact:

Head of Department: Prof. Julie PHILLIPS

Dean of the Faculty of Community and Health Sciences: Prof. Ratie MPUFU

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This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.



## APPENDIX I

# UNIVERSITY OF THE WESTERN CAPE

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E-mail: mwarner@uwc.ac.za

## **IBISOBANURIRWA UHAGARARIYE UGIRA URUHARE MU BUSHAKASHATSI**

### **Ubushakatshatsi: FACTORS RELATED TO SPORT PREFERENCES AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA**

Ubu bushakashatsi burimo gukorwa na Pierre Barayagwiza, umunyeshuri wiga muri kaminuza ya Western Cape, muri Africa y'epfo. Turasaba umwana wanyu kugira uruhare muri ubu bushakashatsi kuberako yujuje ibisabwa nabwo, nk'uubyiruko rumugaye ingingo kandi ukina imwe mu mikino y'abamuga mu ikipe imwe mu zemewe n'ishyirahamwe ry'imikino y'abamugaye (NPC) mu Rwanda. Intego y'ubu bushakashatsi ni ukumenya ibigenderwaho mu guhitamo umukino mu rubyiruko rumugaye ingingo mu Rwanda.

Umwana wawe arasabwa gusubiza ibibazo azahabwa kubyerekeranye ni imikino y'abamugaye. Ibyo bibazo birimo ibice bitatu, icya mbere kirebana ni umwirondora, icya kabiri kigizwe ni ibibazo byerekeranye no guhitamo umukino, icya gatatu kigizwe n'ibibazo ku bigenderwaho mu guhitamo umukino.

Tuzakora ibishoboka byose mu kumugirira ibanga. Kugirango tubamare impungenge, ntabwo azasabwa kwandika izina rye ku rutonde w'ibibazo n'ibisubizo. Mukubizeza ibanga, ntamazina azakoreshwa, buri muntu azaba afite"code"ye. Hagize inyandiko yandikwa kuri ubu bushakashatsi, azagirirwa ibanga rikomeye kubyo azaba yashubije.

Nta ngaruka n'imwe izwi yagirira muri ubu bushakashatsi.

Nta nyungu y'amafaranga muzabona muri ubu bushakashatsi, ahubwo ibizavamo bizafasha ukora ubushakashatsi kongera ubumenyi ku mikino ya ababana n'ubumuga bw'ingingo. Twizeye kandi ko mu gihe kizaza abandi bantu bazagira inyungu kuri ubu bushakashatsi hashingiwe mu kumva neza ibyagenderwaho mu guteza imbere no kongera umubare w'imikino y'ababana n'ubumuga.

Kwemera kugira uruhare muri ubu bushakashatsi ni ubushake busesuye. Umuntu ashobora kwemera cyangwa kutemera kubugiramo uruhare. Yemerewe kwivana muri ubu bushakashatsi igihe cyose abishatse nta nkurikizi, ntazabihanirwa cyangwa ngo atakaze inyungu iyo ariyo yose yakagombye kubona.

Ubu bushakashatsi burimo gukorwa na Pierre Barayagwiza, umunyeshuri wiga muri kaminuza ya Western Cape, muri Afurika y'epfo. Agize ikibazo kijyanye n'ubu bushakashatsi, yakwiyambaza: Pierre Barayagwiza telefoni igendanwa muri Afurica y'epfo +27730032857 cyangwa +250784889955 mu Rwanda na [baray21@yahoo.fr](mailto:baray21@yahoo.fr) cyangwa [barapier@gmail.com](mailto:barapier@gmail.com)

Hagize ikibazo cyose mwagira cyangwa mushatse kumenyekanisha ibibazo mwahuye nabyo birebana n'ubu bushakashatsi, mwakwiyambaza:

Umuyobozi w'ishami ry'ubugororangingo: Prof. Julie PHILLIPS

Umuyobozi wa Faculty of Community and Health Sciences: Prof. Ratie MPUFU

University of the Western Cape

Private Bag X17

Bellville 7535



Ubu bushakashatsi bwemejwe na Sena ya Kaminuza ya Western Cape ishinzwe ubushakashatsi, ndetse na komite y'iyi Kaminuza ishinzwe iyubahirizwa ry'ikiremwa muntu mu bushakashatsi.

