The Effects of Athletic Scholarships on Motivation in Sport

by

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A thesis submitted for completion of
Masters of Arts Degree

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Acknowledgments

I would like to first thank all the CIA and NCAA student athletes that participated in this study, as well as their coaches without whom this study could not have been possible. I would also like to thank the members of my research committee, Dr. Lynda Mainwaring, Dr. James Mandigo, and Dr. Philip Sullivan. Finally, most of all I would like to send my deepest appreciation to my supervisor and mentor Dr. Diane Stevens.

Thank you all.

Nikola Medic
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Abstract

The presence of rewards has been found to undermine intrinsic motivation (Deci & Ryan, 1999). This conclusion is primarily based on research conducted in non-sporting environments. The purpose of this study was to examine perceived motivational changes resulting from the hypothetical manipulation of a reward (i.e., athletic scholarships). Differences in "present" motivation between scholarship and non-scholarship athletes were also assessed. Gender, life roles, and sport experience were also examined in relation to scholarship status. Basketball players from four Ontario (n = 70) and seven U.S. Division I universities (n = 46) were examined. All athletes completed a set of demographic questions, as well as questions from the Sport Motivation Scale (SMS; Pelletier, Fortier, Vallerand, Tuson, Brière, & Blais, 1995) which assessed their "present" motivation. Athletes also completed the SMS to evaluate their "perceived future" motivation based on a hypothetical manipulation of the scholarship status. For Ontario non-scholarship athletes, extrinsic regulation (an extrinsic motive) increased with the introduction of a scholarship and the intrinsic motive to experience stimulation decreased. For U.S. scholarship athletes, the intrinsic motive to accomplish things decreased when scholarships were removed. When the two scholarship status groups were compared across "present" levels of motivation, U.S. scholarship males reported significantly higher levels of introjected regulation compared to Ontario non-scholarship males. Ontario non-scholarship females reported significantly higher levels of introjected regulation compared to U.S. scholarship females. U.S. scholarship athletes reported significantly higher levels of external regulation compared to Ontario non-scholarship athletes. Results offer partial support for self-determination theory. Implications for future research are discussed.
The Effects of Athletic Scholarships on Motivation in Sport

Introduction

Past research has shown that intrinsic motivation (IM), extrinsic motivation (EM), and amotivation are useful concepts in understanding motivational processes in a sport setting (Vallerand, 1997). An intrinsically motivated person performs an activity for its inherent satisfaction and pleasure (Ryan & Deci, 2000). For example, a basketball player who goes to practice because he or she finds it interesting and satisfying to learn more about the sport is considered intrinsically motivated toward basketball. As a consequence, he or she experiences feelings of competence and self-determination. On the other hand, EM implies participating in an activity for external reasons such as rewards or prestige (Deci & Ryan, 1985). For example, a basketball player who primarily plays in a tournament in order to win the medal or the trophy is said to be extrinsically motivated. As a consequence, he or she is less likely to experience feelings of competence and self-determination, especially if the goal is not achieved.

The effect of rewards on athletes’ motivation has been a topic that has generated a great amount of interest, research, and debate within the literature in sport motivational domains. As early as the 1970’s, several studies (e.g., Deci, 1971; 1972a, 1972b; Kruglanski, Friedman, & Zeevi, 1973) illustrated that extrinsic rewards can have a negative effect on a free-choice behaviour, resulting in a decrease in IM. Conversely, other researchers (e.g., Calder & Staw, 1974; Reiss & Sushinsky, 1975; Scott, 1975) challenged these early propositions and proposed that IM is either not affected by extrinsic rewards, or that it is, affected under restricted conditions (i.e., when rewards are expected). As research in this area grew rapidly, various theories were developed to explain the relationship between rewards and IM.
Deci and Ryan's (1985; 1991) self-determination theory is one of the most influential theories in the sport motivational literature as it provides a general framework for organizing and understanding the consequences and determinants of intrinsic and motivational processes associated with the sport and exercise setting. Its basic tenets have been used as a framework in this study, as well as in the development of the Sport Motivation Scale, which was used to assess participants' motivation in this study. Its sub-theory, cognitive evaluation theory (CET; Deci, 1975; Deci & Ryan, 1985), has been used in a sport domain to explain the effects of social contexts, especially extrinsic rewards, on a person's IM.

Two recent meta-analyses examining the influence of extrinsic rewards on IM have attempted to clarify this relationship (Cameron & Pierce, 1994; Deci, Koestner, & Ryan, 1999). However, divergent conclusions served only to cloud the issue further. In 1996, Eisenberger and Cameron published an article that was based on Cameron and Pierce's 1994 meta-analysis. They concluded that the detrimental effect of rewards was a "myth". They further suggested that negative effects of rewards were rare and that EM is beneficial in motivating behaviours. Deci and Ryan (1996) criticized Eisenberger and Cameron's meta-analysis for methodological inadequacies. As a result, Deci et al. (1999) conducted a new meta-analysis in which they reviewed 128 previous studies. They concluded that tangible, expected, engagement-contingent, completion-contingent, and performance-contingent rewards significantly undermined IM.

Although previous studies attempted to identify various factors that might influence a person's optimal motivation and performance, many aspects still remain unclear with respect to the relationship between rewards, IM and EM. One thing that is certain is that there are many reasons why athletes are motivated. Thus, understanding the
factors that affect motivation, as well as the methods of enhancing motivation, can be beneficial to our understanding of this relationship. In the following sections of this paper, relevant theoretical and empirical research will be outlined, the methodology detailed, and the results summarized and discussed.

**Self-Determination Theory**

Generally, motivation can be defined as a hypothetical construct that is used to describe the internal and/or external forces that produce the initiation, direction, intensity, and persistence of behaviour (Vallerand & Rousseau, 1993). Internal forces take place within the person and external forces are initiated from outside the person. Initiation of behaviour refers to a point in time at which activity of interest is started. Another aspect of motivation, direction of behaviour refers to whether an individual approaches or is attracted to an activity. For example, one athlete may choose to play basketball and another may choose hockey. Intensity of behaviour refers to how much effort a person puts forth in a particular situation. Thus, one athlete may put forth tremendous effort during the practice, and another one may exert very little effort during that same time. Also, a basketball player may have a great desire to make a winning free throw that he/she becomes overly motivated, tightens up, and misses a shot. A close relationship between direction and intensity of effort also exist. For instance, athletes who rarely miss practice and always arrive early often demonstrate greater effort during practice. The final aspect of a general theory of motivation—persistence of behaviour—refers to continuous involvement in a chosen activity.

Self-determination theory is relevant because it provides a framework that allows us to identify optimal social and environmental conditions that can enhance and undermine a person’s motivation. It is based on the assumption that individuals are active
rather than passive in their interaction with the environment such that they are able to
decide themselves to explore the environment without any internal or external prodding
(Deci & Ryan, 2002). The theory also assumes that individuals are naturally predisposed
toward psychological growth and development, and that they have a set of basic innate
psychological needs that are universal. Self-determination theory focuses on describing
the degree to which human behaviours are volitional or self-determined. Thus, it refers to
a person’s capacity to have choices, rather than reinforcements, drives, forces, or
pressures, in order to be the determinant of one’s actions. The concept of innate
psychological needs should not be confused with the basic needs (i.e., thirst, hunger),
rather it should be understood in terms of its three components—autonomy, competence,
and relatedness—that are necessary for the realization of human potential (Vallerand &
Rousseau, 2001). Autonomy refers to a person’s desire to be the cause of his/her
behaviour, which result in feelings of freedom and control. Competence refers to the
desire to effectively interact with the environment and experience opportunities to
express one’s capacities. Relatedness corresponds to a person’s desire to feel connected
with significant others. According to self-determination theory, individuals have a need
to feel self-determined and competent when dealing with the environment. Thus,
activities that allow one to satisfy these needs will be engaged in choicefully and
regularly. As a consequence, this provides an opportunity to identify the social conditions
that will enhance ones’ IM.

_Cognitive Evaluation Theory (CET)._ CET (Deci, 1975; Deci & Ryan, 1985) is a
key component of self-determination theory as it explains and predicts the factors that
enhance and undermine IM. CET is based on the assumption that understanding of the
reward requires a consideration of the interpretation of the reward in relation to the
recipients' feelings of self-determination. Of its four propositions, the third one describes how the extrinsic factors, such as rewards and feedback, influence person's IM. Thus, feedback and rewards that provide information about person's abilities, as well as information about person's performance and advice for improvement, will enhance person's IM since that person would perceive himself/herself to be the cause of the behaviour and as competent due to reward (Mandigo & Holt, 2000). However, when the feedback or a reward is perceived as controlling and amotivating, person's self-determination will most likely be reduced. As a consequence, person's IM will decrease.

**Historical Review of Literature**

The earliest explanations of why individuals are motivated to engage in specific behaviours focused on either survival needs (i.e., hunger, thirst) or extrinsic rewards/punishments (i.e., acquiring certain reward, avoiding punishment). But, researchers realized that individuals also engage in behaviours that are interesting, satisfying, and enjoyable (Vallerand & Rousseau, 2001). In order to further explain these features, two major traditions were acknowledged in the literature. The first tradition assumes that individuals are passive in their interaction with the environment. In other words, individuals are moved by instinct (Freud, 1969), by primary and secondary drives (Hull, 1943), or by a history of stimulus-reinforcement conditioning (Skinner, 1953). This position also assumes that individuals are mechanisms that cannot take matters into their own hands, and who only react to internal and/or external stimuli.

The second tradition assumes that individuals are active in their interaction with the environment (White, 1959) and proposes that individuals decide to explore the environment without any internal or external prodding. Ultimately, these early theories demonstrated that motivation cannot be studied as a general construct but rather should
be assessed from a multidimensional perspective. This led to a more comprehensive exploration of IM and EM.

Three types of motivation that have been documented in sport motivational literature include IM, EM and Amotivation. IM is defined as "doing an activity for its inherent satisfactions and pleasures rather than for some separable consequence" (Ryan & Deci, 2000, p. 56). For example, a basketball player who attends practice because he/she finds it interesting and satisfying to learn more about the sport is considered intrinsically motivated toward basketball because such activity allows him/her to experience feelings of competence and self-determination. On the other hand, EM deals with behaviours that are performed as means to an end and not for their own sake in order to achieve some separable goal, such as receiving a reward or avoiding punishment. Amotivation refers to the absence of IM and EM, such that one's actions have no control over the outcomes (Deci & Ryan, 1985). One way that IM and EM can be distinguished is based on a purposive (i.e., the purpose of participation lies within the focus on the process itself for IM compared to a focus on obtaining the benefit following the participation for EM), phenomenological (i.e., intrinsically motivated individuals mostly experience pleasant emotions, little tension, and high focus on the task at hand, compared to extrinsically motivated individuals who mostly experience feelings of nervousness, tension, and pressure), and reward type perspective (i.e., intrinsically motivated individuals participate in a specific activity in order to obtain experiential rewards such as enjoyment and pleasure rather than social and material rewards, which are characteristic for extrinsically motivated individuals). However, distinction between IM and EM also has been criticized in the past due to the difficulty in identifying IM (Guzzo, 1979). For example, even though some behaviours appear to occur in the absence of any extrinsic
consequences, some argue (Bandura, 1977; Dickinson, 1989) that this might be due to "anticipated future benefits" or perhaps "intermittent reinforcement". Nevertheless, the distinction between IM and EM has been commonly accepted in the literature on motivation in sport.

