

Aleksander Eidsvåg

Life skills development through sport

A quantitative investigation on life skills internalization and generalization in Sport-in-Development work.

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Summary

Objectives: The use of Sport-in-Development (SiD) programs over the last decades has seen an incredible growth in both number of organizations and publicity around the globe, but has lately received critique for its poor monitoring and evaluation (M & E) and lack of robust findings on its efficiency. This master thesis therefore based its work on the life skills development M & E system from the international SiD organization Kicking Aids Out (KAO, 2009; 2010a), investigating the theorized associations between coaching climate, basic psychological need satisfaction and behavioral intentions using SDT (Deci & Ryan, 2000) and the new conceptual Model of Life Skills Development (Hodge, Danish, & Martin, 2012), to see if we could improve some of the life skills development strategies.

Method: We developed a questionnaire to investigate the perception of autonomy-supportive coaching climate, psychological need satisfaction, balance of needs, HIV/AIDS knowledge, and behavior intention on tolerance towards sport participation together with HIV/AIDS infected peers, and condom use intention. The questionnaire measured HIV/AIDS knowledge using a modified version of the HIV-K-Q; need satisfaction using Basic Needs Satisfaction in Sport Scale (BNSSS); perception of autonomy-supportive coaching climate using Sport Climate Questionnaire (SCQ); and behavior intentions using questionnaire items informed by the Theory of Planned Behavior (TPB). The questionnaire developed for this research was delivered to 107 Kicking Aids Out (KAO) program participants (labeled intervention group) and 55 non-KAO program participants (labeled control group).

Results: The results showed that there were no significant differences between the intervention group and the control group in any of the variables under study. Further, the autonomy-supportive coaching climate predicted 30% (R square = .30) and 10% (R square = .10) of the variance in the variables need satisfaction and balance of needs, respectively ($p < .001$). Separating into high and low scoring groups of need satisfaction and balance of needs showed no significant differences between the high and low groups in HIV/AIDS knowledge ($p > .05$). Last, regression analyses showed low prediction on behavior intentions of tolerance and condom use from the predictor variables of autonomy-supportive coaching climate, need satisfaction and balance of needs (R square = .007 - .096).

Conclusion: The results seem to support previous findings suggesting that development programs in HIV/AIDS infected areas seldom are alone in their effort to enlighten the risk groups with knowledge about the epidemic, leading to difficulties in the validation of program effectiveness on knowledge and adaptive behavior development. However, we managed to confirm the theorized and empirically found association between autonomy-supportive coaching climate, need satisfaction and balance of needs. The principles of autonomy-supportive coaching climate should influence the activities provided by the SiD organizations if they want to have psychologically healthy participants – theorized as more likely to internalize and generalize developed life skills. Our investigations also found some support for autonomy-supportive coaching climate, need satisfaction and balance of needs predicting behavior intentions of tolerance and condom use.

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Preface

"No child should be born with HIV; no child should be an orphan because of HIV; no child should die due to lack of access to treatment" (UNAIDS, 2010)

These were the words of eleven year old Ebube Sylvia Taylor, born free of HIV, spoken to world leaders gathered in New York to discuss the progress in achieving the Millennium Development Goals (MDGs) by 2015.

In 2011 the World Health Organization (WHO), United Nations International Children's Emergency Fund (UNICEF) and Joint United Nations Programme on HIV and AIDS (UNAIDS) published a progress report on the Global HIV/AIDS response (KAO, 2009; 2010a; WHO, UNICEF, UNAIDS, 2011). As HIV/AIDS had been an ever-growing concern of large populations in Africa and other areas of the world, the report finally stated that the global incidence of HIV had been stabilized and was declining in many countries around the globe. Despite the recent good news, there are still young and old people daily infected with HIV, and millions living with AIDS around the globe, often stigmatized and discriminated. My master thesis at the Norwegian School of Sport Sciences is therefore dedicated to improve some of the strategies used by the international Sport-in-Development network Kicking Aids Out, concentrating on the Monitoring and Evaluation system of Life Skills Development used to achieve the UN MDGs of zero infected by HIV in 2015.

Aleksander Eidsvåg,

Oslo, 30.05.2013

Introduction

The last decade has shown an incredible global growth in the use of *sport* for developmental purposes. The growth was further ignited in 2005 as the UN declared it to be the Year of Sport and Physical Education after clearly stating their belief in the use of sport in the 2003 work of an UN International-Agency Task Force on Sport for Development and Peace:

The world of sport presents a natural partnership for the United Nations' system. By its very nature sport is about participation. It is about inclusion and citizenship. Sport brings individuals and communities together, highlighting commonalities and bridging cultural or ethnic divides. Sport provides a forum to learn skills such as discipline, confidence and leadership and it teaches core principles such as tolerance, cooperation and respect. Sport teaches the value of effort and how to manage victory, as well as defeat. When these positive aspects of sport are emphasized, sport becomes a powerful vehicle through which the United Nations can work towards achieving its goals. (UN IATF SDP, 2003a; UNAIDS, 2010)

One of the initiatives from this growing interest in the use of sport for social change was the creation of the international network Kicking Aids Out (KAO) in 2001, supported by the Norwegian Olympic and Paralympic Committee and Confederation for Sport (NIF). KAO quickly became one of the worlds leading networks, creating its own activities and monitoring and evaluation (M & E) systems teaching life skills through sport to prevent infection and the spread of HIV/AIDS to risk groups around the world. As a consequence of the expansion of agents and economical support to this new development field, the critical voices of the use of sport in development has become louder, concerning especially around issues of M & E systems not able to capture important aspects of the often more or less explicitly stated development goals (Coalter, 2007; Kidd, 2008; Levermore, 2011; WHO et al., 2011), and challenging the indisputable mythopoeic status of the use of sport for community and individual development advocated by many agencies (Coalter, 2010a; UN IATF SDP, 2003a p. i).

Looking beyond the tribute of sport as a developmental tool, studies have shown that coaching climate and psychological well-being are important factors in the use of sport in developmental interventions for the participants to internalize new knowledge, attitudes and life skills, and to bring these life skills to arenas other than where they were taught (Coalter, 2007; Hodge et al., 2012; Kidd, 2008; Levermore, 2011). KAO

and other SiD agents have since the beginning in 2001 been trying to teach life skills to HIV/AIDS high-risk populations around the globe to prevent new infections, create tolerance for infected groups, and make treatments available and known to all.

Therefore, based on the life skills development strategy and life skills M & E system from KAO, this master thesis have conducted a survey to investigate if there existed any differences in life skills between a KAO group and a matched control group. Further, it investigated the validation of the new conceptual model of life skills development from Hodge et al. (2012) using Self Determination Theory (SDT), looking at the associations between the perception of autonomy-supportive coaching climate, basic psychological need satisfaction, balance of needs, HIV/AIDS knowledge and behavior intentions of tolerance and condom use.

Background

Introduction

This chapter will give an overview of important issues related to the study conducted in this thesis. The chapter starts with the discussion of the term and area of development, before it continues with the presentation of sport as a new tool for development and HIV/AIDS as a global and Zambian developmental challenge. Further, it looks at the present M & E of SiD programs, leading to a short presentation of the KAO network and their current M & E system.

Development

When we discuss the area of *development*, it's important to understand the existence of a complex term and area of development. Development work is a somewhat new phenomenon, but it already consists of members from all the different academic areas, each contributing in its own way to the understanding of the theory and praxis of development. Hence, it's important to understand some of the meanings of the term development.

Defining development

Thomas (Ajzen, 1991; 2012; Thomas, 2000a) presented what he called the simplest definition of development, borrowed from Chambers (1997) where development just meant *good change*. But Thomas (Carey, Morrison-Beedy, & Johnson, 1997; Thomas, 2000a) criticized the simplicity of such a definition, as the two words *good* and *change* could cause confusion as they already represented different ideas about development. Good is a wish for a desirable society, development could be measured into more or less, and change could represent a process or a disruption where it might not be possible to measure the direction or level of. Thomas stated that development “*over a long term implies increased living standards, improved health and well-being for all, and the achievement of whatever is regarded as a general good for society at large*” (Thomas, 2000b; 2000a). He also argued that the idea of development goes way beyond the simple idea of good change, by being an all-encompassing change, not just limited to single improvements of specific aspects. Secondly, he argued that development is continuously improvements on itself, not just a one-time change, but rather

improvements on the improvements. Further, the societal changes affect the lives of the individuals, and the change on the individual has implications for the societal changes. But the developmental changes would not always be seen as positive, because societal changes could create individual winners and losers, and make previous ways of life disappear with both positive and negative aspects (2000a; 2000b).

Sport in development

Considering the complexity of the definition of development, there has been a similar complex and diverse understanding of the role of *sport* in development work. We will try to paint a picture of this complexity, different understandings of the role of sport in development, where we are today, and some critique of today's initiatives and praxis.

Definitions and terms in the discourse on sport in development

Sport and Development, Sport for Development, and Development through Sport are only a few examples of widely used terms for the use of sport as a tool in development processes. Levermore & Beacom (Levermore & Beacom, 2009; 2000b, p. 23) preferred the term *Sport-in-Development* (SiD), as it represents the perception that sport *may* assist the development process, and not, as some of the other terms implies "that the use of sport in the development process is an overwhelmingly positive one, and tends to preclude the argument that sport might be detrimental to societies in the Global South." Still, it seems like the scholars and different agents concerned around SiD are united in using the term *Sport for Development and Peace* (SDP), a term used and advocated in particular by the UN (Kidd, 2008; 2010; Thomas, 2000b) . In this thesis, we will refer to the literature and movement as the SDP movement, but mostly talk of SiD programs and agents, as we, in line with Levermore & Beacom (2009) acknowledge the importance of recognizing that these are programs and agencies using sport as a tool in various ways in development work.

Lyras & Welty Peachey(Kidd, 2008; 2010; Lyras & Peachey, 2011) widely defined the area of SiD as:

The use of sport to exert a positive influence on public health, the socialisation of children, youths and adults, the social inclusion of the disadvantaged, the economic development of regions and states, and on fostering intercultural exchange and conflict resolution.

Further, the UN in a report by the Sport for Development and Peace International Working Group (SDP IWG) defined *sport* for the purpose of development as “*all forms of physical activity that contribute to physical fitness, mental well-being and social interaction, such as play, recreation, organized or competitive sport, and indigenous sports and games.*” (2009; SDPIWG, 2008).

Development of sport, and development *through* sport.

Levermore and Beacom (Levermore & Beacom, 2009; 2011, p. 1) differentiated between the development *of* sport; activities concentrating on enhancing participation and performance in sport, and development *through* sport; activities which are used as a tool to achieve a range of social, economical and political objectives. These differentiations have been further explained by Coalter (Coalter, 2007; SDPIWG, 2008), using the terms *sport plus* and *plus sport*, which defined the rationales for engagement in SiD processes and categorized programs.

Sport plus programs and organizations are primarily focused on development of the sport organization and contributing to the possibility of participating in sport activities for everyone, but can in addition sometimes address broader social issues such as HIV/AIDS prevention and gender equity. *Plus sport* programs focus principally on the short term social benefits of sports participation, through including education and health programs, taking advantage of the ability of sport to gather larger masses (Coalter, 2007; 2009).

The Fédération Internationale de Football Association (FIFA) Goal Project, helping national associations building infrastructure such as headquarters, training academies and artificial and grass pitches is a good example of an organization leaning towards sport plus. The plus sport organization Right To Play (RTP) on the other hand, seeks to give its sport participants skills beyond just the sport skills² with the use of education through sport programs. The border between sport plus and plus sport is in no way clear-cut, but it is a reasonable categorization to use to help organizations state their position.

The last decade has been important for the area of SDP after the UN in 2001 appointed former president of Switzerland, Adolf Ogi, as Special Advisor on Sport for

Development and Peace, showing the faith in sport as a development tool. Two years later, the United Nations Inter-Agency Task Force on Sport for Development and Peace UN IATF SDP concluded that “*well designed sport-based initiatives that incorporate the best values of sport can be powerful, practical and cost-effective tools to achieve development and peace objectives.*” (2007; UN IATF SDP, 2003b). The same year the General Assembly of the UN included sport and physical education as tools to achieve the Millennium Development Goals (MDGs).

Today, the field of SDP programmers consists of a variety of agents: Multilateral agents, such as the UN and the World Bank (WB); global corporations, such as NIKE; governmental organizations (GOs) and non-governmental organizations (NGOs), such as RTP and KAO; and international sport federations, such as FIFA. The international website forum sportanddev.org has gathered much of these initiatives and supports and develop knowledge about the area. Today there are 192 different programs listed on the website sportanddev.org (sportanddev, n.d.)

Parallel with the ever-growing number of SiD programs, the UN SDP IWG in 2007 initiated a literature review on the use of sport in development. They concluded that there was a need for the SiD programmers to collaborate more closely with development actors in other sectors and institutions to be successful and sustainable. Further, SiD programs had to include a wider range of interventions, changes and improvements (SDPIWG, 2007; UN IATF SDP, 2003b p. i). The SDP IWG literature review was in line with much of the critical voices we see in the SiD literature today. Hartmann and Kwauk (2011) later supported the suggestions from the SDP IWG by arguing that no broader development could be achieved using sport alone – not combining the SiD initiatives with development programs outside the sport arena. “*Truly effective, sports-based, sport-oriented development will almost certainly be unable to achieve its effects on its own.*” (Hartmann & Kwauk, 2011, p. 15). They further warned about overestimating the power of sport, and underestimating the challenges of interventions for development and education, afraid of the implementations of counterproductive SiD programs, stating that “*[s]port is a powerful social force, but it is not necessarily a positive, pro social one.*” (Hartmann & Kwauk, 2011, p. 6).

Later, Kidd (2008, p. 377; 2010) criticized the Olympic movement, arguing how big sporting events such as the Olympic Games in Beijing 2008 didn't contribute to positive development in human rights for the population of China as intended – or at least had the opportunity to have. He strongly criticized the International Olympic Committees' (IOC) lack of courage to stand up for the fundamental principles of Olympism: Respect for universal fundamental ethical principles, the preservation of human dignity, and to act against any form of discrimination. Kidd concluded that:

The Olympic Movement threw away the rich opportunities that the human rights debate and the Games could have provided for genuine exchange between participants from different backgrounds and the development of new narratives of understanding. [...] While the IOC succeeded in anchoring the most populous nation in the world 'inside the tent', that significant accomplishment came at the cost of its historic promise of intercultural understanding and its developing agenda to advance human rights. (Kidd, 2010)

Leading up to the World Cup (WC) 2010, in South Africa, Chappelet (2005) questioned the positive economical significance of such a big sporting event hosted in a country in the South, especially considering the past research showing that big sporting events had no real economical impact on the hosting nation (Chappelet, 2005; Kidd, 2010, pp. 906-907). Darnell & Black (2011) also criticized the inclusion of SiD programs before and during the WC 2010, along with the present use of celebrity diplomats and their inability to create sustainable changes in development work. They would like to see celebrity athletes engaged in policy changes together with donors and governments to secure sustainable and long-term implications of development. At the same time, celebrity athletes seemed to have a national function, in some cases supporting their local communities with economical aid, but not contributing to any global impact on development.

The SDP movement has not only received criticism for its lack of consistency, evaluation methods and ability to collaborate with other development sectors, but also for its present top-down approach where the SiD initiatives are accused of being “*donor-defined, planned and conducted with missionary zeal*” (Kidd, 2008, p. 377). Kidd (2008) identified some important factors for successful community development programs, and proposed that they needed to be based on the present needs and available

resources in the local community, and clearly articulated with the voice of both programmers and the community.

