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IDENTITY AND MOTIVES OF PARTICIPANTS AT A CAUSE-RELATED SPORT  
EVENT

by

Inge Derom

A Thesis  
Submitted to the Faculty of Graduate Studies  
through the Faculty of Human Kinetics  
in Partial Fulfillment of the Requirements for  
the Degree of Master of Human Kinetics at the  
University of Windsor

Windsor, Ontario, Canada

2009

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## ABSTRACT

Although cause-related sport events are increasing in popularity, participants at these events are not well understood. The purpose of the study was to determine the relationships between athletic identity and leisure motives among a sample of participants ( $N = 74$ ) at the 2008 Canadian Transplant Games, using Stryker's (1980) framework of social identity theory. In addition, effects of gender, age, event experience, and travel distance were also examined. Quantitative data was collected through a written questionnaire during the event, including modified versions of the Leisure Identity Scale (Shamir, 1992) and the Leisure Motivation Scale (Beard & Ragheb, 1983). Using Baron and Kenny's (1986) test for mediation, athletic identity was not found to mediate the effects of demographics on motivation. Subsequent regression analyses indicated effects of demographics and athletic identity on motives. Marketing communications and event activities should highlight and include opportunities for transplant athletes to satisfy their athletic identity and motives.

## DEDICATION

Researching the 2008 Canadian Transplant Games was a special experience. Now, after completing this project, I realize what was already evident for the transplant athletes. The culture of the Transplant Games provides transplant recipients much more than an opportunity to compete; it provides a statement about who they are as athletes and what they want to achieve (i.e., raising awareness). I have tremendous respect for the athletes, donor families, and volunteers.



## ACKNOWLEDGEMENTS

I would like to thank my advisor, Dr. Marijke Taks, for her continued support during the past two years. In addition, I would also like to thank my committee members, Dr. Francine Schlosser and Dr. Todd Loughead, for their advice and help in improving the quality of my work. On a personal level, I would like to thank my mom and dad for giving me the opportunity to study in Canada and supporting me throughout this experience. Last but not least, I would like to thank Manu for joining me to Canada. I look forward to starting a new journey in Vancouver.

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## RESEARCH ARTICLE

### Introduction

Cause-related sport events have increased in popularity, from walks supporting breast cancer research to triathlons preventing violence against women. Participants at these events partake in some form of physical exertion while raising money or awareness for a particular cause (Wharf Higgins & Lauzon, 2003). There is relatively little written in the marketing literature about participants at cause-related sport events. Evidence suggests that some individuals participate in the event for the cause, while others solely participate for the physical sport activity and its social functions (Scott & Solomon, 2003; Webb & Mohr, 1998; Wharf Higgins & Lauzon). The current study seeks to fill the research gap on cause-related sport events that focus on raising awareness rather than on raising funds. Athletic identity and leisure motives of a sample of participants at a cause-related sport event, the 2008 Canadian Transplant Games in particular, are explored. Stryker's (1980) social identity theory is used as a framework. The study sets out to achieve a more comprehensive understanding of how transplant athletes identify with the athlete role while participating in a cause-related sport event. In addition, from the standpoint of designing marketing communications and event activities, it is also helpful to understand what motivates transplant athletes to participate in the event. The study seeks to assist sport managers to more effectively tailor cause-related sport events and supplementary activities according to the participants' needs.

#### *Transplant Games*

More than 50 years have passed since the first successful human organ transplant was performed in the United States on December 23, 1954. On that historical date, a

kidney was transplanted from a living identical twin to the recipient. The successes of organ transplantation are remarkable, often significantly extending the patients' lives and substantially improving their health (Kaserman, 2007). In the United States approximately 77 people receive an organ transplant every day, however more than 100,000 individuals are waiting to receive an organ transplant. Unfortunately, the need for organ transplants continues to exceed the supply (The Organ Procurement and Transplantation Network, 2009), as "every 13 minutes, another name is added to the organ donor waiting list" (Thomas, 2005, p. 16). Consequently, half of the people waiting for an organ transplant will die before the needed organs become available (Kaserman).

The successes of organ transplantation are demonstrated through the organization of sporting events for transplant athletes (i.e. Transplant Games). These events are organized at the international and national level. The World Transplant Games Federation has a mission to sensitize the public about the desperate need for more organ donors and hosts international sport events. The first World Transplant Games were held in 1978 in Portsmouth, England, with 99 competitors from five countries. Since then, the event has continued to grow resulting in the 2005 World Transplant Games held in London, Ontario, with more than 1,500 competitors from 46 countries. A minimum increase of 30% in organ donation rates is reported by each country that hosted this international sporting event (World Transplant Games Federation, 2009).

The Canadian Transplant Association has a mission to encourage and motivate transplant recipients to maintain a healthy lifestyle by hosting national sporting events and other awareness events together with a local host organization. The Canadian Transplant Games brings together transplant recipients (athletes), donor families and

supporters (spectators), and volunteers to celebrate the second chance at life and to pay tribute to organ donors and their families. The first Canadian Transplant Games were held in 2000 in Sherbrooke, Québec, and attracted approximately 80 competitors. Since then, this event has grown quickly. In 2002 the event was held in St. John's, Newfoundland and attracted 150 competitors, whereas in 2006 approximately 325 transplant recipients competed in Edmonton, Alberta. The 2008 Canadian Transplant Games were expected to attract 500 competitors, but only 124 transplant recipients made the trip to Windsor, Ontario (Canadian Transplant Association, 2009).

Although the history of the Transplant Games indicate that an increasing number of transplant athletes participate in organized sporting events, transplant recipients remain a vulnerable group with regard to post-transplant health and well-being. Several medical conditions such as diabetes mellitus, hypertension, and obesity are found to be prevalent in transplant recipients (e.g., Johnson et al., 2003; Kasiske et al., 2004). Regular physical activity is proven to have a positive effect on these medical conditions (Fransson, Alfredsson, de Faire, Knutsson, & Westerholm, 2003). In addition, McGee and Horgan (1996) reported that the involvement of cardiac transplant patients in the Cardiac Transplant Games was associated with positive changes in body image, physical fitness, and physical symptoms. Despite the numerous benefits of regular physical activity, Sánchez (2005) reported that only 28% of a sample of kidney and kidney-pancreas transplant recipients often participated in physical activity. Therefore, knowledge of transplant athletes' motives for participation in sport is valuable in order to better organize activities that reflect the participants' motivational orientations and to attract more participants in the future.



### *Social Identity Theory*

Stryker's (1980) social identity theory is rooted in the symbolic interactionism tradition and focuses on the connection between self, role, and society. As symbolic interactionist theorists showed, humans are social and cultural beings who relate to those around them in a system of central relationships. Thus, the self behaves according to the meaning it derives from encounters with its symbolic environment (Mead, 1934). In Stryker's framework, the self is a multidimensional concept which includes multiple identities organized according to a hierarchy of salience. An individual may hold different identities only limited by the number of structured role relationships one is involved in. Thus, a woman may hold identities as wife, co-worker, mother, tennis player, and daughter, which taken together comprise the self. Roles are different from identities; they comprise the prescriptions and expected behaviours of others attached to positions in society. Society can be seen as the sum of all its enacted roles, while an individual is the sum of all its enacted identities. Identity salience refers to the organization of the identities within the self-concept and is defined by Shamir (1992) as "the importance of an identity for defining one's self relative to other identities the individual holds" (p. 302). A leisure identity may become salient and incorporated into the self-concept for three reasons: "(1) it expresses and affirms the individual's talents or capabilities; (2) it endows the person with social recognition; and/or (3) it affirms the individual's central values" (p. 302). This is consistent with research of Haggard and Williams (1992), who found that individuals select leisure activities on the basis of their ability to affirm desirable images in their identities. The major assumption of the social identity theory is that "the higher an identity in the salience hierarchy, the greater the

probability that a person will actively seek out opportunities to perform in terms of that identity” (p. 84). In addition, more important identities are found to have a greater motivational significance (Callero, 1985; Santee & Jackson, 1979). This framework has been used in a number of leisure studies (Kivel & Kleiber, 2000; Laverie, 1998; Laverie & Arnett, 2000).

### *Identification*

Several authors have examined the concept of identification in relation to spectators and how they identify with sport teams (e.g., Funk & James, 2004; Hill & Green, 2000; Meân & Kassing, 2007; Snelgrove, Taks, Chalip, & Green, 2008). Green (2001) argued that “by limiting our concept of identification to identification with the performers, we have paid inadequate attention to identification with the subculture that those performers represent” (p. 15). Only a limited number of authors have examined the concept of identification in relation to participants in sporting events. Green and Chalip (1998) explored athletic identity of participants in a women’s flag football tournament in the United States using a qualitative approach. It was concluded that “official social events, informal social life, and game play complement one another as a mosaic of subculture celebrations” (p. 285). Thus, event organizers must not only plan sport activities but also social activities in order to provide sufficient opportunities for participants to celebrate and share their identity as women footballers. Green and Tanabe (1998) examined athletic identity and motives of participants ( $N = 259$ ) in four events at the Gold Coast Marathon in Australia (i.e., marathon, half marathon, 10 km run, and 10 km walk). The authors concluded that supplementary event activities provided a different way for participants to parade and celebrate their identity as runners. Social events (e.g.,

post-event party) appealed more to participants with a stronger social identity, whereas performance events (e.g., training seminar) appealed more to participants with a stronger self-identity. Lastly, events that had little to do with running (e.g., entertainment activities) appealed to participants who were not invested in the subculture of running. Due to the limited number of studies reporting on participants' identity at sporting events, other relevant research is discussed in the following sections in order to develop hypotheses for the current study.

Brewer, Van Raalte, and Linder (1993) defined athletic identity as “the degree to which an individual identifies with the athlete role” (p. 237). This concept has been researched in numerous populations from athletes without disabilities to athletes with disabilities and even non-athletes (e.g., Brewer et al., 1993; Donnelly & Young, 1988; Tasiemski, Kennedy, Gardner, & Blaikley, 2004; Wheaton, 2000). Both positive and negative effects of a strong exclusive athletic identity have been reported. On the positive side, a strong athletic identity can positively influence sport performance as athletes need to limit their external activities and identities in order to perform at a high level (Danish, 1983). On the negative side, a strong athletic identity is identified as a risk factor for emotional disturbance when dealing with career transitions such as injury, not making a team, or retirement (Pearson & Petitpas, 1990).

An instrument measuring the strength and exclusivity of an individual's athletic identity was developed by Brewer et al. (1993). The Athletic Identity Measurement Scale (AIMS) was thought to measure the construct of athletic identity, but subsequent exploration of the dimensionality suggested that the AIMS measured a multidimensional construct comprised of three factors: social identity, exclusivity, and negative affectivity

(Brewer, Boin, & Petitpas, 1993; Brewer & Cornelius, 2001). Social identity refers to the strength of identification with the athlete role, whereas exclusivity refers to the degree of relying heavily on the identification with the athlete role. Finally, negative affectivity refers to the negative responses resulting from non-participation in sport. The three factor structure was challenged after examining athletic identity in a sample of athletes with disabilities (Martin, Eklund, & Mushett, 1997; Martin, Mushett, & Eklund, 1994). Evidence suggested the relevance of a fourth factor, namely self-identity which captured self-referenced views of athletic identity in contrast to athletes' perceptions of others' views. Although the claim of including self-identity as a fourth factor for athletes with disabilities was challenged (Groff & Zabriskie, 2006; Tasiemski et al., 2004), it remains a meaningful construct to examine. Therefore, the definition of Shamir (1992), who described identity as having two elements, namely self-identity and social identity, is used in the current study. Self-identity represents the extent to which an individual incorporates the activity into his or her self-concept, whereas social identity represents the extent to which an individual perceives that others identify him or her as a participants in the activity (Green, 2001).

Transplant athletes are assumed to be casual leisure participants as they partake in the cause-related sport event as a form of play, relaxation, and for social purposes. In addition, they do not need special training to enjoy it (Stebbins, 1997). On the contrary, serious leisure describes activities that are "sufficiently substantial and interesting in nature for the participant to find a career there, acquiring and expressing a combination of its special skills, knowledge and experience" (Stebbins, 1992, p. 3). Green and Jones (2005) examined the nexus of serious leisure, social identity, and sport tourism. It was

concluded that serious leisure (e.g., surfing or mountain climbing) is able to provide participants with a positive sense of social identity. Unlike traditional sources of social identity such as those based upon gender or occupation, leisure identities are perceived as important motivating factors. Shipway and Jones (2007) observed distance runners participating in a four-day event in Cyprus and confirmed that serious leisure provides participants with a social identity, which can be used to explain behaviours of participants. Thus, one's social identity is more highly valued and more central to one's self-identity for serious leisure participants than it is for casual leisure participants (Green & Jones). Therefore, it is expected that transplant athletes will value their athletic social identity low and not strongly correlated to their self-identity (Hypothesis 1). In addition, it is also assumed that social identity will strengthen social motives, whereas self-identity will strengthen competency-mastery and intellectual motives (Hypothesis 2).

*Gender.* Lantz and Schroeder (1999) examined the relationship between athletic identity (measured with the AIMS) and the endorsement of masculine and feminine gender role orientations in a sample of university students at an American institution ( $N = 409$ ; 236 female and 173 male). Gender role orientation was defined as "the degree to which people view themselves as being masculine or feminine" (Lantz & Schroeder, p. 546) and was measured with the Bem Sex-Role Inventory (Bem, 1974). Individuals were classified in four categories: masculine, feminine, androgynous, or undifferentiated. Results indicated that the different gender categories differed significantly on their level of athletic identity. Respondents classified as masculine reported significantly higher levels of athletic identity than did persons classified as feminine. In addition, respondents classified as androgynous or undifferentiated reported lower scores on athletic identity

than did masculine respondents, but higher scores than did feminine respondents. Further, athletic identity was examined in a sample of high school athletes at an American institution ( $N = 389$ ; 218 female and 168 male) (Wiechman & Williams, 1997) and in a sample of college students at an American institution ( $N = 324$ ) (Harrison, Moore, Burden, & Kennedy, 2004). In both studies, athletic identity was measured with the AIMS. Results indicated that men reported significantly stronger athletic identity than did women. Lastly, Tasiemski et al. (2004) examined gender differences in a sample of people with spinal cord injury ( $N = 678$ ; 108 female and 570 male) and reported that athletic identity was stronger for males than for females. Therefore, it is anticipated that male participants will rate their athletic identity higher than do female participants (Hypothesis 3a).