Within the research realm, it has also been hypothesized that IM and EM can be further differentiated based on more specific motives. Three levels of IM have been identified: IM to know, IM to accomplish things, and IM to experience stimulation (Vallerand, 1997). IM to know refers to an activity that is performed for the pleasure and satisfaction that a person experiences while learning, exploring, or trying to understand something new (i.e., athlete attempting to discover a new training technique). IM to accomplish things refers to performing an activity for the pleasure and satisfaction that a person experiences when a person attempts to accomplish or create something (i.e., athlete trying to master a specific difficult training technique). Lastly, IM to experience stimulation represents engaging in activity in order to experience stimulating sensations (i.e., athletes who participates in their sport to live exciting experiences).

Four levels of EM have also been identified in the sport motivational literature (Vallerand, 1997). These include the following: external regulation, introjected regulation, identified regulation, and integrated regulation. External regulation refers to behaviour that is controlled by external sources (i.e., an athlete who participates in a sport to obtain a trophy or to avoid criticism from his/her parents). Introjected regulation refers to behaviour that is reinforced through internal pressures such as guilt or anxiety (i.e., an athlete who feels embarrassed or ashamed when he/she doesn’t perform to his/her potential). Identified regulation can be represented by a behaviour that is performed for extrinsic reasons but is internally regulated and self-determined (i.e., a basketball player
who trains with weights in order to improve his/her basketball skills. Finally, integrated regulation entails engaging in an activity out of choice that is made as a function of one's coherence with other aspects of the self (i.e., athlete who decides not to stay up late in order to get enough sleep and thus not be tired for tomorrow's exam). The different levels of IM and EM comprise a self-determination continuum (Deci & Ryan, 1985) of perceived locus causality, such that more self-determined forms of motivation are expected to produce more positive outcomes and that less self-determined forms of motivation are expected to produce more negative outcomes. It is assumed that the three different subscales of IM may exist in different levels depending on the individual, but are equally desirable to one another. Therefore, all levels of IM represent the highest level of self-determination, followed by integrated regulation, identified regulation, introjected regulation, external regulation, and lastly amotivation (see Figure 1). Previous research has shown that all types of IM, as well as identified and integrated regulation have been positively associated to cognitive, affective, and behavioural outcomes (Vallerand & Rousseau, 2001). On the other hand, Vallerand & Rousseau (2001) found that external regulation and at times introjected regulation have been related to high levels of anxiety, lack of attention, and negative mood states.

In order to understand the motivational processes, Vallerand (1997) proposed that IM and EM be considered from three levels of generality—global, situational, and contextual. Motivation at a global level implies that a person's general motivational orientation (IM, EM, or amotivation) is viewed as a personality trait when one interacts with the environment. Situational level of generality refers to motivation that is experienced while the person is engaged in a specific activity at a specific point in time (e.g., effects of rewards on person's IM and EM). Lastly, motivation at the contextual
level refers to a person’s motivational orientation toward a specific context (e.g., education or sport). One such contextual factor is athletic scholarship, which is of the main interest in this study.

*Clarifying the Relationship Between IM and EM*

Further examination of IM and EM revealed that a complex relationship between IM and EM exists. Two general assumptions that have been acknowledged include an interactional and an additive position. The interactional position proposes that a person is predominantly intrinsically or extrinsically motivated toward an activity. Thus, a person cannot concurrently have high levels of IM and EM (i.e., if a person has high levels of IM his/her level of EM will be low, and vice versa). The additive position proposes that intrinsic and extrinsic reasons for engaging in an activity unite in producing a higher level of motivation than any of these two types of motivation alone (Atkinson, 1964). Therefore, as a persons’ level of either IM or EM increases, his/her total motivation increases. Vallerand and Fortier (1999) proposed a blend of the above two perspectives and suggested that the relationship between IM and EM depends on the level of EM involved. They concluded that the relationship between IM and identified and integrated regulation should be positive, and that the relationship between IM and external and introjected regulation should be negative.

As research on motivation in the sport domain prospered, various theories were developed in order to explain this complex relationship between IM and EM. These theories can be classified as either motivational or cognitive in nature. Motivational theories propose that the explanation of behaviour has to do with an analysis of human needs. Therefore, the focus is not only on the competence and autonomy aspect of motivation, but also on relatedness, as well as consequences. An example of one such
theory is a self-determination theory (Deci & Ryan, 1985). Cognitive theories such as CET (Deci, 1975; Deci & Ryan, 1985) examine people’s perceptions and thoughts about an activity as an explanation of the effects of various determinants on IM. Thus, the focus is on IM and EM as the cause of the behaviour.

In an attempt to clarify the relationship between extrinsic rewards on IM, five meta-analyses have been conducted. The first three (Rummel & Feinberg, 1988; Tang & Hall, 1995; Wiersma, 1992) tested specific propositions of the cognitive evaluation theory. Results support the tenants of the cognitive evaluation theory and identified that positive feedback enhances IM. Tangible rewards that were classified as engagement-contingent, completion-contingent, and performance-contingent decreased a person’s IM. The fourth meta analysis, which was conducted by Cameron and Pierce’s (1994) and modified and redone by Eisenberger and Cameron (1996), challenged the validity of the cognitive evaluation theory by suggesting that negative effects of rewards are rare and that EM is beneficial in motivating behaviours. Deci and Ryan (1996) criticized Cameron and Pierce’s meta-analysis for its various methodological problems, and as a result in 1999 Deci, Koestner, and Ryan conducted another meta-analysis. These last two meta-analyses are reviewed below.

Meta-analysis (Cameron & Pierce, 1994). In 1994 Cameron and Pierce published the results of the fourth meta-analysis on the effects of rewards on IM. The hierarchical meta-analysis included 96 previous studies, conducted from 1971 to 1991, that compared rewarded to non-rewarded subjects on four different measures of IM (i.e., overall effect of rewards on IM, effect of reward type on IM, effect of reward expectancy on IM, and effect of reward contingency on IM). Rewards were differentiated as verbal versus tangible, tangible as unexpected verses expected, and expected as contingent on task
completion or performance quality and non-contingent on completion or quality. In addition, IM for rewarded and non-rewarded groups was assessed based on the amount of time that was spent on the task after the reward was withdrawn and based on reward recipient’s attitude (i.e., enjoyment, interest) toward the task. This study found that, overall, rewards do not undermine IM, that verbal praise enhances IM, and that expected tangible rewards that are independent of the level of performance undermine IM. In addition, unexpected tangible rewards and expected rewards that are based on level of performance did not show to have detrimental effect on IM. Based on these results, Cameron and Pierce concluded that reward systems can be used as a motivational strategy in educational settings provided that rewards are contingent on performance.

Eisenberger and Cameron (1996) extended the above meta-analysis with two notable differences. To remove outliers, 25 studies were excluded from the original 96. Consequently, a new meta-analysis was conducted on the remaining 61 studies. Second, rewards were classified differently (i.e., quality-dependent rewards, completion-dependent rewards, or performance-independent rewards). Based on the evidence from their study, Eisenberger and Cameron concluded that negative effects of rewards are rare and that EM is beneficial in motivating behaviours. They concluded that the detrimental effect of rewards was a “myth”. Several researchers (i.e., Kohn, 1996; Ryan & Deci, 2000) criticized their meta-analysis for the following methodological and interpretation errors: using inappropriate control groups, not separating the cause of the variability in effect sizes rather than excluding outliers, and confusing the concept of locus of causality with locus of control. Due to past methodological problems and inconsistencies in conclusions that were based on meta-analytical studies, as well as the applied importance
of the effects of extrinsic rewards on IM, Deci et al. (1999) decided to conduct a new meta-analysis.

*Meta-analysis (Deci et al., 1999).* Deci et al. (1999) conducted the most recent meta-analysis in which they reviewed 128 previous studies that examined the effects of extrinsic rewards on IM. Criteria for inclusion were as follows: both published or unpublished studies were included, if the target task with the study was moderately interesting, if IM was assessed after the termination of reward, and if an appropriate control group was included in the study. Two meta-analyses were conducted—one included 101 studies with a free-choice behaviour, and the second one included 84 studies with a self-reported interest as a standard measure of the person’s motivation. Results indicated that only verbal praise enhanced IM. Other reward characteristics significantly undermined it. Specifically, a reward that was tangible, expected, engagement-contingent, completion-contingent, performance-contingent rewards, as well as all rewards overall lowered participant motivation. In summary, based on previous studies that assessed the effects of extrinsic rewards on a person’s motivation in a sport setting, including the five meta-analyses that were conducted to this point in time, only two consistent conclusions can be made. First is that expected task-contingent tangible rewards have detrimental effect on person’s IM. Second, that verbal praise has a positive effect on IM.

Even though the goal of meta-analysis is to combine the previous studies on a specific topic and provide a “means of quantifying effect sizes”, Deci and Ryan (1999) noted that this method is not as “useful” to the research areas that are “driven by differentiated theories” (p. 630). All meta-analyses discussed above included studies that used free-time behaviour, quantity and quality of performance, and self-reported interest
as the standard measures of person’s motivation. However, only a minority of these studies that were conducted in a sport context further assessed children’s, instead of adult’s, motivation levels. For example, fewer than 10% of the studies included in Deci et al. (1999) were conducted with the adults in the sport-related contexts. The most recent meta-analysis excluded studies that used “uninterested tasks”, but still included the studies with the tasks such as puzzle solving and block building. Therefore, one limitation of previous meta-analyses is that their results cannot be generalized to the adult population from a sport-related setting, which is of interest to the present investigation.