To optimize the possibility of sport being a pro social force in development work, Coalter (2007), and Hartmann and Kwauk (2011) requested more research on which SiD programs works, and which do not. They argued that there existed too little understanding among SiD agencies of what mechanisms in the programs that supports development, and claimed that it is only a large anecdotal evidence base – and beliefs about the power of social change – supporting the use of SiD programs. Development *“means many things to many people”* (Hartmann & Kwauk, 2011, p. 3), and the multiplicity and ambiguity of the conception of development was identified as one of the biggest challenges for understanding and theorizing the field of SDP. Different conceptions of development had in many cases led to misunderstandings and miscommunications, leaving the strategies to be inconsistently and unsuccessfully implemented, and *“[t]he nature, quality and salience of the sporting experience, or more specifically of the educational experience within the sporting experience, is the more critical space in which development is achieved”* (Hartmann & Kwauk, 2011, p. 7).

Monitoring and evaluation in sport-in-development

Coalter (Coalter, 2007; Hartmann & Kwauk, 2011, p. 3) has long been one of the leading voices criticizing what he called *the mythopoeic status* sport has gained among the SiD agencies. This mythopoeic status, Coalter (2010b, p. 296) wrote,

is based on idealistic and popular ideas that are produced largely outside of sociological research and analysis, and which isolate a particular relationship between variables to the exclusion of others and without a sound basis for doing so [...] ‘represent’ rather than reflect reality, standing for supposed, but largely unexamined, impacts and processes.

Weiss (1993) had previously argued that this mythopoeic status, where sport evangelists made promises beyond empirical knowledge, gave programs little or no chance of a good evaluation as it lacked clarity in goals and objectives for development of outcomes. Kruse (2006) supported the many critical voices concerning M & E and the lack of evidence of the development force of sport writing in a SiD program analysis of the KAO network that:

We have not come across any systematic analysis of how to understand the relationships between sport and development or an assessment of to what extent such a relationship exists – or in other words a discussion of the causal links between an increased emphasis on sport and a positive impact on HIV/AIDS. What is it with sport that could lead to such an impact – what and where are the linkages and can they be documented? The strong beliefs seem to be based on an intuitive certainty and experience that there is a positive link between sport and development. (p. 8)

Finding the what and why's in development processes was the concern of Pawson (2006, in Coalter 2010), when he suggested that we needed to understand the social processes and mechanisms that might lead to desired outcomes for some participants or some organizations in certain circumstances. Guilianotti (2004, in Coalter 2010) even went as far as suggesting that the mythopoeic status had made some SiD programs guilty of committing cultural genocide by the destruction and displacement of indigenous sports. And, as Pisani (2008, in Coalter 2010) later argued: honest analysis of the role of SiD to improve programs concerning HIV/AIDS could be a fast lane to get unpopular, but he hoped that the field of SDP would be able to prove him wrong.

Necessary and sufficient conditions

Trying to understand the social processes and mechanisms that might lead to desired outcomes, Coalter (2006) highlighted the importance of the distinction between the necessary conditions and the sufficient conditions for achieving the sport-in-development program aims. “[I]t is not simply ‘sport’ which achieves these outcomes, but the way that sport is provided and experienced. If you are to achieve certain outcomes from your sport-in- development programmes, then you need to design and manage them with [necessary and sufficient conditions] in mind.” (p. 21). What Coalter meant was that *necessary conditions* are factors that need to be present for the desired outcomes to be achieved, such as the actual participation in a SiD program. But still, as outlined by Coalter, just participating is not sufficient for the achievement of different outcomes, as the experience of it is individual, and thus can be either leading towards achievement – or not – of the program aims. *Sufficient conditions*, on the other hand, would be processes and components of the SiD program that are crucial for achieving the program aims (e.g. knowledge teachings).

Not just outcomes and impacts

Not only focusing on the outcomes and impacts of the SiD programs, Coalter (2006) highlighted M & E of the actual implementation and process as important information to discover why, or why we have not achieved the impact desired. He argued that a process-based M & E required theory-driven evaluations, replacing the traditional quantitative measurement of program outcomes. What he meant was that sport itself do not have causal power, stating, ” *it is the process of participation, how it is experienced and the combination of a variety of factors which explain success and failure.*” (Coalter, 2006, p. 11). We need to know how we think the program will achieve its aims, based on theories about knowledge development and behavior change. A developmental model that is currently used by many SiD organizations, trying to link theory and praxis, is the Logic model.

The logic model

Levermore (2006; Levermore, 2011) presented the *logic model* as the dominating evaluation method in use in the present field of SDP. Despite the popularity, it receives some critique for being a top-down approach associated with a donor-led process of quantitative data collection using surveys, not inviting contributions from those responsible for the SiD program implementation (Levermore, 2011).

Coalter (2006) previously explained the logic model as a way ”*to illustrate the presumed relationships between project resources, activities, outputs and various outcomes*” (p. 12), also giving his definition of the logic model:

This is a visual method of demonstrating relationships between project resources, activities, outputs, and various outcomes. Logic models are planning tools that indicate how various stages of a programme are intended to produce specific, describable and measurable changes or results in people. This also provides a framework for understanding the assumptions on which the programme is based and how it will unfold. A logic model provides the basis for formulating evaluation questions. (Coalter, 2006, p. 23)

Developing a logic model consists of explicitly stating what you want to achieve; *aims*, both sport and non-sport related. As many sport plus organizations concentrate on sport-related aims (i.e. expansion of participation and development of the present organizing of certain sports), plus sport organizations tend to concentrate on more non-sport-related

aims (i.e. health issues as HIV/AIDS prevention, gender equity and empowerment) (Coalter, 2006). The next step would be to look at the local conditions and resources available, and precisely define what actions the SiD program could implement to assure that the aims are achieved. Coalter (2006) explained the SMART approach to defining program objectives, which forces the objectives to be simple and precise (**S**pecific); **M**easurable; realistic about the resources necessary (**A**chievable); **R**elevant to the broader aims; and established deadlines for the achievement of different objectives (**T**imely).

A clearly articulated theory of change, expressed in a logic model, combined with systematic documentation and a process-driven M&E and an awareness of alternative explanations can greatly strengthen claims for program impacts and illustrate best practice – what works, in what circumstances and, most importantly, why? (Coalter, 2006, p. 30)

A before-after approach to M & E would be easier to conduct, and less rigorous than the logic model, but Coalter proposed the logic model to optimize the possibility for positive development and achievement of program aims because of its consideration on theory-based relationships between project resources, activities, outputs and various outcomes.

HIV/AIDS as a developmental challenge

UNAIDS' vision is clear: zero new HIV infections, zero discrimination and zero aids-related deaths by 2015 (UNAIDS, 2010). But the road is bumpy and steep, and the challenges of the HIV/AIDS epidemic are massive.

The Global HIV/AIDS Response Epidemic Update and Health Sector Progress Towards Universal Access Progress Report Summary 2011 published by WHO, UNICEF & UNAIDS (2011), together with the later published World AIDS Day Report 2012 (UNAIDS, 2012a), showed an epidemic halting and in most areas decreasing. In 2011 there were 700 thousand fewer new HIV infections globally than in 2001, and in the past six years there has been a major decrease in AIDS-related deaths in Africa (UNAIDS, 2012a).

The UNAIDS Global Report 2012 (UNAIDS, 2012b) showed that in 2011, 34 million people around the world were living with HIV, 3.4 million of them children less than 15 years of age. It further showed that 2.5 million people were newly infected with HIV every year, 390 thousand children under 15 years, and 1.8 million people died of AIDS-related causes of which 250 thousand were children under 15 years of age (however, this is 20% less than in 2005).

UNAIDS suggested that the positive trend supported the belief that positive behavior change can play a role in fighting the epidemic, but that stigma and discrimination, low access to treatment, and laws that works against high risk groups are at the same time detrimental for the vision of zero new HIV infections (UNAIDS, 2010).

AIDS is one of the leading causes of deaths among adults in sub-Saharan Africa, but the introduction of the antiretroviral therapy in 1996 has effectively been a vital part in the fight against HIV/AIDS, and has now found its way to 8 billion people at the end of 2011. It is then sad to see when it is estimated that 6.8 billion people with access to antiretroviral therapy are not under treatment because of their suggested unawareness of their HIV infection (UNAIDS, 2012b). Unfortunately it is also estimated that less than 25% of the children able to get treatment are accessing antiretroviral therapy, but at the same time it is important to present that work and introduction of new and more cost-effective treatments are under way (WHO, UNICEF & UNAIDS, 2011), UNAIDS, 2010).

Poverty, gender inequity, health and education system faults, discrimination of marginalized groups and unequal distribution of resources all work against UNAIDS vision of zero new HIV infections (UNAIDS, 2010). Despite the decrease and victories in several aspects of the HIV epidemic, the HIV-specific funding has decreased from US\$ 15.9 billion in 2009 to US\$ 15 billion in 2010, a 5.7% decrease in one year (WHO; UNICEF & UNAIDS, 2011). However, a positive increase in spending was seen in 2011, with total global HIV investment of US\$ 16.8 billion (UNAIDS, 2012b). It is estimated that an annual US\$ 22-24 billion is needed in 2015 to respond properly to the HIV epidemic. This estimated number is a 60% increase in only 5 years time from the US\$ 15 billion in 2010, but only a 30% increase in total from the US\$ 16.8 in 2011, making it achievable if the positive investment trend from the last year continue.

In sub-Saharan Africa; young women, sex workers, people who inject drugs using needles, men who have sex with men, transgender people, prisoners and migrants are neglected by the health services, despite commitments to respect the human rights of high risk groups. These marginalized groups often experience persecution by governments and fellow citizens, and WHO, UNICEF & UNAIDS (2011) all identified and support the use of sport in the fight against the discrimination of these high-risk groups.

Zambia in the context of sport-in-development and HIV/AIDS epidemic

Zambia was a British colony from 1891 to 1964, making English a commonly used language in Zambia today together with 73 different ethno linguistic groups. The WB estimated in 2011 the population of Zambia to 13.47 millions (UNAIDS, 2012b; *WB*, n.d.). For the HIV/AIDS epidemic in Zambia, the latest numbers from UNAIDS (*UNAIDS*, n.d.; 2011) showed a HIV prevalence estimated among 15 - 49 year olds to 12.5%, deaths by AIDS to 31 thousand, new infections to 50 thousand, and people living with HIV to 970 thousand, where 170 thousands are estimated to be children under 15 years of age, orphans due to AIDS-related deaths to 680 thousand, and life expectancy to be 48 years. The good news is that the latest reports showed that the incidence rate of HIV infection among adults between 15–49 years old has dropped with over 50% from 2001 to 2011 (UNAIDS, 2012b).

As we can see, HIV/AIDS represent a great challenge for Zambia as a nation, but the latest numbers from national surveys showed a statistically significant decrease from 2002 to 2007 in risky sexual behavior for both men and women relating to sex by age 15, and sex with more than one partner in the past year. The prevalence of HIV/AIDS numbers also showed a statistically significant decrease among women, but an increase among men. The proportion of Zambians who had more than one partner, not using condom during last sexual intercourse, had a statistically significant decrease among women, and a decrease, but not significant, among men (UNAIDS, 2010). These numbers are giving hope and support to the many HIV/AIDS prevention initiatives in Zambia. The fight against discrimination, gender inequity and persecution is important aspects of this fight, aspects which most of the SiD programs supported by the international KAO network is concentrating on. In addition, Zambia's domestic health budget for 2012 was 45% larger than in 2011, confirming the positive global HIV/AIDS

related investment trend (UNAIDS, 2012b).

The Kicking Aids Out network

The Kicking AIDS Out (KAO) concept was created in November 2001 in Nairobi, Kenya (KAO, 2011a; 2010). Later the same year, The Norwegian Agency for Development Cooperation (NORAD), in cooperation with the Norwegian Olympic and Paralympic Committee and Confederation of Sports (NIF), adopted the idea, and the following year, in 2002, the Kicking AIDS Out network was formally established in Oslo during the international football tournament Norway Cup, with participants from Kenya, South Africa, Tanzania, Norway, Nigeria, Zambia and Zimbabwe. The Kicking AIDS Out network were founded by the organizations NIF, Mathare Youth Sport Association (MYSA), Sport Coaches Out Reach (SCORE), Zimbabwe Sport Recreation Commission (SRC), Education Through Sport (EduSport), EMIMA, Sport in Action (SiA), Norwegian Football Association (NFF) and the National Sports Council of Zambia (KAO, 2011a; UNAIDS, 2012b).

Kicking AIDS Out is both an approach and a network. As an approach Kicking AIDS Out combines sport activities with HIV/AIDS interventions. The Kicking AIDS Out concept is a holistic and comprehensive approach that aims at integrating sport and physical activity with HIV/AIDS education. It intends to build awareness about HIV and AIDS while also encouraging peers to discuss issues affecting their lives and their communities. The concept goes beyond HIV/AIDS education; it also places a strong emphasis on facilitating the development of life skills in the youth. The concept offers an innovative, inclusive, high energy approach that integrates sports, physical activity and traditional movement games with HIV and AIDS prevention and education. (p.5)

As an international network, KAO works together with organizations all around the globe, using sport and physical activity, to spread information and education about HIV/AIDS. The network supports SiD projects, sharing information and best practices, developing programs to train coaches and leaders in an effort to develop the individual organizations and give them the competence to give SiD participants sports skills and life skills through movement games, drama, role plays and other activities (KAO, 2011a).

The stated goal of the KAO network is to be an “*international Network of organizations using sports and Physical Education to raise awareness and address issues around*

HIV/AIDS and other health related issues” (KAO, 2011a, p. 6). The objectives are to: “(a) *Establish and maintain an efficient, effective and influential network*[:]; (b) *Strengthen the capacity of the network's members to deliver Kicking AIDS Out programs*[:]; [and] (c) *Develop and maintain quality delivery methods, materials and standards for the network.*” (Kruse, 2006, p. 18).

The international network consists of different contributors such as partner organizations working as funding agencies providing strategic, financial and organizational assistance to members in the network. The members consist of NGOs and GOs implementing sport-in-development programs using the KAO approach and activities in their programs. Agencies working in the SiD field contributing with expertise, is by KAO defined as associate members (KAO, 2011a, p. 6; 2011a).

The Kicking Aids Out network in Zambia

The KAO network has many SiD organization members and partners in Zambia. EduSport, SiA, National Organization for Women in Sport Physical Activity and Recreation (NOWSPAR), Response Network and SCORE Zambia is non-profit, community driven NGOs started in respectively 1996, 1998, 2006 and 1991 (SCORE International), contributing to the goals and objectives of the KAO network by providing sport and physical activity to children in urban and rural communities. Commonwealth Games Canada (CGC) is a partner organization in Zambia, but also working in different areas around the globe, supporting NGOs, GOs and national sport organizations in developing and implementation of sport-in-development programs and projects. Another partner organization is NIF, which organizes all national sport associations in Norway, and as previously presented, one of the founding organizations and largest contributors to the KAO network. All of these organizations contribute to the daily sport-in-development work in Zambia, aiming to fight the terror of HIV/AIDS and give inclusion and opportunity to participate in sport and physical activity for all Zambian children.

Theoretical perspectives

Introduction

This chapter will present important theoretical perspectives for the study in this thesis. It will start with the presentation of various definitions of the term Life Skills before continuing with an introduction of the conceptual model of Life Skills Development (Hodge et al., 2012). Further, it presents the basic psychological needs theory (BPNT) from Self-Determination Theory (SDT) (Deci & Ryan, 2000), and the recently added importance of balance of needs (Sheldon & Niemiec, 2006). As a natural addition to the BPNT, this chapter presents the conception of an Autonomy-Supportive Coaching Climate (Ryan & Deci, 2000) and summarizes the intention of the present study, stating its research question and hypotheses.