*Age.* Brewer et al. (1993) examined athletic identity in a sample of university students at an American institution ( $N = 782$ ; 348 female and 434 male) and reported a significant negative correlation between age and athletic identity. Thus, as students mature and become familiar with a wider variety of activities, their exclusive identification with the athlete role tends to decrease. Wiechman and Williams (1997) found a positive relationship between age and athletic identity in a sample of high school athletes at an American institution ( $N = 389$ ). In particular, athletes in their first year reported significantly lower athletic identity than did athletes in their senior year. Since only two studies were found to report contradicting results on the relationship between age and athletic identity, it is hypothesized that age will have no influence on the participants' level of athletic identity (Hypothesis 3b).

*Event experience.* Brewer et al. (1993) reported that higher levels of commitment among sport and exercise participants resulted in a stronger athletic identity. These results were supported by Tasiemski et al. (2004), who also reported a positive relationship between sport commitment (measured with the hours of sport participation per week) and athletic identity. Further, two studies were found to report results on the relationship between event experience and athletic identity. Ryan and Lockyer (2002) examined expectations and satisfactions from a sample of participants at the 2000 South Pacific Masters Games in New Zealand ( $N = 290$ ; 132 female and 153 male). They concluded that more experienced Masters Games participants were more strongly motivated by the athletic competition. Gillett and Kelly (2006) further investigated the Masters Games, more specifically athletic identity and motives among a sample of non-local participants at the 2005 Masters Games in Australia ( $N = 16$ ; 9 female and 7 male) were examined using semi-structured in-depth interviews. The authors concluded that the development of an athletic identity should not solely be examined in terms of demonstrating athletic excellence. “A number of respondents in fact, acknowledged a severe lack of athletic competence while still expressing a strong athletic identity” (p. 253). Participants indicated that their continued involvement in the Masters Games provided them with an opportunity to renew and maintain their sense of athletic identity. Therefore, it is expected that more experienced event participants will rate their athletic identity higher than do less experienced event participants (Hypothesis 3c).

*Travel distance.* In the aforementioned study by Ryan and Lockyer (2002), results indicated that participants who traveled further for participating in the event were more serious competitors. Non-local participants were found to have a stronger focus on the

athletic competition than did local participants. In addition, Gillett and Kelly (2006) reported that a sense of athletic identity could only fully be experienced traveling away from home. “Perhaps this is necessary as the home location is full of other identities, such as father, partner, businesswomen, etc, which would interfere with the expression of their athletic self” (p. 253). Therefore, it is expected that traveling further for event participation will result in higher athletic identity (Hypothesis 3d).

### *Motivation*

Motivation is defined as “the hypothetical construct used to describe internal and/or external forces that produce the initiation, direction, intensity, and persistence of behaviour” (Vallerand & Thill, 1993, p. 18). The concept of motivation is widely researched and multiple motivational theories have led to the development of a wide range of motivational measurements. Although athletic identity has not received any research attention in the context of cause-related sport events, motives of participants at such event have been examined in a small number of studies (Cornwell & Smith, 2001; Filo, Funk, & O’Brien, 2008; Scott & Solomon, 2003). However, the cause-related sport events that have received research attention are fundraising events, whereas the event examined in the current study focuses on raising awareness without raising funds. Webber (2004) argued that “raising awareness is now seen at most as a by-product of a fundraising event whose primary aim is to raise as much money as possible” (p. 133), and therefore, future research should focus on understanding awareness as a motive for participation. The current study attempts to address that request by studying participants’ social impact motives (i.e., raising awareness about organ donation).



Limited research has been done on the social impact of cause-related sport events and only two studies have examined the social impact of the Transplant Games. Social impact is defined by the Institute for Environmental Studies (1995) as “the consequences to human populations of any public or private action – that alter the ways in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of society” (p. 11). Wharf Higgins and Lauzon (2003) argued that the social impact of an event can be examined through initiatives of social change in which someone other than the participant in the event benefits (e.g., giving blood, recycling, volunteering, voting, or signing the organ donor card). Slapak (1997) examined the social impact of three Transplant Games organized in England: the 1994 British Transplant Games in Portsmouth; the 1995 British Transplant Games in Sheffield; and the 1995 World Transplant Games in Manchester. Results indicated that organ donation rates in the regions of both the 1995 British and World Transplant Games increased by 60% compared to the same period a year earlier. On a national level, however, there was only an increase of 3.8%. It was concluded that the positive social impact of the Transplant Games was of short duration and mainly regional. Although research on the social impact of the Transplant Games has been conducted, the current study focuses on the social impact motives of the participants and not on the social impact of the event on residents in organizing cities.

Cornwell and Smith (2001) investigated the meaning of a sponsored cause-related sport event among event participants. The event was organized in the United States and consisted of a 5 km run for women and a run for families to raise funds for breast cancer research. In 1999, the seventh edition of the event was organized in the city of data

collection and attracted more than 12,000 participants and nearly 100 sponsors. Open-ended questionnaires were used to collect qualitative data from a sample of female participants ( $N = 196$ ). The authors concluded that participants appeared to adopt the meanings promoted by the event organizers (i.e., creating awareness about and raising funds for breast cancer research), but they also brought their own meanings to the event which were primarily social in nature (i.e., supporting others and being supported, being together with other women, etc.). Further, Scott and Solomon (2003) interviewed a sample of participants ( $N = 11$ ; 8 female and 3 male) at a similar cause-related sport event to understand their participation motives. This 5 km run or walk event was held in the United States and aimed at raising funds to support breast cancer research. The researcher observed a continuum of attendees from 'junkies' who participated primarily for the competition, to 'social butterflies' who loved the social interaction and wanted to collect the giveaways, to 'activists' who are deeply committed to campaign for the cause. Interviewees expressed different reasons for participating in the event including personal, social, physical, and charitable giving reasons. Lastly, Filo et al. (2008) investigated participation and charitable giving motives of participants at a cause-related sport event. Qualitative data was collected through two focus groups ( $N = 31$ ; 12 female and 19 male) at two events of the Lance Armstrong Foundation in the United States that aimed at raising funds to inspire and empower people with cancer. The first event was a cycling event attracting 6,000 participants and the second event was a walk or run event attracting 2,500 participants. Social motives formed the strongest emergent theme for participating in the event. In addition, charitable motives provided the event with an emotional, symbolic, and functional meaning. Therefore, it is expected that social

motives (i.e., building friendships with others) and social impact motives (i.e., raising awareness about organ donation) will be the the most important motives for participation in the event (Hypothesis 4).

*Gender.* Fung (1992) examined participation motives in a sample of Paralympic athletes ( $N = 90$ ; 45 female and 45 male) from three different countries. Significant gender differences were reported: female athletes rated friendship as a more important factor than did males, whereas male athletes reported higher scores on achievement and status factors than did females. Ryan and Lockyer (2002) examined expectations and satisfactions of a sample of participants ( $N = 290$ ; 132 female and 153 male) at the 2000 South Pacific Masters Games in New Zealand. Results indicated that females scored the range of social events during the Games as more important than did males. Therefore, it is expected that female participants will score higher on social motives than do males (Hypothesis 5a). In addition, it is anticipated that male participants will score higher on competency-mastery motives than do females (Hypothesis 5b).

*Age.* Only one study was found to report on the relationship between age and leisure motives. Alexandris and Carroll (1997) investigated a sample of Greek adults ( $N = 340$ ; 173 female and 167 male) and their motives for partaking in recreational sporting activities by collecting quantitative data. The following age differences were found: older respondents between 46 and 65 years of age reported lower competency-mastery and intellectual motives than did younger respondents between 18 and 25 years of age. Therefore, a negative relationship between age and both competency-mastery and intellectual motives is expected. Thus, older participants will score lower on competency-mastery and intellectual motives than do younger participants (Hypothesis 5c).

*Event experience and travel distance.* In the aforementioned study by Ryan and Lockyer (2002), expectations and satisfactions of a sample of participants at the 2000 South Pacific Masters Games in New Zealand ( $N = 290$ ; 132 female and 153 male) were examined. Results indicated that participants who traveled further for participation in the Masters Games were more experienced event participants. In addition, those participants were more serious about the athletic competition and wanted to challenge others. Therefore, it is expected that more experienced event participants will score higher on competency-mastery motives than do less experienced event participants (Hypothesis 5d). In addition, it is also expected that participants traveling further for participation in the event will score higher on competency-mastery motives (Hypothesis 5e).

#### *Summary of Hypotheses*

Hypothesis 1: Transplant athletes will rate their athletic social identity low and not strongly correlated to their self-identity.

Hypothesis 2: Athletic identity will strengthen leisure motives: social identity will strengthen social motives, whereas self-identity will strengthen competency-mastery and intellectual motives.

Hypothesis 3a: Men will rate their athletic identity higher than do women.

Hypothesis 3b: Age will not influence the participants' level of athletic identity.

Hypothesis 3c: More experienced event participants will rate their athletic identity higher than do less experienced event participants.

Hypothesis 3d: Participants traveling further (i.e., from outside Ontario) will rate their athletic identity higher than do participants traveling from inside Ontario.

Hypothesis 4: Social motives and social impact motives will be the most important motives for participation in the event.

Hypothesis 5a: Female participants will score higher on social motives than do male participants.

Hypothesis 5b: Male participants will score higher on competency-mastery motives than do female participants.

Hypothesis 5c: Older participants will score lower on competency-mastery and intellectual motives than do younger participants.

Hypothesis 5d: More experienced event participants will score higher on competency-mastery motives than do less experienced event participants.

Hypothesis 5e: Participants traveling further (i.e., from outside Ontario) will score higher on competency-mastery motives than do participants traveling from inside Ontario.

#### *Purpose of the Study*

The purpose of the study was to examine the relationships among athletic identity and leisure motives for participants at a cause-related sport event. The framework used in the study is based on Stryker's (1980) social identity theory, indicating a positive effect of leisure identity on leisure motives. In addition, the effects of gender, age, event experience, and travel distance were also tested as these have shown to effect athletic identity and leisure motives. Figure 1 presents an overview of the model tested in the current study.

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Insert Figure 1 about here

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## Method

### *Participants*

A total of 124 athletes (i.e., transplant recipients) participated in the 2008 Canadian Transplant Games, hosted in Windsor, Ontario. Only 106 athletes were 14 years of age or older and therefore, eligible to partake in the study (requirements of the Research Ethics Board). The Microsoft Word readability statistics indicated a score of 8.8 on the Flesch-Kincaid Grade Level test which allowed children from grade eight to read, understand, and answer the questions. Participants were encouraged to fill out the questionnaire because of the relative small sample size. This technique was successful: 75 questionnaires were returned (response rate = 71%) and 74 questionnaires were usable for further analyses.

### *Procedure*

Participants needed to report to the Athletes' Village (i.e., the University of Windsor Alumni Hall) to register for the 2008 Canadian Transplant Games in order to receive their name tags, room keys, food vouchers, etc. Immediately after registration, while still being in the lobby, the participants were invited by the researcher to participate in the study. If participants were 14 years of age or older and agreed to partake in the study, they received a letter of information for informed consent (see Appendix A), the questionnaire, and a blank envelope. They were asked to fill out the questionnaire at the research table and return it in a sealed envelope. The close-ended questions were answered anonymously by the respondents and the questionnaire was returned in a blank envelope to guarantee confidentiality. After returning the questionnaire, respondents

received an invitation card to participate in a draw to win an iPod. The winner of the draw was announced before the closing ceremony.

### *Research Instruments*

A questionnaire previously developed for a medium sized international sport event (Snelgrove et al., 2008) was adapted for the purpose of the current study. Prior to administering a pilot study, five experts reviewed the validity of the questionnaire and proposed minor changes mainly regarding the wording of the self-developed questions related to social impact motives. Subsequently, a pilot study was administered at the Ontario Para-Athletics Championships organized in Windsor, Ontario on July 12, 2008. Five athletes with disabilities filled out the questionnaire in presence of the researcher. The responses were positive and no additional changes were made prior to the main study. The questionnaire used in the current study included the following measurements:

*Demographics.* Respondents were asked to report their gender (female or male), age (year of birth), travel distance (home town and province), and event experience (number of times participated in previous Transplant Games). Further, questions about their year of organ transplantation, type of organ transplant, and intention to participate in the 2010 Canadian Transplant Games were asked (see Appendix B).

*Leisure Identity Scale.* This instrument, which is developed by Shamir (1992), measures two aspects of athletic identity: (a) the Identity Salience Scale which inquires about athletic self-identity and is measured with seven items, and (b) the Social Commitment Scale which inquires about athletic social identity and is measured with eight items. Self-identity is defined as the importance of a leisure identity for the respondent's self-definition relative to other identities (e.g., Being an athlete describes

me). Social identity refers to the respondent's perception of other people's awareness of participation in the leisure activity, their definition of the respondent as a participant, and their expectations of continued participation (e.g., People would be surprised if I just stopped being involved in sport). The scales were internally consistent with an alpha of .87 for self-identity and .89 for social identity. The items were rated on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The Leisure Identity Scale has been used in a variety of different populations such as marathon participants (Green & Tanabe, 1998), fitness activity participants (Laverie, 1998), recreational shoppers (Guiry, Mägi, & Lutz, 2006), and women rugby players (Fallon & Jome, 2007). Snelgrove et al. (2008) modified Shamir's (1992) original Leisure Identity Scale toward a scale containing two subscales, measured by three items each (see Appendix C). The response range was a 6-point Likert scale from 1 (*strongly disagree*) to 6 (*strongly agree*). The modified Leisure Identity Scale was internally consistent with an alpha of .88 for self-identity and .93 for social identity and was used in the current study. Item scores of each subscale were averaged to form an aggregated measure of the intended identity.