**Athletic Scholarships in CIS and NCAA**

The Canadian Interuniversity Sport (CIS) and National Collegiate Athletic Association (NCAA) are the two national governing bodies for university sports in Canada and the U.S., respectively. In Canada, academic scholarships have been acknowledged only to protect the model of amateurism in intercollegiate sports. More recently the inability of universities to offer athletic scholarships has been challenged with some establishing private athletic scholarships. Their main purpose was to build a strong program and through it increase the “visibility” and “profile” of the school (Harrigan, 2001). From the beginning, Simon Fraser University began to offer athletic scholarships in order to maintain Canadian athletes and avoid losing them to U.S. schools. As a result, they were not granted CIS membership until 2000—when they abandoned full athletic scholarships.

The purpose of athletic scholarships is to reward athletes for their performance and effort and to provide more time for training and further development. Throughout CIS history, the predominant objection to full athletic scholarships have stemmed from Ontario universities, mainly due to inefficient sources of funding. Danylchuk and
Maclean (2001) identified Canadian universities' main sources of funding. These included: funding by Sport Canada, funding through athletic departments, and revenues from corporate sponsorship/marketing. To date, CIS universities can offer partial athletic scholarships, which are very rare (Anonymous, 2002), and under very restrictive rules (i.e., the student athlete must be in at least their second year of eligibility, and the student athlete must be a full-time student with a minimum of 80% average, and funding must be available). On the contrary, NCAA universities fund full athletic scholarships for student-athletes at Division I and Division II schools. Full athletic scholarships include entrance scholarships and all expenses being paid. For some institutions, lower academic standards are acceptable. Full athletic scholarships are common (i.e., at least 80% of the athletes on the team), especially in sports such as basketball and football.

With the increasing interest in sport, distinction between an amateur and professional athlete has become blurred even though student athletes from both the CIS and NCAA are still considered amateurs. In the future, issues such as gender equity and funding of intercollegiate athletics will be of importance for both CIS and NCAA. In the CIS and Ontario specifically, the topic of athletic scholarships raises concerns about its willingness to assist their student-athletes with financial costs of education. In contrast, in the NCAA the topic of athletic scholarships raises concerns about its willingness to recognize their student-athletes as professionals.

In sum, one thing that is certain is that sports have become an essential part of our society as well as our educational system. This is especially true in North America, as it is almost impossible to imagine schools without sport teams. We know that athletes are motivated to participate in sports for variety of reasons. Thus, understanding the factors that affect motivation, as well as the methods of enhancing motivation, can be beneficial...
for improving sporting experiences of all athletes. The intention of this study was to help expand existing research and knowledge regarding effects of rewards, athletic scholarships in particular, on motivation in sport.

Motivation Influences of Athletic Scholarships

Early research on effects of rewards on IM in the sport domain was conducted in a laboratory setting. Lepper and Greene (1975) conducted a study in which they concluded that extrinsic rewards have a negative effect on IM. In order to test this relationship in a more natural environment, Ryan (1977; 1980) conducted two field studies in which the effects of athletic scholarships on IM levels in college athletes were examined. In his first cross-sectional study, Ryan (1977) assessed the degree of IM in both scholarship and non-scholarship male U.S. football players. Based on CET, he hypothesized that scholarship athletes would score lower on IM compared to non-scholarship athletes because scholarship athletes were essentially being paid for doing an activity that was already intrinsically motivating. The result of Ryan's first study supported his hypothesis.

In 1980, Ryan replicated his first study. In addition to male football players, male wrestlers and female athletes from seven different sports were surveyed. The finding that football players who were on scholarship reported lower levels of IM compared to those that did not receive any scholarship was consistent with the first study. However, no difference in levels of IM for male wrestlers and female athletes who were on scholarship compared to their non-scholarship teammates was found. Again, the CET can be used to explain the results. Awarding a scholarship to few athletes on the team rather than the whole team can actually increase athlete's IM. Those that hold one of the few available scholarships may be more likely to perceive themselves as competent, perceive
scholarship as a positive indicator of information, and perceive themselves as the cause of the behaviour.

Ryan's 1980 study was replicated and further extended by Amorose and Horn (2000) who sampled 386 Division I college athletes from variety of sports. Multivariate analysis revealed that athletes who received a full athletic scholarship reported significantly higher levels of IM compared to non-scholarship college athletes. The authors explained that full-scholarship athletes did not perceive their scholarship to control behaviour, but rather indicated confidence and perceived it as a positive source of information. Another interesting finding was that no differences in IM between partial scholarship and non-scholarship athletes were found. The authors suggested that even though partial athletic scholarships can provide positive information to athletes, they “may not be enough of a reward” to be perceived as an indication of athlete's competence. Amorose and Horn concluded that athletic scholarships should be considered as an important variable when athlete's motivation for sport participation is assessed.

In 1989, Wagner, Loundsbury and Fitzgerald investigated work-oriented perceptions of participation in basketball on a sample of high school and college basketball players. The study found that scholarship athletes rated their participation in basketball as a form of work rather than leisure, and that they were less motivated by intrinsic factors compared to non-scholarship athletes.

Furthermore, Amorose and Horn (2001) conducted a study in which the long-term impact of athletic scholarship status on college athlete's IM was assessed. Seventy-two first year Division I college athletes from variety of sports participated in the study. The researchers acknowledged that very few athletes from their sample received "full"
athletic scholarships, as well as that most athletes were participants of individual sports. Based on the previous findings, it was hypothesized that athletes who receive athletic scholarships would show higher levels of IM (pre-season, post-season, and season-long changes) compared to athletes who did not receive an athletic scholarship. Results of this study did not support previous findings as no significant changes in IM and pre-season and post-season measures of IM were found between scholarship and non-scholarship athletes. Similarly Miller (2000) found no differences in IM, EM, and amotivation between scholarship and non-scholarship track and field athletes. In summary, based on the results from the meta-analyses, tenets of self-determination theory, and studies that examined the motivational influences of athletic scholarships in particular, it can be concluded that athletic scholarships have negative effect on IM, especially when they are perceived as controllers of behaviour.

Relevant Descriptive Variables

Gender. Previous studies have identified that gender is one of the moderating variables in sport motivation research. Primarily, males reported higher levels of EM and lower levels of IM compared to females (Chantal, Guay, Dobreva-Martinova, & Vallerand, 1996; Miller, 2000, Pelletier, et al. 1995; Ryan, 1980).

Life Roles. Amongst the different life roles that people may have, the most relevant to the present study are academic and sport cognitions. Research has indicated that having high AI can have a positive effect on athletic performance, physical fitness, confidence and self-esteem, social relationships, and commitment. Also, strong AI has been associated with increased effort and participation in physical activity and exercise (Anderson & Cychosz, 1990, Fox & Corbin, 1986). Besides the potential benefits, a number of negative consequences that are associated with high AI have also been documented: overtraining, anxiety when not
training, positive deviance, difficulties with sport disengagement, and career immaturity. Researchers have also suggested that involvement in high-level athletics requires athletes to focus their attention on a limited number of activities (Danish, 1983; Murphy, Petitpas, & Brewer, 1996; Petitpas, 1981). As a result, it follows that AI may dominate the self-concept resulting in the restricted development of other life roles. More recent research however suggested that athletes with high AI were not neglecting other aspects of life in order to fulfill their role of an athlete (Horton & Mack, 2000).

Amount of sport experience. Previous studies with children found that the more sport experience that children had, the higher their IM towards that activity was (Horn & Hasbrook, 1986; Horn & Weiss, 1991). However, studies conducted with an adult population reported that the length of time involved in a sport was associated with more work-oriented view (Wagner, Loundsbury, & Fitzgerald, 1989) and with mastery goals (Duda, 1988). Also, in a study (Fortier, Vallerand, Briere, & Provencher, 1995) that assessed the differences in motivation between competitive and recreational athletes, the amount of sport experience was used as a covariate since it differed significantly between the two groups and was significantly correlated with two of the subscales of SMS.

Purpose

Past research that assessed effects of athletic scholarships on athlete’s motivation has been done in the U.S. only (Amorose & Horn, 2000, 2001; Ryan, 1977, 1980). Research in this domain was never conducted with athletes from Ontario. As a result, research study on the effects of athletic scholarships on athlete’s motivation, assessing both Ontario and U.S. athletes, is warranted. The main purpose of this study was to examine whether “perceived future” motivation (the amount of hypothetical motivation when athletic scholarship status altered) might differ from “present” motivation (the
amount of motivation at a specific point in time) if full athletic scholarships were to be introduced for Ontario non-scholarship athletes. Conversely, whether “perceived future” motivation might differ from “present” motivation if full athletic scholarships were to be taken away from U.S. scholarship athletes was investigated. Both, “present” and “perceived future” motivation, were assessed across six different subscales by the Sport Motivation Scale (SMS; Pelletier, Fortier, Vallerand, Tuson, Brière, & Blais, 1995). The first hypothesis, which was exploratory in nature mainly because previous studies did not assess motivational change for the duration of the time when the reward was awarded, stated that “perceived future” motivation would increase for Ontario non-scholarship athletes on subscales of EM. Based on previous research that examined changes in motivation after the reward was first given and then taken away, the second hypothesis predicted that “perceived future” motivation would decrease for U.S. scholarship athletes on subscales of IM.

Thirdly, this study was designed with the purpose to determine whether differences in motivation exist between Ontario non-scholarship athletes and U.S. scholarship athletes. It was hypothesized that U.S. scholarship athletes would have higher levels of “present” motivation on subscales of EM and lower levels of IM, compared to Ontario non-scholarship athletes. Forth, it was hypothesized that male athletes, regardless of scholarship status, will have higher level(s) of “present” EM and lower level(s) of “present” IM, compared to female athletes.

Another purpose of this study was to find out whether differences in life roles between Ontario non-scholarship and U.S. scholarship athletes exist. Six life roles—academic, athletic, family, friendship, romantic partner, and religious role—were assessed according to the participants ranking in the order of importance. The fifth
hypothesis was that U.S. scholarship athletes would rank their athletic role higher compared to Ontario non-scholarship athletes.

An additional purpose of this study was to examine how the number of years that athletes have played was related to any of the subscales of present motivation. The sixth hypothesis stated that the number of years that athletes have played would be negatively related to “present” levels of IM and positively related to “present” levels of EM.

In attempt to further assess “perceived future” motivation, it was examined whether the “perceived future” time spent playing/practicing basketball would change if full athletic scholarships status were altered. Thus, the seventh hypothesis stated that “perceived future” time spent playing/practicing basketball would increase for Ontario non-scholarship athletes. Conversely, “perceived future” time spent playing/practicing basketball would decrease for Ontario non-scholarship athletes. Finally, no hypothesis was made for the question that asked how would the addition/absence of athletic scholarships affect one’s motivation mainly because it was an open-ended question and as a result many different answers were possible.