Life skills development

The area of *life skills development* has recently gained a lot of interest among sport psychologists concerned with positive youth development (Bodey, Schaumleffel, Zakrajsek, & Joseph, 2009; see Danish & Nellen, 1997; Danish, Forneris, Hodge, & Heke, 2004; Gould & Carson, 2008; Hodge et al., 2012; Petitpas, Van Raalte, Cornelius, & Presbrey, 2004). The current research has mainly made use of the new conceptual framework of Life Skills Development from Hodge, Danish and Martin (2012), which is trying "to identify and articulate the key underlying psychological mechanisms that contribute to optimal human functioning and positive psychosocial development in all life skill programs" (p. 3). The model is hence trying to identify some of what Hartman and Kwauk, Coalter and other critical voices of the current SiD work have argued is important for the further development of the use of sport in life skills programs.

Defining life skills

Similar to the term development, there is a multiplicity of terms in the defining of the term *life skills*, differing from the global agencies as WHO and UN, to the smaller NGOs. However, there have been more consensuses in the definition of life skills than for the term development, even if some of the definitions of life skills tend to capture large aspects of the term.

WHO and UN suggested that life skills are:

[A]bilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life. In particular, life skills are a group of psychosocial competencies and interpersonal skills that help people make informed decisions, solve problems, think critically and creatively, communicate effectively, build healthy relationships, empathise with others, and cope with and manage their lives in a healthy and productive manner. Life skills may be directed toward personal actions or actions toward others, as well as toward actions to change the surrounding environment to make it conducive to health. (2012; UNESCAP, 2009; WHO, 2003)

Here, WHO and UN are operating with a highly broad definition of the term life skills, without any attempt to specify what they mean, leaving the life skills program developers to decide what type of life skills to concentrate on. Later, Gould and Carson (Gould & Carson, 2008; p. 3) suggested their definition of life skills to be "*[t]hose internal personal assets, characteristics and skills such as goal setting, emotional control, self-esteem, and hard work ethic that can be facilitated or developed in sport and are transferred for use in non-sport settings*". Contrary to the WHO and the UN, Gould and Carson were trying to be more specific about what kind of skills that should be characterized as life skills. Others have also defined the term life skills, and Ajzen (1991) defined life skills as:

Those skills that enable individuals to succeed in the different environments in which they live, such as school, home and in their neighborhoods. Life skills can be behavioral (communicating effectively with peers and adults) or cognitive (making effective decisions); interpersonal (being assertive) or intrapersonal (setting goals). (Ajzen, 1991, p. 40)

As we can see, the range of definitions of the term life skills suggests that a life skill is not only supposed to help the youth in the participation of a sport activity, but that the transfer of a specific life skill to other settings outside the sport arena is demanded for the life skill to become a *true* life skill (Ajzen, 1991; Gould & Carson, 2008). Moreover, the life skills literature suggests that life skills are like physical skills, and that they are taught through demonstration, modeling and practice. Highly important is the meaning that sport itself is *not* the thing that teaches these skills, they need to be intentionally

taught and practiced throughout the sport experience. However, the similarities with physical skills makes the sport context a desirable backdrop for teaching life skills, because here skill development is the norm, the youth is often highly motivated to participate, and it provides clear results for hard work (Ajzen, 1991; Gould & Carson, 2008).

When developing new programs to develop life skills, the direction of the programs and interventions should be decided by the definition of life skills, and program developers should see life skills as psychosocial characteristics, rather than isolated behaviors (Ajzen, 1991; Hodge et al., 2012). In addition, it is interesting to mention that there have been several other terms in use to describe life skills: "*[S]ocial- emotional learning, emotional intelligence, positive psychology, resilience, and character education*" (Hodge et al., 2012, p. 3) have all been used, but most authors prefer the term life skills as the area of interest concentrates on learning of *skills*. Hodge et al. (Ajzen, 1991; Armitage & Conner, 2010; 2012) also suggested widening the life skills development focus to a life-long perspective, including their life skills development philosophy into a life long perspective, rather than focusing and narrowing it to youth as it often has been in the past.

Conceptual model of life skills development

Because of the diversity and lack of specificity in defining life skills, Hodge et al. (2012) wanted to create a comprehensive conceptual framework of life skills development to support the research of life skills development program effectiveness, and at the same time secure the opportunity to compare different life skills programs. In the process they stated that, "*to truly assess underlying psychological development that may have occurred as an outcome of a LS intervention we need direct measures of psychological mechanisms that affect such development*" (Ajzen, 1991; 2011; Hodge et al., 2012, p. 8; 2012). The solution and new model (see Figure 1), integrated the three basic needs of autonomy, competence and relatedness with its needs-supportive motivational climate from SDT (Deci & Ryan, 2000) into the Life Development Intervention (LDI) (Danish, Petitpas, & Hale, 1993; Hodge et al., 2012). The concept is elegantly summarized as:

The more that an individual internalizes the basic needs, the more likely he or she is to develop the ability to 'generalize' life skills to a number of life contexts

(e.g., school, family, part-time work, job). Furthermore, when LS values are central to an individual's sense of self, those values are more likely to motivate LS-related actions and the transfer of life skills from one life domain to others. (Deci & Ryan, 2000; Hodge et al., 2012)

Following model (Figure 1) is an example and modified version of the intended conceptual model from Hodge et al. (2012). The life skill development model highlights the importance of supporting the individual's psychological needs to optimize the possibility for the person to develop and transfer the skills and values that are taught in the programs. The life skills development in the model is incorporated in the life long development perspective of LDI.

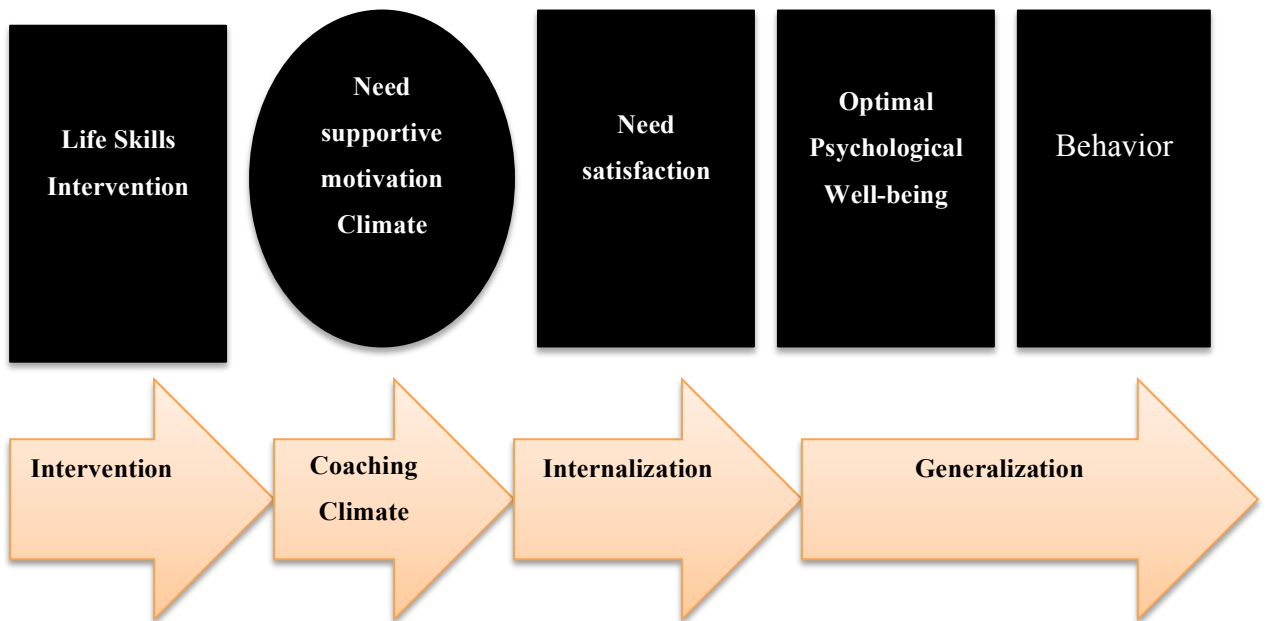


Figure 1: Conceptual model from Hodge et al. (2012) of life skills development and generalization. Modified to fit the current research.

Life Development Intervention

LDI is a life-long perspective on development, change and growth in humans (Danish et al., 1993; Hartmann & Kwauk, 2011, p. 6). LDI considers the past and the future in a human's life, and view change as a series of sequential phases, where development can lead to personal crisis and problems, but not necessarily lead to negative outcomes.

Hodge et. al. (Hodge et al., 2012) suggested that this knowledge about the life-changing periods, should be used to implement LS interventions based on the support of the Basic Psychological Needs Theory (BPNT) from SDT.

Basic Psychological Needs Theory

BPNT (Deci & Ryan, 2000; *SDT*, n.d.) is a sub theory drawn from SDT to clarify the concept of basic needs and how they affect psychological health. After years of research on motivation, Deci and Ryan concluded that among the many important human needs identified, there existed three universal psychological needs. Satisfaction of these three needs was theorized to directly affect the human psychological health.

The conceptual model from Hodge et al. (2012) made use of the BPNT with its three basic needs for autonomy, competence and relatedness, and it highlights that the satisfaction of the three needs in social environments are predicted to support healthy human functioning, while needs neglecting or social environments involved in conflicts are predicted to be antagonistic in nature (Ryan & Deci, 2002). Further, Ryan and Deci defined the basic needs as universal, and expected them *"to be evident in all cultures and developmental periods."* (Ryan & Deci, 2002, p. 7). Comprehensive research in a variety of contexts and cultures has confirmed the association between satisfaction of the basic needs and psychological well-being, although cultures seem to support the needs through different means and place divergent relative importance on the three needs (Deci & Ryan, 2008a). The authors also claimed that even if the need satisfaction was not explicitly stated as goal objectives, the healthy human psyche tend to seek situations that provides the opportunity for it (Ryan & Deci, 2002).

Autonomy. The need for *"autonomy refers to being the perceived origin or source of one's own behavior."* (Ryan & Deci, 2002, p. 8). The perception of control and the possibility to act from own interest and integrated values characterize the feeling of autonomy. Even if the behavior is influenced by external sources, it is categorized as an autonomous act, and must not be confused with the concept of independence (Ryan &

Deci, 2002).

Competence is a felt sense of confidence, and not an acquired skill. It "refers to feeling effective in one's ongoing interaction with the social environment and experiencing opportunities to exercise and express one's capacities" (Ryan & Deci, 2002, p. 7). The need for feeling competence leads humans to constantly seek challenges they can master, and at the same time it makes them strive to maintain and enhance these skills.

Relatedness refers to feeling connected to others, caring for and being cared for by those others, to having a sense of belongingness both with other individuals and with one's community." (Ryan & Deci, 2002, p. 7). It is concerned with the psychological sense of being in a secure social environment, and not the possible outcomes of this belongingness and relation to others, or status achieved.

There have been several other needs previously under study, but each of the three basic needs is shown to be absolutely vital for an optimal development, and as previously mentioned, thwarting or neglecting one or more of them would have negative consequences, something suggested as *not true* for most other psychological needs (Deci & Ryan, 2000).

Balance of need satisfaction

Satisfaction of the three needs as a measure and necessity for the perception of well-being has been continuously reported in research over the last decades (Deci & Ryan, 2008b). Wanting to extend this research, investigating if the balance in need satisfaction could affect the perception of psychological well-being, Sheldon and Niemiec (2006) found that people who developed a harmony in their lives, showing a balanced need satisfaction, reported more well-being than people who were more obsessive towards one of the needs – not neglecting the others – but showing a more variance in the need satisfaction score. Their research findings suggested that trying to maximize certain needs, ignoring others, could have a positive short time effect on well-being, but more likely a detrimental long time effect of it. Concluding that all three psychological needs matter, Sheldon and Niemiec recommended that all persons should strive to develop a satisfaction of all three needs. Later, Milyavskaya et al. (2009), found extending evidence to the balance of needs research when they through various studies showed that balance across contexts, and not only inside a single investigated context, was

important for different outcomes (e.g. psychological well-being, school drop out). The findings were replicated in different cultures, supporting the claim of universal importance for the BPNT.

Autonomy-supportive coaching climate

Research has also through the years reported evidence of SDT and the motivational benefits of autonomy-supporting coaching style (see Adie, Duda, & Ntoumanis, 2008; Amorose & Anderson-Butcher, 2007; Gagné, 2003; Lim & Wang, 2009; Reinboth, Duda, & Ntoumanis, 2004). The research on coaching and motivational climates deliberately supported the autonomy of the participants, positively predicted the perceived competence, sense of relatedness and autonomy; the three basic needs important for psychological well-being (Deci & Ryan, 2000); and life skills development and internalization (Hodge et al., 2012).

Autonomy-supportive coaching climate is often recognized by a coach engaged in behaviors that gives the participants choices and opportunities to take initiative within specific limits and rules, acknowledges and accepts the experienced feelings of the participants, gives a meaningful rationale for the activities, and avoid excessive control and use of tangible rewards stimulating ego-involvement (Mageau & Vallerand, 2003). In contrast, a coach that are forcing participants to think and act in a certain way, controlling their behaviors, are expected to diminish the need satisfaction for his or her participants (Mageau & Vallerand, 2003). The autonomy-supportive environment is analogous to the mastery oriented climate explained in the Achievement Goal Theory (Nicholls, 1984). Later, Ommundsen and Kvalø (2007) reported a successful use of the two theories together showing significant correlates between autonomy support and mastery climate on intrinsically regulated motivation and enjoyment in physical education.

Autonomy – as a member of the three basic needs, occupies a unique position, as the need for competence and relatedness can be satisfied through less self-determined and controlled behaviors, while the need for autonomy can only be satisfied through behavior regulated by the person itself, perceiving volitional control and choices rather than pressure and control. A person could work hard to become more competent, and another person could feel related to a group behaving in accordance with the social

norms of that group. In both cases the behaviors could be autonomous or controlled, but research has shown that only when the need for competence and relatedness comes from the feeling of autonomous behaviors, the positive psychological outcomes as well-being is presented (Ryan & Deci, 2000; Sheldon & Niemiec, 2006). Sheldon and Niemiec (2006) also identified the importance of a balanced satisfaction between the needs, not necessarily highlighted in the degree they now suggested it should have.

Study intention

As introduced, sport in development work has both loud voices that advocates and criticizes its use in the war against the raging epidemic of HIV/AIDS. Even if the HIV/AIDS epidemic is presumably stalling in most areas of the world, the strategies used by KAO and other SiD organizations teaching, monitoring and evaluating life skills development obviously needs to improve. The current study based its investigations on the M & E system of life skills development from KAO (see appendix H), creating a questionnaire, which was supposed to identify possible differences in life skills between KAO participants and mere sport activity participants in Lusaka, Zambia. At the same time, the current study tries to validate SDT in SiD work, investigating the associations between coaching climate and need satisfaction in the total study sample, together with an investigation of the conceptual model of life skills development from Hodge et al. (2012) and its theorized associations between coaching climate, need satisfaction and behavior intentions. According to SDT and the conceptual model from Hodge et al. (2012), a SiD program participant that perceives the coaching climate as highly autonomy-supportive should theoretically have greater need satisfaction and balance of needs, leading the participant to internalize the life skills taught by the program (e.g. the life skills of HIV/AIDS knowledge), and optimize the possibility for the participant to generalize the life skills (i.e. behave in accordance with the new life skills outside the program arena). Last, based on the current investigations, we will briefly discuss the current KAO life skills development M & E system, and try to suggest some practical implications for the SiD organization.

Research question

To test the theorized associations in the conceptual model of Life Skills Development (Hodge et al., 2012), using SDT (Deci & Ryan, 2000), four hypotheses were formulated from the research question to best test the associations between the variables coaching

climate, need satisfaction, balance of needs, HIV/AIDS knowledge, and the behavior intentions of tolerance and condom use, Based on the study intention and background for this thesis, the main research questions are:

Can sport activity participants in Lusaka, Zambia, confirm the theorized associations between autonomy-supportive coaching climate, need satisfaction and balance of needs, and can self-reported perception of these variables predict the behavior intentions for the life skills on tolerance of HIV/AIDS infected peers and condom use?