*Leisure Motivation Scale.* This instrument, which is developed by Beard and Ragheb (1983), measures psychological and sociological reasons for leisure activity participation. The original version consisted of four dimensions, measured by 12 items each: intellectual, social, competency-mastery, and stimulus-avoidance (escape) dimensions. The scales were internally consistent with alpha's ranging from .90 to .92. The intellectual dimension includes motives to learn, discover, and explore new ideas (e.g., to expand my knowledge about sports). The social dimension incorporates motives to build friendships and to receive esteem from others (e.g., to meet new and different



people). The competency-mastery dimension encompasses motives to achieve, master, and compete (e.g., to improve my skills). The escape dimension integrates motives to escape from daily life situations (e.g., to relax mentally). The response format for the items was a 5-point Likert scale ranging from 1 (*never true*) to 5 (*always true*). The Leisure Motivation Scale has been used in a variety of different populations such as marathon participants (Green & Tanabe, 1998), holiday travellers (Cleaver & Muller, 2002; Pan & Ryan, 2007; Ryan & Glendon, 1998), young offenders (Munchua, Lesage, Reddon, & Badham, 2003), and participants at a cause-related sport event (Filo et al., 2008). Snelgrove et al. (2008) modified Beard and Ragheb's (1983) original Leisure Motivation Scale toward a scale containing four dimensions, measured with three items each (see Appendix D). The response range was a 6-point Likert scale from 1 (*strongly disagree*) to 6 (*strongly agree*). The modified Leisure Motivation Scale was internally consistent with alpha's ranging from .75 to .94 and was used in the current study. Item scores of each dimension were averaged to form an aggregated measure of the intended motive.

*Social impact motives.* Four items developed specifically for this study concerning social impact motives related to organ donation were created. They are as follows: (1) to remove barriers about organ donation; (2) to create awareness of organ donation; (3) to change public opinion about organ donation; and (4) to celebrate the gift of life. The items were created based on the mission statement of the Canadian Transplant Association retrieved from its website (Canadian Transplant Association, 2009). The items were rated on a 6-point Likert scale from 1 (*strongly disagree*) to 6 (*strongly agree*). Face validity of the self-developed measurement was established when

five experts reviewed the validity of the self-developed questions. The internal consistency of the items needed to be confirmed before the item scores could be averaged to form the aggregated measure of the intended motive.

### *Data Analysis*

All statistical analyses were performed using the Statistical Package for Social Sciences (SPSS, version 17.0). Variables from the questionnaire were coded prior to entering the data in SPSS (see Appendix E). Prior to conducting analysis, data were examined for errors and missing values by running frequencies. Missing data were calculated using regressions. Descriptive statistics (means, standard deviations, and frequencies) were used to analyze demographics. Alpha coefficients were calculated to confirm internal consistencies of the subscales used in the study. A series of regressions were utilized to test whether the dimensions of athletic identity mediated the effects of demographics (independent variables) on the dimensions of motivation (dependent variables). According to Baron and Kenny (1986), a variable functions as a mediator when it meets the following conditions: (a) variations in levels of the independent variable significantly account for variations in the presumed mediator variable, (b) variations in the mediator variable significantly account for variations in the dependent variable, and (c) when the previous conditions are controlled, a previous significant relation between the independent and dependent variables is no longer significant, with the strongest demonstration of mediation (i.e., full mediation) occurring when the relationship between independent and dependent variables is zero. When the relationship between independent and dependent variables significantly decreased, the mediation is considered partial. In order to test for mediation, the following three steps must be

examined. Step one includes regressing the mediator variable on the independent variable. Step two includes regressing the dependent variable on the independent variable. Step three includes regressing the dependent variable on both the independent variable and on the mediator simultaneously. If the aforementioned conditions hold, the scope of the mediation can be determined. When using regressions, four assumptions must be satisfied (Tabachnick & Fidell, 1996). First, the ratio of participants to independent variables must be at least 5:1 and ideally 20:1. In the current study, 74 participants, 4 demographic variables (i.e., gender, age, event experience, and travel distance), and two identity variables (i.e., athletic self-identity and athletic social identity) were included, which corresponds to a satisfying ratio of 12:1. Second, all outliers must be deleted or transformed. Outliers in the values of the dependent variables were identified by examining the standardised residuals, whereas outliers in the values of the independent variables were identified by examining the leverage values. Outliers were excluded from the sample. Third, correlations of the independent variables cannot be high ( $r > .90$ ) nor perfect ( $r = 1$ ). Collinearity statistics, tolerance values in particular, were examined and indicated that there were no problems with multicollinearity. Fourth, the residuals in the regression must be independent. The Durbin-Watson scores were examined and indicated that the residuals were not correlated.

## Results

### *Demographics*

Slightly more than half of the respondents were male (57%). For the total sample the age ranged from 14 to 77 years ( $M$  age = 44.89;  $SD$  = 14.95; min = 14; max = 77). Almost half of the participants were Ontario residents (47%), of which 11% lived in the

Windsor-Essex County area. Residents from Québec formed the second largest group of participants (22%), followed by residents from Alberta (10%). For almost three quarters of the respondents (72%), this event was not their first Transplant Games' experience; they previously participated in Canadian or World Transplant Games ( $M$  times = 2.89;  $SD$  = 3.79). Before the actual start of 2008 Canadian Transplant Games, 87% of the participants intended and 5% did not intend to partake in the 2010 Canadian Transplant Games and 8% of the participants were undecided.

All participants were transplant recipients with more than half of the respondents receiving their organ transplant before or during the year of 1998, thus ten years prior to the event. Kidney recipients formed the largest group of respondents (38%), followed by liver recipients (28%). The respondents participated in multiple sport events during the four-day event. Track and field (53%) and bowling (45%) were enjoyed by the largest number of participants.

### *Scale Testing*

Alpha coefficients for each subscale were calculated to examine internal consistencies of the measures, in accordance with Nunally's (1978) recommendation of .70. The escape dimension ( $\alpha$  = .50) had a lower than recommended internal consistency value. Correlations among the different items within this dimension determined whether items can be excluded to increase internal consistency. The 'get away from my everyday life' item did not correlate significantly with the 'relaxing physically' ( $r(72) = .01, p > .05$ ) and 'relaxing mentally' ( $r(72) = .22, p > .05$ ) items, whereas the last two items did correlate significantly ( $r(72) = .56, p < .01$ ). Therefore, the first item was excluded for further analyses which significantly increased the internal consistency of the escape

dimension ( $\alpha = .72$ ). Other alpha coefficients of the identity and motivation subscales ranged from .67 to .83. The self-developed social impact dimension, consisting of four items, was internally consistent ( $\alpha = .72$ ). Survey measures are presented in Table 1. Participants rated social impact motives and social motives as most important, whereas escape motives and intellectual motives were rated as least important. Correlations among the demographics (i.e., gender, age, event experience, and travel distance) and the dimensions of athletic identity (i.e., athletic self-identity and athletic social identity) are presented in Table 2. Examination of Table 2 shows that there were no problems with multicollinearity among the independent variables and assumed mediator variables.

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Insert Tables 1 and 2 about here

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*Testing for the Mediation Effects of Athletic Self-Identity and Athletic Social Identity*

*First step: Relationships between demographics and athletic identity.* A

regression was conducted for each of the potential mediators to establish the relationships between demographics (i.e., gender, age, event experience, and travel distance) and the dimensions of athletic identity (i.e., athletic self-identity and athletic social identity).

Gender significantly predicted athletic self-identity ( $t = 2.12, p < .05, \beta = .25$ ), such that men scored, on average, one fourth of a standard deviation higher on athletic self-identity than did women. Event experience significantly predicted athletic social identity ( $t = 3.86, p < .001, \beta = .42$ ), such that more experienced event participants scored, on average, two fifth of a standard deviation higher on athletic social identity than did less experienced participants. Travel distance significantly predicted athletic social identity ( $t$

= 2.02,  $p < .05$ ,  $\beta = .21$ ), such that participants who travel from outside the organizing province scored, on average, one fifth of a standard deviation higher on athletic social identity than did participants who travel from inside the organizing province. Results of the regressions are presented in Table 3.

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Insert Table 3 about here

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*Second step: Relationships between demographics and motivation.* Five regressions were conducted to establish the relationships between demographics (i.e., gender, age, event experience, and travel distance) and the dimensions of motivation (i.e., social impact, social, competency-mastery, escape, and intellectual motives). Each dimension of motivation was set as the dependent variable and demographics were set as independent variables. Three demographic variables were found to predict dimensions of motivation. Gender predicted social impact motives ( $t = -2.21$ ,  $p < .05$ ,  $\beta = -.26$ ). Travel distance predicted competency-mastery motives ( $t = 2.19$ ,  $p < .05$ ,  $\beta = .25$ ). Age predicted escape motives ( $t = 2.21$ ,  $p < .05$ ,  $\beta = .25$ ). Results of the regressions are presented in Tables 4 to 8.

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Insert Tables 4, 5, 6, 7, and 8 about here

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*Third step: Relationships between demographics, athletic identity and motivation.* Five regressions were conducted to examine simultaneously the influence of demographics (i.e., gender, age, event experience, and travel distance) and athletic identity (i.e., athletic self-identity and athletic social identity) on each dimension of

motivation (i.e., social impact, social, competency-mastery, escape, and intellectual motives). Athletic social identity ( $t = 2.15, p < .05, \beta = .38$ ) and gender ( $t = -2.55, p < .05, \beta = -.31$ ) predicted social impact motives. Athletic self-identity ( $t = 3.25, p < .05, \beta = .50$ ) and gender ( $t = -2.01, p < .05, \beta = -.21$ ) were found to predict competency-mastery motives. Age was found to predict escape motives ( $t = 2.09, p < .05, \beta = .24$ ). Athletic self-identity ( $t = 2.57, p < .05, \beta = .42$ ), gender ( $t = -2.25, p < .05, \beta = -.25$ ), and event experience ( $t = -2.39, p < .05, \beta = -.29$ ) were found to predict intellectual motives. Results of the regressions are presented in Tables 9 to 13.

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Insert Tables 9, 10, 11, 12, and 13 about here

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In order for mediation to occur, the independent variable must affect the mediator variable in the first step. Gender was found to affect athletic self-identity, whereas travel distance and event experience were found to affect athletic social identity. Age was not found to affect neither athletic self-identity nor athletic social identity; therefore age was excluded for further analyses of mediation. Further, the independent variable must be shown to affect the dependent variable in the second step. Gender was found to affect social impact motives and travel distance was found to affect competency-mastery motives. Event experience was not found to affect motivation; therefore event experience was excluded for further analyses of mediation. Lastly, the mediator variable must affect the dependent variable in the third step. Athletic self-identity was found to predict competency-mastery motives and intellectual motives, whereas athletic social identity was found to predict social impact motives. In order for a mediating effect to occur,

athletic self-identity needed to predict social impact motives and athletic social identity needed to predict competency-mastery motives. These relationships were not found and therefore, athletic self-identity did not mediate the effect of gender on social impact motives and athletic social identity did not mediate the effect of travel distance on competency-mastery motives. Thus, athletic self-identity and athletic social identity were not found to be mediators between demographics and motivation. The three steps of mediation are diagrammed in Figure 2.

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Insert Figure 2 about here

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#### *Regression Analyses (Excluding Mediation)*

When examining the regressions predicting the different dimensions of motivation, the following results were found. With regard to social impact motives, athletic social identity ( $t = 2.15, p < .05, \beta = .38$ ) and gender ( $t = -2.55, p < .05, \beta = -.31$ ) were found to predict social impact motives. Thus, for each standard deviation athletic social identity was increased, social impact motives increased with more than one third of a standard deviation. Further, men scored, on average one third of a standard deviation lower on social impact motives than did women. With regard to social motives, no significant predictors were found. Descriptive statistics indicated that participants rated social motives ( $M = 5.41; SD = 0.67$ ) as the second most important factor to partake in the event, following social impact motives ( $M = 5.58; SD = 0.62$ ) as the most important factor. As no predictors were found, social motives were equally important for all participants, regardless of their gender, age, event experience, and travel distance. With



regard to competency-mastery motives, athletic self-identity ( $t = 3.25, p < .01, \beta = .50$ ) and gender ( $t = -2.01, p < .05, \beta = -.21$ ) were found to predict competency-mastery motives. Thus, for each standard deviation athletic self-identity was increased, competency-mastery motives increased with one half of a standard deviation. Further, men scored, on average, one fourth of a standard deviation less on competency-mastery motives than did women. With regard to escape motives, age was found to be a significant predictor ( $t = 2.09, p < .05, \beta = .24$ ), such that older participants scored, on average, one fourth of a standard deviation higher on escape motives than did younger participants. With regard to intellectual motives, athletic self-identity ( $t = 2.57, p < .05, \beta = .42$ ), gender ( $t = -2.55, p < .05, \beta = -.25$ ), and event experience ( $t = -2.39, p < .05, \beta = -.29$ ) were found to be significant predictors. Thus, for each standard deviation athletic self-identity was increased, intellectual motives increased with two fifth of a standard deviation. Further, men scored, on average, one fourth of a standard deviation less on intellectual motives than did women. Lastly, more experienced event participants scored, on average, almost one third of a standard deviation less on intellectual motives than did less experienced event participants. The final model is presented in Figure 3.