Methodology

Participants

The data were collected from 131 basketball players. The participant sample ($N = 116$) consisted of Ontario non-scholarship players ($n = 70$) and U.S. scholarship players ($n = 46$). Fifteen U.S. non-scholarship players were excluded from the study because of their small sample size. Participants were male ($n = 71$) and female ($n = 45$) university basketball players from four different universities in Ontario and seven different Division I schools in U.S. The participants ranged in age from 18 to 24 years old ($M = 20.57 \pm$
1.33). The response rate for Ontario non-scholarship athletes was 78 %, and for U.S. scholarship athletes 75 %.

Number of hours presently spent playing/practicing basketball per week was reported to determine whether a significant difference existed between Ontario non-scholarship and U.S. scholarship athletes. An independent t-test was conducted and the results of the analysis showed that Ontario non-scholarship athletes ($M = 16.67 \pm 4.66$) reported significantly lower number of hours played/practiced per week from U.S. scholarship athletes ($M = 19.46 \pm 5.20$), $t(114) = -3.01, p < 0.025$.

**Measures**

*Demographic information.* Relevant background information was assessed through six questions. These items centered around athlete’s age, years played basketball, gender, amount of time played per game, amount of time spent practicing/playing per week in the past year, and the full athletic scholarship status (see Appendix G).

*Sport Motivation Scale (SMS).* The SMS (Pelletier et al., 1995) was used to assess the athlete’s type of motivation, both “present” and “perceived future” motivation. It consists of seven different subscales that measure three types of IM (IM to know, IM to accomplish things, and IM to experience satisfaction), three types of EM (external, introjected, and identified regulation), and amotivation toward sport participation. Motivation towards basketball was assessed across different levels of IM and EM such that each level of IM and EM was based on four different responses. For example, the response such as “for the pleasure it gives me to know more about the basketball” assessed IM to know; the response such as “because I feel a lot of personal satisfaction while mastering certain difficult training technique” assessed IM to accomplish things; the response such as “for the pleasure I feel in living exciting experiences” assessed IM
null
to experience stimulation; the response such as “because basketball allows me to be well regarded by people” assessed external regulation; the response such as “because it is absolutely necessary to do sports if one wants to be in shape” assessed introjected regulation; and the response such as “because it is one of the best ways I have chosen to develop other aspects of myself” assessed identified regulation. In this study, SMS responses that were classified under amotivational aspect were excluded for two reasons, since Martens and Webber’s (2002) study reported major problem with that component, and due to the length of the survey. Each subscale consists of four items. Responses to the SMS questions are assessed across a 7-point Likert scale in which the response of “1” represents “does not correspond at all”, the response of “4” represents “corresponds moderately”, and the response of “7” represents “corresponds exactly”.

The English version of SMS is a valid and reliable assessment tool. Pelletier, Fortier, Vallerand, Tuson, Brière, & Blais (1995) provided support for construct and discriminant validity as well as internal consistency and temporal stability. Martens and Webber (2002) found relatively poor fit indices for the overall model, thus indicating problems with model specifications. However, after different components of SMS were tested separately using a “piecewise” analysis, the biggest problem was found with the amotivation component, and to some extent extrinsic regulation component. Nevertheless, they concluded that the results of their study provided support for the “reliability and validity of the SMS with a sample of U.S. college athletes” (p. 266). Cronbach’s alpha coefficients were calculated for all subscales of SMS for both “present” and “perceived future” conditions. All subscales except “perceived future” identified regulation demonstrated acceptable internal consistency from the sample in this study as calculated Cronbach’s alpha coefficients were higher than the minimum acceptable
criterion of 0.70 (i.e., for “present” motivation: $\alpha = .76$ for IM to know, $\alpha = .81$ for IM to accomplish things, $\alpha = .85$ for IM to experience stimulation, $\alpha = .73$ for identified regulation, $\alpha = .72$ for introjected regulation, and $\alpha = .77$ for external regulation; for “perceived future” motivation: $\alpha = .83$ for IM to know, $\alpha = .86$ for IM to accomplish things, $\alpha = .87$ for IM to experience stimulation, $\alpha = .67$ for identified regulation, $\alpha = .76$ for introjected regulation, and $\alpha = .83$ for external regulation).

**Life Roles.** The second last question on the survey was used to assess the importance of participants’ life roles (modified from Stryker & Serpe, 1994). Participants were asked to rank the academic, athletic, family, friendship, romantic partner, and religion role to the way they think about themselves in the order of importance where “1” represented most important life role and “6” represented the least important life role.

**Other Questions Assessing “Perceived Future” Motivation.** “Perceived future” motivation was assessed by additional two questions. First, participants from Ontario were asked how many hours per week would they spend on average practicing/playing basketball if full athletic scholarship were available in Ontario, and participants from U.S. were asked how many hours per week would they spend on average practicing/playing basketball if full athletic scholarship were no longer available in U.S. Also, an open-ended question asked Ontario athletes how would the addition of full athletic scholarship affect their motivation towards basketball, and asked U.S. athletes how would the absence of full athletic scholarship affect their motivation towards basketball.

**Procedure**

Following Brock University Ethics Committee approval for the study (see Appendix A), the General Information Letter to the Head Basketball Coach was emailed
to head coaches at various Ontario and U.S. based universities (see Appendix B). The purposes and the procedures of the study were explained and the survey was attached for the coach to examine. The coaches were asked permission to access athletes on their team. If granted, packages were mailed to the head coaches that gave informal permission to allow their athletes participation. Each package included one copy of the Participation Agreement Letter from the Head Basketball Coach (see Appendix C) that was first required to be signed by each of the head coaches in order to give official consent, one copy of the Script (see Appendix D) that was to be read to athletes prior to giving out the surveys, General Information Letter to Athletes that explained the purpose and the procedures of the study to the athletes (see Appendix E), Summary of the Results form that was to be filled out by participants that were interested in receiving the copy of the final results (see Appendix F), an adequate number of informed consent forms (two for each participant) and surveys for each member of the team (see Appendix G), and the prepaid envelope for mailing everything back to the researcher. The head coach was asked that surveys be administered to the players by someone other then him/her (e.g., athletic trainer or an assistant coach) in order to avoid athletes possibly being intimidated and/or pressured to complete the surveys. Thus, someone other than the head coach was responsible for distributing the surveys to each one the basketball players interested in participating in the study. Each participant was required to sign an informed consent form in order to be included in the study. Once the surveys were completed, athletes returned them to the test administrator, who mailed the package back to the researcher. 

Data assessing “present” and “perceived future” motivation was assessed though 59 questions. “Present motivation” was assessed though the completion of the SMS in
section B of the survey. "Perceived future" motivation was manipulated though changing the scholarship status. For the purposes of this study, full athletic scholarships were defined as a "method by which tuition, room and board, books, and all other necessary goods and services are provided to the student in return for his/her services as an athlete" (Harrigan, 2001, p. 140). Therefore, athletic scholarship was classified as an expected task-contingent tangible reward. For Ontario athletes, who were asked to imagine that full athletic scholarships will be available in Ontario, "perceived future" motivation was assessed through the another completion of SMS, as well as two additional survey questions. Likewise, for U.S. athletes, who were asked to imagine that full athletic scholarships would not be available in U.S, "perceived future" motivation was also assessed through another completion of SMS, as well as two other survey questions. Lastly, one question on the survey was used to assess the importance of participants’ six different life roles where "1" represented most important life role and "6" represented the least important life role.

**Study Design**

The research design involved a differential research design using surveys to assess the variables of interest. This quantitative study was based upon participants’ responses to a set of demographic questions, and questions from the SMS.

**Statistical Analyses**

All the collected data from the surveys was first entered into a SPSS computer program. First, repeated measures ANOVA was used to determine changes in motivation within each of the scholarship status groups (Ontario non-scholarship athletes and U.S. scholarship athletes). MANOVA test was conducted to determine differences in motivation between the two scholarship status groups. ANOVA was conducted to
determine the differences in the six different life roles between the two scholarship groups. Two paired-samples t-tests were conducted to evaluate the changes in time spent playing/practicing basketball if athletic scholarship status was altered within each of the groups. Mode was used to determine the most frequent responses to the question that asked how would the addition/absence of full athletic scholarships affect your motivation towards basketball. A casual/relational diagram was used to visually represent the procedures and the analyses in this study (see Figure 2).

Results

Preliminary Analysis

Mean subscale scores from the SMS were calculated separately for the “present” and “perceived future” motivation condition. Thus, for Ontario non-scholarship and U.S. scholarship athletes, means, standard deviations, skewness and kurtosis for “present” motivation across all subscales are shown in Table 1 and for “perceived future” motivation in Table 2.

Prior to testing the main research questions, preliminary analyses of univariate and multivariate statistics on all variables were conducted to ensure that the assumptions of MANOVA were fulfilled. First, since no regular pattern of missing data or data entry was detected, occasional missing values were replaced by the mean for that scholarship status group (providing it was continuous data). Furthermore, item distributions were checked to ensure normal distribution (i.e., no univariate outliers) and that no variables were highly skewed or kurtotic (see Table 1). In order to ensure multivariate normal distribution, Mahalanobis Distance was calculated and compared to the calculated $\chi^2$ critical value. None of the participants were deleted since participants’ Mahalanobis Distance did not exceed the calculated $\chi^2$ critical value. Multicollinearity was not a
concern as no relevant variables were highly correlated (i.e., $r > 0.80$; Vincent, 1999). Assumption of equal cell sizes was not fulfilled since the sample size of each level of independent variable was not exactly the same. However, MANOVA through SPSS program accounts for this inconsistency.

Equality of covariances assumption was fulfilled since $p$-values for the Box’s Test were insignificant for each one of the tests (i.e., $p > 0.05$). Adjustments however had to be made for two of the analyses to fulfill the criteria for this assumption. First, after a repeated measures ANOVA was conducted for U.S. scholarship group on all subscales of IM and EM, the $p$ for the Box’s Test was significant (i.e., $p < 0.05$). Thus, a separate paired samples $t$-test was conducted on the subscale of IM to accomplish things after the Levene’s test found a significant $p$-value with that subscale. As a result, a new repeated measures ANOVA was conducted on the five remaining subscales.

The same problem (i.e., $p$ for the Box’s Test was significant at $p < 0.05$) arose when the MANOVA was conducted to determine the differences in “present” motivation between the two scholarship status groups and gender. Similarly, Levene’s test found that the violation of the assumption occurred mostly because of the subscales identified regulation and extrinsic regulation. Consequently, two independent $t$-tests, one for scholarship status and one for gender, were conducted. A MANOVA was conducted across the remaining four subscales and the $p$ for the Box’s Test was insignificant.