Research Hypotheses

Secondly, we present the four hypotheses used to investigate the research question.

Hypothesis I

We hypothesize that the participants in the SiD programs – exposed to life skills sport activities – show higher self-reported HIV/AIDS knowledge and behavior intention on tolerance towards sport participation together with HIV/AIDS infected peers, and condom use intention, when compared with participants not exposed to Life Skills sport activities.

Hypothesis II

We hypothesize that autonomy-supportive coaching climate predicts positive need satisfaction and balance of needs.

Hypothesis III

We hypothesize that high self-reported need satisfaction and balance of needs are positively associated with high HIV/AIDS knowledge.

Hypothesis IV

We hypothesize that autonomy-supportive coaching climate, need satisfaction and balance of needs are positively associated with behavior intentions of tolerance and condom use.

Method

Introduction

The following chapter presents the methodology chosen by the researcher for the current study. It will present study design, description of study participants, sample selection procedure, research instruments, data collection procedures and how the data were analyzed.

Design

The current study used a cross-sectional descriptive research design, delivering a questionnaire to its sample. This study was therefore not able to draw conclusions about cause and effect, but it could be important in the field of sport psychology as an early test of the conceptual model from Hodge et al. (2012) and the salience of BPNT in SiD work.

Participants

Respondents in this study consisted of 162 adolescents participating in sport activities provided by five organizations: Sport in Action, EduSport, SCORE Zambia, OYDC and NOWSPAR. The participants ranged in age from 11 to 25 years ($M = 15.75$, $SD = 3.10$). For this study, 75 male and 82 female responded, divided into two main study groups of Intervention Group (IG; $n = 107$), and Control Group (CG; $n = 55$).

The sample ranged from 0 to 6 years of participation in the activities provided by the organizations ($M = 1.54$, $SD = 1.62$). Years of education ranged from 0 to at least 12 years ($M = 7.82$, $SD = 2.74$). Of the 162 respondents, 61 (37,7%) was tested for HIV/AIDS, 91 (56,2%) was not, and 5 (3,1%) did not know if they were tested. 116 (71.6%) knew of a place where they could be tested for HIV/AIDS, and 39 (24,1%) did not know.

Intervention and control group

The IG consisted of 50 males and 54 females (M age = 14.47, $SD = 2.00$), compared to the CG, which consisted of 25 males and 28 females (M age = 18.02, $SD = 3.41$). Mean years of education for the IG was 7.41 ($SD = 2.35$), and mean years of participation in

the activity were 1.97 ($SD = 1.76$). Mean years of education and participation for the CG was 8.72 ($SD = 0.31$) and 0.75 ($SD = 0.91$), respectively.

Of the 107 respondents in the IG, 32 (29.6%) were tested for HIV/AIDS, 65 (60.7%) were not, and 5 (4.7%) did not know. 68 (63.6%) had knowledge of where to go to get tested, and 70 (65.4%) had heard of the organization KAO. Of the 55 respondents in the control group, 29 (52.7%) were tested for HIV/AIDS, 26 (47.3%) were not. 48 (87.3%) had knowledge of where to go to get tested, and 25 (45.5%) had heard of the organization KAO.

Sample selection

The respondents in the IG were randomly chosen from two activity sites operated by the KAO member organizations SiA and EduSport. In addition, the respondents from SCORE Zambia were chosen from the participants in a Kicking Aids Out anniversary tournament.

The CG consisted of participants in sport activities provided by NOWSPAR at Kaunda Square - an activity site much similar to the ones of the KAO groups, and sport participants from the Olympic Youth Development Center (OYDC). The major difference between the groups, were that the respondents in the CG had *no* HIV/AIDS or Life Skills education through sports. Further, all respondents in the IG and the CG were voluntarily participating in the sport activities provided by the organizations (see Table 1, p. 38 for sample frequency).

Table 1

Sample frequency

Activity site	<i>n</i>	%
Munali	19	11.7
Ngombe	18	11.1
Fountain of Hope	21	13.0
Kalingalinga	20	12.3
SCORE Zambia	29	17.9
Kaunda Square	29	17.9
OYDC	26	16.0
IG Total	107	66.3
CG Total	55	33.7
Total Sample	162	100.0

Note: OYDC = Olympic Youth Development Center, IG = Intervention Group, CG = Control Group.

Instruments

Need Satisfaction. Basic Needs Satisfaction in Sports Scale (BNSSS) (Ng, Lonsdale, & Hodge, 2011) was used to measure the participants' need satisfaction. The self-report instrument consisting of twenty items measuring the need for autonomy (e.g. "In my sport, I feel I am following goals that are my own"), relatedness (e.g. "In my sport, I feel close to other people"), and competence (e.g. "I feel I am good at my sport") is shown to be a psychometrically valid and reliable measure of need satisfaction in sport (Ng, Lonsdale, & Hodge, 2011; Hodge & Danish, in press). The respondents answered the questions using a five-point Likert-scale ranging from 1 ("Not true at all") to 5

(“Very true”), and the internal consistency of the items composing the three need variables was determined via the calculation of coefficient alpha (Cronbach, 1951). For the relatedness variable and the competence variable, the five items showed an acceptable alpha ($\alpha = .662$ and $\alpha = .610$). The composite variable autonomy consisted of three under-composite variables: Choice (four items), Internal Perceived Locus of Causality (IPLOC) (three items) and Volition (three items). Choice alpha = .697, IPLOC = .515 and Volition = .130. The volition subscale showed a low alpha most likely because one of the items included was a reversed question, which presumably was not understood or recognized by the respondents. Because the measured Volition was just a under-composite variable measuring only a part of the perceived autonomy, we decided to exclude the variable from the further analysis to prevent it from giving a false result of the need satisfaction autonomy.

Balance of Need Satisfaction. To assess the balance of need satisfaction, we used a method used by Sheldon and Niemiec (2006) where we calculated the differences between the mean values of the three needs autonomy, competence and relatedness. Because we used a five-point Likert scale, the balance score could range from 0 (indicating a perfect balanced need satisfaction; e.g. the score of 5, 5 and 5) to 8 (indicating the maximum summed difference between the need values; e.g., with the mean need satisfaction scores of 1, 1, and 5, or 1, 5, and 5). To create a variable in which higher scores corresponded to best possible balance among the three needs, and as a way to ease interpretation, each balance score was subtracted from the highest possible difference score (which in this case was 8) leaving a perfect balance score to become 8, and the score of 0 as the least balanced score possible.

HIV/AIDS Knowledge. The participants` HIV/AIDS knowledge was measured using eight (8) questions from a modified version of HIV Knowledge Questionnaire (HIV-K-Q) constructed by Carey, Morrison-Beedy and Johnson (1997). Maro, Roberts and Sørensen (2008) successfully used a similar modified HIV-K-Q to assess the knowledge related to HIV transmission through blood and sexual intercourse, HIV testing, misconceptions and basic HIV facts and prevention. The current survey used eight items to measure HIV/AIDS knowledge about transmission (e.g. “Can you get HIV by shaking hands with someone who has HIV?”), misconceptions (e.g. “Can a healthy looking person have HIV or AIDS?”), HIV/AIDS testing (e.g. “Is there a blood test to

tell if a person has HIV or AIDS?”). The questions used to indicate HIV/AIDS knowledge highly correlated with KAO’s own knowledge evaluation questionnaire (see appendix H) selected to represent the HIV/AIDS knowledge in KAO activity participants. The response options were *yes*, *no* and *don’t know*, and were recorded as 0 (false answer and don’t know) and 1 (correct answer). The answers were summed, and higher score was used to represent a measure of better HIV/AIDS knowledge.

Autonomy-Supportive Coaching Climate. The Sport Climate Questionnaire (SCQ) (SDT, n.d.) was used to assess the participants’ degree of perceived autonomy-supportive coaching climate. The survey used the short self-report instrument containing 6 of the 15 items from the original long form SCQ, and the questions relates to the autonomy support of the respondent’s coach (e.g. “I feel that my coach gives me choices and options”). Across domains, the alpha coefficients for the SCQ, has previously shown good internal consistency (SDT, n.d.). Each question was answered using a five-point Likert-scale ranging from 1 (“Not true at all”) to 5 (“Very true”). The internal consistency for the six items of Autonomy-Supportive Coaching Climate showed an acceptable alpha ($\alpha = .778$).

Behavior Intentions. The Behavior Intentions questionnaire part was constructed in line with Francis et al. (2004) and Ajzen (n.d.) manuals on constructing questionnaires based on the Theory of Planned Behavior (Ajzen, 1991). The questions were piloted twice to small samples from the population in study, and in collaboration with the research assistant – well known with Zambian adolescents and the local language, adjusted to fit the population under study. The behavior intentions investigated were deliberately influenced by KAO’s own life skills development interests concerned around HIV/Aids knowledge, Tolerance and Empowerment (KAO, 2010a). The single-item *behavior intention* variables were measured using questions on tolerance intention towards HIV/AIDS positive individuals in sport (“I PLAN to accept fellow sport participants who has HIV or Aids”), and the intention to use condom during sex (“I PLAN to use condom if having sex, so I don’t get HIV or AIDS). The single-item variables used a five-point Likert-scale with the options ranging from 1 (“not true at all”) to 5 (“very true”). The same five-point Likert-scale was used to measure the single-item *normative belief* variables for tolerance and condom use (“Most people who are important to ME,

would like me to play sports together with persons who has HIV or AIDS”) and the single-item *behavioral control* variables for tolerance and condom use (“I am SURE that I will use a condom if having sex, so I don’t get HIV or AIDS”). For the single-item *attitude toward the behavior* variable for tolerance (“Playing sport together with persons who has HIV or Aids would be”), the survey used a five-point Likert-scale ranging from 1 (“Very Bad”) to 5 (“Very Good”), and for the single-item *attitude towards the behavior* variable for condom use (“Using a condom if having sex, so I don’t get HIV or Aids would be”), the survey used a five-point Likert-scale ranging from 1 (“Very Wrong”) to 5 (“Very Right to do”).

Procedures

The data collection took place in Lusaka, Zambia between 21.11.2011 and 10.12.2011. Collection of data from a group of about 20 adolescents took between 30-45 minutes, depending on the English skills of the individual. The researcher used an assistant, a 23-year-old Zambian male with background and coaching experience from different sport activities. The researcher ensured that the research assistant was familiar with basic research ethics and routines, and that he had adequate knowledge of written and spoken English and the local language Nyanja. The researcher also made sure that the research assistant had the same understanding of the questions in the questionnaire as the researcher.

Parental consent to participate in activities and evaluations regarding these was already obtained by the respective organizations. The survey participants received information about the project - and the choice not to participate, before any data was collected from the randomly chosen samples, and the researcher highlighted the opportunity for the participants to withdraw from the study at any time. The Sport-in-development organizations, and the children participating in the sport activities they provided, were informed that the research request was coming from the Norwegian School of Sport Sciences and standard procedures for protection of research participants were followed during data collection and the following data analysis.

No direct person identifiable data was gathered - only indirect person identifiable data. The researcher entered the survey responses into the IBM SPSS Statistics 19.0, so the responses could not be traced back to any specific respondent. The Norwegian Social

Science Data Services (NSD) accepted the project.

Pilot research

Thomas, Nelson & Silverman (2005) highlighted the importance of pilot work to control for major methodological flaws, and we did two pilot studies before initiating the research.

Pilot 1 was done without the research assistant. The questionnaire was piloted on two boys, 13 and 12 years old, who spoke English quite well, and were among the most educated children in their group. The 13-year-old boy had participated in the KAO activities for 8 years and had 9 years of education. The other one had participated in KAO activities for 5 years and had 7 years of education. After Pilot 1, the researcher simplified some of the wordings in the questionnaire, to ensure that the respondents would understand the questions. The five-point Likert-scale needed to be explained in more detail, and the researcher and the research assistant created an explanation of the different answer options, and placed it on top of the questionnaire.

Pilot 2 consisted of 5 girls participating in KAO activities at one of the research sites. The girls had relatively poor English skills and had difficulties understanding the questions. The sample was asked to sit so they couldn't see what the others were answering. Mean age was 13,2, age ranging between 12 and 14. The results showed a greater understanding of the five-point Likert-scale, after putting in an explanation of each scale option.

Data analysis

The IBM SPSS Statistics 19.0 was used to analyze the data. A MANOVA was performed to test for Type 1 error, before we performed post hoc-tests using Independent T tests looking at differences between the IG and the CG in the variables HIV/AIDS knowledge, need satisfaction, balance of needs, and the two behavior intentions tolerance and condom use. One-Way ANOVA's were used to investigate how high and low scoring groups on need satisfaction and balance of needs affected the HIV/AIDS knowledge. Multivariate Regressions were used to investigate the relationships between the predictor variables of autonomy-supportive coaching climate,

need satisfaction and balance of needs on the dependent variables tolerance intention and condom use intention.

Proofing. Before any analysis took place, data material was checked for entering errors by controlling every fifth questionnaire response recorded in SPSS, with the original questionnaire response.

Outliers. Outliers in the data set were detected manually, looking through the data material, as most of the variables were at the ordinal level. One (1) outlier was detected in participant 93 and removed (10 years of participating in the activities, when the activities only had been present for 6 years).

Missing cases at random. We started with a manual search for missing values, and found that some of the participants were missing important parts of the questionnaire. Seven (7) participants were excluded as a consequence of this search: Participants number 10, 66, 70, 72 were missing all the Behavior Intention variables. Participant number 32 was missing all but 4 values of the Behavior Intention variables, participant number 117 was missing all the Sport Questionnaire and the Behavior Intention variables, and participant 58 was removed because it was a replicate of number 57. After the removal of these cases, we performed a Little's Missing Cases At Random (Little's MCAR) test for the variables measured by the BNSSS, SCQ and behavior intentions, which showed a Chi-Square of 2886,86 (DF = 2740, $p = .025$), all variables except one missing values less than 5% (BNSSS question number 6 missing 6,2%). As the Little's MCAR test was not significant ($p > .001$), we assumed that the data's were missing at random.

Missing values. Expectation Maximization (EM) method was then used to replace missing values, and it imputed a single new data set that had no missing values. The EM method based the imputation on the relationships among the sub scale variables and the likelihood. At the same time it injected a degree of random error to reflect uncertainty of the imputation (Acock, 2005).

Skewness and Kurtosis. Screening for skewness showed - as expected using a five-point Likert scale, skewness to the left, with negative values for all variables (all $< - 2,0$). It

also showed some signs of Kurtosis issues, especially for the behavior intention variables on condom use (scores over 1.0).

Normality. Tests of normality for all variables, using Kolmogorov-Smirnov and Shapiro-Wilk, were significant ($p < .001$), except for the need satisfaction variable ($p = .001$), indicating that the distribution of the data violated the statistical concept of normality. The Test of Normality would alone give reason to avoid parametric tests, but always performing non-parametrical tests together with parametrical tests showed no differences in statistical results, controlling the validity of the use of parametrical tests. Further, the study questionnaire was based on five-point Likert-scales – where items were constructed to measure participants' perception of issues the sport activities were supposed to address – the researcher found it unreasonable to expect that the results would show statistical normality. Moreover, the fact the parametrical tests are statistically stronger (Thomas et al., 2005), and robust in terms of analyses with less than normal data, and that looking at the descriptive histograms of all variables and single composite variables showed clear signs towards a normal distribution, gave reason to include parametrical tests in the analysis.

Results

Hypothesis I: Differences between sport activity groups

It was hypothesized that the IG participants - exposed to life skills sport activities – would show higher self-reported HIV/AIDS knowledge and behavior intention on tolerance towards sport participation together with HIV/AIDS infected peers, and condom use intention, when compared with participants in the CG - not exposed to life skills sport activities. MANOVA was used to control for Type 1 error and Independent T-tests were used to find differences between groups.