## APPENDIX J



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## INFORMATION SHEET FOR NPC STAFF

### **Project Title: FACTORS RELATED TO SPORT PREFERENCES AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA**

This is a research project being conducted by Pierre BARAYAGWIZA at the University of the Western Cape. We are inviting you to participate in this research project because you are a NPC staff member in which this research is taking place. The purpose of this research project is to determine the factors associated with sport preference among youth with physical disabilities in Rwanda.

You will be asked to participate in interview which will last for about 40 minutes, gathering information about the sport of youth with physical disabilities. This research project involves making audiotapes of you for further analysis of data.

We will do our best to keep your personal information confidential. Only the researcher will have access to audiotapes, and they will be destroyed after analysis. To help protect your confidentiality, the rooms where the interviews will be conducted will be assessed prior to commencing the interviews, and all data collected from the interviews will be treated with great respect to ensure your privacy. In order to maintain anonymity in reporting data, every participant will get a code and confidentiality will be guaranteed. If we write a report or article about this research project, your identity will be protected to the maximum extent possible.

In accordance with legal requirements and/or professional standards, we will disclose to the appropriate individuals and/or authorities information that comes to our attention concerning neglect of persons with disabilities.

There are no known risks associated with participating in this research project. However if you experience the traumatic problems, you will be referred to a counsellor for management.

This research is not designed to help you personally, but the results may help the investigator learn more about disability sport. We hope that, in the future, other people might benefit from this study through improved understanding of aspects that should be included in disability sport promotion and widen the spectrum of sport opportunities for people with disabilities.

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

This research is being conducted by *Pierre Barayagwiza* a student in Physiotherapy department at the University of the Western Cape. If you have any questions about the research study itself, please contact Pierre Barayagwiza at: +27730032857 or +250784889955 and [baray21@yahoo.fr](mailto:baray21@yahoo.fr) or [barapier@gmail.com](mailto:barapier@gmail.com)

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Head of Department: Prof. Julie PHILLIPS

Dean of the Faculty of Community and Health Sciences: Prof. Ratie MPUFU

University of the Western Cape

Private Bag X17

Bellville 7535

This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.



## APPENDIX K

# UNIVERSITY OF THE WESTERN CAPE

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Tel: +27 21-9592524, Fax: 27 21-9591217

E-mail: mwarner@uwc.ac.za

## **IBISOBANURIRWA UGIRA URUHARE MU BUSHAKASHATSI** **(NPC Staff)**

### **Ubushakashatsi: FACTORS RELATED TO SPORT PREFERENCES AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA**

Ubu bushakashatsi burimo gukorwa na Pierre Barayagwiza, umunyeshuri wiga muri kaminuza ya Western Cape, muri Afurika y'epfo. Murasabwa kugira uruhare muri ubu bushakashatsi kuberako mwujuje ibisabwa nabwo, nk'umukozi wa komite y'imikino y'abamugaye (NPC) mu Rwanda. Intego y'ubu bushakashatsi ni ukumenya ibigenderwaho mu guhitamo umukino mu rubyiruko rumugaye ingingo mu Rwanda.

Urasabwa kugirana ikiganiro n'ukora ubushakashatsi kubijyanye ni imikino y'abamugaye. Bizagusaba igihe kingana n'iminota 30 tugereranije. Amajwi yawe azafatwa kugirango tuzabashe kunonosora ibizava muri ubu bushakashatsi. Ukora ubushakashatsi azifashisha umuntu wo kwandika ibivugwa mu kiganiro kandi azasabwa kubahiriza ibanga.