To guard against Type I error, a Bonferroni adjustment was used. Since, scores from the subscales of “present” motivation were used twice (once for the within group analysis and second time for the between group analysis) and since gender was used as a moderating variable in both cases, the $p$ value was adjusted ($0.05/3 = 0.017$). As for the
paired sample \( t \)-test and an independent \( t \)-test, to adjust the \( p \) value, 0.05 was divided by two \( (2) \). Thus, an experimentwise alpha value of 0.025 was used.

**Repeated Measures ANOVA— for Ontario non-scholarship athletes (motivation)**

Repeated measures ANOVA was conducted to determine whether "perceived future" motivation for male and female Ontario non-scholarship athletes would significantly increase, in comparison to their "present" motivation on subscales of IM and EM (see Table 3). The results indicated that there was a significant main effect for the present-perceived future motivation, with the Wilks’ lambda of 0.67, \( F (6, 63) = 5.15, p < 0.017 \). Examination of univariate analysis revealed significant differences across the subscales of extrinsic regulation \( (F (1, 68) = 15.83, p < 0.017) \) and IM to experience stimulation \( (F (1, 68) = 6.64, p < 0.017) \). For the subscale of extrinsic regulation, "perceived future" motivation \( (M = 4.13 \pm 1.35) \) increased in comparison to "present" motivation \( (M = 3.71 \pm 1.15) \) for Ontario non-scholarship athletes. Also, "perceived future" motivation \( (M = 5.05 \pm 1.17) \) decreased in comparison to "present" motivation \( (M = 5.26 \pm 1.03) \) for Ontario non-scholarship athletes on a subscale of IM to experience stimulation. There were no significant differences for the remaining four subscales \( (p > 0.017) \). The interaction effect for present-perceived future motivation and gender was not statistically significant \( (p > 0.017) \).

**Repeated Measures ANOVA— for U.S. scholarship athletes (motivation)**

A repeated measures ANOVA was conducted to determine whether "perceived future motivation" for male and female U.S. scholarship athletes would significantly decrease in comparison to their "present" motivation (see Table 4). Since the \( p \)-value for the Box’s Test was significant \( (i.e., p < 0.05) \), another repeated measures ANOVA was conducted with the following five subscales: IM to experience stimulation, IM to know,
and all the subscales of EM (see Table 4). The results indicated that there was no significant main effect for the present-perceived future motivation, with the Wilks' lambda of 0.85, \((F (6, 39) = 1.45, p > 0.017)\). There was also no significant interaction effect for present-perceived future motivation and gender \((p > 0.017)\).

A paired samples t-test was conducted to determine whether "perceived future" motivation for U.S. scholarship athletes would significantly decrease in comparison to their "present" motivation on the subscale of IM to accomplish things. Results indicated that, "perceived future" motivation \((M = 4.88 \pm 1.31)\) decreased in comparison to "present" motivation \((M = 5.29 \pm 1.05)\) for U.S. scholarship athletes \(t(45) = 3.02, p < 0.025\).

**MANOVA—for scholarship status and gender (motivation)**

MANOVA was conducted to determine the effect of gender and scholarship status on "present" motivation towards basketball. Since the \(p\)-value for the Box's test was significant (i.e., \(p < 0.05\)), another MANOVA was conducted with the following four subscales: IM to experience stimulation, IM to accomplish things, IM to know, and introjected regulation (see Table 4). A significant interaction effect was found for the gender and scholarship status, with the Wilks' lambda of 0.90, \((F (6, 107) = 2.84, p < 0.017)\). Analysis of this effect revealed that U.S. scholarship males \((M = 4.76 \pm 1.01)\) had significantly higher levels of introjected regulation compared to Ontario non-scholarship males \((M = 4.11 \pm 1.32; F (1, 112) = 8.98, p < 0.017)\). Also, Ontario non-scholarship females \((M = 4.02 \pm 1.09)\) reported significantly higher levels of introjected regulation compared to U.S. scholarship females \((M = 3.26 \pm 1.28; F (1, 112) = 8.98, p < 0.017)\). No other significant differences in motivation were found between Ontario non-scholarship
males and U.S scholarship males ($p > 0.017$), as well as between Ontario non-scholarship females and U.S scholarship females ($p > 0.017$).

Independent t-tests were conducted to examine the differences between the two scholarship status groups on the subscales of identified regulation and extrinsic regulation. Results indicated that U.S. scholarship athletes ($M = 4.27 \pm 1.39$) had significantly higher levels of external regulation compared to Ontario non-scholarship athletes ($M = 3.70 \pm 1.15$; $t (114) = -2.36, p < 0.025$). The two groups did not differ across the subscale of identified regulation ($p > 0.025$). Another independent t-test was conducted to examine the differences between the two genders on the subscales of identified regulation and extrinsic regulation. No significant differences were found between male and female athletes on both identified regulation and extrinsic regulation ($p > 0.025$).

**ANOVA—for scholarship status (life roles)**

ANOVA was conducted to determine the effect of scholarship status group on the importance of six different life roles (see Table 5). The analysis of ANOVA revealed that there was a significant main effect for of scholarship status group, with the Wilks’ lambda of 0.87, $(F (6, 107) = 2.75, p < 0.05)$. Univariate analysis of this effect revealed that the importance of the academic role $(F (1, 112) = 11.52, p < 0.05)$ and religious role $(F (1, 112) = 11.52, p < 0.05)$ significantly differed, but not for the importance of other life roles. This result was due to the fact that Ontario non-scholarship athletes rated their academic role as more important and religious role as less important compared to U.S. scholarship athletes. With respect to the athletic role, Ontario non-scholarship athletes and U.S. scholarship athletes did not differ significantly ($p > 0.05$). Since the ranking of life roles could also be classified as discrete data, a non-parametric test was conducted to
confirm the results. Therefore, the mode was used as a measure of central tendency. The results were comparable as the mode for Ontario non-scholarship athletes on the measure of academic role was 2, compared to 4 for U.S. scholarship athletes. As for athletic role, the mode for both groups was 4.

**Pearson r-correlations**

In order to study if the number of years that athletes have played were related to any of the subscales of “present” motivation, a Pearson r-test was conducted. Of the 116 athletes reporting valid data for the years of basketball experience, a significant positive relationship was found between the number of years that athletes played/practiced and identified regulation \((r = 0.16, p < 0.05)\), introjected regulation \((r = 0.27, p < 0.05)\), and external regulation \((r = 0.26, p < 0.05)\). This means that as athletes’ played/practiced basketball more often, their EM was higher. Table 7 displays the correlations between the reported years of basketball experience and all the subscales of “present” motivation.

**Paired-samples t-test—for scholarship status (hours played)**

Two paired-sample t-tests were conducted to evaluate whether time spent playing/practicing basketball would change if athletic scholarship status was altered. Since the data for “present” time spent playing/practicing basketball was used for a between scholarship status group comparison, alpha level of 0.025 was used. (i.e., alpha of 0.05 was divided by 2). It was hypothesized that Ontario non-scholarship athletes would train significantly more should scholarships be available. Conversely, it was hypothesized that U.S. scholarship athletes would train significantly less should scholarships become unavailable. As expected, the results indicated that if athletic scholarships were to be awarded to Ontario non-scholarship athletes their “perceived future” hours per week spent playing/practicing basketball \((M = 22.25 \pm 6.38)\) would
significantly increase, \( t(69) = -9.57, p < 0.025 \) compared to their “present” hours per week spent playing/practicing basketball \( (M = 16.67 \pm 4.66) \). Consistent with the hypothesis, the results of the analysis indicated that if athletic scholarships were to be eliminated from U.S. scholarship athletes their “perceived future” time spent playing/practicing basketball \( (M = 13.28 \pm 6.85) \) would significantly decrease \( t(45) = 7.68, p < 0.025 \), compared to their “present” time spent playing/practicing basketball \( (M = 19.46 \pm 5.20) \).

*Frequencies—for scholarship status (addition/absence of scholarship on motivation)*

The last question in the survey for Ontario non-scholarship athletes asked how would the addition of full athletic scholarships affect their motivation towards basketball. The data were coded nominally according to the athletes’ responses. The most frequently occurring response was that an athlete would “work harder/play more”, which occurred 17 times or 32 percent of the time. The last question in the survey for U.S. scholarship athletes asked how would the absence of full athletic scholarships affect their motivation towards basketball. The data were also coded nominally according to the athletes’ responses. The most frequently occurring response was that an athletes’ motivation would “not be affected at all”, which occurred 16 times or 41 percent of the time. Table 6 displays the modes for all responses for both Ontario non-scholarship athletes and U.S. scholarship athletes.

*Discussion*

The present investigation was intended to examine whether “perceived future” motivation would differ if the status of full athletic scholarships were to be altered for non-scholarship and scholarship athletes. Previous research has indicated the presence/absence of a reward influences motivation. When a reward is introduced, the
likelihood that the behaviour will be performed is increased. Further, when an expected reward is taken away, IM for that activity is reduced (Deci, 1971; Deci & Ryan, 1999; Lepper et al., 1973). When Ontario non-scholarship athletes were asked how motivated they would be if full athletic scholarships were available, the results indicated that, compared to their “present” motivation, their external regulation would increase. This provided partial support for the first hypothesis, since it was expected that all subscales of EM would increase. However, Ontario non-scholarship athletes also reported that their IM to experience stimulation would significantly decrease if full athletic scholarships were introduced. None of the previous studies examined the changes in motivational orientation across different levels of IM and EM once the reward was introduced or awarded. Thus, this finding should be interpreted with caution. Future studies should attempt to replicate these results to examine their generalizability.

As for U.S. scholarship athletes, IM to accomplish things significantly decreased with the removal of athletic scholarship. Again, the proposed hypothesis was partially supported. This result is consistent with the previous studies (Deci, 1971; Deci & Ryan, 1999; Lepper et al., 1973), which found that termination of a reward undermines a person’s IM for an interesting activity. The self-determination theory describes the degree to which human behaviours are volitional or self-determined. It refers to a person’s capacity to have choice to freely select the activities of interest. As a result, self-determination theory may be used to explain why IM may decrease either with the introduction or the removal of a scholarship. Non-scholarship athletes from this study possibly perceived that the introduction of scholarships would possibly lower their capacity to have choices since they would be training more for the money rather than pleasure (as demonstrated also by the increased level of external regulation), increase the
pressure to perform, and lower their ability to be the determinants of their actions. Scholarship athletes from this study may have perceived that the removal of scholarships would lower their capacity to have choices, as their academic expenses would then become their responsibility. This may result in free choice being limited. Therefore, athletic scholarships may already have had control over scholarship athletes’ behaviour, and were perceived as a potential controller of the behaviour for non-scholarship athletes, rather than the method that can provide an incentive for athlete’s effort and performance.