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Insert Figure 3 about here

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## Discussion

The current study investigated the relationships between demographics, athletic identity, and motives of participants at a cause-related sport event, the 2008 Canadian Transplant Games in particular. This cause-related sport event aims at raising awareness

and is different from fundraising events. Participants' motives for creating awareness about organ donation were assessed with a self-developed social impact dimension. Most findings of the relationships between demographics and athletic identity were consistent with expectations derived from the literature. On the contrary, expectations of the relationships between demographics and different dimensions of motivation were not confirmed. The current study, as opposed to previous studies investigating athletic identity, distinguished between the dimensions of athletic self-identity and athletic social identity. The findings added specificity to the concept of athletic identity, providing new insights on the relationships between demographics, athletic self-identity and athletic social identity, and different dimensions of motivation. Stryker's (1980) framework of social identity theory was partially confirmed as athletic identity indeed affected some motives. However, a mediating effect of athletic identity between demographics and motivation was not found.

#### *Athletic Identity and Motives*

With regard to athletic identity, it was assumed that participants at the event would be casual leisure participants as they do not necessarily need special training to enjoy the event and they participate for pleasure and sociable purposes (Stebbins, 1997). The findings did not confirm this assumption as participants rated their athletic social identity as more important than their athletic self-identity. Individuals with high levels of athletic social identity are committed to the activity on a personal and social level, which indicates the seriousness of the activity (Gillespie, Leffler, & Lerner, 2002). In addition, the two identity dimensions were found to be significantly correlated. Therefore, participants at the cause-related sport event should be considered serious leisure

participants (Green & Jones, 2005; Shipway & Jones, 2007). With regard to motivation, findings confirmed the importance of social impact motives and social motives as the most important motivations for participation in the cause-related sport event (supporting Cornwell & Smith, 2001; Filo et al., 2008; Scott & Solomon, 2003).

#### *Factors Influencing Athletic Social Identity*

Two variables, namely event experience and travel distance, were found to directly influence athletic social identity. In terms of event experience, more experienced event participants were found to have a higher level of athletic social identity (supporting Brewer et al., 1993; Gillett & Kelly, 2006; Ryan & Lockyer, 2002; Tasiemski et al., 2004). In terms of travel distance, participants travelling further (i.e., from outside Ontario) were found to have a higher level of athletic social identity (supporting Gillett & Kelly, 2006; Ryan & Lockyer, 2002). Thus, transplant recipients who have more Transplant Games experience and those who travel further for participation in the event, had a greater perception that other people were aware of their participation in the event, saw them as transplant athletes and had expectations of their continued involvement. As transplant athletes put more effort (i.e., commitment and travel) forward, more people in their social networks became aware of their participation in the cause-related sport event.

#### *Factors Influencing Athletic Self-Identity*

Only gender was found to directly influence athletic self-identity. Men were found to have a higher level of athletic self-identity compared to women (supporting Harrison et al., 2004; Lantz & Schroeder, 1999; Tasiemski et al., 2004; Wiechman & Williams, 1997). Thus, the role of an athlete was more important in the self-definition of male participants. Further, age was found to influence neither athletic social identity nor

athletic self-identity, supporting the hypothesis (based on conflicting results by Brewer et al., 1993; Wiechman & Williams, 1997). Participants of different ages did not differ in their levels of athletic identity.

#### *Factors Influencing Social Impact Motives*

Athletic social identity and gender predicted social impact motives. Individuals with higher athletic social identity were found to report higher social impact motives. Thus, individuals who had a greater perception that others saw them as transplant athletes reported a greater need to create awareness about organ donation. In addition, gender directly influenced social impact motives, such that women, regardless of other demographics, reported higher social impact motives compared to men. Thus, individuals with a higher level of athletic social identity and female participants were more interested in removing barriers, creating awareness, and changing public opinion about organ donation while participating in the event.

#### *Factors Influencing Social Motives*

No variables were found to significantly predict social motives (not supporting Fung, 1992; Ryan & Lockyer, 2002). In addition, athletic social identity was not found to predict social motives (not supporting Green & Tanabe, 1998). Results of descriptive analyses did indicate that participants in this event rated social motives as the second most important motivator after social impact motives. It could be concluded that social motives were equally important for all participants, regardless of their gender, age, event experience, travel distance, and levels of athletic identity. Thus all participants sought opportunities to build friendships, interact with others, and meet new people while participating in the event.

### *Factors Influencing Competency-Mastery Motives*

Gender was found to predict competency-mastery motives, such that women reported higher competency-mastery motives compared to men (not supporting Fung, 1992). Further, age, event experience and travel distance were not found predict competency-mastery motives (not supporting Alexandris & Carroll, 1997; Ryan & Lockyer, 2002). Athletic self-identity was also found to predict competency-mastery motives (supporting Green & Tanabe, 1998), such that individuals with a higher level of athletic self-identity reported higher competency-mastery motives. Thus, female participants and participants who indicated that the role of an athlete was more important in their self-definition sought more opportunities to improve their skills, gain experience at a high level, and challenge themselves while participating in the event.

### *Factors Influencing Escape Motives*

Only one demographic variable, namely age, was found to directly influence escape motives. Older participants were more motivated by escape purposes; they wanted to relax mentally and physically while participating in the event.

### *Factors Influencing Intellectual Motives*

Two demographic variables, namely gender and event experience, were found to directly influence intellectual motives. In terms of gender, female participants were found to report higher intellectual motives compared to male participants. In terms of event experience, less experienced event participants were found to report higher intellectual motives than did more experienced event participants. Older participants were not found to report lower intellectual motives (not supporting Alexandris & Carroll, 1997). In addition, athletic self-identity was found to predict intellectual motives (supporting Green

& Tanabe, 1998). Thus, female and less experienced participants were more motivated by intellectual motives; they wanted to expand their knowledge, discover new things, and satisfy their curiosity about sports through participation in the event. In addition, individuals who indicated that the role of an athlete was more important in their self-definition, also sought opportunities to learn while participating in the event.

### *Implications for Theory*

The Canadian Transplant Games, organized every two years, are a combination of competition, camaraderie, and celebration. Every Canadian transplant recipient can participate in the event; no entry requirements (e.g., time limits) must be met. Therefore, it was assumed that participants would be casual leisure participants as the event could be viewed as a combination of social, escape, and relaxation activities (Stebbins, 1992; 1997). However, participants valued their athletic social identity high, indicating that the event must be conceptualized as a serious leisure activity. Serious leisure creates cultures of commitment among participants (Gillespie et al., 2002) and it is recommended that future research investigates participants' commitment to and involvement in the Transplant Games as a serious leisure activity. No predictors of social motives, the second most important motivator after social impact motives, were found in the current study and this could also be addressed in future studies, as the construct of involvement includes a social bonding dimension (Kyle, Absher, Norman, Hammitt, & Jodice, 2007).

Further, the findings indicated that athletic social identity (i.e., seen by others as a transplant athlete) and athletic self-identity (i.e., see themselves as an athlete) predict different motives. This distinction can be explained through the theories of self-actualization and self-determination. Athletic social identity influenced social impact

motives, whereas athletic self-identity influenced competency-mastery and intellectual motives. With regard to self-actualization theory (Maslow, 1987), social impact motives can be seen as the final stage of self-actualization, whereas the other motives are found on lower levels of the hierarchy of needs. This indicates that a strong social identification with the activity results in providing meaning to the activity (i.e., creating awareness about organ donation) and personal growth for the participants. Strong self-identity relates to lower levels on the hierarchy of needs, namely belongingness and love needs, and esteem needs. These lower needs must be satisfied before higher needs can be accomplished. With regard to self-determination theory (Deci & Ryan, 1985), the distinction between athletic social identity and athletic self-identity can be explained through the difference between internal and external motivation. Social impact motivation can be identified as a form of external motivation, namely integrated regulation. Thus, participants identify with values and meanings of being a transplant athlete in the event to the extent that it becomes fully internalized, autonomous, and part of their self-concept. Integrated regulation is the most self-determined type of external motivation. Contrary, competency-mastery and intellectual motivation can be identified as forms of internal motivation, namely internal motivation to accomplish, to experience stimulation, and to know. Thus, participants identify with the athlete role on a personal level and participate in the event solely for the activity itself. Intrinsic motivation is the most self-determined type of internal motivation.

### *Practical Implications*

The current study made a contribution to the literature on cause-related sport events that focus on creating awareness, by establishing links between demographics,

athletic identity, and motivation. Both the cause and the sport events were found to be important for participants in the cause-related sport event. In addition, creating awareness as a motive for participation was examined and was found to be the most important motivator to participate in the event, followed by social purposes. Further, participants reported high levels of athletic identity. These findings indicated two areas of practical implications, namely marketing communications and event activities.

Sport managers could benefit from formulating marketing communications differently according to the demographics included in the study. In particular, marketing communications directed to participants from outside the organizing province or experienced participants should focus on the positive social impact of the event, as those participants were found to have higher athletic social identity which in its turn strengthened social impact motives. Details about an increase in organ donation rates in previous organizing cities should be included in order for participants to feel that their involvement in the event has made a social impact. Marketing communications targeted to women should also highlight the positive social impact of previous events. Further, marketing communications directed to first time participants and women should include the message that the event offers opportunities to learn about sports and to gain experience at a high level of competition. Thus, it should be highlighted that individuals can participate in multiple sport events. By doing so, participants can select unfamiliar activities and use this experience as an opportunity to learn something new about sports. Men should be approached with a message that highlights the opportunities to strengthen, parade, and celebrate their athletic self-identity. Thus, plenty of athletic competitions must be organized where participants can set new records and win medals. Lastly, older



participants should receive a message that highlights the opportunities to relax while participating in the event. Therefore, events such as golf or bowling should be offered to satisfy older participants. Targeting different segments with different marketing messages is not an easy task for a small organization such as the Canadian Transplant Association. It is recommended that the organization collects demographic and personal information at its following events or uses the databases of the provincial associations in an effort to more effectively target a broad audience and eventually more effectively organize the Canadian Transplant Games in the future.

With regard to the practical implications for event activities, the study confirmed suggestions of Green and Chalip (1998), indicating that event organizers should provide opportunities for participants to celebrate, parade, and share their identity as transplant athletes. Sport competitions are vital to satisfy transplant athletes' athletic self-identity. Additional social activities (i.e., official and informal) must be organized to strengthen their athletic social identity. Transplant recipients should be informed that the event is much more than an athletic competition; it is an event with multiple social gatherings. The Canadian Transplant Association should use the findings of the current study to improve the guidelines for organizing future Canadian Transplant Games (Canadian Transplant Association, n.d.). Although the requirements for the sport competitions are addressed, the number and type of social events can be freely chosen by the local host organization. The Canadian Transplant Association conveys that the event normally includes opening and closing ceremonies as well as social events in the evening. The local host organization in Windsor, Ontario has done a terrific job of including opening and closing ceremonies, official social events, and informal social activities. The

organization of many athletic and social activities has strengthened transplant athletes' athletic identity on a personal and social level. In order to assure terrific events in the future, which will retain participants, the Canadian Transplant Association must address requirements for social events in its guidelines.

#### *Limitations of the Study and Future Research*

Some limitations of the study should be noted. The Canadian Transplant Association and the local host organization expected more than 500 transplant athletes to compete in Windsor, Ontario, but only 124 transplant athletes participated in the event. Although the sample size was rather small, the obtained response rate was 71%. Further, participants were asked to partake in the study prior to the event. This should be acknowledged as a limitation as the results might be different when the study was conducted after the event has taken place. In addition, all participants were transplant recipients and therefore, they are expected to differ from participants who run in a race for breast cancer or leukemia and have never suffered from those diseases. It is recommended that future studies examine social impact of cause-related events on society by investigating the perceptions and awareness it creates among people not related to the cause nor linked to the event. Examining the social impact motives in a larger population, not directly related to the cause, might provide a larger variation in these motives. In addition, research on the social impact of cause-related sport events, such as the Transplant Games, on local residents is limited. So far only evidence from the United Kingdom is available. Therefore, future research should examine the social impact of the Transplant Games on communities in North America. Another limitation should be noted in the measurement of travel distance. This variable was operationalized

as a dichotomous variable (i.e., travelling from outside or inside of the organizing province) and not as a numeric variable (i.e., in terms of the actual travel distance), which might alter or influence the results. Future research should examine the effect of the actual travel distance on athletic identity and motives of participants in cause-related sport events. In addition, given the high correlation between athletic self-identity and athletic social identity and based on findings from previous studies (Green & Jones, 2005; Snelgrove et al., 2008), future research should examine athletic identity as one variable, which in its turn could alter the mediation effect of athletic identity.

In summary, the present study indicated that athletic identity does not mediate the relationship between demographics and motivation for participants in the Canadian Transplant Games. Nevertheless, examining the relationships between demographics, athletic identity, and motivation has proven to be useful and resulted in many practical implications for sport managers. Although it was assumed that the participants in the event would be casual leisure participants, results indicated that the athletes must be considered serious leisure participants. Further, the study provided support for researching social impact motives, as participants in the cause-related sport event indicated that raising awareness was the most important motivator for participation in the event, followed by social motives. As no predictors for social motives were found, it was concluded that social motives are equally important for all participants involved, which makes it an important component of the Canadian Transplant Games. In addition, social impact motives were strengthened by athletic social identity. Thus, the more individuals perceived that other people were aware of their participation as transplant athlete, the greater those individuals were motivated to make a social impact.

