

The Influence of Sport Type and Interdependence on the Growth Experiences of Young

Male Athletes

By

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Abstract

The purpose of this study was to examine how sport type and interdependence were associated with the growth experiences of select level male basketball players ($n = 150$) and distance runners ($n = 98$), aged 14 to 17 years. This study also examined how growth experiences were related to the outcomes of enjoyment and burnout. Athletes completed the Youth Experiences Survey 2.0 (Hansen & Larson, 2005), Athlete Burnout Questionnaire (Raedeke & Smith, 2001), Sources of Enjoyment in Youth Sport Questionnaire (Wiersma, 2001), and a newly developed scale assessing interdependence. Hierarchical multiple regression procedures determined sport type was an independent predictor of teamwork and social skills experiences, and adult networks and social capital experiences. Basketball players reported higher rates of growth experiences promoting adult networks and social capital, and teamwork and social skills, and negative experiences. In terms of interdependence levels, athletes from both sports did not differ. Hierarchical multiple regression determined interdependence was an independent predictor of growth experiences promoting identity exploration, initiative, positive relationships, adult networks and social capital, and teamwork and social skills. Hierarchical multiple regression also determined negative experiences significantly predicted burnout. Although different sports may provide different learning environments for youth, interdependence levels in a sport setting were also related to the learning environment, independent of sport type. From this study, it can be surmised that the learning environments of youth sports may be more strongly influenced by how the people involved interact than by the type of sport.

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Chapter 1: Introduction

The positive youth development approach positions youth as resources for society and emphasizes their potential rather than focusing on their deficits (Damon, 2004). This approach challenges the traditional paradigm of social science that focuses on the "disease model of human nature" (Peterson, 2004, p. 187). Peterson (2004) suggested that the social sciences should move to embrace a positive social science that is concerned with three related topics: positive subjective experiences, positive individual traits that enable positive experiences, and institutions that enable positive traits and experiences. Consistent with this move away from psychological deficits, Lerner (2005) noted that "developmentally supportive experiences" (p. x), in the form of after-school programs or community-based programs, such as sport, provide the necessary structure for fostering positive youth development. Further, Larson (2000) discussed the value of structured voluntary activities, such as sports, for fostering a sense of initiative among youth. Several studies have demonstrated the potential for youth activities to act as a context replete with developmental experiences that ultimately foster positive youth development (Eccles & Barber, 1999; Eley & Kirk, 2002; Larson, 2000; Smoll, Smith, Barnett, & Everett, 1993). The term "growth experiences" has been used in the study of developmental learning experiences occurring in youth activities (Dworkin, Larson, & Hansen, 2003; Hansen & Larson, 2002; Hansen, Larson, Dworkin, 2003; Larson, 2000; Larson, Hansen, & Moneta, 2006).

Faith-based and service activities, academic and leadership activities, performance and fine arts activities, community organizations and vocational clubs, and sports represent a variety of settings that are commonly enjoyed by youth and that may facilitate positive youth development. These activity settings can be quite diverse in their

provision of social and psychological experiences (Hansen & et al., 2003; Larson, et al., 2006). This diversity of experiences may evolve out of the diversity of people, places, behaviours, values, rules and goals that can vary significantly from one activity to the next. For example, the young pianist during lessons can have quite different expectations for behaviour than the young football player during practices.

The bioecological model of human development proposed by Bronfenbrenner (1999) suggests that different social settings can produce distinct learning environments; experiences can differ from one activity to the next. Different sports may thus be providing a diversity of learning environments associated with different social settings. The literature that has examined the growth experiences of youth in sports is limited (Dworkin, et al., 2003; Hansen & Larson, 2002; Hansen, et al., 2003; Larson, 2000; Larson, et al., 2006), and no studies have distinguished between sports. Consequently very little is known about how different sports may differently impact youth development.