This study was also designed to determine whether differences in “present” motivation exist between Ontario non-scholarship athletes and U.S. scholarship athletes. The results from this study indicated that scholarship and non-scholarship athletes did not differ across any of the levels of IM. Thus, the third hypothesis was not supported with respect to IM. Looking to previous research to offer an explanation for the above is difficult with some research offering support (Amorose & Horn; 2001, Miller, 2000; Ryan, 1980) and others not (Amorose & Horn, 2000; Ryan, 1977; 1980; Wagner et al., 1989). Even though Amorose and Horn (2001) found no difference in the levels of IM between scholarship and non-scholarship athletes, the sport context (i.e., variety of sports were included in their study, most scholarship athletes played individual sports) of the two studies was not similar. Also, the major difference between this and Ryan’s (1977; 1980) study is the probable difference in social environment and the general perception of athletic scholarships, since this study was conducted more than 20 years later. Therefore, it is possible that since athletic scholarships are more common (e.g., for both males and females, as well as variety of sports) and advanced (e.g., in terms of how they are administered) today compared to 20 years ago, that they have become more informational in how they are perceived by athletes.
As for the subscales of EM, the results of the analyses indicated that Ontario non-scholarship athletes reported significantly lower levels of "present" external regulation compared to U.S. scholarship athletes. Again, the third hypothesis was partially supported regarding EM. With respect to "present" levels of EM, results are consistent with the findings from Wagner et al., (1989) who found that scholarship athletes rated their participation in basketball as a form of work rather than leisure compared to non-scholarship athletes. This discrepancy may be the result of homogeneity versus heterogeneity around scholarships. In the present sample, no Ontario athlete currently received a full athletic scholarship (i.e., was homogeneous). However, heterogeneity existed for the Wagner et al. study that some athletes did receive scholarships while others did not. Thus, non-scholarship athletes from this study were not "surrounded" by scholarship athletes. As a result their perceptions of athlete inferiority were possibly less likely present compared to non-scholarship athletes from the U.S. Also, the athletes in this study consisted of basketball players only. Further, basketball and football are two sports in which athletic scholarships are very common. Results from this, and previous studies (Ryan, 1977; 1980; Wagner et al., 1989) demonstrated that athletes that play sports in which scholarships are very common have higher levels of external regulation than non-scholarship athletes. This result is consistent with the CET and self-determination theory. When a scholarship is awarded to most or all of the athletes on the team rather than only few of them, they become expected. Thus, athletes in this case may be less likely to perceive themselves as competent, perceive scholarship as positive indicator of information, and perceive themselves as the cause of the behaviour. It may also be that possible that a selection bias of scholarship athletes exists. Perhaps athletes
that are awarded a scholarship initially have higher levels of external regulation. Whether this may be a characteristic of the individual or a result of socialization is unclear.

When gender was taken into consideration, the fourth hypothesis was partially supported. U.S. scholarship males had significantly higher levels of “present” introjected regulation compared to Ontario non-scholarship males. Scholarship athletes in general also reported higher levels of external regulation compared to non-scholarship athletes. These findings were consistent with the previous studies (Miller, 2000; Pelletier et al., 1995), which found that males were more likely to be motivated by external sources such as rewards or feelings of guilt. Unpredictably, U.S. scholarship females had significantly lower levels of “present” introjected regulation compared to Ontario non-scholarship females (see Figure 3). This finding was not consistent with previous research or the proposed hypothesis. Thus it is evident from the graph in Figure 3 that even though Ontario non-scholarship males and females were very similar with respect to their “present” levels of introjected regulation, it appears that U.S. scholarship males seemed to be motivated by internal pressure such as guilt to much greater extent compared to U.S. scholarship females. This might suggest that U.S. scholarship males experienced a great deal of pressure to perform, and as a result reported higher levels of introjected regulation. However, future studies should attempt to find whether replication is possible. Furthermore, contrary to what was predicted, male athletes in general (i.e., independent of athletic scholarship status), did not significantly differ from female athletes across any of the motivational subscales. These results do not suggest that differences between genders do not exist, but rather that if they do, they are most likely dependent on athlete’s scholarship status.
The results of this study did not provide support for the fifth hypothesis that U.S. athletic scholarship athletes would rate their athletic role as more important compared to Ontario non-scholarship athletes. However, Ontario scholarship athletes reported that their academic role was more important to them in comparison to U.S. scholarship athletes. These results are consistent with the previous studies (Horton & Mack, 2000; Medic & Stevens, 2003) which did not provide evidence that high athletic identity was associated with dysfunctional prioritizing of life roles or under development of other life roles. These results may also suggest that non-scholarship athletes mainly attend post-secondary institutions because of academics rather than athletics. On the other hand, the extent to which scholarship athletes prioritized their academic role lower may be merely because athletics takes up more of their time and since they have lesser financial responsibility towards the academics. Due to the exploratory nature of this topic and the fact that only one question was used to asses person’s life roles, it is suggested that future studies asses this relationship in more detail.

Results from this study were consistent with the findings by Wagner et al., (1989) who reported that the length of time involved in a sport was associated with a more work-oriented view. In this study, all subscales of EM (i.e., identified regulation, introjected regulation, and external regulation) were positively related to the number of years that athletes have played/practiced basketball. Subscales of IM were not significantly related to the number of years of sport experience. Thus, results partially supported the sixth hypothesis, which stated that the number of years that athletes have played would be negatively related to “present” levels of IM and positively related to “present” levels of EM. These results suggest that the longer period of time an athlete devotes to his/her sport, it is more likely that the athlete may be motivated to perform for extrinsic rewards
and be motivated by internal pressures such as guilt. Also, it seems that sport experience is not related to IM as in the case of children (Horn & Hasbrook, 1986; Horn & Weiss, 1991).

Results from this study showed that Ontario non-scholarship athletes reported significantly lower number of “present” hours played/practiced compared to U.S. athletes. However, Ontario non-scholarship athletes reported that they would spend significantly more time playing/practicing basketball if athletic scholarships were introduced. On the other hand, U.S. scholarship athletes reported that they would spend significantly fewer hours playing/practicing basketball if athletic scholarships were not available to them. These results are consistent with the seventh hypothesis. When rewards are introduced they seem to increase the likelihood that the wanted behaviour (i.e., playing/practicing more often) will increase. Conversely, if the reward was to be terminated, the likelihood of that the same behaviour would persist is minimal (Deci, 1971; Deci & Ryan, 1999; Lepper et al., 1973).

Ontario non-scholarship athletes reported most frequently that they would “work harder/play more” and secondly that they would “be more motivated” if athletic scholarships were added. These findings, which demonstrate the willingness of non-scholarship athletes to devote more time to basketball, are also consistent with the seventh hypothesis. However, the type of motivation that would increase is not necessarily distinguished. On the other hand, U.S. scholarship athletes said most frequently that their motivation towards basketball would “not be affected at all”, if athletic scholarships were not available to them. Similarly, it is hard to conclude whether this would apply to all the different types of motivation. Further, the third most frequent response—would not have worked as hard when younger—may provide some additional
insight on how athletes' motivation might be influenced by athletic scholarships. Even though Ontario non-scholarship athletes said that they would work harder and play more, and be more motivated if athletic scholarships were to become available to them, it seems from the data on U.S. scholarship athletes that athletes in general might work harder only to get the athletic scholarships, but once reaching the desired outcome, athletic scholarship could become the controller of athletes' behaviour.

Several important limitations need to be discussed for the study. First, the results of the present study were limited to the use of scenarios and SMS to assess "perceived future" motivation. This was mainly due to the accuracy of knowing how the presence/absence of athletic scholarships would actually affect one and the repetitiveness of the questions. Social desirability of participants to accurately and honestly, at one point in time, respond to the questions that assessed the "perceived future" motivation also needs to be recognized as a limitation. In addition, "perceived future" identified regulation did not demonstrate acceptable level of reliability. Thus, ability to assess the motivational changes across that subscale was limited to the obtainable data.

Since the second half of regular-season and play-off games were played during the months of February and March 2003, the limited time frame would not allow for a chance to discover any long-term effects. Moreover, the data was not collected at the same time (i.e., some teams completed surveys towards the end of their season and other teams completed surveys at the end of their season), thus the importance of all participants completing the survey in a similar context needs to be recognized.

Furthermore, if one team was to respond to questions on a survey after the game that they won, compared to the other team whose team has lost, their emotions might not have been the same, thus affecting their responses to questions. The number of games that the
team has won and lost during the season was not considered, nor the number of scholarships that were awarded per team. Lastly, the results have to be generalized to the sport of basketball, as well as to the late teen and early twenties age group.

*Future Directions*

Future research is needed to examine the hierarchical nature of the three subscales of IM with respect to their level of self-determination. Based on the findings from the past studies (Miller, 2000; Pelletier, 1995), as well as the findings from the present investigation, it seems that on the highest end of the continuum should be the IM to experience stimulation, followed by the IM to accomplish things, and then IM to know. Also, future research needs to be conducted with the different age groups (i.e., high school athletes) and athletes from variety of sports.

Also, high school athletes’ perceptions of athletic scholarship might be essential to better understanding IM and EM of this age group. A longitudinal study could also track changes in IM and EM of high school athletes who receive full athletic scholarship and the ones that do not. The longitudinal approach would eliminate the questionability of SMS to assess athletes’ “perceived future” motivation, as experienced in the present study. Also, a longitudinal approach would allow for better assessment of the possibility that scholarship athletes are more extrinsically motivated to begin with and if so if it is mainly prior to getting the scholarship or throughout their careers. Also, since coaches can be very influential for athletes’ development, potential studies could examine coach’s motivational tactics and the influences on athletes’ IM and EM.

*Significance/Implications*

The findings from this study can be valuable to different organizations, such as CIS and NCAA, in the Canadian and U.S. sport industry. This research provided some
insight regarding the effectiveness of athletic scholarships as a motivating instrument. Even though, previous research attempted to clarify the effects of athletic scholarships on athletes' motivation by comparing NCAA scholarship to non-scholarship athletes, this research study additionally examined the two somewhat different cultures in two different athletic systems. Assuming that the results of the study are valid and that they can be generalized to other sports, it seems that the two institutions should not "modify" the present system of athletic scholarship governance in order to enhance student-athlete's motivation mainly because athletes' IM could be decreased. This recommendation is based solely on motivational orientation of athletes, since different institutions might prioritize other variables (team's or individual's performance, and economical issues) differently.