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Table 1

*Survey Measures*

	$\alpha$	$M(SD)$
Leisure Motivation: Intellectual	.83	3.46 (1.24)
1. To satisfy my curiosity about sports		
2. To expand my knowledge about sports		
3. To discover new things about sports		
Leisure Motivation: Social	.82	5.41 (0.67)
1. To build friendships with others		
2. To meet new and different people		
3. To interact with others		
Leisure Motivation: Competency-Mastery	.77	4.36 (1.09)
1. To improve my skills		
2. To gain experience at a high level		
3. To challenge myself		
Leisure Motivation: Escape	.72	4.04 (1.12)
1. To get away from my everyday life (excluded)		
2. To relax physically		
3. To relax mentally		

Table 1 (continued)

*Survey Measures*

	$\alpha$	$M (SD)$
Motivation: Social Impact	.72	5.58 (0.62)
1. To remove barriers about organ donation		
2. To create awareness about organ donation		
3. To change public opinion about organ donation		
4. To celebrate the gift of life		
Self-Identity	.80	4.21 (1.29)
1. Describes me/does not describe me		
2. Affirms my values/does not affirm my values		
3. Have strong feelings/don't have strong feelings		
Social Identity	.67	4.64 (1.12)
1. People would be surprised if I just stopped being involved in sport		
2. Other people think that sport is important to me		
3. Many people think of me as being a member of the Transplant Games Community		

Table 2

*Correlation Matrix for Demographics and Athletic Identity*

	Self- identity	Social identity	Gender	Age	Event experience	Travel distance
Self-identity	1	.73***	.20	.08	.16	.21
Social identity		1	.08	.13	.39**	.20
Gender			1	-.05	-.24*	.02
Age				1	.11	-.06
Event experience					1	-.02
Travel distance						1

\* Correlation is significant at the 0.05 level (two-tailed).

\*\* Correlation is significant at the 0.01 level (two-tailed).

\*\*\* Correlation is significant at the 0.001 level (two-tailed).

Table 3

*Regression Analyses for Demographics Predicting Athletic Identity (Step 1)*

Independent Variables	Athletic Self-Identity		Athletic Social Identity	
	$\beta$	<i>t</i>	$\beta$	<i>t</i>
Gender	0.25	2.12*	0.17	1.60
Age	0.09	0.76	0.10	0.95
Event experience	0.21	1.81	0.42	3.86***
Travel distance	0.22	1.92	0.21	2.02*
$R^2$	0.13		0.23	
Adjusted $R^2$	0.08		0.19	
$F$	2.65*		5.21**	

$N = 74.$

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , two-tailed.

Table 4

*Regression Analysis for Demographics Predicting Social Impact Motives (Step 2)*

Independent Variables	Social Impact Motives	
	$\beta$	$t$
Gender	-0.26	-2.21*
Age	0.18	1.53
Event experience	0.05	0.40
Travel distance	0.00	0.01
$R^2$		0.11
Adjusted $R^2$		0.06
$F$		2.14

$N = 72.$

\*  $p < .05$ , two-tailed.



Table 5

*Regression Analysis for Demographics Predicting Social Motives (Step 2)*

Independent Variables	Social Motives	
	$\beta$	$t$
Gender	-0.11	-0.88
Age	0.21	1.81
Event experience	0.04	0.30
Travel distance	0.01	0.05
$R^2$		0.06
Adjusted $R^2$		0.01
$F$		1.16

$N = 73.$

Table 6

*Regression Analysis for Demographics Predicting Competency-Mastery Motives (Step 2)*

Independent Variables	Competency-Mastery Motives	
	$\beta$	$t$
Gender	-0.08	-0.70
Age	0.03	0.29
Event experience	-0.10	-0.84
Travel distance	0.25	2.19*
$R^2$		0.08
Adjusted $R^2$		0.02
$F$		1.45

$N = 74.$

\*  $p < .05$ , two-tailed.

Table 7

*Regression Analysis for Demographics Predicting Escape Motives (Step 2)*

Independent Variables	Escape Motives	
	$\beta$	$t$
Gender	0.08	0.70
Age	0.25	2.21*
Event experience	-0.09	-0.79
Travel distance	0.17	1.47
$R^2$		0.10
Adjusted $R^2$		0.05
$F$		1.92

$N = 74.$

\*  $p < .05$ , two-tailed.

Table 8

*Regression Analysis for Demographics Predicting Intellectual Motives (Step 2)*

Independent Variables	Intellectual Motives	
	$\beta$	$t$
Gender	-0.15	-1.22
Age	-0.08	-0.65
Event experience	-0.19	-1.56
Travel distance	0.15	1.27
$R^2$		0.07
Adjusted $R^2$		0.02
$F$		1.38

$N = 74.$

Table 9

*Regression Analysis for Variables Predicting Social Impact Motives (Step 3)*

Independent Variables	Social Impact Motives	
	$\beta$	$t$
Athletic self-identity	-0.13	-0.77
Athletic social identity	0.38	2.15*
Gender	-0.31	-2.55*
Age	0.15	1.32
Event experience	-0.08	-0.65
Travel distance	-0.07	-0.56
$R^2$		0.18
Adjusted $R^2$		0.11
$F$		2.42*

$N = 72.$

\*  $p < .05$ , two-tailed.

Table 10

*Regression Analysis for Variables Predicting Social Motives (Step 3)*

Independent Variables	Social Motives	
	$\beta$	$t$
Athletic self-identity	0.09	0.54
Athletic social identity	0.12	0.67
Gender	-0.16	-1.25
Age	0.19	1.63
Event experience	-0.03	-0.24
Travel distance	-0.05	-0.39
$R^2$	0.10	
Adjusted $R^2$	0.01	
$F$	1.15	

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$N = 73.$

Table 11

*Regression Analysis for Variables Predicting Competency-Mastery Motives (Step 3)*

Independent Variables	Competency-Mastery Motives	
	$\beta$	$t$
Athletic self-identity	0.50	3.25**
Athletic social identity	0.05	0.33
Gender	-0.21	-2.01*
Age	-0.01	-0.14
Event experience	-0.23	-1.97
Travel distance	0.14	1.31
$R^2$		0.33
Adjusted $R^2$		0.26
$F$		5.37***

$N = 74.$

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , two-tailed.

Table 12

*Regression Analysis for Variables Predicting Escape Motives (Step 3)*

Independent Variables	Escape Motives	
	$\beta$	$t$
Athletic self-identity	0.22	1.28
Athletic social identity	-0.07	-0.39
Gender	0.04	0.33
Age	0.24	2.09*
Event experience	-0.11	-0.83
Travel distance	0.14	1.15
$R^2$		0.13
Adjusted $R^2$		0.05
$F$		1.65

$N = 74.$

\*  $p < .05$ , two-tailed.



Table 13

*Regression Analysis for Variables Predicting Intellectual Motives (Step 3)*

Independent Variables	Intellectual Motives	
	$\beta$	$t$
Athletic self-identity	0.42	2.57*
Athletic social identity	0.04	0.25
Gender	-0.25	-2.25*
Age	-0.12	-1.07
Event experience	-0.29	-2.39*
Travel distance	0.05	0.44
$R^2$		0.25
Adjusted $R^2$		0.18
$F$		3.63**

$N = 74.$

\*  $p < .05$ , \*\*  $p < .01$ , two-tailed.

### Figure Captions

*Figure 1.* Model tested in the current study.

*Figure 2.* Three steps of mediation (significant effects of each step only).

*Figure 3.* Structure of relations among demographics, athletic identity, and leisure motives (based on significant effects from the regression analyses).

Figure 1

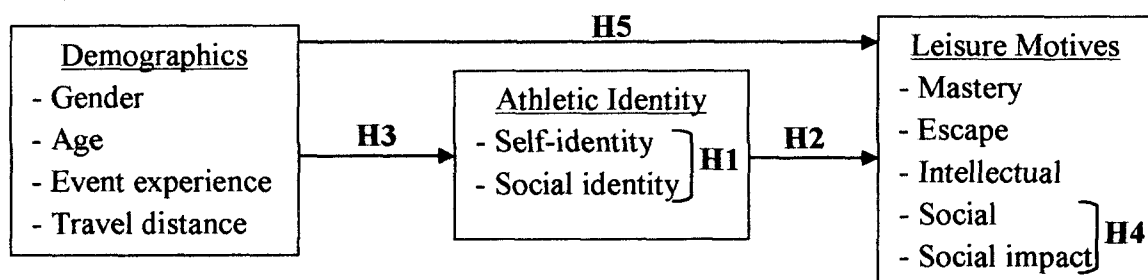
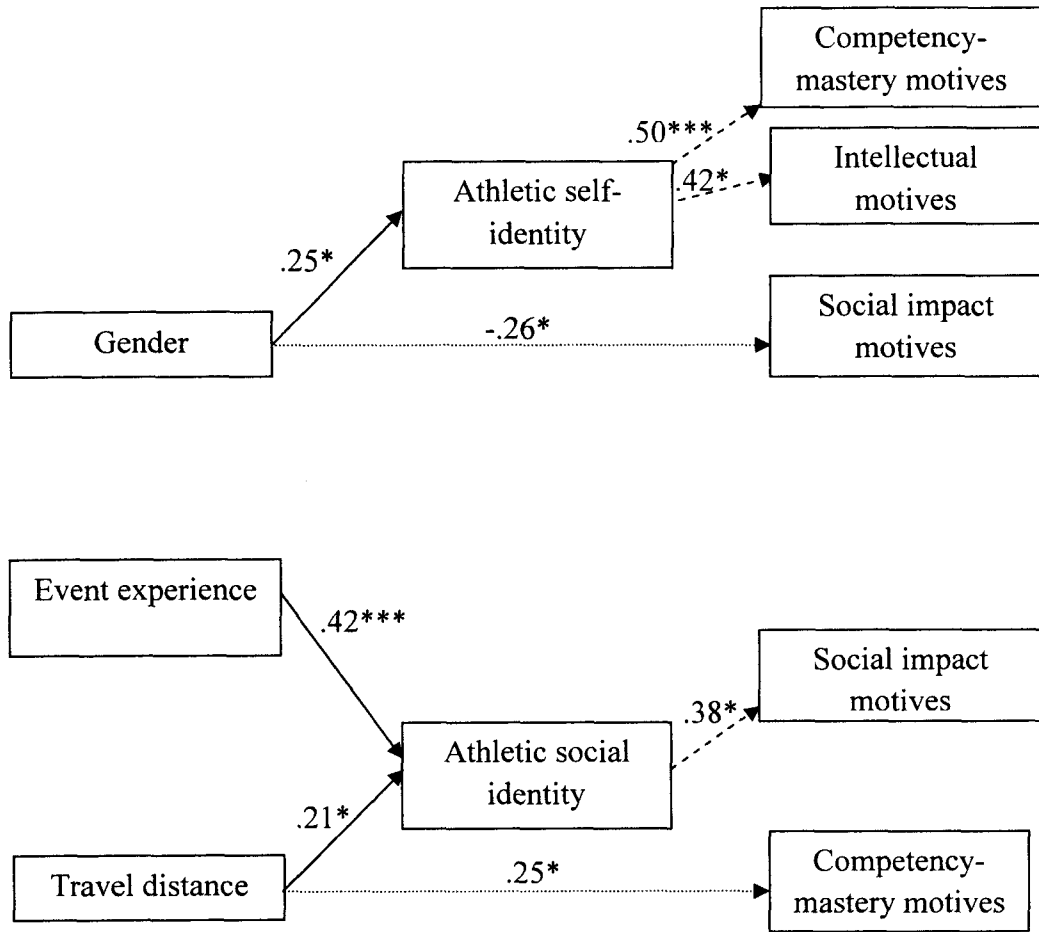


Figure 2



\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , two-tailed.

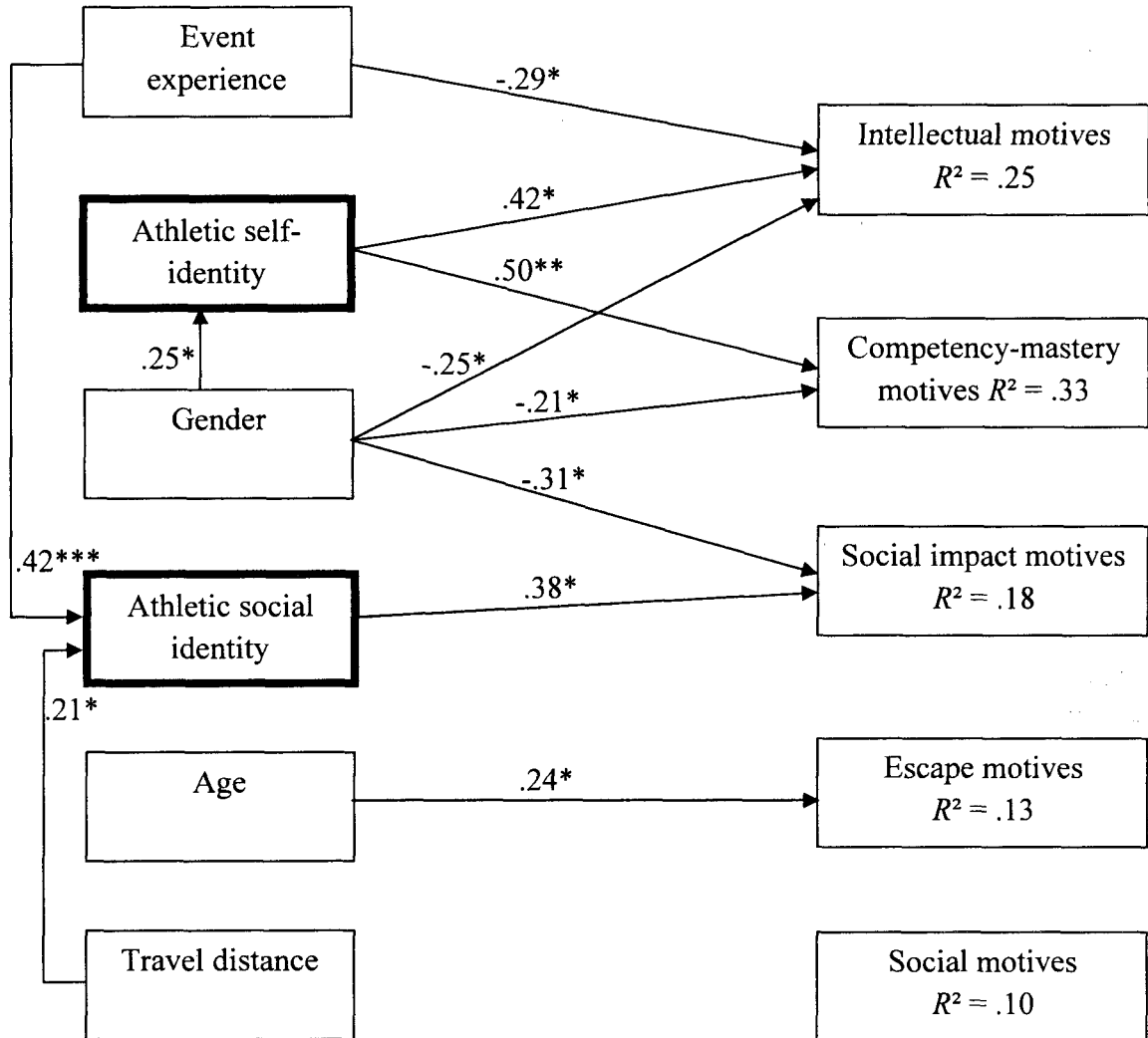
Gender: 0 = female; 1 = male

Event experience: 0 to 21 times

Travel distance: 0 = Ontario; 1 = other

- > Step 1
- .....> Step 2
- > Step 3

Figure 3



\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ , two-tailed.