Although sport may be perceived as one general category of youth activities, there is a great diversity in the people, places, behaviours, values, rules and goals provided by different sport types. Consequently, many studies have compared outcomes between sport types. For example, studies have found that in comparison to team sports, athletes from individual sports drink more alcohol (Martens, Watson, & Beck, 2006), and have different coping strategies for stress (Yoo, 2006), higher moral character and lower social character (Rudd & Stoll, 2004), better moral reasoning (Bredemeier & Shields, 1986), and higher concern for others (Vallerand, Deshaies, & Cuerrier, 1997). Furthermore, individual sport athletes are less influenced by coaches' behaviours that include positive and negative personal rapport, mental preparation, goal setting, competition strategies,

and technical skills (Baker, Yardley, & Côté, 2003). Many of these sport type studies have alluded to a continuum of interdependence or interaction found among different sport types to explain their findings (Baker, et al., 2003; Bredemeier & Shields, 1986; Martens, et al., 2006; Rudd & Stoll, 2004; Vallerand, et al., 1997; Yoo, 2001).

This focus on outcomes has told us little about the process of development. In other words, little is known about the specific growth experiences occurring in different sports. Furthermore, no studies have been designed to examine the relationship between the process of development (e.g., growth experiences) in sport and the resulting outcomes related to development.

This study will focus on how different sport environments might influence the growth experiences of young athletes. Comparing the growth experiences of young athletes in the sport of basketball to the growth experiences of young athletes in the sport of distance running will help us to understand how different sport settings might be associated with distinct learning environments for youth. In addition to sport type, interdependence will be examined as an additional potential influence on the growth experiences of young athletes in the sport setting. Finally, by examining the relationship between growth experiences and the outcomes of enjoyment and burnout, this study aims to understand how the process of development may be associated with specific outcomes.

Chapter 2: Literature Review

Few studies have been solely dedicated to examining the kinds of developmental learning experiences that are occurring in the sport context that may be promoting positive youth development. However, there are many studies demonstrating the positive and negative outcomes associated with participation in the youth sport context.

Sport has received increasing attention from researchers, policy makers, coaches and parents, for the potential to enhance a child's physical, social and psychological development. Empirical evidence shows there are many positive outcomes associated with sports participation. Some of the physical benefits of sport and physical activity include skill development (Côté & Hay, 2002; Fraser-Thomas, Côté, & Deakin, 2005; Siegenthaler & Gonzalez, 1997), cardiovascular fitness, weight control, muscular strength, endurance, flexibility, increased bone density (Fraser-Thomas, et al., 2005; Health Canada, 2004; Siegenthaler & Gonzalez, 1997) and reduction in the risk of coronary heart disease (Powell, Thompson, Caspersen, & Kendrick, 1987).

Youth sports and physical activity can also provide numerous social and psychological benefits. For example, sport participation was associated with increased cooperation and improved interpersonal relations (Wankel & Berger, 1990), and can lead to generational and cross-generational friendships (Manjone, 1998). Participation in sports was also associated with positive academic outcomes such as college attendance (Snyder & Spreitzer, 1990) and full-time university enrollment (Eccles & Barber, 1999). Further, Smoll, Smith, Barnett, and Everett (1993) demonstrated that children's self-esteem can be enhanced through sport participation with coach-appropriate training. Participation in sports was also found to be an enjoyable experience for youth (Boyd & Yin, 1996; Scanlan, Carpenter, Lobel, & Simons, 1993).

The aforementioned positive outcomes have provided many good reasons for youth to participate in sports. However, several studies show negative outcomes associated with sport participation. Broken bones, strained muscles and tendonitis may deter some parents and children from participation. Physical injuries of this nature may be due to the physical nature of sport but were also found to be associated with overtraining (Hollander, Meyers, & LeUnes, 1995).