Other areas of the sport industry may have benefited from the findings in this research study include National Sport Organizations (i.e., specifically Basketball Canada, and U.S.A. Basketball), Provincial Sport Organizations (e.g., Ontario Basketball Association), and all basketball players that are interested in pursuing athletic scholarships. Perhaps by building on the previous findings of our research some of these organizations may alter their recruiting procedures. While this research study did not find concrete answers as to whether athletic scholarships positively or negatively effect athletes' motivation, future studies should examine this issue from different perspectives.

Conclusion

In summary, support for self-determination theory was provided as the main effects were found to demonstrate that either an addition or the removal of athletic scholarships would have negative effects on athletes' IM. With respect to their "present" motives towards basketball, U.S. scholarship males reported significantly higher levels of
introjected regulation compared to Ontario non-scholarship male athletes. Ontario non-
scholarship females reported significantly higher levels of introjected regulation
compared to U.S. scholarship female athletes. Also, U.S. scholarship athletes reported
significantly higher levels of external regulation compared to Ontario non-scholarship
athletes. As for the importance of athletic role, U.S. scholarship athletes did not differ
from Ontario non-scholarship athletes. However, scholarship athletes did report lower
ranking of an academic role compared to non-scholarship athletes.
References


*Advances in sport and exercise psychology measurement. Morgantown, WV: Fitness Information Technology.*


*Psychological Review, 66*, 297-333.

**Table 1**

*Descriptive Statistics for “Present” Motivation*

<table>
<thead>
<tr>
<th>Motivation Type</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
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<td>IM for stimulation</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ontario non-scholarship</td>
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<td>-0.58</td>
<td>0.01</td>
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<tr>
<td>Identified regulation</td>
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<td></td>
</tr>
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<td>0.51</td>
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<td>U.S. scholarship</td>
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<td>External regulation</td>
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<td>-0.63</td>
<td>-0.07</td>
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Table 2

Descriptive Statistics for “Perceived Future” Motivation

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<th>Kurtosis</th>
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<td>-0.82</td>
</tr>
<tr>
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<td></td>
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<td></td>
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<td>1.14</td>
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<td><strong>Introjected regulation</strong></td>
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<tr>
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<td>U.S. scholarship</td>
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<td>1.46</td>
<td>-0.17</td>
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Table 3

Repeated Measures ANOVA—for Ontario non-scholarship athletes on SMS

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<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>Significance</th>
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<td><strong>Avg. IMS</strong></td>
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<tr>
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<td>1.03</td>
<td>6.64</td>
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<tr>
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<td>1.17</td>
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<td><strong>Avg. IMA</strong></td>
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<td>“Present”</td>
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<td><strong>Avg. IMK</strong></td>
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<td>1.36</td>
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<tr>
<td><strong>Avg. INR</strong></td>
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<tr>
<td><strong>Avg. EXR</strong></td>
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<tr>
<td>“Present”</td>
<td>4.59</td>
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</table>

* Significant at $p < 0.017$
Table 4

Repeated Measures ANOVA—for U.S. scholarship athletes on SMS

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<th>SD</th>
<th>F</th>
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<tbody>
<tr>
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<td>1.05</td>
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<tr>
<td>Avg. IMS</td>
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<td>0.03</td>
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<td>&quot;Perceived future&quot;</td>
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<td>1.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Present&quot;</td>
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<td>1.05</td>
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<td>&quot;Present&quot;</td>
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<td>1.07</td>
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<td>Avg. IDR</td>
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<td>1.02</td>
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* Significant at $p < 0.025$
Table 5

*Mean Scores for Life Roles*

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<tr>
<th>Roles</th>
<th>Ontario non-scholarship athletes</th>
<th>U.S. scholarship athletes</th>
<th>Male</th>
<th>Female</th>
<th>Overall</th>
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<tr>
<td>Academic</td>
<td>3.01</td>
<td>3.74</td>
<td>3.35</td>
<td>3.22</td>
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</tr>
<tr>
<td>Athletic</td>
<td>3.61</td>
<td>3.78</td>
<td>3.51</td>
<td>3.96</td>
<td>3.68</td>
</tr>
<tr>
<td>Family</td>
<td>1.56</td>
<td>1.26</td>
<td>1.42</td>
<td>1.47</td>
<td>1.44</td>
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<tr>
<td>Friendship</td>
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<td>3.57</td>
<td>3.97</td>
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<td>Romantic Partner</td>
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<td>4.58</td>
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</table>
Table 6

*Frequencies of responses on the effect of addition/absence of scholarship for scholarship status*

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</tr>
</thead>
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<tr>
<td></td>
<td>Frequency</td>
<td>Percentage</td>
</tr>
<tr>
<td>Be more motivated</td>
<td>16</td>
<td>30.20</td>
</tr>
<tr>
<td>Work harder/play more</td>
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<td>Help financially</td>
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<tr>
<td>Not at all</td>
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<td>Wouldn’t have worked as hard when younger</td>
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<td>0</td>
</tr>
<tr>
<td>Not be as motivated</td>
<td>3</td>
<td>7.50</td>
</tr>
<tr>
<td>Would play more for fun</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 7

*Correlations for years played/practiced and “present” subscales of IM and EM*

<table>
<thead>
<tr>
<th></th>
<th>IMS</th>
<th>IMA</th>
<th>IMK</th>
<th>IDR</th>
<th>INR</th>
<th>EXR</th>
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<tr>
<td>Years Played</td>
<td>-0.01</td>
<td>0.08</td>
<td>0.10</td>
<td>0.16*</td>
<td>0.27*</td>
<td>0.26*</td>
</tr>
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*. Correlation significant at p < 0.05
Figure Caption

*Figure 1.* Self-determination Continuum.
<table>
<thead>
<tr>
<th>Amotivation</th>
<th>Extrinsic Motivation</th>
<th>IMS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introjected Regulation</td>
<td>IMA</td>
</tr>
<tr>
<td></td>
<td>Identified Regulation</td>
<td>IMK</td>
</tr>
<tr>
<td>Absence of regulation</td>
<td>External Regulation</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Identified Regulation</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Regulation for the Pleasure</td>
<td></td>
</tr>
</tbody>
</table>

(adopted from Deci & Ryan, 1985, 1991)
Figure Caption

*Figure 2.* Casual/relational diagram.
Figure Caption

Figure 3. Interaction effect for the gender and scholarship status—introjected regulation.
Appendix A
Appendix B
General Information Letter to the Head Basketball Coach

Dear ________________________,

My name is Nikola Medic. I am currently pursuing a Master of Arts degree in the Faculty of Applied Health Sciences (Sport Psychology) at Brock University, St. Catharines, ON. My research study involves examining motivational influences on behaviour in sport. Specifically, I am interested in surveying university basketball players from Ontario and Division I basketball players from United States in order to study how athletes' motivation is affected by an opportunity of athletic scholarship.

I am interested in surveying the basketball players on your team. Your cooperation and athlete's involvement are essential part of this study and would greatly be appreciated. Your involvement would include spending about five minutes to distribute the surveys to your athletes, and another five minutes to collect them. Athlete's involvement would include spending approximately fifteen minutes to complete an Informed Consent Form and 59 survey questions (i.e., athletes would not be required to complete the surveys during the practice, but rather at the end of the practice, or during the bus ride to the away game).

I will be contacting you via telephone in order to discuss the possibility of your assistance in conducting this research study. Thank you for your time and consideration.

Sincerely,

______________________________

Nikola Medic
Graduate Student, Brock University
Appendix C
Participation Agreement Letter from the Head Basketball Coach

The following is a letter of consent which when signed by myself (Name of the University Head Basketball Coach) will authorize Nikola Medic to proceed with the collection of data for the study “The Effects of Athletic Scholarships on Motivation in Sport”.

By signing below I certify that Nikola Medic has provided me with a description of the research project and I have allowed him to supply me with the copies of Informed Consent Forms and Surveys to be handed in to each one of the players on our basketball team.

Signature of Head Coach: ___________________________  Date: ______________________

Signature of Researcher: ___________________________  Date: ______________________
Can I have your attention please? As part of the procedure, I am required to read this script to you. The student from Brock University, St. Catharines, is conducting a research study that involves examining motivational influences on behaviour in sport.

Your participation in this study is voluntary. Please make sure that you read the General Information Letter to Athletes and that you sigh one copy of Informed Consent Form.

Once you complete the survey. This should take approximately fifteen minutes of your time. Once everything is completed, please place the Informed Consent Form in the envelope provided and seal it. The sealed envelopes can be given to me in order to be mailed to the researcher.

Thank you for cooperation.
General Information Letter to Athletes

Dear Participant,

My name is Nikola Medic. I am currently pursuing a Master of Arts degree in the Faculty of Applied Health Sciences (Sport Psychology) at Brock University, St. Catharines, Ontario. My research study involves examining motivational influences on behaviour in sport. Specifically, I am interested in surveying university basketball players from Ontario and Division I basketball players from United States in order to study how athletes' motivation is affected by an opportunity of athletic scholarship.

Your cooperation and involvement are essential part of this study and would greatly be appreciated. Your participation in this study is voluntary. As part of this study you are being asked to read and sign this General Information Letter and one copy of Informed Consent Form, which you are to keep for your records. Also, you are being asked to read and sign another (same) copy of the Informed Consent Form, as well as to complete the 59 survey questions. This should take approximately fifteen minutes of your time. Once all the forms are completed, one Informed Consent Form and a survey questionnaire are to be placed in the envelope provided and sealed. The individual responsible for administration will collect the envelopes and place them in a postage paid envelope addressed to the researcher.

If you have any questions or concerns you may contact my faculty supervisor Dr. Diane Stevens at (905) 688-5550 extension 4360 or at dstevens@arnie.pec.brocku.ca

At this time I would like to thank you for your time and consideration.

Sincerely,

Nikola Medic, MA – Candidate, Brock University
Summary of the Results Form

OPTIONAL:

If you wish to receive a summary of the results from this study, please complete this form and place it in the envelope along with the Informed Consent Form and the Survey. A summary will then be sent to you once all the data has been analyzed. This form will be stored in a locked office and later destroyed once the summary report has been sent to you.

Name: _____________________________

Mailing Address:

________________________________________________________________________

Street, P. O. Box, Rural Route #, Apt. #, etc.

________________________________________________________________________

City Province/State Postal Code/Zip Code

OR you can provide your e-mail address and the results will be sent to you via this method.

E-mail: ___________________________
Informed Consent Form

FACULTY OF APPLIED HEALTH SCIENCE—BROCK UNIVERSITY

Title of Study: The Effects of Athletic Scholarships on Motivation in Sport

Researcher: Nikola Medic

Committee Members: Diane Stevens, Philip Sullivan, and James Mandigo

I understand that this study in which I have agreed to participate will involve about fifteen minutes of my time to complete a questionnaire (which will include Sport Motivation Scale by Pelletier, Fortier, Vallerand, Tusson, Brière, & Blais, 1995). The purpose of the study is to learn how athletes’ motivation is affected by an opportunity of athletic scholarship. I may benefit from the study by applying the results of this study to my career as an athlete.