Preliminary analysis

To control for Type 1 error, we performed a MANOVA with the three dependent variables: HIV/AIDS knowledge, tolerance intention and condom use intention, and IG/CG as independent variable. The MANOVA showed a Pillai's Trace significance level that did not reject the null hypothesis ($p = .219$). Levene's Test of Equality of Error Variances showed p -values larger than .05 for all of the dependent variables, confirming the homogeneity assumption.

Primary analysis

To verify the findings of the MANOVA, we conducted a series of Independent T-tests to test our first hypothesis (Table 2). The first result showed no significant difference (p level .05) between the Intervention Group ($n = 107$) and the Control Group ($n = 55$) in mean values of HIV/AIDS knowledge. In fact, the Control Group scored 77% (6.16/8) on the HIV/AIDS test, compared to the Intervention Groups 70.5% (5.64/8). Further, no significant differences were found between the groups in the behavior intention variables on tolerance or condom use (p level .05).

Table 2

Group means and standard deviations for HIV/AIDS knowledge, tolerance intention and condom use intention

Variable	Group	<i>n</i>	<i>M</i>	<i>SD</i>
HIV/AIDS knowledge	IG	107	5.64	1.79
	CG	55	6.16	1.71
Tolerance intention	IG	107	4.01	1.19
	CG	55	4.04	1.29
Condom use intention	IG	107	4.27	1.03
	CG	55	4.30	0.86

Note: IG = Intervention Group, CG = Control Group, *n* = Participant number, *M* = mean, *SD* = standard deviation, HIV/AIDS knowledge. = HIV/AIDS knowledge test score, Tolerance intention = Behavior intention to tolerate sport participation together with people infected with HIV/AIDS, Condom use intention = Behavior intention to use Condom if having sex. Scale: All (except HIV/AIDS knowledge): 1 – 5. HIV/AIDS knowledge: 0-8. * = $p < .05$.

Hypothesis II: Coaching climate predictions on need satisfaction and balance of needs

It was hypothesized that a positive score of autonomy-supportive coaching climate would predict a higher score of need satisfaction and balance of needs. Regression analysis was conducted to find out how much of the variance in need satisfaction and balance of needs the coaching climate accounted for.

Preliminary analysis

Conducting bivariate correlations using Pearson's *r* (List of Tables), we found that all variables correlated positively and significantly. The autonomy-supportive coaching climate variable correlated with the variables need satisfaction and balance of needs (*p*

< .001; $r = .57$ and $.34$, respectively), and need satisfaction and balance of needs showed a correlation of $r = .74$, $p = .42$. We also decided to control for the variables age, gender, years of participation and education, but only for the IG, all showing low correlations ($r = -.15$ to $.17$), and therefor not considered in the further analysis.

Table 3

Sample means, standard deviations, and inter-correlations of the study variables need satisfaction, balance of needs and autonomy-supportive coaching climate

Variables	N	M	SD	1.	2.	3.
1. Need satisfaction	163	4.17	0.53	-		
2. Balance of needs	163	6.95	0.99	.42*	-	
3. Autonomy-supportive coaching climate	163	4.00	0.80	.57*	.34*	-

Note. * = $p < .001$.

Primary analysis

We conducted a bivariate linear regression to find out how autonomy-supportive coaching climate predicted the variances in the two dependent variables need satisfaction and balance of needs. The result showed that the coaching climate statistically accounted for 30% (R square = 0.30) of the variance of need satisfaction and 10% (R square = .10) of the balance of needs variance. Both regression analyses were significant at the p level .001.

Table 4

Regression Analysis for need satisfaction and balance of needs

Variables	<i>B</i>	<i>SE B</i>	β
Regression 1: Constant: Need satisfaction	2.65	.18	
Autonomy-supportive coaching climate	.38	.04	.57*
Regression 2: Constant: Balance of needs	5.41	.38	
Autonomy-supportive coaching climate	.36	.04	.55*

Note. Regression 1: *R square* = .33, ΔR = .32, $F = 77.44^*$. Regression 2: *R square* = .10, ΔR = .093, $F = 17.45^*$. * = $p < .001$.

Hypothesis III: Differences in HIV/AIDS knowledge for high and low scoring groups on need satisfaction and balance of needs.

In our third hypothesis, we hypothesized that high self reported need satisfaction and balance of needs are positively associated with high HIV/AIDS knowledge score. We chose a method of separating the total sample into high and low groups (High Group = $\geq \Sigma (M + 1/2SD)$, and Low Group = $\leq \Sigma (M - 1/2SD)$) on the variables need satisfaction and balance of needs. The method of $1/2 SD$ was chosen, as the available data material was limited to 162 participants. This method, contrary to a method of $\geq/\leq \Sigma (M +/- SD)$, included more data in the analysis, at the same time making a clear separation between high and low scoring groups. Further, we conducted One-Way ANOVAS to investigate the associations between the high and low scoring groups, on need satisfaction, balance of needs and HIV/AIDS knowledge.

Preliminary analysis

For need satisfaction, the formula was $4.17 + 0.27 = 4.44$ and $4.17 - 0.27 = 3.90$, high group consisting of scores ≥ 4.44 ($n = 59$) and low group ≤ 3.90 ($n = 49$). For balance of needs, the formula was $6.95 + 0.48 = 7.91$ and $6.95 - 0.48 = 6.47$, high group consisting

of scores ≥ 7.91 ($n = 24$), and low group ≤ 6.47 ($n = 36$). When we looked at the mean difference between the high and low need satisfaction groups, the analysis showed a non-significant result with the high need satisfaction group mean value of 5.98 and the low scoring group with a mean value of 5.55 ($F = 3.149, p = .081$).

Primary analysis

The One-Way ANOVAs with HIV/AIDS knowledge as dependent variable showed that participants with high need satisfaction scored higher on the HIV/AIDS knowledge test, 74.8% ($M = 5.98/8, SD = 1.95$), than the low need satisfaction group, 69.4% ($M = 5.55/8, SD = 1.85$), but not significantly ($p = .244$). For the high and low balance of needs groups, the difference was the other way around, with the high group scoring 11,1% lower in HIV/AIDS knowledge than the low balance of needs group ($M = 5.00/8, SD = 2.23$ and $M = 5.89/8, SD = 1.65$, for the high and low group respectively; $p > .05$).

Table 5

Mean differences in HIV/AIDS knowledge between high and low scoring groups of need satisfaction and balance of needs

High/Low Group	<i>n</i>	<i>M</i>	<i>SD</i>
		HIV/AIDS knowledge	HIV/AIDS knowledge
High need satisfaction	59	5.98	1.95
Low need satisfaction	49	5.55	1.85
High balance of needs	24	5.00	2.23
Low balance of needs	36	5.89	1.65

Note. High scoring group calculation = $\geq \Sigma (M + 1/2SD)$, Low scoring group calculation = $\leq \Sigma (M - 1/2SD)$. No significant differences between the high and low scoring groups ($p > .05$).

Hypothesis IV: Autonomy-supportive coaching climate, need satisfaction and balance of needs prediction of tolerance and condom use intentions.

It was hypothesized autonomy-supportive climate, need satisfaction and balance of needs would positively predict tolerance and condom use intentions among the total sample of sport participants. We chose to investigate the current hypothesis informed by the Theory of Planned Behavior (TPB) (Ajzen, 1991). The TPB is an extension of the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), and central for the TPB is the *intention* to behave in a certain way. The stronger the intention, the more likely it is for the person to behave in that certain way. Intentions are assumed to capture the motivational factors for the behavior, and are a measure for how much effort a person will put down to act in the intentional way (Ajzen, 1991). At the same time, it's important that the behavior is under volitional control; the person must have the opportunity to control his or her performance of the behavior. The TPB has been put simple: "*To the extent that a person has the required opportunities and resources, and intends to perform the behaviour, he or she should succeed in doing so*" (Ajzen, 1991, p. 182). TPB uses three conceptual determinants predicting behavior intentions. These three are *attitude towards the behavior*, *subjective norm* and *perceived behavioral control*. Attitude towards the behavior refers to the favorable or unfavorable belief of the outcome of a certain behavior. Subjective norm refers to a person's belief of important others' approval or disapproval of a specific behavior, and last, perceived behavioral control refers to a person's belief of the difficulty or ease performing the behavior (Ajzen, 1991).

Preliminary analysis

Informed by the TPB, we conducted a *Forced Entry Regression* to investigate how much of the variance of the behavior intention variables the three predictor items subjective norm, attitude towards the behavior and perceived behavior control statistically accounted for in our study. A forced entry method, including all predictor variables in one model, was preferred to best test if the results were in line with the theory of planned behavior (Field, 2005). The result from the first analysis (Table 6), using tolerance behavior intention as the dependent variable, showed that the predictor variables statistically only answered for 12.2% (*R Square* = .122) of the intention to tolerate sport participation together with HIV/AIDS infected persons. Further, the result

with the condom use as the dependent variable (Table 7) showed that the predictor variables statistically answered for 36.9% ($R Square = .369$) of the condom use intention variable. All correlations were significant ($p < .05$).

Table 6

Sample means, standard deviations, and inter-correlations between the predictor variables subjective norm, perceived behavior control and attitude towards the behavior, and the dependent variable tolerance intention

Variables	<i>M</i>	<i>SD</i>	1.	2.	3.	4.
1. Tolerance intention	4.00	1.24	-			
2. Subjective norm	3.96	1.13	.20**	-		
3 Perceived behavior control	4.17	1.13	.15***	.39*	-	
4. Attitude towards the behavior	4.23	1.19	.35*	.41*	.34*	-

Note. * = $p < .001$, ** = $p < .01$, *** = $p < .05$

Table 7

Sample means, standard deviations, and inter-correlations between the predictor variables subjective norm, perceived behavior control and attitude towards the behavior, and the dependent variable condom use intention

Variables	<i>M</i>	<i>SD</i>	1.	2.	3.	4.
1. Condom use intention	4.28	0.98	-			
2. Subjective norm	4.19	1.07	.582*	-		
3 Perceived behavior control	4.36	0.95	.396*	.443*	-	
4. Attitude towards the behavior	4.30	1.11	.212**	.202**	.139	-

Note. * = $p < .001$, ** = $p < .01$, *** = $p < .05$

Table 8

Multiple regressions predicting behavior intention from subjective norm, attitude towards the behavior and perceived behavior control

Variables	B	SE B	β
Regression 1. Constant: Tolerance intention	2.26	.435	
Subjective norm	.091	.093	.083
Perceived behavior control	.028	.089	.026
Attitude towards the behavior	.303	.087	.294**
Regression 2. Constant: Condom use Intention	1.31	.368	
Subjective norm	.450	.066	.490*
Perceived behavior control	.170	.073	.166***
Attitude towards the behavior	.080	.057	.089

Note. Regression 1: $R = .349$, $R\ square = .122$, $\Delta R = .105$, $F = 7.31^*$, Regression 2: $R = .607$, $R\ square = .369$, $\Delta R = .357$, $F = 30.75^*$, $* = p < .001$, $*** = p < .05$

Primary analysis

It was hypothesized that autonomy-supportive coaching climate, need satisfaction and the balance of needs would positively predict the behavior intentions of tolerance and condom use. To test how much of the variance of the two different behavior intentions tolerance towards sport participation together with HIV/AIDS infected peers and intention to use condom if having sex, we performed two hierarchical regression analyses. Autonomy-supportive coaching climate alone accounted for only 0.7% ($R\ square = .007$) of the tolerance behavior intention, and 5.0% ($R\ square = .050$) together

with the need satisfaction. Moreover, the autonomy-supportive coaching climate and need satisfaction together with the last variable in the regression analysis in this study, balance of needs, statistically accounted for 5.3% (*R square* .053) of the variance in the tolerance behavior intention (see Table 9).

Table 9

Multiple regressions predicting tolerance intention from autonomy-supportive coaching climate, need satisfaction and balance of needs

	Variables	B	SE B	β
Model 1	Constant: Tolerance intention	3.52	.490	
	Autonomy-supportive coaching climate	.125	.120	.082
Model 2	Constant: Tolerance intention	1.98	.749	
	Autonomy-supportive coaching climate	-.095	.144	-.063
	Need satisfaction	.581	.217	.252**
Model 3	Constant: Tolerance intention	2.98	1.56	
	Autonomy-supportive coaching climate	-.091	.144	-.059
	Need satisfaction	.649	.236	.282**
	Balance of needs	-.272	.371	-.065

Note. Model 1: *R* = .082, *R square* = .007, ΔR = .000, *F* = 1.073, Model 2: *R* = .223, *R square* = .050, ΔR = .38, *F* = 4.148***, Model 3: *R* = .230, *R square* = .053, ΔR = .35, *F* = 2.936***. ** = *p* < .01, *** = *p* < .05.

Further, in Table 10 (p. 56), we see how autonomy-supportive coaching climate in this study alone accounted for 2.5% ($R^2 = .025$) of the condom use behavior intention, and 8.6% ($R^2 = .086$) together with the need satisfaction. All three predictor variables: autonomy-supportive coaching climate, need satisfaction and balance of needs, statistically accounted for 9.6% ($R^2 = .096$) of the variance in the condom use behavior intention.

Table 10

Multiple regressions predicting condom use intention from autonomy-supportive coaching climate, need satisfaction and balance of needs

	Variables	B	SE B	β
Model 1	Constant: Condom use intention	3.50	.391	
	Autonomy-supportive coaching climate	.195	.096	.159***
Model 2	Constant: Condom use intention	2.03	.591	
	Autonomy-supportive coaching climate	-.015	.113	-.013
	Need satisfaction	.555	.171	.300**
Model 3	Constant: Condom use intention	3.47	1.22	
	Autonomy-supportive coaching climate	-.009	.113	-.007
	Need satisfaction	.653	.185	.353**
	Balance of needs	-.392	.292	-.116

Note. Model 1: $R = .159$, $R\ square = .025$, $\Delta R = .019$, $F = 4.134^{***}$, Model 2: $R = .293$, $R\ square = .086$, $\Delta R = .74$, $F = 7.458^{**}$, Model 3: $R = .310$, $R\ square = .096$, $\Delta R = .079$, $F = 5.60^{**}$.

** = $p < .01$, *** = $p < .05$.

Discussion

Introduction

The current study investigated if sport activity participants in Lusaka, Zambia, could confirm the life skills development model theorized associations between autonomy-supportive coaching climate, need satisfaction and balance of needs, and if self-reported perception of these variables predicted the behavior intentions for the life skills on tolerance of HIV/AIDS infected peers and condom use. The study was conducted with a sample of $N = 162$ Zambian sport program participants, where 107 of them (labeled IG) participated in sport activities designed to develop the life skills of HIV/AIDS knowledge; tolerance of HIV/AIDS infected others; and condom use. The rest ($N = 55$), in a group labeled CG, participated in their respective activities for the purpose of mere sport skills improvement, having no life skills teaching during the activities.

Hypothesis I

Our first hypothesis expected the IG to show higher scores than the CG on the variables HIV/AIDS knowledge and the behavior intentions of tolerance and condom use, as a consequence of the IG respondents participating in KAO life skills activities constructed to develop HIV/AIDS knowledge and attitudes, prompting positive behavior intentions and actual behavior. However, despite the fact that the CG did not have any life skills education during the sport activities, the two study groups showed no significant differences in any of the measured variables.