Psychologically, overtraining was associated with increased stress, tension, difficulty concentrating, depression, general apathy (Hollander, et al., 1995) and burnout (Baker & Robertson-Wilson, 2003; Coakley, 1992). Studies have also focused on the hypercompetitive nature of sports (Colburn, 1986; Wankel & Berger, 1990). Furthermore, decreased morality reasoning was associated with participation in youth sports (Bredemeier & Shields, 1986). Alcohol consumption by adolescent (Eccles & Barber, 1999) and intercollegiate athletes was a concern in a study by Martens and colleagues (2006). In addition, the debilitating physical and psychological effects of eating disorders among athletes continue to receive considerable scholarly attention (Davison, Earnest, & Birch, 2002; Engel, et al., 2003; Patel, Greydanus, Pratt, & Phillips, 2003; Sherman, Thompson, DeHass, & Wilfert, 2005).

In spite of the negative outcomes, sport remains a particularly unique activity context compared to other youth activities. Approximately 2.2 million Canadian children participate in youth sports through private, school or community programs (Kremerik, 2000). In contrast with other youth activities, sport is capable of improving and maintaining physical health in addition to promoting psychological and skill development (Côté & Fraser-Thomas, 2006). When compared to other extracurricular activities, the added fitness component to sports is quite valuable given the current fitness and weight

problems that many Canadian youth are experiencing (Tremblay, Katzmarzyk, Willms, 2002).

Sport Types: Contexts of Development

The bioecological model (Bronfenbrenner, 1999) suggests that different settings are likely to provide distinct learning environments. Bronfenbrenner's earlier ideas about development recognize the influence of multiple levels of context as providing explicit and implicit environmental structure. For example, the microsystem (i.e., level closest to the individual, such as family and friends), the mesosystem (i.e., connections or relationships between elements of the microsystem), the exosystem (i.e., the larger social network that does not include the individual in question, such as the school board), and the macrosystem (i.e., social and cultural structures that affect the individual, such as gender norms) highlight the cascading multilevel effects of context (Bronfenbrenner, 1977).

The current bioecological model proposed by Bronfenbrenner (1999) emphasizes the developmental influence of both the individual's own biological and psychological maturation, as well as the significant developmental influence of the environment. The model is founded upon two primary propositions. First, the model proposes that development occurs through the complex interplay between the individual as a social and biological being, and those people, objects and symbols in his/her immediate environment (Bronfenbrenner, 1999). These interactions have been called proximal processes. Second, the bioecological model proposes that the "form, power, content, and direction" of proximal processes will vary depending on the individual themselves, their environment, and the developmental outcomes being considered, while also considering the element of time in personal history and social history (Bronfenbrenner, 1999, p. 5).

Therefore, the influence of these proximal processes can depend in large part on the individual's environmental context. This model (1999) emphasizes the developmental influence of both the individual's own biological and psychological maturation, and retains earlier ideas about nested, multilevel environmental influences.

Consequently, different sports may be associated with a diversity of learning environments. Evidence of this environmental diversity is provided by studies that have compared the outcomes of different sports and found behavioural, social and psychological differences between sport types (Baker, et al., 2003; Bredemeier & Shields, 1986; Martens, et al., 2006; Rudd & Stoll, 2004; Vallerand, et al., 1997; Yoo, 2001). The reasons for these differences between sports have not been fully explored.

Martens and colleagues' (2006) study of intercollegiate athletes' drinking behaviours highlighted the relationship between sport type and athletes' experiences. Martens and colleagues surveyed 298 Division I intercollegiate athletes in the United States using the Alcohol Use Disorders Identification Test, the College Alcohol Problems Scale, and the Drinking Motives Measure. Sports were organized into five groups: a) baseball and softball, b) basketball and volleyball, c) soccer, d) swimming and diving, and e) track and cross-country. Swimmers and divers consumed significantly more alcoholic drinks each week than athletes in other sports, were four times more likely to be classified as high-risk drinkers than track and cross country athletes, and were three times more likely to be high-risk drinkers than soccer, basketball and volleyball athletes. Martens and colleagues concluded that swimmers and divers might be an at-risk population for excessive alcohol consumption. The authors suggested that, in comparison to other sports, the demanding physical training required of university swimmers might lead them to believe they are better able to "work off" excessive alcohol.