Gender: 0 = female; 1 = male

Age: 14 to 77 years of age

Event experience: 0 to 21 times

Travel distance: 0 = Ontario; 1 = other

## LITERATURE REVIEW

### Athletic Identity

#### *The Concept of Athletic Identity*

Athletic identity is defined as “the degree to which an individual identifies with the athlete role” (Brewer, Van Raalte, & Linder, 1993, p. 237). Research has addressed both positive and negative consequences of a strong athletic identity. On the positive side, a strong exclusive athletic identity can positively influence sport performance. Danish (1983) noted that rigorous demands of training and competition often require athletes to limit their external activities in order to excel at a high athletic level. In addition, individuals who highly value the athletic component of the self are more likely to engage in exercise behaviour and physical activities than those who place less value on the athletic component of self-identity (Kendzierski, 1988). On the negative side, a strong exclusive athletic identity is identified as a risk factor for emotional disturbance upon termination of the athletic career, particularly in case of a forced retirement. Difficulties with career transitions such as not making a team, injury, and retirement from sport have been identified (Pearson & Petitpas, 1990). Brewer (1993) linked strong athletic self-identity to post-injury depression. Over-commitment to the athlete role was found to restrict the development of a multi-dimensional self-concept. This was confirmed through research on competitive gymnasts. After retiring from gymnastics, participants expressed that they knew little about who they were and what they wanted to do with their lives. They needed to establish a new identity apart from gymnastics (Lavallee & Robinson, 2007; Phoenix, Faulkner, & Sparkes, 2005).

### *Measuring Athletic Identity*

*Athletic Identity Measurement Scale.* Brewer et al. (1993) developed the Athletic Identity Measurement Scale (AIMS) to measure both strength and exclusivity of identification with the athlete role. The instrument consisted of ten items scored on a seven-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). Data from three studies with a sample of university students at an American institution ( $N = 782$ ; 348 female and 434 male) confirmed reliability and internal consistency of the instrument ( $\alpha = .81$  to  $.93$ ). The AIMS was found to be one-dimensional because only one factor, athletic identity, was discovered.

Brewer and Cornelius (2001) further examined the dimensionality of the AIMS through data that was collected from 10 years of various administrations of the instrument. Three items performed poorly and were deleted from the scale. The resulting seven items formed a multidimensional measure in which three factors, namely social identity (the strength of identification with the athlete role), exclusivity (the degree of relying heavily on the identification with the athlete role) and negative affectivity (negative responses resulting from non-participation in sport), were found to be subordinate to the higher factor of athletic identity.

The dimensionality of the AIMS was tested in a sample of adolescent swimmers with disabilities ( $N = 57$ ) (Martin, Mushett, & Eklund, 1994). The existence of the three factors, as proposed by Brewer, Boin, and Petitpas (1993) and published by Brewer and Cornelius (2001), was confirmed, but a fourth factor labelled self-identity was added. Self-identity was comprised of items capturing the respondents' views of their athletic identity in contrast to social identity reflecting social-based perceptions of how others see

the respondents as athletes. The dimensionality of the AIMS was further examined in a sample of international swimmers with disabilities ( $N = 78$ ; 34 female and 44 male) (Martin, Eklund, & Mushett, 1997). The results confirmed the four-factor structure of the AIMS. Both self-identity and social identity were identified as meaningful constructs for athletes with disabilities. However, the claim of including self-identity as a fourth factor in the AIMS for athletes with disabilities was not supported by Tasiemski, Kennedy, Gardner, and Blaikley (2004) and Groff and Zabriskie (2006). The first study examined athletic identity in a sample of people with spinal cord injury ( $N = 678$ ; 108 female and 570 male) by using the AIMS. Athletic identity was found to be one-dimensional. In addition, results indicated that people with spinal cord injury, even those competing as athletes, reported lower athletic identity than did people without disabilities (Tasiemski et al., 2004). The second study examined athletic identity in a sample of elite alpine skiers with disabilities ( $N = 33$ ; 11 female and 22 male) by using the AIMS. Athletic identity was found to be multidimensional consisting of social identity, exclusivity, and negative affectivity. In addition, results indicated that elite skiers with disabilities had comparable levels of athletic identity to athletes without disabilities who compete in sport at similar levels of intensity (Groff & Zabriskie).

*Leisure Identity Scale.* Shamir (1992) examined an individual's personal identification and social identification with leisure activities and developed the Leisure Identity Scale (LIS). The LIS consists of two subscales: (a) the Leisure Identity Salience Scale which assesses the importance of the leisure identity in comparison to other identities the individual holds (i.e., self-identity), and (b) the Social Commitment Scale which assesses the subjective feeling of being socially committed to the leisure activity



(i.e., social identity). Self-identity was measured with seven items and social identity with eight items, all scored on a seven-point Likert scale ranging from 1 (*not at all*) to 7 (*to a very large extent*). Data from three studies with university students and serious leisure participants ( $N = 893$ ) confirmed the internal consistency of both subscales, with alpha coefficients of .87 for self-identity and .89 for social identity.

The LIS has been used in a variety of different populations. Green and Tanabe (1998) examined the running identity of a sample of participants ( $N = 259$ ) at four events of the Gold Coast Marathon (i.e., marathon, half marathon, 10 km run, and 10 km walk). Participants in the full marathon reported the highest levels of self-identity and social identity, whereas participants in the walking event reported the lowest levels on the two dimensions. Participants in the half marathon and 10 km run scored similar, but rated themselves lower than did participants in the full marathon and higher than did participants in the walking event. Snelgrove, Taks, Chalip, and Green (2008) measured identification with the subculture of athletics in a sample of visitors at a medium sized international sport event ( $N = 777$ ; 443 female and 334 male). The original LIS was modified to reflect the athletics context; three items measured self-identity and three items measured social identity. All items were rated on a six-point Likert scale from 1 (*strongly disagree*) to 6 (*strongly agree*). The internal consistency of both subscales was confirmed, with alpha coefficients of .88 for self-identity and .93 for social identity. Results indicated that visitors who had traveled to attend the event had a stronger identification with the subculture of athletics.

Laverie (1998) developed an interview guide by using questions from the original LIS to examine identity salience of participants the fitness activity of aerobics ( $N = 15$ ;

14 female and 1 male). Results indicated that individuals with high levels of identity salience continued with aerobics because of the atmosphere, music, and dancing, whereas individuals with low levels of identity salience continued to improve their physical appearance. Thus, a fundamental difference was found between those who participated for the activity and those who participated for the outcomes of the activity. A similar qualitative approach was taken by Fallon and Jome (2007) when they interviewed female rugby players ( $N = 11$ ). The purpose of the study was to examine gender-role expectations and conflicts of women participating in a traditionally masculine sport. The LIS was used to design questions about the salience of feminine identity and athletic identity. Participants expressed gender-role conflicts while participating in rugby, but they also demonstrated numerous strategies for negotiating expectations and resolving conflicts to avoid distress.

Lastly, the LIS has also been used to develop conceptual models and new instruments. Loy, Dattilo, and Kleiber (2003) used the LIS in the development of a conceptual model to understand how active engagement in leisure influences long-term adjustment to spinal cord injury. Further, Guiry, Mägi, and Lutz (2006) used the LIS to develop a recreational shopper identity scale. They concluded that recreational shoppers vary in their level of identification with shopping, with individuals using shopping as a form of self-definition being at the highest level.

## Motivation

### *The Concept of Motivation*

According to Vallerand and Thill (1993), motivation is defined as “the hypothetical construct used to describe internal and/or external forces that produce the

initiation, direction, intensity, and persistence of behaviour” (p. 18). Initiation of behaviour refers to a point in time at which an activity of interest is started, while direction of behaviour refers to the activities an individual wants to engage in. Intensity and persistence of behaviour refer to the level of effort one is willing to put forth and the continued involvement in the chosen activity respectively.

Motivational behaviour in a sporting environment is best understood as the continuous interaction between personal factors (e.g., personality, needs, interests, and goals) and situational factors (e.g., the coach’s style, the win-loss record of a team, the opponent, and the sport facility) (Weinberg & Gould, 2003). Thus, in order to enhance motivation, one should recognize and understand athletes’ motives and structure the athletic situations to fulfill these motives (Gould, Feltz, & Weiss, 1985).

Motivation has been studied from many different points of view, resulting in multiple motivational theories ranging from mechanistic to cognitive. Mechanistic theories view humans as passive and driven without conscious awareness or intent. Conversely, cognitive theories view humans as active and initiating action through subjective interpretation of the achievement context (Petri, 1996; Roberts, 1992). The current study focuses on the special population of transplant athletes. Therefore, studies on similar populations such as athletes competing in Paralympic Games or wheelchair sports were examined. Throughout those studies, three cognitive motivational theories were prevalent and are discussed hereafter: achievement goal theory, self-determination theory, and self-actualization theory.

### *Motivational Theories*

*Achievement Goal Theory.* According to achievement goal theory, a person's motivation is determined by the interaction of three factors: achievement behaviour, achievement goals, and perceived ability (Weinberg & Gould, 2003). Nicholls (1984) defined achievement behaviour as "that behaviour in which the goal is to develop or demonstrate – to self or to others – high ability, or to avoid demonstrating low ability" (p. 328). Sport achievement motivation is multidimensional and individuals operate under two different goal perspectives, namely task or outcome orientation, which reflect different constructions of perceived ability or competence. When an individual is task-oriented, his or her perceptions of ability are related to self-referenced standards; this individual will judge his or her ability according to how much he or she has learned or improved progressively. Conversely, when an individual is outcome-oriented (also referred to as ego-oriented), his or her perceptions of ability are construed with reference to the performances of others; this individual is most interested in demonstrating that he or she has superior skills than others (Nicholls; Seifriz, Duda, & Chi, 1992).

Research has revealed a relationship between perceived motivational climate and achievement goals. Not only can individuals be task- or outcome-oriented, the learning environments can also be mastery- or performance-oriented. A mastery-oriented climate is one in which athletes receive positive reinforcement from the coach, while they work hard, demonstrate improvement, help others, and believe that each player's contributions are important. A performance-oriented climate is one in which athletes believe that poor performance will be punished, that talented players receive most attention, and that competition between team members is encouraged by the coach (Cox, 2007). Athletes

who perceive mastery-oriented climates tend to be task-oriented. Conversely, athletes in a performance-oriented climate tend to be outcome-oriented (Seifriz et al., 1992). Further, task-orientation fosters intrinsic motivation, while outcome-orientation leads to reductions in intrinsic motivation. Individuals are intrinsically motivated when they focus on a task for its own sake, have a sense of self-determination, and perceive that they are able to meet the demands of the task (Deci & Ryan, 1985).

*Self-Determination Theory.* Self-determination theory focuses on three basic psychological needs: autonomy (i.e., the need to feel a sense of personal initiative), relatedness (i.e., the need to connect to others), and competence (i.e., the need to feel effective). When these basic needs are supported, intrinsic motivation, performance, and cognitive development are maximized (Weinberg & Gould, 2003).

Deci and Ryan (1985) stated that an individual's level of motivation varies in relation to changes in his or her perceptions of competence and self-determination. Behaviours that are self-determined reflect the process, autonomy, or choice in human functioning (Deci & Ryan, 2002). In order to fully understand participation in sport, three motivational constructs should be considered along the self-determination continuum: intrinsic motivation, extrinsic motivation, and amotivation. Intrinsic motivation refers to doing an activity solely for the pleasure and satisfaction derived from participation (Deci, 1975). When a person is intrinsically motivated, he or she will perform the activity voluntarily, without any external rewards (Deci & Ryan, 1985). Vallerand et al. (1992) identified three types of intrinsic motivation: intrinsic motivation to know (e.g., pleasure in learning something new); intrinsic motivation to accomplish (e.g., pleasure of achieving something); and intrinsic motivation to experience stimulation (e.g., pleasure

derived from stimulating sensations). Contrary to intrinsic motivation, extrinsic motivation refers to behaviours that are engaged in as a means to an end and not for the activity itself (Deci, 1975). Different types of extrinsic motivation, with different degrees of self-determination, are identified: external regulation, introjected regulation, identified regulation, and integrated regulation (Deci & Ryan, 1985; 2002). External regulation corresponds to behaviour that is regulated through external means (e.g., rewards and constraints) imposed by others. Introjected regulation refers to the internalization of past external sources of motivation, and corresponds to behaviours that are reinforced through guilt and anxiety. When an activity is valued, judged as important, and performed out of choice, an individual operates under identified regulation. The activity is still performed for extrinsic reasons (e.g., to achieve personal goals), but it is internally regulated and self-determined. The last and most self-determined type of extrinsic motivation is integrated regulation. In this situation, individuals make choices that reflect other aspects of their self-concept. The third and final motivational construct is amotivation. Amotivated individuals experience feelings of incompetence and lack of control (Deci & Ryan, 1985).