Considering that the participants in the IG were exposed to activities provided by the organization KAO, it was somewhat disturbing to find that they did not score significantly higher on HIV/AIDS knowledge or tolerance and condom use intentions when compared to the CG – not exposed to any activities addressing life skills development. However, previous research has shown both significant and insignificant differences in HIV/AIDS knowledge after SiD programs. Maro, Roberts and Sørensen (2008) successfully showed differences in HIV/AIDS knowledge and behavior intentions between the IG and the CG in a sport setting after using peer coaches and adaptive coaching style delivering the program. Later, Coalter and Taylor (2010) reported differences in HIV/AIDS knowledge between participants in SiD programs and control groups, where the SiD program participants scored higher in HIV/AIDS

knowledge, reporting the program as the main HIV/AIDS information channel. Some of the results in the latter study were discussed, suggesting that in spite of the understanding of HIV/AIDS risk factors among the SiD participants, the female participants still reported engaging in behaviors leading to pregnancy – presumably *not* transferring the life skills developed participating in the program to other areas outside the program arena (Coalter & Taylor, 2010). Contrary to the findings of Coalter & Taylor (2010), Kruse (2006) found, conducting an evaluation of KAO, insignificant differences in HIV/AIDS knowledge and attitudes between the participants SiD activities and the control group. He concluded that parallel HIV/AIDS messages were delivered by other organizations, limiting the importance of the KAO activities for new knowledge development (Kruse, 2006, p. 38). Looking at the results from the current study, the lack of information about the HIV/AIDS information received outside the sport activities makes it difficult to explain the insignificant result in HIV/AIDS knowledge difference between the study groups. It cannot be ruled out that the CG is getting HIV/AIDS knowledge delivered through other channels – more significant than the KAO channel is to the IG – and therefore showed higher knowledge in our study. The fact that we measured the HIV/AIDS knowledge using only eight (8) questions should also be taken under consideration.

Looking at HIV/AIDS knowledge and behavior intentions after a SiD program, Delva et al. (2010) found, similar to our study, that participants in a SiD program addressing HIV/AIDS knowledge and condom use did not report significantly better behavior intentions to use condom, attitudes towards using condom, or subjective norms about the behavior to use condom if having sex. Despite this lack of significance in the behavior intention variables, results from the further analysis of Delva et al. showed that for the behavior control variable regarding having a condom available or knowing where to buy a condom, and the self-report of actual use of condom, were significantly better for the SiD program participants, supporting the case study of Campbell, Williams & Gilgen (2002), which found that young men and women participating in sport clubs were less likely to be HIV/AIDS positive and more likely to use condom if having sex, than non-members. According to Delva et al. (2010), self-selection bias could explain the difference in actual report of condom use, meaning that the participants choosing to participate in the SiD program had a pre-existing better sense of control over their future and health related behaviors in contrast to the CG. However,

the lack of significance of differences in condom use intentions in the current study could also mean that the general awareness of the HIV/AIDS transmitting risk of sexual contact without condom was high. Unfortunately for the current study, the measurement limitations using a single-item intention question together with a possible social desirability bias where the study participants answer according to how they think the researcher would like them to answer (Tan & Hall, 2005), might be the best explanation for the lack of significance in differences between the groups on tolerance and condom use intentions. It would be interesting to have investigated actual tolerance and sexual behavior, as both KAO program participants and the sport activity participants probably was aware of the desirability of condom use and tolerance of others.

At the same time, it may also be necessary to take a closer look at the *action learning process* (KAO, 2010b, p. 3), which is the four step learning approach used by the KAO organizations to link activities and life skills teaching. The approach is based on using life skills activities constructed to serve life skills discussions. After performing the life skills activities, the participants reflect upon them, and try to understand how they can be related and important for life skills development. The third part in the action learning process is to get a joint understanding of the activity message, before the learning process ends with a planning of how to use these new life skills in the future. The last part of the action learning process could work as a way of making the SiD participants explicit about their behavioral intentions and how they can control the behaviors in the future. The previous reflection part in the learning process has the opportunity to discover and influence the current and future attitude towards the behaviors and the perceived subjective norm. However, based on previous presentation of research and theories of life skills development and behavior change, it seems that the life skills learning process used by KAO should be more specific in what knowledge or behavior change theories it is based upon, to ensure the same understanding of how to implement the life skills activities. According to Hodge et al. (Hodge et al., 2012) it is necessary for the program participants to develop a need satisfaction to be able to transport life skills to other arenas than the program arena.

Hypothesis II

Second in this study, we hypothesized that the coaching climate would predict need satisfaction and balance of needs. Both regression analyses were statistically significant ($p < .001$), with coaching climate accounting for 33% ($R^2 = .33$) of the variance in need satisfaction, and 10% ($R^2 = .10$) of the variance in the balance of needs.

Autonomous participation and regulation in activities has consistently been associated with positive outcomes (e.g. greater persistence, enhanced performance, positive affect and psychological well-being) (Deci & Ryan, 2008b). In addition, according to BPNT, need satisfaction would directly predict differences in psychological and physical well-being (Deci & Ryan, 2000). Reinboth, Duda & Ntoumanis (2004) highlighted the importance of the autonomy support of a persons participation in any activity for the satisfaction of needs, showing that the perception of autonomy-supportive coaching climate predicted positive need satisfaction. Research has consistently supported these claims, finding evidence that autonomy-supportive coaching climate predicts higher need satisfaction (see Adie et al., 2008; Amorose & Anderson-Butcher, 2007; Gagné, 2003; Reinboth et al., 2004).

In line with Reinboth, Duda & Ntoumanis (2004) our results support Deci & Ryan's BPNT in the context of sport. The way the activities are coached seems to have an influence on the need satisfaction of the participants, and our findings suggests that an autonomy-supportive social environment created by the coach may help maximizing the satisfaction of the needs autonomy, competence and relatedness, and create a balanced need satisfaction among SiD participants as well as mere sport activity participants in the cultural context of Lusaka, Zambia. To the extent that the satisfaction of basic needs leads to an internalization of life skills behaviors, our findings are important in that basic needs are fostered through an autonomy-supportive coaching climate. KAO and other SiD organizations and life skills research should benefit from these findings showing that coaching climate in the context of SiD work in the South is important for the need satisfaction of the participants. Especially as the conceptual model of life skills development created by Hodge et al. (2012) highlights the importance of need satisfaction for the generalization of life skills to other arenas outside the program arena, which ultimately is the goal of all life skills programs.

Hypothesis III

The third hypothesis in this study investigated if high self reported need satisfaction and balance of needs were positively associated with high HIV/AIDS knowledge score. One-Way ANOVAs showed no significant differences in HIV/AIDS knowledge between the high and low scoring groups on need satisfaction and balance of needs. However, the high need satisfaction group scored 0.44/8 (5.4%) better on the HIV/AIDS knowledge test than the low need satisfaction group. Surprisingly, for the balance of needs, the results were the other way around: The low balance of needs group scored 0.89/8 (11.1%) better than the high balance of needs group.

The method of high and low scoring groups was chosen as a way of validating the importance of need satisfaction in internalizing program life skills such as HIV/AIDS knowledge, theorized by Hodge et al. (2012), expecting the high need satisfaction and balance of needs groups to score significantly higher than the low other groups. In addition, we were especially interested to see if balance of needs – found to be at least as important as total need satisfaction (see Sheldon & Niemiec, 2006) – could reveal any differences in HIV/AIDS knowledge between the groups. The results may suggest that there are other factors contributing to the HIV/AIDS knowledge, i.e. other more important HIV/AIDS information channels directed towards the study participants (Kruse, 2006). As previously discussed, it is not unlikely that the study sample has been in contact with other HIV/AIDS knowledge providers outside the SiD program and the sport activity setting, leading to a broad knowledge base on HIV/AIDS across the total sample.

The results may also be a consequence of measurement bias, as it can not be ruled out considering the current research implemented in an unfamiliar and new setting to the researcher, together with a balance of needs calculation method and theorization, which presumably could benefit from more extensive validation research. Furthermore, we can't know if the current study participants with lower perception of need satisfaction in the sport activities have a greater need satisfaction in other arenas delivering HIV/AIDS information, leading to high HIV/AIDS knowledge across domains (Milyavskaya et al., 2009).

MacDonald, Côté & Deakin (2010) acknowledged the possibility for sport participation leading to negative outcomes for the young participants, but found evidence to suggest that any training supported by a coach with informal or formal coaching experience seemed to develop positive skills in youth. Key aspects of empirical findings from SDT propose that adaptive psychological outcomes (e.g. different adaptive life skills such as HIV/AIDS Knowledge) are a consequence of the life skills program participants' need satisfaction (see Niemiec & Ryan, 2009; Ryan & Deci, 2000; Ryan, Patrick, Deci, & Williams, 2008 on internalizing needs). Even though our results did not confirm this shown importance of internalizing the basic needs, the high need satisfaction group did show higher HIV/AIDS knowledge than the low need satisfaction group in line with the conceptual model by Hodge et al. (2012).

Despite the fact that our results for the third hypothesis did not show significant differences in HIV/AIDS knowledge between the groups of high and low need satisfaction and balance of needs, we tried to analyze and find support for our fourth hypothesis concerned on the generalization intention of internalized life skills: "*The more that an individual internalizes the basic needs, the more likely he or she is to develop the ability to 'generalize' life skills to a number of life contexts (e.g., school, family, part-time work, job)*" (Hodge et al., 2012, p. 21).

Hypothesis IV

Last, we hypothesized that autonomy-supportive coaching climate, need satisfaction, and balance of needs would positively predict behavior intentions of tolerance and condom use. The hypothesis was based on previously mentioned research showing that autonomy-supportive coaching climate predicted need satisfaction and internalizing of values, knowledge and life skills taught in different settings (see Adie et al., 2008; Amorose & Anderson-Butcher, 2007; Conroy & Douglas Coatsworth, 2007; Gagné, 2003; Niemiec & Ryan, 2009; Reinboth et al., 2004; Ryan et al., 2008; Ryan & Deci, 2000). A hierarchical regression analysis showed low prediction of variances in the dependent variables tolerance and condom use. Despite the fact that autonomy-supportive coaching climate, need satisfaction and balance of needs only statistically predicted 5.3% (R square = .053), the regression model were significant ($p < .05$). Moreover, in the regression analysis with condom use as the dependent variable, all three variables predicted 9.6% of the variance (R square = .096, $p < .01$).

Supporting our hypothesis, Hodge et al. (2012) explained how internalized values as a result of need satisfaction, were likely to motivate for life skills-related behavior in other life domains outside the safe program arenas. Others have found support for the internalization of need satisfaction as a consequence of an autonomy-supportive coaching climate, leading to more positive behavior intentions (see Lim & Wang, 2009). Furthermore, the assessment of behavior intentions using TPB informed constructed instruments has successively been shown as a good proximal measure of actual behavior (Armitage & Conner, 2010). In a meta-analytical review of 185 independent studies, Armitage & Conner (2010) found support for the efficacy of TPB as a predictor of behavioral intentions, self-reported behavior and observed behavior, but most importantly a medium to large positive correlation between intention and actual behavior ($r = .47$) (p. 486). However, Mirkuzie et al. (2011) found lesser support for the TPB in prediction of HIV testing intention than previously reported by Armitage & Conner (2010), but they also found that women were more likely to get tested for HIV when they reported positive normative pressure and consequences, leading to a conclusion that the TPB informed predictor variable subjective norm was of the most important factor together with the strengthening of the belief that testing would lead to positive consequences. Recently, Maro and Roberts (2012) found, using TPB informed measures of perceived behavior control, subjective norm and attitude towards the behavior, that mastery oriented coaching climate positively improved attitudes and norms about sexual abstinence, exclusive sexual relationships and the intention to use condoms if having sex.

The preliminary analysis for our fourth hypothesis showed statistically significant predictions for the behavior intentions from the predictor variables subjective norm, attitude towards the behavior and perception of behavior control, supporting the TPB. Despite the significance, the relative weak predictive power may partly be explained as an instrument bias, with the need for exclusion of one of the two items for each predictor variable as a consequence of the use of reversed questions clearly showing signs of not being understood by the study respondents. Additionally, when Michielsen et al. (2012) reviewed theory-based HIV prevention programs in Sub-Saharan Africa, they discussed how almost all of the cognitive behavioral theories commonly used were oversimplifying sexual behavior when explaining the links between behavior intentions and actual behavior. They argued that sexual decisions were not only influenced by

intrapersonal factors, but also interpersonal and contextual factors, acknowledging that sexual relationships involved more than the individual, and that the community with its different behavioral and normative beliefs were shaping the sexual behavior of the youth.

[S]exual behaviour itself is far from a uniform behaviour, but rather a collection of several relatively distinct behaviours, that can be shaped by different factors in different contexts. While the use of a theoretical framework provides grip in structuring an HIV prevention intervention, the interventionist needs to be very clear about what behaviour they aim to alter and which factors determine this behaviour. (Michielsen et al., 2012, p. 14)

Michielsen et al. (2012) were trying to highlight that HIV/AIDS prevention programs delivered to alter different sexual behaviors (e.g. condom use, exclusive sexual partner, reducing the number of sexual partners, abstinence, minimizing sexual activity or delaying sexual debut), need to be specific and explicit of what HIV/AIDS preventive behaviors it is meant to change, and how. From our results, it seems that autonomy-supportive coaching climate, need satisfaction and balance of needs are not able to fully predict the intention of tolerance and condom use. However, small but significant results may still stand as a valid measure from the current sample, as we just discussed how sexual behaviors could be dependent on both internal and external factors (Michielsen et al., 2012), making our results only a small piece of the whole puzzle. Therefore, we have to be careful in arguing that our results show any noticeable support for the theorization of internalized values and behavior intentions as a consequence of a perceived autonomy-supportive coaching climate, need satisfaction and balance of needs.

Further discussion

The current study used a rather normal SiD-program evaluation method using a self-reporting questionnaire. Nonetheless, the questionnaire tried among other things to investigate process-influenced variables such as coaching climate and the satisfaction of needs to see if high perception of these factors could show greater life skills (e.g. HIV/knowledge and behavioral intentions). Kruse (2006) criticized the before and after

approach in modern M & E of SiD, which usually only measured attitudes, knowledge and/or intentions without monitoring or evaluating what Coalter (2006) described as sufficient conditions. In this thesis, the sufficient conditions have been exemplified in the form of a perception of an autonomy-supportive coaching climate leading to satisfaction of the basic psychological needs. The fact that our questionnaire used a clearly articulated theory of change should mean that it according to Coalter could strengthen the possibility for a useful evaluation of life skills development in line with the logic model previously described.

In addition, one of our study intentions besides investigating the associations between the study variables was to discuss the current life skills M & E system used by the SiD organization KAO. The parachute organization, supporting NGOs all around the world with SiD program knowledge and praxis, could benefit from being more explicit about *how* they intend and believe to develop chosen life skills. KAO has developed activities specifically to address knowledge about HIV/AIDS in the previously discussed action learning process, but as we could see from the current study, their participants did not show HIV/AIDS knowledge, tolerance or behavior intentions significantly greater than mere sport participants from the same area. It is therefore crucial for the KAO organization to have a clear and explicit theory on not just how their program participants are supposed to develop the life skills, but also why they expect the life skills to be used outside the program arena. If not, KAO would have lesser right to claim its efficiency, as the lack of M & E systems capturing actual behavior outside the program arenas in most cases are absent.

Further, the competition for the donor money is literally a matter of life and death – both for the SiD organizations and the many HIV/AIDS risk groups. It is then interesting that Pisani (2008, in Coalter 2010) claimed that honest analysis of the role of SiD to improve programs concerning HIV/AIDS would be a fast lane to get unpopular. Considering other program evaluation systems such as the YES 2.0 (Hansen & Larson, 2005), it is even more interesting to look at the words from Pisani. The Yes 2.0 questionnaire focuses primarily on positive developmental experiences of organized youth activities, but in addition, it seeks to identify negative experiences (see appendix G) such as “*stress, inappropriate adult behavior, negative influence, social exclusion, and negative group dynamics.*” (Hansen & Larson, 2005, p. 2). Deliberately or not,

excluding these kinds of items in an M & E questionnaire would tell only half of the development story – the positive one, and in what degree the program participants are in possession of the life skills intended.