Martens and colleagues also suggested that swimmers and divers' intensive training schedule may reduce leisurely social time, in turn leading them to try to capitalize on limited social time and consume alcohol excessively. The swimming context offered an environment that differed from the other sports.

Differences in outcomes were also found in a study by Bredemeier and Shields (1986), which examined moral reasoning in collegiate swimmers, basketball players, and non-athletes. Participants were asked to discuss two life-related morality reasoning scenarios and two sport-related morality reasoning scenarios. Responses were assessed by independent raters and focused on moral reasoning in life and moral reasoning in sports. Collegiate basketball players scored significantly lower than collegiate swimmers and non-athletes in sport moral reasoning. Bredemeier and Shields (1986) suggested that interactive contact sports such as basketball might facilitate situation specific moral reasoning. The authors suggested that contact sports are prime settings for moral issues to arise because of their often physically aggressive, interpersonally competitive nature. The competitive interpersonal strategy might have been conducive to a suspension of morality for the sake of competition in the case of the basketball players. In contrast, closed-skilled, non-contact sports which involve a controlled competitive environment, as in the swimmers' case, might not have necessarily invoked the same interpersonal competition demanding moral decisions. The context of two different sports lead to different outcomes in moral reasoning.

The environment of team sports and individual sports may also have implications for sportpersonship through interpersonal differences. Vallerand and colleagues (1997) examined the behavioural sportpersonship intentions of 528 male and female youth participating in individual and team sports at various competitive levels. Athletes were

asked to indicate how they would behave in a scenario that involved showing concern for the opponent in spite of a loss for oneself, and in a second scenario that involved showing concern without entailing a loss. Team sport athletes reported lower levels of concern for opponents than did individual sport athletes. The authors suggested that team sport athletes were frequently immersed in a socially competitive environment and the social pressure from this type of sport setting might have lead athletes to do whatever is necessary to win. In contrast, individual sport athletes spent more time on their own during training and competition, and thus, when having to make a moral decision concerning an opponent may have been more likely to base decisions on their own values (Vallerand, et al., 1997). Therefore, team sport athletes might have displayed less concern for opponents because of a familiarity with interpersonal competition and a social pressure to win that might only occur in the team sport environment.

The relationship between sport type and morality was also examined by Rudd and Stoll (2004) in a study about moral and social character in 293 team sport athletes, 76 individual sport athletes and 225 non-athletes. They suggested that social character included qualities such as teamwork, perseverance, sacrifice, and effort. Using the Rudd-Stoll-Beller-Hahm (RSBH) value judgment inventory, they found that individual sport athletes scored significantly higher than team sport athletes on moral character (i.e., more universal morals), but team sport athletes scored higher than individual sport athletes on social character (i.e., more socially referenced morals). In addition, non-athletes scored higher than individual sport athletes on the moral character index. The authors did not offer reasons for these sport type differences. However, Rudd and Stoll's findings were consistent with Vallerand and colleagues' (1997) suggestion that moral decisions made by individual athletes may be less socially referenced and individually oriented. Team sport

athletes might have been exposed to a greater number of opportunities to learn about social character and to make decisions reflecting social character in line with team values and norms. Individual sport athletes might have relied more on their own moral code for decisions in the absence of team norms.