Tuzakora ibishoboka byose mu kukugirira ibanga. Kugirango tukumare impungenge, icyumba tuzakoreramwo ikiganiro kigomba kuba cyujuje ibya ngombwa kugira ngo hatagira uwumva ibyo tunganira. Ukora ubushakashatsi niwe wenyine uzagera kuri "cassettes" z'amajwi kandi zizasenywa nyuma yo kunonosora ibizava muri ubu bushakashatsi. Mu kwandika raporo y'ubu bushakashatsi nta mazina azakoreshwa, buri wese azahabwa "code" ye. Hagize inyandiko yandikwa kuri ubu bushakashatsi, uzagirirwa ibanga rikomeye kubyo uzaba wavuze byose.

Nta ngaruka n'imwe izwi wagirira muri ubu bushakashatsi.

Nta nyungu y'amafaranga uzabona muri ubu bushakashatsi, ahubwo ibizavamo bizafasha ukora ubushakashatsi kongera ubumenyi ku mikino ya abamugaye ingingo. Twizeye kandi ko mu gihe kizaza abandi bantu bazagira inyungu kuri ubu bushakashatsi

hashingiwe mu kumva neza ibyagenderwaho mu guteza imbere no kongera umubare w'imikino y'abamugaye.

Kwemera kugira uruhare muri ubu bushakashatsi ni ubushake bwawe busesuye. Ushobora kwemera cyangwa kutemera kubugiramo uruhare. Wemerewe kwivana muri ubu bushakashatsi igihe cyose ubishatse nta nkurikizi, ntuzabihanirwa cyangwa ngo utakaze inyungu iyo ariyo yose wakagombye kubona.

Ubu bushakashatsi burimo gukorwa na Pierre Barayagwiza, umunyeshuri wiga muri kaminuza ya Western Cape, muri Afurika y'epfo. Ufite ikibazo kijyanye n'ubu bushakashatsi, wakwiyambaza: Pierre Barayagwiza telefoni igendanwa muri Afurika y'epfo +27730032857 cyangwa +250784889955 mu Rwanda na [baray21@yahoo.fr](mailto:baray21@yahoo.fr) cyangwa [barapier@gmail.com](mailto:barapier@gmail.com)

Hagize ikibazo cyose wagira cyangwa ushatse kumenyekanisha ibibazo wahuye nabyo birebana n'ubu bushakashatsi, wakwiyambaza:

Umuyobozi w'ishami ry'ubugororangingo: Prof. Julie PHILLIPS

Umuyobozi wa Faculty of Community and Health Sciences: Prof. Ratie MPUFU

University of the Western Cape

Private Bag X17

Bellville 7535

Ubu bushakashatsi bwemejwe na Sena ya Kaminuza ya Western Cape ishinzwe ubushakashatsi, ndetse na komite y'iyo Kaminuza ishinzwe iyubahirizwa ry'ikiremwa muntu mu bushakashatsi.

APPENDIX L



UNIVERSITY OF THE WESTERN CAPE

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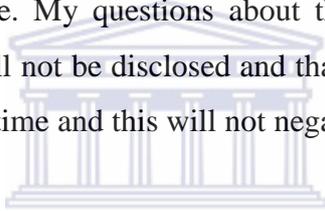
E-mail: mwarner@uwc.ac.za

CONSENT FORM

**Research Project:** FACTORS RELATED TO SPORT PREFERENCES

AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.



Participant's name.....

Participant's signature.....

Date.....

Witness .....

Witness signature.....

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

**Study Coordinator's Name: Prof. Julie PHILLIPS**

**University of the Western Cape**

**Private Bag X17, Belville 7535**

**Tel: 0219592542**

**Email: jphillips@uwc.ac.za**

## APPENDIX M



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E-mail: mwarner@uwc.ac.za

### KWEMEZA KUGIRA URUHARE

#### **Ubushakashatsi: FACTORS RELATED TO SPORT PREFERENCES AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA**

Nyuma yo gusobanurirwa iby'ubu bushakashatsi n'ibijyanye nabwo mu rurimi numva, kandi ko bazangirira ibanga ku byo nzavuga byose, no kuba nemerewe kwivana muri ubu bushakashatsi igihe cyose mbishatse kandi ko nta nkurikizi byangiraho, nemeye ku bushake bwanjye kugira uruhare muri ubu bushakashatsi.