*Self-Actualization Theory.* Maslow (1987) argued that every theory on human motivation must take into account the individual as a whole and must seek to understand the ultimate goals of human behaviour rather than the superficial or apparent goals. Human behaviour can be understood in terms of a hierarchy of needs, with the striving for perfection or self-actualization as its ultimate purpose. If lower needs on the hierarchy are satisfied, higher needs will become important and will guide behaviour. The five

levels of the hierarchy are the following: physiological needs, safety needs, social needs, esteem needs, and self-actualization needs.

Physiological needs (e.g., hunger and thirst) and safety needs (e.g., security and stability) are adequately met for most people in our society; and therefore, those needs do not control or direct our behaviour unless we find ourselves in an emergency situation. Satisfaction of social needs (i.e., belongingness and love) requires both the receiving and giving of love. These needs involve a hunger for affectionate relationships with other people and a desire to belong to a certain group. If social needs are satisfied, esteem needs become important in guiding our behaviour. Esteem needs consist of two subcategories: needs for self-esteem, which is the desire for achievement, mastery, and competence; and needs for esteem from others, which is the desire for prestige, recognition, and appreciation. Satisfaction of esteem needs leads to feelings of self-confidence and people see themselves as having a purpose in the world. The needs of these first four levels must be satisfied before reaching the final level of self-actualization. The behaviours generated to satisfy those needs are activated by deprivation motivation. When all the deprivation needs are satisfied, the final stage of development, namely self-actualization, can be reached. At the final level, behaviour is motivated by the search for truth, wisdom, and meaning. "Self-actualized individuals are no longer motivated by deficiencies but are motivated to grow and become all that they are capable of becoming" (Petri, 1996, p.321).

### *Measuring Motivation*

Based on the theories discussed previously, different motivation measurements were developed. The Sport Orientation Questionnaire (Gill & Deeter, 1988), the

Perceived Motivational Climate in Sport Questionnaire (Seifriz et al., 1992), and the Participation Motivation Inventory (Gill, Gross, & Huddleston, 1983) are based on achievement goal theory. Self-determination theory forms the foundation of the Sport Motivation Scale (Pelletier et al., 1995). The Leisure Motivation Scale (Beard & Ragheb, 1983) is based on self-actualization theory. Hereafter, the different measurements are explained and results of relevant studies on special populations are discussed.

*Sport Orientation Questionnaire.* The Sport Orientation Questionnaire (SOQ) is developed by Gill and Deeter (1988) to measure individual differences in sport achievement orientation. The authors designed the questionnaire specifically for athletes and non-athletes, which makes it appropriate for participants of competitive and non-competitive sport activities. Three studies were used to collect data from undergraduate and high school students ( $N = 721$ ; 423 female and 298 male), who completed the 25-item SOQ on a five-point Likert scale from A (*strongly agree*) to E (*strongly disagree*). The SOQ consists of three subscales: competitiveness, which is defined as “the desire to enter and strive for success in sport achievement situations”; win orientation, which is defined as “the desire to win in interpersonal competition in sport”; and goal orientation, which is defined as “the desire to reach personal goals in sport” (p.195). The SOQ competitiveness score consistently differentiated competitive students from non-competitive students. It was found that competitiveness, in contrast to win and goal orientation, had a strong influence on the choice to enter competitive sport situations. Further, competitive sport participants scored higher than the non-competitive participants on win and goal orientation, but the differences were neither strong nor consistent. Knowledge of factors that predispose an athlete to be more competitive, goal



oriented, or win oriented is important in order to develop training programs which are compatible with athletes' orientations (Fung, 1992).

Martin, Adams-Mushett, and Smith (1995) examined sport motivation in a sample of international adolescent swimmers with disabilities by using the SOQ. Data were collected at an international junior swimming event in Glasgow, Scotland, where a sample of youth swimmers with disabilities ( $N = 57$ ; 27 female and 30 male) completed the SOQ which assesses three factors: competitiveness, goal orientation, and win orientation. An examination of scores from the SOQ indicated that swimmers with disabilities reported being very competitive. In addition, the respondents' scores on goal and win orientation were comparable to scores of athletes without disabilities studied previously (Gill, Dzewaltowski, & Deeter, 1988). Clearly, the results indicated that athletes with disabilities are strongly motivated to achieve in sport. In contrast to findings on athletes without disabilities, no gender differences were reported in the current study. Typically, males report higher scores on competitiveness and win orientation whereas females report higher scores on goal orientation (Gill, 1993), which is mostly caused by males having more competitive experience. The female respondents in the current study reported significantly greater experience in competitive sport than did males and this might have contributed to the lack of gender differences in competitiveness (Martin et al., 1995).

Page, O'Connor, and Wayda (2000) used the SOQ to examine motivational differences between athletes with congenital disabilities and athletes with disabilities acquired during the lifespan. Data were collected from 54 Paralympic athletes (25 female and 29 male; 15 congenital and 39 acquired disabilities) who competed in the 1996

United States Paralympic Track and Field Trials. Results indicated that there were no motivational differences between athletes who were born with their disabilities and those who acquired their disabilities during their lifespan. In addition, no significant differences between males and females were found on the three subscales of competitiveness, goal orientation and win orientation.

Page, O'Connor, and Peterson (2001) used a qualitative design to obtain an understanding of the motivational orientation of athletes with disabilities. Six elite athletes (4 female and 2 male) who were training for major competitions in the United States were interviewed about their reasons for participating in sport. The questions were based on the SOQ. The subscales of the SOQ were converted into seven open-ended interview questions. Three themes characterized the sport experience and motivated athletes with a disability: perceptions of others resulting in feelings of competence and acceptance, sport as a social outlet and community, and sport as a source of activity and fitness. The participants emphasized the accomplishment of personal goals as a primary motivator and mentioned competition with others only as a secondary motivator.

Skordilis, Gavriilidis, Charitou, and Asonitou (2003) used the SOQ to examine the differences in sport achievement orientation among three groups of male basketball players ( $N = 106$ ) in Greece. A sample of professional ( $n = 35$ ), amateur ( $n = 36$ ), and wheelchair ( $n = 35$ ) basketball athletes completed the SOQ. Wheelchair basketball athletes were individuals with a permanent physical disability of the lower portion of the body. Results indicated that win orientation was the only significant factor that differentiated the three groups, with the highest score obtained by professional basketball players, followed by amateur and wheelchair athletes. Obviously, professional basketball

players are more concerned about the outcome of sport events as their income depends on their successes. Amateur and wheelchair athletes scored similar on the three subscales of the SOQ, indicating that amateur and wheelchair basketball athletes have similar achievement orientations when competing in basketball.

*Perceived Motivational Climate in Sport Questionnaire.* The Perceived Motivational Climate in Sport Questionnaire (PMCSQ) was developed by Seifriz et al. (1992) to measure two types of climates in a sport setting, namely performance and mastery climate. The authors examined male basketball players ( $N = 105$ ) from nine varsity high schools teams at an American institution, who completed the preliminary 40-item PMCSQ on a five-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Exploratory factor analyses were performed on the 40-item version of the PMCSQ, which resulted in a two-factor solution retaining only 21 items. Twelve items loaded on the performance factor (e.g., doing better than others is important) and nine items loaded on the mastery factor (e.g., the coach focuses on skill improvement). Results indicated that teams varied in relation to the perceived motivational climate; therefore, differences in perceptions of a performance or mastery climate were reported. Further, basketball players who perceived their environment to be mastery-oriented reported significantly higher levels of enjoyment and intrinsic motivation. In addition, those players were also more likely to believe that high effort leads to success in their sport. Contrary, basketball players in a performance-oriented climate tended to endorse the belief that ability leads to success.

Pensgaard, Roberts, and Ursin (1999) used the PMCSQ to compare motivational factors among elite athletes with and without disabilities. A sample of Paralympic ( $N =$

30; 7 female and 23 male) and Olympic ( $N = 69$ ; 20 female and 49 male) athletes from Norway filled out an adapted version of the PMCSQ because the original questionnaire was designed to measure motivational climate in team activities. As a result, 15 items were measured on a five-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*), of which nine loaded on the performance factor and six on the mastery factor. In addition, qualitative data was collected from a small sample of elite Paralympic athletes ( $N = 3$ ; 1 female and 2 male) through a semi-structured interview. Results indicated that little differences between elite athletes with and without disabilities were observed. Paralympic athletes did perceive a significantly more mastery-oriented climate than did Olympic athletes. Further, Paralympic athletes were much more satisfied with effort and results than Olympic athletes. The authors concluded that although Paralympic and Olympic sport may appear as two different worlds, peak performers in both fields seem to have more similarities than differences.

*Participation Motivation Inventory.* Gill et al. (1983) developed the Participation Motivation Inventory (PMI) to explore participation motives in youth sports. A sample of American youth ( $N = 1138$ ; 418 girls and 720 boys) participating in a summer sports camp filled out the PMI which consisted of 30 possible reasons for participating in sports. The items were rated on a scale from 1 (*very important*) to 3 (*not at all important*) and were classified into the following eight dimensions: (1) achievement and status (e.g., I like to win), (2) team (e.g., I like teamwork), (3) fitness (e.g., I want to stay in shape), (4) energy release (e.g., I want to get rid of energy), (5) others (e.g., My parents or close friends want me to play), (6) skill (e.g., I want to improve my skills), (7) friendship (e.g., I want to be with friends), and (8) fun (e.g., I like to excitement). Two notable differences

between boys and girls were found: boys scored higher on the achievement and status dimension, whereas girls scored higher on the friendship and fitness dimensions. Overall, boys and girls placed the highest importance on skill development. These results, obtained from a summer sports camp where great emphasis is placed on skill development, are in conflict with results obtained from youth swim clubs (Gould, Feltz, & Weiss, 1985). A sample of American competitive youth swimmers ( $N = 365$ ; 190 female and 175 male) completed the PMI. These youth swimmers indicated fun, fitness, and team atmosphere as the three most important motives for participation. Similarly, boys rated achievement and status as more important than did girls, but girls placed more importance on friendship, fitness, and fun.

Although the original PMI was developed for athletes without disabilities and for a younger age group, Fung (1992) used the scale to study participation motives of a sample of Paralympic athletes ( $N = 90$ ; 45 female and 45 male) from three different countries including the United States, Great Britain, and Japan. First, significant gender differences were reported. Female athletes rated friendship as a more important factor than did males whereas male athletes reported higher scores on achievement and status than did females. Further, athletes from the different countries significantly differed on three of the seven motives, but more collaborative research is needed to interpret those findings.

*Sport Motivation Scale.* Pelletier et al. (1995) conducted two studies to translate and validate L'Échelle de Motivation dans les Sports (Brière et al., 1995), a French-Canadian version of the Sport Motivation Scale (SMS), in English. The first study included a sample of university athletes ( $N = 593$ ; 274 female and 319 male) at a

Canadian institution, while the second study included a sample of soccer players at the provincial level in Canada ( $N = 50$ ; 31 female and 19 male). The SMS was developed to measure three types of motivation, namely intrinsic motivation, extrinsic motivation, and amotivation. Intrinsic motivation included three subscales: (1) to know (e.g., pleasure derived from learning and exploring), (2) to accomplish (e.g., pleasure derived from accomplishing or creating something), and (3) to experience stimulation (e.g., sensory pleasure). Similarly, extrinsic motivation included three subscales: (1) external regulation (e.g., behaviour controlled by external rewards), (2) introjection (e.g., behaviour reinforced through guilt or anxiety), and (3) identification (e.g., behaviour is internally regulated and self-determined in order to achieve personal goals). The authors reported the following gender differences: women scored higher on intrinsic motivation to know and to accomplish, while men scored higher on external regulation. These gender differences were in line with the French-Canadian version of the SMS.

Perreault and Vallerand (2007) applied the SMS to a sample of wheelchair basketball players ( $N = 72$ ; 31 female and 41 male). Within this sample, both athletes without disabilities ( $n = 24$ ) and with disabilities ( $n = 48$ ) were identified. Results indicated that wheelchair athletes with and without disabilities are quite similar in respect to motivation. Furthermore, participants in the present study scored significantly higher on self-determined types of motivation than on non self-determined motivation.

*Leisure Motivation Scale.* Ryan and Glendon (1998) argued that Beard and Ragheb's (1983) Leisure Motivation Scale (LMS) is derived from the work of Maslow (1970) and "relates to similar work within recreation studies where recreation is concerned with re-creating and finding self" (p. 172). People can gratify a number of

psychological needs while they engage in leisure pursuits, including needs at all five levels of Maslow's hierarchy. Individuals' satisfaction of their psychological needs is believed to have a positive effect on their physical health, mental health, and life satisfaction (Baldwin & Tinsley, 1988). Beard & Ragheb (1983) developed the LMS to determine psychological and social reasons for participating in leisure activities. The LMS consists of four subscales: (a) the intellectual component, which includes motivations to learn, discover, and explore new ideas; (b) the social component, which incorporates motivations to build friendships, and to receive esteem from others; (c) the competency-mastery component, which encompasses motivations to achieve, master, and compete; and (d) the stimulus-avoidance (or escape) component, which integrates motivations to escape from daily life situations.