A study by Yoo (2001) demonstrated that athletes from team sports and individual sports can have different psychological profiles. Yoo surveyed 532 elite and non-elite athletes in team and individual sports using the culturally adapted Coping Scale for Korean Athletes (CSKA), which assesses athletes' coping styles when under stress. The CSKA assesses problem-focused coping, emotion-focused coping, avoidance coping and transcendental coping (Yoo, 2001). Elite individual sport athletes reported higher levels of avoidant coping and transcendent coping behaviours when under stress than elite athletes from team sports. Non-elite individual and team sport athletes did not differ in avoidance coping styles. Yoo suggested that individual sports might emphasize individual goals and abilities more than team sports, and that avoidance coping might help individual sport athletes maintain psychological control in highly stressful situations. Furthermore, the author suggested that individual sport athletes' lack of teammates might push them to avoid or detach from problems in comparison to team sport athletes who might turn to teammates for help. Again, the team versus individual sport environments appeared to result in different outcomes.

In addition to directly impacting athletes' experiences, sport type has also been associated with coaching behaviours, as demonstrated in a study by Baker and colleagues (2003), which examined the relationship between athletes' coaching satisfaction and coaching behaviours. The Coaching Satisfaction Scale (CSS) and the Coaching Behavior Scale for Sport (CBS-S) were completed by 110 team sport athletes and 88 individual

sport athletes. All behaviours that predicted coaching satisfaction (e.g., negative personal rapport, mental preparation, goal setting, competition strategies, personal rapport, and technical skills) were moderated by sport type. Specifically, the coaching satisfaction of team sport athletes was more strongly associated with coaching behaviours, than it was for individual sport athletes. Baker and colleagues suggested that given the dynamic and interdependent nature of team sports, compared to individual sports, team sport athletes might prefer their coaches to have greater control over their involvement in sport. For example, team sport athletes may prefer coaches with greater control over the strategy and tasks of the sport environment (Baker, et al., 2003).

As previously mentioned, Bronfenbrenner's bioecological model (1999) suggests that different settings are likely to produce distinct learning environments. Based on the reviewed studies, differences are often attributed to the degree of social interaction in training and competition and in the organizational and task structure of these different sport types. The reviewed studies demonstrate some critical outcome differences between sport types, such as individual and team sports, which are likely resulting from different sport experiences. Although many studies have examined outcomes associated with sport participation, this approach has neglected the process of development. Different youth sports may provide different experiences for youth which, in turn, lead to different outcomes. Our understanding of the developmental processes through which sports differently affect youth development is limited.

Growth Experiences

To better understand how the process of development can lead to specific outcomes for youth, we can examine the growth experiences of youth in sport. Dworkin and colleagues (2003) were among the first to examine the growth experiences of youth

in different activities. Dworkin and colleagues (2003) defined growth experiences as "experiences that teach you something or expand you in some way, that give you new skills, new attitudes, or new ways of interacting with others"(p. 20). The authors used focus groups with youth between 14 and 18 years old to help identify six key domains which represented particularly salient growth experiences for youth in different activity settings: a) exploration and identity work, b) development of initiative, c) emotional self-regulation, d) developing peer relationships and knowledge, e) teamwork and social skills, and f) adult networks and social capital.

These six key domains were used in the development of the Youth Experiences Survey 1.0 (YES 1.0; Hansen & Larson, 2002), which is based on data from over 500 high school aged youth and measures the frequency of personal, interpersonal and negative growth experiences in a specific activity. A streamlined, 70 item Youth Experiences Survey 2.0 (YES 2.0; Hansen & Larson, 2005) was created based on YES 1.0 data from 356 high school aged youth and YES 2.0 data from 1822 grade 11 students. The YES 2.0 asks youth about their growth experiences in the following domains: (a) identity work, (b) initiative experiences, (c) basic skills, (d) teamwork and social skills, (e) positive relationships, (f) adult networks and social capital, and (g) negative experiences.

Hansen and colleagues (2003) used the YES 1.0 to ask 450 youth from grades 9, 11, and 12, about their growth experiences in faith-based and service activities, academic and leadership activities, performance and fine arts activities, community organizations and vocational clubs, and sport. Hansen and colleagues found that sport activities were positively associated with higher rates of self-knowledge, emotional regulation and physical skills experiences, in comparison to other youth activities. However, youth in

sports programs also reported having more negative experiences involving negative peer interaction and inappropriate adult behaviour than service and faith based activities, academic and leadership activities, and performance and fine arts activities.