I understand that my participation in this study is voluntary and that I may withdraw from the study at any time and for any reason without penalty.

I understand that there will be no payment for my participation.

I understand that there is no obligation to answer any question or participate in any aspect of this project that I consider invasive, offensive or inappropriate.

I understand that all personal data will be kept strictly confidential. I understand that only the researcher and committee members named above will have access to the data.

Participant’s Signature: ___________________________ Date: ________________

If you have any questions or concerns about your participation in the study, you may contact Brock Research Services at (905) 688-5550 extension 3035 or Professor Diane Stevens at (905) 688-5550 extension 4360.

Feedback about the use of the data collected will be available during the month of September 2003 in the James A. Gibson Library at Brock University, St. Catharines.

OPTIONAL: If you are unable to access the results through the Brock University Library and wish to receive a summary of the results please provide your e-mail address.

E-mail address: __________________________________________

Thank you for your help and cooperation.

I have fully explained the procedures of this study to the above volunteer.

Researcher’s Signature: ___________________________ Date: ________________
SURVEY (FOR ONTARIO ATHLETES)

Please answer the following questions in the order that they are listed.

Section A
1. What is your age? _______(years old)

2. How many years have you played basketball? _______

3. What is your gender? _____ Male _____ Female

4. How many minutes per game did you play this season? ______

5. How many hours per week did you spend on average practicing/playing basketball in the past year? __________ (hours/week)

Section B
WHY DO YOU PLAY BASKETBALL?
Using the scale below, please indicate to what extent each of the following items corresponds to one of the reasons for which you are presently practicing/playing basketball.

<table>
<thead>
<tr>
<th>Does not correspond at all</th>
<th>Corresponds moderately</th>
<th>Corresponds exactly</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. For the pleasure I feel in living exciting experiences.
7. For the pleasure it gives me to know more about basketball.
8. For the pleasure of discovering new training techniques.
9. Because basketball allows me to be well regarded by people.
10. Because, in my opinion, it is one of the best ways to meet people.
11. Because I feel a lot of personal satisfaction while mastering certain difficult training technique.
12. Because it is absolutely necessary to do sports if one wants to be in shape.
13. For the prestige of being an athlete.
14. Because it is one of the best ways I have chosen to develop other aspects of myself.
15. For the pleasure I feel while improving some of my weak points.
16. For the excitement I feel when I am really involved in the activity.
17. Because I must play basketball to feel good about myself.
18. For the satisfaction I experience while I am perfecting my abilities.
19. Because people around me think it is important to be in shape.
20. Because it is a good way to learn lots of things which could be useful to me in other areas of my life.
21. For the intense emotions that I feel while I am doing a sport that I like.
22. For the pleasure that I feel while executing certain difficult movements.
23. Because I would feel bad if I was not taking time to do it.
24. To show others how good I am at basketball.
25. For the pleasure that I feel while learning training techniques that I have never tried before.
26. Because it is one of the best ways to maintain good relationships with my friends.
27. Because I like the feeling of being totally immersed in the activity.
28. Because I must play basketball regularly.
29. For the pleasure of discovering new performance strategies.

Section C
For the purposes of this study Full Athletic Scholarship is defined as “method by which tuition, room and board, books, and all other necessary goods and services are provided to the student in return for his/her services as an athlete”. Using the scale below, please indicate to what extent each of the following items would correspond to reasons why you would practice/play basketball if Full Athletic Scholarships were available in Ontario.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Scale</th>
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<tr>
<td>Does not correspond at all</td>
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</tr>
<tr>
<td>Corresponds moderately</td>
<td></td>
</tr>
<tr>
<td>Corresponds exactly</td>
<td></td>
</tr>
</tbody>
</table>

30. For the pleasure I would feel in living exciting experiences.
31. For the pleasure it would give me to know more about basketball.
32. For the pleasure of discovering new training techniques.
33. Because basketball would allow me to be well regarded by people.
34. Because, in my opinion, it would be one of the best ways to meet people.
35. Because I would feel a lot of personal satisfaction while mastering certain difficult training technique.
36. Because it would be absolutely necessary to do sports if one wants to be in shape.
37. For the prestige of being an athlete.
38. Because it would be one of the best ways to develop other aspects of myself.
39. For the pleasure I would feel while improving some of my weak points.
40. For the excitement I would feel when I am really involved in the activity.

41. Because I must play basketball to feel good about myself.

42. For the satisfaction I would experience while I am perfecting my abilities.

43. Because people around me would think it is important to be in shape.

44. Because it would be a good way to learn lots of things which could be useful to me in other areas of my life.

45. For the intense emotions that I would feel while I am doing a sport that I like.

46. For the pleasure that I would feel while executing certain difficult movements.

47. Because I would feel bad if I was not taking time to do it.

48. To show others how good I am at basketball.

49. For the pleasure that I would feel while learning training techniques that I have never tried before.

50. Because it would be one of the best ways to maintain good relationships with my friends.

51. Because I would like the feeling of being totally immersed in the activity.

52. Because I must play basketball regularly.

53. For the pleasure of discovering new performance strategies.

54. Have you ever been offered a Full Athletic Scholarship?
   _____Yes   _____No

55. Do you presently hold a Partial Athletic Scholarship?
   _____Yes (what %)   _____No

56. Do you presently hold an Academic Scholarship?
   _____Yes   _____No

57. How many hours per week would you spend on average practicing/playing basketball if Full Athletic Scholarships were available in Ontario? _________________(hours/week)

58. Can you please rank the following roles to the way you think about yourself in order of importance (1 – most important, 6 – least important).
   ___Academic ___Athletic ___Family ___Friendship ___Romantic Partner ___Religion

59. How would the possibility of Full Athletic Scholarship affect your motivation towards practicing/playing basketball?
Survey (U.S. Athletes)

Please answer the following questions in the order that they are listed.

Section A
1. What is your age? _______ (years old)

2. How many years have you played basketball? _______

3. What is your gender? _____ Male _____ Female

4. How many minutes per game did you play this season? _______

5. How many hours per week did you spend on average practicing/playing basketball in the past year? _______ (hours/week)

Section B
WHY DO YOU PLAY BASKETBALL?
Using the scale below, please indicate to what extent each of the following items corresponds to one of the reasons for which you are presently practicing/playing basketball.

<table>
<thead>
<tr>
<th>Item</th>
<th>Does not correspond at all</th>
<th>Corresponds moderately</th>
<th>Corresponds exactly</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. For the pleasure I feel in living exciting experiences.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. For the pleasure it gives me to know more about basketball.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. For the pleasure of discovering new training techniques.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. Because basketball allows me to be well regarded by people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>10. Because, in my opinion, it is one of the best ways to meet people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>11. Because I feel a lot of personal satisfaction while mastering certain difficult training technique.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12. Because it is absolutely necessary to do sports if one wants to be in shape.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>13. For the prestige of being an athlete.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. Because it is one of the best ways I have chosen to develop other aspects of myself.</td>
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</tr>
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<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. For the excitement I feel when I am really involved in the activity.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. Because I must play basketball to feel good about myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. For the satisfaction I experience while I am perfecting my abilities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. Because people around me think it is important to be in shape.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
20. Because it is a good way to learn lots of things which could be useful to me in other areas of my life.

21. For the intense emotions that I feel while I am doing a sport that I like.

22. For the pleasure that I feel while executing certain difficult movements.

23. Because I would feel bad if I was not taking time to do it.

24. To show others how good I am at basketball.

25. For the pleasure that I feel while learning training techniques that I have never tried before.

26. Because it is one of the best ways to maintain good relationships with my friends.

27. Because I like the feeling of being totally immersed in the activity.

28. Because I must play basketball regularly.

29. For the pleasure of discovering new performance strategies.

Section C

For the purposes of this study Full Athletic Scholarship is defined as “method by which tuition, room and board, books, and all other necessary goods and services are provided to the student in return for his/her services as an athlete”. Using the scale below, please indicate to what extent each of the following items would correspond to reasons why you would practice/play basketball if Full Athletic Scholarships were NOT available in U.S.

<table>
<thead>
<tr>
<th>Does not Correspond at all</th>
<th>Corresponds moderately</th>
<th>Corresponds exactly</th>
</tr>
</thead>
<tbody>
<tr>
<td>30. For the pleasure I would feel in living exciting experiences.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>31. For the pleasure it would give me to know more about basketball.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>32. For the pleasure of discovering new training techniques.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>33. Because basketball would allow me to be well regarded by people.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>34. Because, in my opinion, it would be one of the best ways to meet people.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>35. Because I would feel a lot of personal satisfaction while mastering certain difficult training technique.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>36. Because it is absolutely necessary to do sports if one wants to be in shape.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>37. For the prestige of being an athlete.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>38. Because it would be one of the best ways to develop other aspects of myself.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
<tr>
<td>39. For the pleasure I would feel while improving some of my weak points.</td>
<td>1 2 3 4 5 6 7</td>
<td></td>
</tr>
</tbody>
</table>
40. For the excitement I would feel when I am really involved in the activity.

41. Because I must play basketball to feel good about myself.

42. For the satisfaction I would experience while I am perfecting my abilities.

43. Because people around me think it would be important to be in shape.

44. Because it would be a good way to learn lots of things which could be useful to me in other areas of my life.

45. For the intense emotions that I would feel while I am doing a sport that I like.

46. For the pleasure that I would feel while executing certain difficult movements.

47. Because I would feel bad if I was not taking time to do it.

48. To show others how good I am at basketball.

49. For the pleasure that I would feel while learning training techniques that I have never tried before.

50. Because it would be one of the best ways to maintain good relationships with my friends.

51. Because I would like the feeling of being totally immersed in the activity.

52. Because I must play basketball regularly.

53. For the pleasure of discovering new performance strategies.

54. Do you presently hold a Full Athletic Scholarship?  ___Yes  ___No

55. Do you presently hold a Partial Athletic Scholarship?  ___Yes (what %___)  ___No

56. Do you presently hold an Academic Scholarship?  ___Yes  ___No

57. How many hours per week would you spend on average practicing/playing basketball if Full Athletic Scholarships were not available in U.S.? _______________ (hours/week)

58. Can you please rank the following roles to the way you think about yourself in order of importance (1 – most important, 6 – least important).

___ Academic  ___Athletic  ___Family  ___Friendship  ___Romantic Partner  ___Religion

59. How would the absence of Full Athletic Scholarship affect your motivation towards practicing/playing basketball?