Implications for KAO praxis

KAO have divided their life skills development questionnaire questions into three domains: Health – HIV/AIDS knowledge, empowerment, and tolerance and stigma (KAO, 2009, p. 10). In the current study we used a questionnaire investigating HIV/AIDS knowledge as a measure of the first, condom use intention items as a measure of the second, and tolerance intentions towards sport participants infected with HIV/AIDS as a measure of the third. In advance, we categorized each KAO questionnaire item into one of these three domains (see appendix I), finding that 9/30 (30%) of the items were related to HIV/AIDS knowledge, 9/30 (30%) of the items were related to empowerment, and 7/30 (23.3%) of the items were related to tolerance and stigma. 5/30 (16.7%) of the items were categorized as *program experiences* (PE), as we didn't find it appropriate to categorize them as one of the three KAO life skills development domains. The KAO questionnaire was part of establishing a baseline data for the KAO organization, but organizations under the KAO umbrella that feel the need for it, is free to use a before and after approach, or a beginning and ending of the year approach as part of its own M & E (KAO, 2009). All data collected between 2008-2010 are reported in *The Kicking AIDS Out Network: The M and E process 2008 and numbers submitted 2008-2010* (KAO, 2011b).

Reviewing the life skills development M & E system and report from KAO reveals a need for clear and explicit guidelines of what kind of HIV/AIDS knowledge the organization wants to deliver to its participants in relation to what kind of knowledge is vital for the prevention of HIV/AIDS infection. Even if the questionnaire seems to capture some of the misconceptions and important knowledge about the epidemic, the questionnaire especially needs to be more explicit about what kind of empowerment life skills they seek to develop in the participants, as empowerment in the area of development is a widely used, but often vaguely or not at all defined term. The participants of the KAO activities might develop a form of empowerment as a consequence of the program participation, but the organization would most likely benefit from a specific plan stating what kind of empowerment, and what kind of

behaviors, the participants should develop to best prevent them from HIV/AIDS infection outside, but also inside, the program arena.

Finally, categorizing the questions after life skills development domain, we felt that question number 2: “Have you participated in many activities that talk about HIV and AIDS?” was more of a program implementation question rather than a life skills development question, and therefore somewhat misplaced. At the same time, the question seemed to be the only process-focused question, which could be used to see differences between the participants who had attained more HIV/AIDS talks, to participants who had attained less HIV/AIDS talks during the program. Including more process-focused items in the questionnaire, items which have been theorized to influence the life skills development, as Coalter among others recommends, would give KAO valuable monitoring and evaluation information about the implementation of the programs. As one of the most influential global SiD organizations, KAO should especially incorporate questions on negative experiences in the M & E system, becoming one of the first to establish a healthy routine of dealing with the more uncomfortable facets of development work. These kinds of questionnaire items would give KAO valuable and vital monitoring opportunities to detect negative impacts on the life skills development. In praxis, negative experience questionnaire items might also function as both preventive and M & E. KAO ought to discuss whether they should require M & E of life skills development before, during and after the programs, to ensure a healthy implementation of the programs. Then, KAO could be able to adjust the programs to optimize the life skills development effects for the program participants.

Limitations

Part of the whole picture. The current research was only able to capture a small part of the intended life skills development of KAO and other sport activity participants in Lusaka, Zambia, concentrated around KAO’s M & E system assessing HIV/AIDS knowledge and awareness, empowerment (here in the form of condom use intention) and tolerance. At the same time, the current study tried to demonstrate the power of the conceptual model from Hodge, Danish & Martin (2012), limiting the variables to a minimum as a result of limited resources available.

Study design. The current cross sectional study design may only find connections between variables, and is not robust enough to say anything about the processes (Thomas et al., 2005). The available resources concerning time and economy limited the use of other more generalizable study designs.

Sample size. It may be argued that the current study sample size was too limited to detect small, but important differences between the IG and the CG, as well as to find more significant results in the associations between the variables under study.

Instrument. The questionnaire used in this study had to be of limited length, as the Zambian context showed limitations in English literacy for many of the study respondents. It may be argued that especially the modified HIV-Q questionnaire part and the TPB part suffered under these precautions, as they showed only small differences in the analyses. Furthermore, the use of reversed questions should have been more carefully piloted before the data collection took place, showing that not all recommendations from research literature should be blindly followed, especially when working in other, more unknown contexts, like the African context compared to the western. Moreover, the use of a five-point Likert scale was deliberately implemented to make the questionnaire easier for the children responding. Changing from a seven-point Likert scale to a five-point Likert scale may have made the instrument less susceptible for small, but existing differences between groups. It should have been validated through instrument testing before implemented to the study sample, but the time resources available did not allow such validations.

Conclusion

In conclusion, the present investigation showed no significant differences between the KAO SiD program participants and the mere sport participants in HIV/AIDS knowledge, intention to tolerate sport participation together with HIV/AIDS infected peers, or intention to use condom if having sex. Further, the results seem to support previous findings suggesting that development programs in HIV/AIDS infected areas seldom are alone in their effort to enlighten the risk groups with knowledge about the epidemic, leading to difficulties in the validation of program effectiveness on knowledge and adaptive behavior development. However, we managed to confirm the theorized and empirically found association between autonomy-supportive coaching

climate, need satisfaction and balance of needs, showing that perception of an autonomy-supportive coaching climate was a major and important part of the study samples' satisfaction of the basic psychological and balance of needs. The current findings do not contribute to revolutionize the praxis of sport activity coaching, but it showed that even in the context of development work, the principles of an autonomy-supportive coaching climate should influence the activities provided by the SiD organizations if they want to have psychologically healthy participants – theorized as more likely to internalize and generalize developed life skills.

Further in our analyses, we found that participants with higher need satisfaction or balance of needs did not show greater HIV/AIDS knowledge. According to Hodge et al. (2012), satisfaction of the basic psychological needs should lead to internalizing of life skills such as knowledge. In our case, we felt it was only possible to speculate in what could have contributed to the lack of support to our hypothesis, considering our non-existing knowledge of other HIV/AIDS information channels directed at the study participants, or the perception of need satisfaction and balance of needs in outside SiD program arenas delivering relevant HIV/AIDS information.

Our investigations found some support for autonomy-supportive coaching climate, need satisfaction and balance of needs predicting behavior intentions of tolerance and condom use. However, these findings were rather weak, possibly as a consequence of methodological weaknesses with the use of one-item measurements. At the same time it is necessary to acknowledge that sexual relationships involve more than the individual itself, and that the community with its different behavioral and normative beliefs can be shaping the sexual behavior of the youth.

Despite the lack of strong conclusive results for the research hypotheses, the current thesis based most of the investigations on the M & E system of life skills development from KAO, giving us the opportunity to give some recommendations to the further M & E system development to the organization. For example, KAO could benefit from being more explicit and specific in *what kind* of life skills they intend to develop through their sport activities, and *how* they intend to support this development. The latter includes theory-based predictions on what kind of sport participation leads to life skills development, i.e. an autonomy-supportive coaching climate to optimize the possibility

of need satisfaction among the participants. The organization should also incorporate items concerning negative experiences into the M & E system of life skills development, giving the opportunity for a useful monitoring of the programs – at the same time having a preventive effect.

”Sport is a powerful social force, but it is not necessarily a positive, pro social one.”

(Hartmann & Kwauk, 2011, p. 6). The quote from Hartman and Kwauk is unfortunately not the only one concerned about the present use of SiD programs around the globe. It is therefor extremely important for the donors, agencies and advocates of SiD to acknowledge and strive to find better ways to implement, monitor, and evaluate the different life skills development programs. Seemingly overlooking that sport participation can lead to negative outcomes is not taking full responsibility for the life skills development of its SiD program participants, especially when we have methods measuring important life skills development process factors and experiences that can give the implementers vital information on how to adjust the programs according to program aims and theory-based assumptions of how to develop life skills.

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List of Abbreviations

BNSSS	Basic Needs Satisfaction in Sport Scale
BPNT	Basic Psychological Needs Theory
GNI	Gross National Income
HDI	Health Development Index
HIV/AIDS	Human Immunodeficiency Virus or/and Acquired Immune Deficiency Syndrome
HIV-K-Q	HIV Knowledge Questionnaire
IOC	International Olympic Committee
KAO	Kicking Aids Out
LDI	Life Development Intervention
SCQ	Sport Climate Questionnaire
SDT	Self-Determination Theory
SiD	Sport-in-Development
SiA	Sport in Action
SCORE	Sports Coaches Out Reach
EduSport	Education through Sports
FIFA	Fédération Internationale de Football Association
M & E	Monitoring and Evaluation
MDGs	Millennium Development Goals
NGOs	Non-Governmental Organizations
NIF	Norwegian Olympic and Paralympic Committee and Confederation for Sport
NORAD	The Norwegian Agency for Development Cooperation
NOWSPAR	National Organization of Women in Sport, Physical Activity and Recreation
NSD	Norwegian Social Science Data Services
OECD	Organization for Economic Cooperation and Development

OYDC	Olympic Youth Development Center
RTP	Right to play
SDP IWG	Sport for Development and Peace International Working Group
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV and AIDS
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UN IATF SDP	United Nations Inter-Agency Task Force on Sport for Development and Peace
UNICEF	United Nations International Children's Emergency Fund
WB	World Bank
WC	World Cup
WHO	World Health Organization

Appendices

Appendix A: Study approval from the Norwegian Social Science Data Services (NSD)



Glyn C. Roberts
Seksjon for coaching og psykologi
Norges idrettshøgskole
Postboks 4014 Ullevål Stadion
0806 OSLO

Harald Hårfagres gate 29
N-5007 Bergen
Norway
Tel: +47-55 58 21 17
Fax: +47-55 58 96 50
nsd@nsd.uib.no
www.nsd.uib.no
Org.nr. 985 321 884

Vår dato: 01.11.2011

Vår ref:28358 / 3 / LMR

Deres dato:

Deres ref:

TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

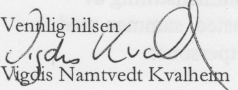
Vi viser til melding om behandling av personopplysninger, mottatt 06.10.2011. Meldingen gjelder prosjektet:

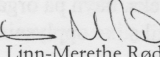
28358	<i>Enhancing Life Skills through Sports</i>
Behandlingsansvarlig	<i>Norges idrettshøgskole, ved institusjonens øverste leder</i>
Daglig ansvarlig	<i>Glyn C. Roberts</i>
Student	<i>Aleksander Eidsvåg</i>

Etter gjennomgang av opplysninger gitt i meldeskjemaet og øvrig dokumentasjon, finner vi at prosjektet ikke medfører meldeplikt eller konsesjonsplikt etter personopplysningslovens §§ 31 og 33.

Dersom prosjektopplegget endres i forhold til de opplysninger som ligger til grunn for vår vurdering, skal prosjektet meldes på nytt. Endringsmeldinger gis via et eget skjema, http://www.nsd.uib.no/personvern/forsk_stud/skjema.html.

Vedlagt følger vår begrunnelse for hvorfor prosjektet ikke er meldepliktig.

Vennlig hilsen

Vigdis Namtvedt Kvalheim


Linn-Merethe Rød

Kontaktperson: Linn-Merethe Rød tlf: 55 58 89 11

Vedlegg: Prosjektvurdering

Kopi: Aleksander Eidsvåg, Olav M. Trroviksvei 62, H0106, 0864 OSLO

Avdelingskontorer / District Offices:

OSLO: NSD, Universitetet i Oslo, Postboks 1055 Blindern, 0316 Oslo. Tel: +47-22 85 52 11. nsd@uio.no

TRONDHEIM: NSD, Norges teknisk-naturvitenskapelige universitet, 7491 Trondheim. Tel: +47-73 59 19 07. kyrre.svarva@svt.ntnu.no

TROMSØ: NSD, HSL, Universitetet i Tromsø, 9037 Tromsø. Tel: +47-77 64 43 36. martin-arne.andersen@uit.no

Appendix B: Information letter to sport activity providing organizations

INFORMATION TO PARTICIPATE IN A STUDENT RESEARCH STUDY

Project Title: Life Skills Development Through Sport

Dear EduSport, NOWSPAR, Sport in Action and SCORE Zambia.

I am a Master Student in the department of Sport Psychology and Coaching at the Norwegian School of Sport Sciences (NIH) conducting research funded by NIH, under the supervision of Professor Glyn C. Roberts.

I am conducting a research project where I want children from 11 years of age to participate in a small survey. The survey consists of general questions about the participation in Kicking Aids Out sport activities and some knowledge, attitude and behavior intention questions concerning HIV and Aids related issues. The results from this project will be used in a Master Thesis trying to optimize the possibility for positive life skills development and well-being for children participating in sport activities through the Kicking Aids Out network.

All the participants in the study will be selected randomly from the different activity sites, the participation takes about 30 minutes and is voluntary. The research participants are free to withdraw their consent to further involvement in the research project at any time.

Original data from the research will be securely stored so it is only available to the first researcher. There will not be possible to identify any individual responses.

The study has received ethics clearance through the Norwegian Social Science Data Services (NSD).

Yours sincerely,

Researcher: Aleksander Eidsvåg

Master Student in Sport Psychology at the Norwegian School of Sport Sciences

+47 99 09 03 77 / aleksander.eidsvag@gmail.com

Research Supervisor: Glyn C. Roberts

Professor at the Norwegian School of Sport Sciences

+47 97180331 / glyn.roberts@nih.no

Appendix C: Information to study respondents

INFORMATION TO THE ACTIVITY GROUPS

Dear Participants in sport activities organized by EDUSPORT, Sport in Action, SCORE Zambia, NOWSPAR or OYDC.

I am a research student in the department of Sport Psychology and Coaching at the Norwegian School of Sport Sciences conducting research under the supervision of Professor Glyn C. Roberts. The project title for my research is *Life Skills Development Through Sport*.

I want sport activity participants in Lusaka to respond to a survey with questions about the participation experiences in the activities, and some knowledge and behavior intention questions concerning HIV and Aids.

I hope you will complete this questionnaire and return it to me. Completion takes about 30 minutes, and will be done together with the rest of the activity group. There are no risks to participation. Participation in this project is voluntary and anonymous. No one will be able to identify your answers, and only the researcher has access to the completed questionnaires.

If you have any questions or concerns about completing the questionnaire, or about being in this study, you may contact the researcher at +47 99 09 03 77 / aleksander.eidsvag@gmail.com.

If you agree to participate, you may complete the survey.

If you wish, you may stop at any time.

You do not have to place your name on the survey.

This study has received ethics clearance through the Norwegian Social Science Data Services (NSD) and your respective organization providing your activities.

Yours sincerely,

Researcher: Aleksander Eidsvåg

Master Student in Sport Psychology at the Norwegian School of Sports Sciences.

+47 99 09 03 77 / aleksander.eidsvag@gmail.com

**Appendix D: Permission to use Basic Needs Satisfaction in
Sports Scale (BNSSS)**

Aleksander Eidsvåg <aleksander.eidsvag@gmail.com>

05.09.11 ☆

til c.lonsdale

Dear Mr. Lonsdale

I have been directed to you by your colleague Mr. Hodge

I am a Master student in Sport Psychology with a bachelor degree in [Physical](#) Education from the Norwegian School of Sports Sciences in Oslo. My supervisor is professor Glyn C. Roberts.

The last year or so I've been interested in the research on Life Skills development, and are now working together with PhD student Anders Hasselgård from my University (the Norwegian School of Sports Sciences), and Linda Torege and Diane Huffman (Kicking Aids Out) to see how the KAO network can improve their life skills teaching and evaluation in different Sport-in-development programs in Africa.