Interestingly, although many of the youth were on sports teams, these youth did not report higher teamwork and social skills scores, or higher scores for the learning of prosocial norms.

A second study by Larson, Hansen and Moneta (2006) examined youth's growth experiences in different youth activities and also compared them to average growth experience profiles for youth's experiences in school, hanging out with friends and working at a job. A total of 2280 youth completed a computer-administered version of the YES 2.0. In comparison to other youth activities, youth in sport reported significantly more experiences related to initiative, emotional regulation and teamwork experiences. Youth in sport also reported significantly less experiences relating to identity work, positive relationships and adult network experiences. Furthermore, in comparison to school, sports were particularly suited for experiences fostering initiative.

Although both of these studies shed light on growth experiences in different types of activities (e.g., faith-based and service, academic and leadership, performance and fine arts, community organizations and vocational clubs, sports), they did not focus on differences within various types of sport programs (e.g., team versus individual sports, recreational versus competitive sports). All youth sports were grouped together. The reviewed literature on sport type outcome differences, as well as the bioecological model's proposition that different contexts provide different learning environments (Bronfenbrenner, 1999), suggest different sports may also provide different growth experiences. To better understand the process by which sports might affect youth

development differently, it is important to know the kinds of growth experiences that different sports might provide.

Determining Growth Experiences: Interdependence

Many sport type comparison studies have alluded to a continuum of interdependence or interaction of some form that characterizes many sport types (Baker, et al., 2003; Bredemeier & Shields, 1986; Martens, et al., 2006; Rudd & Stoll, 2004; Vallerand, et al., 1997; Yoo, 2001). Social interdependence occurs when the actions of one individual within a group has implications for the next member, and ultimately the group as a whole (Johnson, 2003; Johnson & Johnson, 1998; Schultz & Schultz, 2000). The study of social interdependence began with early 20th century Gestalt psychology and has evolved to form social interdependence theory. Deutsch (1949) discussed cooperation through promotive interdependent actions, and competition through contrient interdependent actions, and thus provided the foundation for the current conceptualizations of interdependence.

Positive interdependence can be understood as a setting in which individuals' goals are compatible, and there is the perception that the achievement of one's own goals depends on teammates also achieving their goals through cooperation (Stanne, Johnson, & Johnson, 1999). Negative interdependence exists in a setting where individuals' goals conflict. Individuals believe that attaining their goals depends on the failure of others in the setting (Stanne, et al., 1999). No interdependence exists in a setting in which individuals perceive that their own achievement is unrelated to the achievement of others in the setting (Stanne, et al., 1999).

The literature on social interdependence is extensive and has largely focused on the application of social interdependence theories in education and business settings.

Interdependent settings with actions promoting positive interdependence can result in specific psychological processes including substitutability (i.e., substituting actions for another person), cathexis (i.e., psychological investment in external objects such as teammates and friends) and inducibility (i.e., open to influence; Deutsch, 1949; Johnson & Johnson, 1998; Johnson, 2003). Whether interdependence is positive or negative, the type of interdependence determines the nature of substitutability, cathexis and inducibility, as well as any other resulting actions displayed in the setting.

As described by Johnson (2003), positive interdependence tends to increase individual accountability and responsibility, promotive interaction, social skills, and reflection on group functioning. In a meta-analysis, Johnson (2003) described how more cooperative settings have been found to promote positive psychological health, cooperative interpersonal relationships and higher efforts to achieve, in comparison to more competitive or individualistic settings.

Social interdependence theory posits that the way in which people interact in a situation is determined by the way participants' goals are structured (Johnson, 2003). Furthermore, these interaction patterns determine the outcomes of the situation (Johnson, 2003). Wageman (1995) posited that interdependence develops from the processes defining performance, how goals are defined and achieved, and how performance is rewarded. Performance, goals and achievement are also central to the sport experience. As a result, social interdependence may play a role in the kinds of growth experiences available in sport. No studies have explicitly examined the relationship between interdependence and growth experiences provided by different sports from a social interdependence theory perspective.