**Amazina y'ugira uruhare mu bushakashatsi.....**

**Umukono/igikumwe cy'ugira uruhare mu bushakashatsi.....**

**Italiki (Umunsi/ukwezi/umwaka).....**

**Amazina y'umuhamya .....**

**Umukono w'umuhamya.....**

Hagize ikibazo cyose wagira cyangwa ushatse kumenyekanisha ibibazo wahuye nabyo birebana n'ubu bushakashatsi, wakwiyambaza:

**Umuhuzabikorwa w'ubushakashatsi: Prof. Julie PHILLIPS**

**University of the Western Cape**

**Private Bag X17, Belville 7535**

**Tel: 0219592542**

**Email: jphillips@uwc.ac.za**

APPENDIX N



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E-mail: mwarner@uwc.ac.za

**ASSENT FORM**

**Research Project:** FACTORS RELATED TO SPORT PREFERENCES

AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name.....

Participant's signature.....

Date.....

Witness .....

Witness signature.....

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

**Study Coordinator's Name: Prof. Julie PHILLIPS**

**University of the Western Cape**

**Private Bag X17, Belville 7535**

**Tel: 0219592542**

**Email: jphillips@uwc.ac.za**

APPENDIX O



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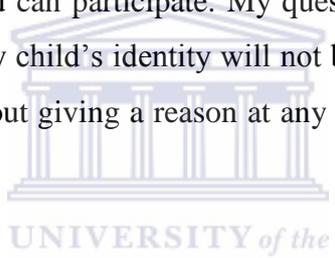
E-mail: mwarner@uwc.ac.za

PARENTAL/GUARDIAN CONSENT FORM

**Research Project:** FACTORS RELATED TO SPORT PREFERENCES

AMONG YOUTH WITH PHYSICAL DISABILITIES IN RWANDA

The study has been described to me in language that I understand and I freely and voluntarily agree that my child can participate. My questions about the study have been answered. I understand that my child's identity will not be disclosed and that he/she may withdraw from the study without giving a reason at any time and this will not negatively affect him/her in any way.



**Parent/Guardian's name**.....

**Parent/Guardian's signature**.....

**Date**.....

**Witness** .....

**Witness signature**.....

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

**Study Coordinator's Name: Prof. Julie PHILLIPS**

**University of the Western Cape**

**Private Bag X17, Belville 7535**

**Tel: 0219592542**

**Email: jphillips@uwc.ac.za**

APPENDIX P



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**KWEMEZA KUGIRA URUHARE (UHAGARARIYE UGIRA URUHARE)**

**Ubushakashatsi: FACTORS RELATED TO SPORT PREFERENCES AMONG  
YOUTH WITH PHYSICAL DISABILITIES IN RWANDA**

Nyuma yo gusobanurirwa iby'ubu bushakashatsi n'ibijyanye nabwo mu rurimi numva, kandi ko bazagirira ibanga ku byo umwana wanjye azavuga byose, no kuba yemerewe kwivana muri ubu bushakashatsi igihe cyose abishatse kandi ko nta nkurikizi byamugiraho, nemeye ku bushake bwanjye ko umwana wanjye agira uruhare muri ubu bushakashatsi.

Amazina y'uhagarariye ugira uruhare mu bushakashatsi.....

Umukono w'uhagarariye ugira uruhare mu bushakashatsi .....

Italiki (Umunsi/ukwezi/umwaka).....

Amazina y'umuhamya .....

Umukono w'umuhamya .....

Hagize ikibazo cyose wagira cyangwa ushatse kumenyekanisha ibibazo wahuye nabyo birebana n'ubu bushakashatsi, wakwiyambaza:

**Umuhuzabikorwa w'ubushakashatsi: Prof. Julie PHILLIPS**

**University of the Western Cape**

**Private Bag X17, Belville 7535**

**Tel: 0219592542**

**Email: jphillips@uwc.ac.za**