The LMS has been used in a variety of different populations, most commonly holiday travellers. Loundsbury and Polik (1992) examined expressed needs prior to and satisfied needs following a vacation. Data were collected from a sample of adults ( $N = 146$ ; 86 female and 60 male) in a medium sized city in the United States. A written questionnaire contained 38 items derived from the original LMS. Prior to their vacation, respondents were asked to score how much more, or less, they wanted to participate in activities related to the 38 items. The response format was a five-point Likert scale from 1 (*not at all*) to 5 (*very much more*). After returning from their vacation, respondents were asked to score the 38 items again with regard to how much they were able to do what they wanted during their vacation. The response format was a five-point Likert scale from 1 (*much less than I wanted*) to 5 (*much more than I wanted*). The results indicated a lack of association between expressed needs prior to and met needs following the

vacation. The authors pointed out that “this might have resulted from the generally high level of met needs following a vacation such that regardless of prevacation need level, a given need was able to be met on vacation” (p. 116). Ryan and Glendon (1998) took a similar approach by asking respondents about the importance of motivations and the extent to which their last holiday met these motivations. A questionnaire, containing 14 items of the original LMS rated on a seven-point Likert scale, was sent to 6,000 individuals in the United Kingdom. The number of usable replies was 1,127. The four motivational dimensions of the LMS permitted the development of several clusters of holidaymakers. The results were valuable in tourism literature as the clusters could be identified on the basis of their psychological motives for travel, which also resulted in different requirements for holiday destinations. Pan and Ryan (2007) examined motivations and satisfactions of a sample of visitors ( $N= 205$ ; 86 female and 119 male) at Pirongia Forest Park in New Zealand. The same 14 items of the LMS, as used by Ryan and Glendon, were used in this study. Four new items related to outdoor recreation were added. Similarly, clusters of visitors were formed based on their motivations and demographics. Relaxation was found to be the most important motivator to visit the park, which may cause potential tension between tourism promotion and conservation of the park as a peaceful and quiet area. On the one hand, the city wanted to attract more visitors to the park, whereas on the other hand, they wanted to retain the conservation ethic of what is still a unique area. Cleaver and Muller (2002) examined vacation travel motives and its relationships to actual age and self-perceived age in a sample of Australian seniors ( $N = 356$ ). Motivation was measured with 48 items, which were retrieved from three sources, one of them being the LMS. The response range was a ten-



point Likert scale. Seven factors were extracted from the 48 items: nostalgia, friendship, learning, escapism, thinking, status enhancement, and physical stimulation. Seniors who were attracted to vacation activities for physical stimulation purposes wanted to act much younger than they actually were, whereas seniors who were attracted to vacation activities for social purposes were acting according to their actual age.

Green and Tanabe (1998) examined the motives of a sample of participants ( $N = 259$ ) at four events of the Gold Coast Marathon (i.e., marathon, half marathon, 10 km run, and 10 km walk). Results indicated that participants in the four events did not differ on any of the four motivation variables. Snelgrove, Taks, Chalip, and Green (2008) measured leisure motivation in a sample of visitors at a medium sized international sport event ( $N = 777$ ; 443 female and 334 male). The original LMS was modified toward a scale containing four dimensions, measured with three items each. All items were rated on a six-point Likert scale from 1 (*strongly disagree*) to 6 (*strongly agree*). The internal consistency of the subscales was confirmed, with alpha coefficients ranging from .75 to .94. Results indicated that male visitors and visitors who had a higher income reported lower leisure motivation than female visitors and visitors who had a lower income. Filo, Funk, and O'Brien (2008) examined participants' motives at a cause-related sport event. Qualitative data was collected through two focus groups ( $N = 31$ ; 12 female and 19 male) at two events of the Lance Armstrong Foundation in the United States. The focus groups revealed that individuals were motivated to participate in charity sport events for social, intellectual, and competency-mastery reasons, but not for escape reasons.

Further, the LMS has also been applied to the population of young offenders. Munchua, Lesage, Reddon, and Badham (2003) examined the interrelationships of leisure

motivation, leisure satisfaction, and perceived freedom in leisure in a sample of young Canadian offenders ( $N = 84$ , all male) by using the original LMS. Results indicated that leisure motivation and leisure satisfaction were negatively correlated with perceived freedom in leisure, thus, a lack of freedom could impede motivation as well as satisfaction. It was found that leisure activities did not satisfy social and escape motives, which constrained perceived freedom of in this sample and could result in antisocial and delinquent behaviour.

Lastly, Botner-Marigold and Miller (2007) examined the validity of the LMS for individuals with spinal cord injury. A small number of individuals with spinal cord injury ( $N = 5$ ) and therapeutic recreational specialists ( $N = 3$ ) were interviewed to assess the face validity of the instrument. Participants raised questions about the context for responding to the questions, namely pre-injury or post-injury context. Further, there were also concerns about the readability of the instrument. Future research is necessary.

### Conclusion

The majority of the literature on athletic identity and motivation is psychological in nature. Only a small number of sport management studies were found to report on athletic identity and motives of participants in sporting events. A significant gap in the literature was identified, with only a few studies reporting on motives of participants in cause-related sport events. Further, the population of transplant athletes participating in a cause-related sport event that focuses on raising awareness without raising funds was not examined earlier. For that reason, studies on special populations such as Paralympic and wheelchair athletes were included in the literature review.

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## Appendix A

### Letter for Consent

#### LETTER OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH

**Title of Study: Motives and sport participation impact of participants at the 2008 Canadian Transplant Games.**

You are asked to participate in a research study conducted by Inge Derom (student investigator) and Dr. M. Taks (faculty supervisor) from the Faculty of Human Kinetics at the University of Windsor. The results from this study will contribute to a Master's thesis on the 2008 Canadian Transplant Games. The study is funded by a Humanities and Social Sciences Research Grant. If you have any questions or concerns about the research, please feel to contact Dr. M. Taks (faculty supervisor) at the following phone number: (519) 253 3000 ext. 2467.

#### PURPOSE OF THE STUDY

Currently, the 2008 Canadian Transplant Games are hosted in Windsor, Ontario. This special event has received no research attention thus far. We would like to learn more about the athletes' motives, as well as the impact of the organ transplantation and this event on the physical activity level of the participants. We would like to invite you, being an athlete at the 2008 Canadian Transplant Games, to take part in this study. This research project will assist event organizers in better understanding this event and its participants in order to make better decisions for the future.

#### PROCEDURES

If you volunteer to participate in this study, we ask you to:

- 1. Fill out the questionnaire**, following the guidelines in the questionnaire (this will take about 10 minutes of your time). The questions will inquire about personal information (sex, age, sport involvement, and so forth), your motives for participating in the 2008 Canadian Transplant Games, your sport involvement, and the impact of your organ transplantation and this event on your sport participation level.
- 2. Return the questionnaire** in the accompanying blank envelope to the researchers' booth at the University of Windsor Alumni Hall, after which you will be receiving an invitation card to participate in a draw.
- 3. Return the invitation card** with your name and email address to the "draw box" at the University of Windsor Alumni Hall.

#### POTENTIAL RISKS AND DISCOMFORTS

Risks are unlikely. If you feel uncomfortable talking about your organ transplantation and sport participation, you can decide not to answer the questions without any consequences.

#### POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Participants will not experience any direct benefits. Indirectly, this study supports the need to research special populations (e.g., transplant recipients) and their participation in sport. Able-bodied athletes have received most research attention thus far, but this project focuses on special events and disability sports, which are as important as able-bodied sporting events. Through this project, researchers will learn more about the motives, sport participation and special characteristics of transplant recipients. The results will lead to a better understanding of this population and to a better organization of future events.

#### PAYMENT FOR PARTICIPATION

You will not receive a payment for participating in this study. However, if you fill out your name and email address on the invitation card and drop it in the "draw box", you can win a token of appreciation (i.e., an iPod).

#### CONFIDENTIALITY

Confidentiality and anonymity are guaranteed since the questionnaires require no name, and have to be returned in the sealed envelope. After the process of data analysis, the filled out questionnaires will be secured in a research lab at the Department of Human Kinetics. After the completion of the Master's thesis, the questionnaires will be destroyed.

#### PARTICIPATION AND WITHDRAWAL

You can choose to participate in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You will still be eligible for the draw. You may also refuse to answer any questions and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

#### FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS

Both the Canadian Transplant Association and the World Transplant organization are supportive of this research and are looking forward to the results. These organizations will receive a copy of the final research document.

#### SUBSEQUENT USE OF DATA

This data may be used in subsequent studies.

#### RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. If you have questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: [ethics@uwindsor.ca](mailto:ethics@uwindsor.ca)

#### SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

---

Signature of Investigator

July 25, 2008

---

Date

## Appendix B

## Demographic Questionnaire

Please check the appropriate answers:

1. Gender?             Female     Male
2. Birth year?        19.....
3. Event in which you participate during these Games? (Check all that apply)  
 Badminton             Lawn bowling         Squash                 Tennis  
 Bowling                 Road race             Swimming              Track and field  
 Cycling                 Slo-pitch              Table tennis          Volleyball  
 Golf
4. Did you previously participate in Canadian or World Transplant Games, excluding this event?  
 No                     Yes, How many times? \_\_\_\_\_
5. Do you intend to participate in the 2010 Canadian Transplant Games?  
 No                     Yes
6. Do you live outside of Windsor-Essex County?  
 No                     Yes, What is your home City (Province/State)? \_\_\_\_\_
7. What year did you receive an organ transplant? Year: .....
8. Type of transplant? \_\_\_\_\_



## Appendix D

## Leisure Motivation Scale

Participants have many reasons for attending the 2008 Canadian Transplant Games. Please rate how important each reason is to you, using the following scale from: 1= strongly disagree to 6= strongly agree. Circle your answer.

<b>One of the reasons for attending the CTG:</b>	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Slightly Disagree</b>	<b>Slightly Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
To satisfy my curiosity about sports	1	2	3	4	5	6
To build friendships with others	1	2	3	4	5	6
To get away from my everyday life	1	2	3	4	5	6
To improve my skills	1	2	3	4	5	6
To expand my knowledge about sports	1	2	3	4	5	6
To gain experience at a high level	1	2	3	4	5	6
To relax physically	1	2	3	4	5	6
To discover new things about sports	1	2	3	4	5	6
To meet new and different people	1	2	3	4	5	6
To challenge myself	1	2	3	4	5	6
To interact with others	1	2	3	4	5	6
To relax mentally	1	2	3	4	5	6

## Appendix E

## Codebook

Q	var	Label	Description	Coding	min	max
1	1	GENDER	Gender	. = missing 1 = female 2 = male <b>GENNEW → 0 = female; 1 = male</b>	1	2
2	2	YEARB	Year you were born	. = missing Ex 89 = born in 1989; Etc... <b>AGE → 108 - YEARB</b>	20	94
3	3 - 14	SPORT	Events	. = missing 0 = no 1 = yes	0	1
4	15	PREVTG	Did you previously participate in TG, excluding this event?	. = missing 0 = no 1 = yes	0	1
	16	TIMES	If yes, how many times?	. = missing 1 = once 2 = twice; Etc... <b>EVENT EXPERIENCE → 0-21</b>	1	21
5	17	INTEND	Do you intend to participate in the 2010 CTG?	. = missing 0 = no 1 = yes 2 = I don' know	0	2
6	18	LIVE	Do you live outside of Windsor-Essex County?	. = missing 0 = no 1 = yes	0	1
	19	CITY	City	. = missing TBD		
	20	PROV	Province or State	. = missing 1 = ON; 2 = QC; 3 = AB; 4 = NS; 5 = BC; 6 = NB; 7 = SK; 8 = NL; 9 = MB; 10 = VA (USA); 11 = OH (USA); 12 = ME (USA); 13 = NY (USA) <b>TRAVEL DISTANCE → 0 = ONTARIO; 1 = OTHER</b>	1	13
7	21	YEARTR	Year you received your organ transplant	. = missing Ex 1998 = transplant in 1998; Etc...	1920	2008
8	22	TTRANS	Type of transplant	. = missing 1 = Kidney 2 = Liver 3 = Heart 4 = Lung	1	6

				5 = Double lung 6 = Bone marrow stem cells		
9	23	ATHDE	Being an athlete describes me	. = missing 1 to 6 according to indicator	1	6
	24	ATHVA	Being an athlete affirms my values	See var. 24	1	6
	25	ATHFE	I have strong feelings about being an athlete	See var. 24	1	6
10	26	STOPSP	People would be surprised if I just stopped being involved in sport	. = missing 1 = strongly disagree 2 = disagree 3 = slightly disagree 4 = slightly agree 5 = agree 6 = strongly agree	1	6
	27	IMPSP	Other people think that sport is important to me	See var. 27	1	6
	28	MEMTGC	Many people think of me as being a member of the Transplant Games Community	See var. 27	1	6
11	29	CURAS	Satisfy curiosity about sports	See var. 27	1	6
	30	FRIENDO	Build friendship with others	See var. 27	1	6
	31	AWAY	Get away from everyday life	See var. 27	1	6
	32	REMOVE	Remove barriers about organ donation	See var. 27	1	6
	33	SKILLS	Improve my skills	See var. 27	1	6
	34	EXPKN	Expand my knowledge about sports	See var. 27	1	6
	35	AWARE	Create awareness of organ donation	See var. 27	1	6
	36	EXPHL	Gain experience at a high level	See var. 27	1	6
	37	RELPH	Relax physically	See var. 27	1	6
	38	DISCS	Discover new things about sports	See var. 27	1	6
	39	MEETNEW	Meet new people	See var. 27	1	6
	40	CHAL	Challenge myself	See var. 27	1	6
	41	CHANGEPO	Change public opinion about organ donation	See var. 27	1	6
	42	INTERA	Interact with others	See var. 27	1	6
	43	RELMENT	Relax mentally	See var. 27	1	6
	44	GIFT	Celebrate the gift of life	See var. 27	1	6



## VITA AUCTORIS

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