The reason I am writing you is that I want to use the BNSSS questionnaire to investigate if the Kicking Aids Out network stimulate the satisfaction of the basic needs in their program participants in different Sport-in-development programs in Africa. In your article (Ng, Lonsdale & Hodge, 2010) you seek the adoption by researchers of the BNSSS so that needs satisfaction of participants in sport from different cultural background, ages and skill levels could be compared in a meaningful way. I hope that my research with the help of the BNSSS will be a valuable contribution.

And also: Please feel free to send me all literature you find relevant. I have over the last year collected much of the literature on life skills and M&E, but I would love to see what you find important.

I am aware of that this is only a master thesis, but I am hoping to learn alot from this project so I can have the opportunity to later do a PhD or contribute in another sence in the Sport & Development area.

Yours Sincerely,

Aleksander Eidsvåg
Masterstudent in Sport Psychology at the Norwegian School of Sports Sciences
Olav M. Trovikevei 62, H0105
0864 Oslo

tlf: 9090377
skype: aleksander.eidsvag

Chris Lonsdale <C.Lonsdale@uws.edu.au>

til meg

Aleksander,

Thanks for your email. I have attached the questionnaire. Please keep me updated on your progress.

Best wishes,

Chris

—

Chris Lonsdale, PhD
Senior Lecturer

School of Biomedical and Health Sciences
University of Western Sydney
Locked Bag 1797
Penrith, NSW 2751, AUSTRALIA
Phone: [+61-2-9852-5403](tel:+61-2-9852-5403)
Skype: cslonsdale

From: Aleksander Eidsvåg <aleksander.eidsvag@gmail.com<mailto:aleksander.eidsvag@gmail.com>>

Date: Mon, 5 Sep 2011 19:58:47 +0200

To: Christopher Lonsdale <c.lonsdale@uws.edu.au<mailto:c.lonsdale@uws.edu.au>>

Subject: BNSSS Questionnaire

3 vedlegg — [Last ned alle vedlegg](#)

Basic Needs Satisfaction in Sport Scale formatted for data collection.doc
51 K [Se](#) [Last ned](#)

noname
1 K [Last ned](#)

Basic Needs Satisfaction in Sport Scale.doc
36 K [Se](#) [Last ned](#)

**Appendix E: Permission to use Sport Climate Questionnaire
(SCQ)**

Sport Climate Questionnaire

Welcome, **Aleksander Eidsvåg**

Please describe your intended use

Estimated dates of study

Start Date:

End Date:

Are you willing to make your data-set open to other Self-Determination Theory researches?

- Yes
 No

Get Scale

Note. Permission to use SCQ was automatically given after registering the intended use online. Retrieved from: <http://selfdeterminationtheory.org/questionnaires/10-questionnaires/84#getScale>

Appendix F: Research questionnaire

LIFE SKILLS QUESTIONNAIRE

There are **NO RISKS** involved in answering these questions.
Do **NOT** write your name. **STOP** at any time if you wish.

Participant Information	Put an X in the correct answer box		
a) Gender	Boy:	Girl:	
b) How old are you?	Years:		
c) How many YEARS have you played sport with the organization?	Years:		
d) What GRADE are you in?	Grade:		
Put an X under the correct answer	YES	NO	DON'T KNOW
e) Have you been TESTED for HIV/AIDS	YES	NO	DON'T KNOW
f) Do you know where to go to get TESTED for HIV/Aids	YES	NO	DON'T KNOW
g) Have you heard of the organization Kicking Aids Out	YES	NO	DON'T KNOW
h) Are your BIRTH FATHER ALIVE	YES	NO	DON'T KNOW
i) ARE your BIRTH MOTHER ALIVE	YES	NO	DON'T KNOW
j) Do you live with your BIRTH Father	YES	NO	DON'T KNOW
k) Do you live with your BIRTH mother	YES	NO	DON'T KNOW

In the next part you are answering using a SCALE with options 1 2 3 4 5.

- 1 = Not True at all** (The question you are asked is NEVER TRUE)
2 = Not True (The question is not true, but MAYBE sometimes it happens)
3 = Somewhat true (The question has SOME truth in it, but not much)
4 = True (The question is true, but not ALWAYS)
5 = Very True (The question is VERY MUCH TRUE)

	Not true at all	Not True	Somewhat True	True	Very true
1. In my sport, I feel close to other people.	1	2	3	4	5
2. In my sport, I feel I am following goals that are my own.	1	2	3	4	5
3. I feel I participate in my sport willingly (wanting to).	1	2	3	4	5
4. In my sport, I get opportunities to make choices.	1	2	3	4	5
5. In my sport, I feel that I am being forced to do things that I don't want to do.	1	2	3	4	5
6. I can overcome challenges in my sport.	1	2	3	4	5
7. I show care for others in my sport.	1	2	3	4	5
8. I choose to participate in my sport on my own free will.	1	2	3	4	5
9. In my sport, I have a say in how things are done.	1	2	3	4	5
10. There are people in my sport who care about me.	1	2	3	4	5
11. I am skilled at my sport.	1	2	3	4	5
12. I feel I am good at my sport.	1	2	3	4	5
13. In my sport, I can take part in the decision making process.	1	2	3	4	5
14. I get chances to feel that I am good at my sport.	1	2	3	4	5
15. In my sport, I really have a sense of wanting to be there.	1	2	3	4	5
16. In my sport, I feel I am doing what I want to be doing.	1	2	3	4	5
17. I have the ability to perform well in my sport.	1	2	3	4	5
18. In my sport, there are people who I can trust.	1	2	3	4	5
19. I have close relationships (good friends) with people in my sport.	1	2	3	4	5
20. In my sport, I get opportunities to make decisions.	1	2	3	4	5

The researcher is the ONLY ONE seeing the answers.	Not true at all	Not True	Some-what True	True	Very true
21. I feel that my coach gives me choices and options.	1	2	3	4	5
22. I feel understood by my coach.	1	2	3	4	5
23. My coach gave me confidence in my ability to do well at sports	1	2	3	4	5
24. My coach wants me to ask questions.	1	2	3	4	5
25. My coach listens to how I would like to do things.	1	2	3	4	5
26. My coach tries to understand how I see things before choosing a new way to do things.	1	2	3	4	5
27. Players are wanted to work on weaknesses	1	2	3	4	5
28. Players try to learn new skills	1	2	3	4	5
29. The coach wants us to work on weaknesses	1	2	3	4	5
30. Out-playing (be much better than) teammates is important	1	2	3	4	5
31. The players feel good when they do better than their teammates	1	2	3	4	5
32. Doing better than others is important	1	2	3	4	5

Questions about HIV/AIDS	YES	NO	DONT KNOW
33. Can you get HIV by shaking hands with someone who has HIV			
34. Can you get HIV by sharing needles to pierce ears with someone who has HIV			
35. Can you get HIV by kissing someone who has AIDS			
36. Can a person get HIV through contact with sput, tears, sweat or urine			
37. Can a mother with HIV pass it on to her baby by breastfeeding			
38. Can a healthy looking person have HIV or Aids			
39. Is there blood test to tell if a person has HIV or Aids			
40. Can a person get HIV by having sex with another person only once			

	Not true at all	Not True	Some-what True	True	Very true
41. I PLAN to accept fellow sport participants who has HIV or Aids	1	2	3	4	5
42. Most people who are important to ME would like me to play sports together with persons who has HIV or Aids	1	2	3	4	5
43. Most people like ME, they DO NOT ACCEPT playing sport together with persons who has HIV or Aids	1	2	3	4	5
44. I am SURE that I will accept playing sport together with persons who has HIV or Aids	1	2	3	4	5
45. It is NOT UP TO ME playing sport together with persons who has HIV or Aids	1	2	3	4	5
46. I PLAN TO use condom if having sex, so I dont get HIV or Aids	1	2	3	4	5
47. Most people who are important to me would like me to use condom if having sex, so I dont get HIV or Aids	1	2	3	4	5
48. Most people like me DO NOT ACCEPT the use of condom if having sex	1	2	3	4	5
49. I am SURE that I will use a condom if having sex, so I dont get HIV or Aids	1	2	3	4	5
50. Use of condom if having sex is NOT UP TO ME	1	2	3	4	5

	Very Bad	Bad	Neutral	Good	Very Good
51. Playing sport together with persons who has HIV or Aids would be	1	2	3	4	5
52. NOT using a condom if having sex, so I am at risk of get HIV or Aids would be	1	2	3	4	5
	Very Wrong	Wrong	Neutral	Right to do	Very Right to do
53. NOT playing sport together with persons because they have HIV or Aids would be	1	2	3	4	5
54. Using a condom if having sex, so I dont get HIV or Aids would be	1	2	3	4	5

Appendix G: Negative experiences part from *Youth Experience Survey 2.0*

NEGATIVE EXPERIENCES

Stress		
54. Demands were so great that I didn't get homework done (skip this item if your Target Activity is a class)	1.68	0.99
55. This activity interfered with doing things with family	1.74	1.00
56. This activity has stressed me out	1.82	1.03
Negative Influences		
57. Felt pressured by peers to do something I didn't want to do	1.43	0.89
58. I did something in this activity that was morally wrong	1.37	0.88
59. I was ridiculed by peers for something I did in this activity	1.46	0.91
60. Youth in this activity got me into drinking alcohol or using drugs	1.38	0.91
Social Exclusion		
61. Felt like I didn't belong in this activity	1.55	0.95
62. I felt left out	1.48	0.90
63. There were cliques in this activity	1.95	1.07
Negative Group Dynamics		
64. I get stuck doing more than my fair share	1.88	1.07
65. Other youth in this activity made inappropriate sexual comments, jokes, or gestures	1.69	1.04
66. Was discriminated against because of my gender, race, ethnicity, disability, or sexual orientation	1.38	0.88
Inappropriate Adult Behavior		
67. Adult leaders in this activity are controlling and manipulative	1.51	0.94
68. Adult leaders "hit" on me (made sexual advances)	1.33	0.85
69. Adult leaders made inappropriate sexual comments or jokes	1.39	0.90
70. Adult leaders encouraged me to do something I believed morally wrong	1.33	0.85

Note. Page 19: Negative experiences, is retrieved from Hansen and Larson (2005). The Youth Experience Survey 2.0: Instrument Revisions and Validity Testing.

**Appendix H: Kicking Aids Out life skills development M & E
system questionnaire**

Respondents

Name of the organization	
Year	
Age group	10-12
Gender	
No of respondents	
Exposure	



Questions & Answers	Yes/agree	Not sure	No/disagree
Can you tell if a person has HIV by looking at them?			
Have you participated in many activities that talk about HIV and AIDS?			
If you go for a VCT test and they find that you are HIV positive does that mean you will die right away?			
Are girls more at risk of getting HIV from unprotected sex than boys?			
If you have unprotected sex only once with a person with HIV, can you get infected?			
Do you respect and value your body?			
Are you strong enough to make decisions that affect your everyday activities?			
After being in this programme, do you think you have the skills to make positive decisions about your life?			
Do you have the ability and skills to play a leadership role in sport and recreational activities in your community?			
Do most boys in your community respect and accept that girls are participating in sports?			
Do you think that girls and boys can play together on the same team?			
Do you think that girls and boys should have the same chance to participate in sport and recreational activities in your community?			
Do you often give positive feedback to your friends and team-mates?			
Have you made new friends through the sports programme?			
Has sports and recreational activities helped you to make good decisions?			
Can participating in sports help you avoid risky behavior?			
Is there a cure for AIDS?			
Is there treatment for HIV and AIDS?			
Are you OK playing sports and recreational activities with someone you know is HIV positive?			
Is it safe that an HIV positive person works with children?			
Would you stop being friends with someone if you knew they were HIV positive or had AIDS?			

Respondents

Name of the organization	
Year	
Age group	13-24
Gender	
No of respondents	
Exposure	



Questions & Answers

	Yes/agree	Not sure	No/disagree
Can you tell if a person has HIV by looking at them?			
Have you participated in many activities that talk about HIV and AIDS?			
If you go for a VCT test and they find that you are HIV positive does that mean you will die right away?			
Are girls more at risk of getting HIV from unprotected sex than boys?			
Do you have to say 'yes' when you are asked to have sex?			
Do your friends encourage you to have unprotected sex?			
If you have unprotected sex only once with a person with HIV, can you get infected?			
Would you be afraid to say 'no' to sex without a condom?			
Are you at risk of getting infected by HIV if you have sex without a condom?			
Do you know where to go to get tested for HIV?			
Are you confident to go for an HIV test?			
Do you have friends who have gone for HIV testing?			
If you went for an HIV test, would you tell the result to your family or friends?			
If you tested HIV positive, do you know where you can get help and support?			
Do you respect and value your body?			
Are you strong enough to make decisions that affect your everyday activities?			
After being in this programme, do you think you have the skills to make positive decisions about your life?			
Do you have the ability and skills to play a leadership role in sport and recreational activities in your community?			
Do most boys in your community respect and accept that girls are participating in sports?			
Do you think that girls and boys can play together on the same team?			
Do you think that girls and boys should have the same chance to participate in sport and recreational activities in your community?			

Questions & Answers	Yes/agree	Not sure	No/disagree
Do you often give positive feedback to your friends and team-mates?			
Have you made new friends through the sports programme?			
Has sports and recreational activities helped you to make good decisions?			
Can participating in sports help you avoid risky behavior?			
Is there a cure for AIDS?			
Is there treatment for HIV and AIDS?			
Are you OK playing sports and recreational activities with someone you know is HIV positive?			
Is it safe that an HIV positive person works with children?			
Would you stop being friends with someone if you knew they were HIV positive or had AIDS?			

Appendix I: Life skills categorization of KAO M & E system questions



Life Skill	Q.Nr.	Questions
K	1.	Can you tell if a person has HIV by looking at them?
PE	2.	Have you participated in many activities that talk about HIV and AIDS?
K	3.	If you go for a VCT test and they find that you are HIV positive does that mean you will die right away?
K	4.	Are girls more at risk of getting HIV from unprotected sex than boys?
E	5.	Do you have to say 'yes' when you are asked to have sex?
PE	6.	Do your friends encourage you to have unprotected sex?
K	7.	If you have unprotected sex only once with a person with HIV, can you get infected?
E	8.	Would you be afraid to say 'no' to sex without a condom?
K	9.	Are you at risk of getting infected by HIV if you have sex without a condom?
K	10.	Do you know where to go to get tested for HIV?
E	11.	Are you confident to go for an HIV test?
PE	12.	Do you have friends who have gone for HIV testing?
T	13.	If you went for an HIV test, would you tell the result to your family or friends?
K	14.	If you tested HIV positive, do you know where you can get help and support?
E	15.	Do you respect and value your body?
E	16.	Are you strong enough to make decisions that affect your everyday activities?
E	17.	After being in this programme, do you think you have the skills to make positive decisions about your life?
E	18.	Do you have the ability and skills to play a leadership role in sport and recreational activities in your community?
T	19.	Do most boys in your community respect and accept that girls are participating in sports?
T	20.	Do you think that girls and boys can play together on the same team?

T	21.	Do you think that girls and boys should have the same chance to participate in sport and recreational activities in your community?
PE	22.	Do you often give positive feedback to your friends and team-mates?
PE	23.	Have you made new friends through the sports programme?
E	24.	Has sports and recreational activities helped you to make good decisions?
E	25.	Can participating in sports help you avoid risky behavior?
K	26.	Is there a cure for AIDS?
K	27.	Is there treatment for HIV and AIDS?
T	28.	Are you OK playing sports and recreational activities with someone you know is HIV positive?
T	29.	Is it safe that an HIV positive person works with children?
T	30.	Would you stop being friends with someone if you knew they were HIV positive or had AIDS?

Note. Categories of questionnaire items: K = HIV/AIDS knowledge question, E = empowerment question, T = tolerance question, and PE = program experience question.