From Growth Experiences to Outcomes: Enjoyment and Burnout

Although we can examine the growth experiences of youth in sport to better understand the process of development, this approach does not address the issue of whether there are specific outcomes associated with positive and negative growth experiences. No studies have yet examined how specific outcomes, such as enjoyment and burnout, might be related to the process of development and growth experiences in sport. Enjoyment and burnout are measurable outcomes associated with sport participation that may be influenced by growth experiences in sport.

Sport enjoyment can be understood as the positive affective response involving feelings of pleasure, liking and fun resulting from the sport experience (Scanlan, Carpenter, Lobel, et al., 1993). In a study by Brustad, Babkes, and Smith (2001), enjoyment was one of the main reasons why youth participated in sport. Indeed, studies have shown enjoyment to have a critical association with sport commitment (Scanlan, Russell, Wilson, & Scanlan, 2003; Scanlan, Carpenter, Schmidt, Simons & Keeler, 1993; Scanlan, Carpenter, Simons, Schmidt, & Keeler, 1993). Enjoyment also had a positive association with physical activity and sport participation (Garn, & Cothran, 2006; Motl, Dishman, Saunders, Dowda, Felton, & Pate, 2001; Yan, & McCullagh, 2004). Further, in a study by Sallis, Prochaska, Taylor, Hill and Geraci (1999), enjoyment explained activity levels among children between grade 4 and grade 12. Enjoyment is also an important element of motivation in sport (Simons, Dewitte, & Lens, 2003) and has been described as an important influence on initiating and maintaining sport involvement (Weiss & Ferrer-Caja, 2002). As expected, not having enough fun has been cited as a reason for stopping sport (Molinero, Salguero, Tuero, Alvarez, & Marquez, 2006). Deliberate play, designed to maximize enjoyment, was also described as an important

aspect of the Developmental Model of Sport Participation's (DMSP) sampling phase in helping to develop sport expertise and recreational participation (Côté, Baker, & Abernethy, 2007). Therefore, enjoyment in sport is an outcome that helps foster motivation and commitment and helps avoid burnout.

Burnout can be understood as a "psychological syndrome of emotional/physical exhaustion, reduced sense of accomplishment, and sport devaluation"(Raedeke & Smith, 2001, p.283). In a study by Raedeke and Smith (2001), burnout was negatively associated with social support, intrinsic motivation, commitment, and enjoyment. Furthermore, burnout was positively associated with stress, amotivation and anxiety (Raedeke & Smith, 2001). Burnout among athletes has been associated with withdrawal from sport (Hollander, et al., 1995). An athlete experiencing burnout lacks the motivation to compete or practice and likely is not enjoying the sport.

Burnout and enjoyment play an important role in promoting continued participation in sport (Brustad, Babkes, and Smith, 2001 ; Garn & Cothran, 2006; Hollander, et al., 1995; Molinero, et al., 2006; Motl, et al., 2001; Raedeke & Smith, 2001; Scanlan, Carpenter, Schmidt, et al., 1993; Scanlan, Carpenter, Simons, et al., 1993; Scanlan, et al., 2003; Weiss & Ferrer-Caja, 2002; Yan & McCullagh, 2004). The sport experience that youth find enjoyable helps to discourage burnout and fosters a commitment to sport participation. As outcomes, burnout and enjoyment are critical because of their relationship with continued participation, and in turn with the amount of time that youth may exposed to growth experiences in a sport setting. This emphasis on learning through continued participation is also stressed by Larson (2000) who describes how initiative develops as a result of prolonged engagement in activities that invoke intrinsic motivation, effort and concentration. No research has previously explored the

relationship between growth experiences and burnout and enjoyment. A sport learning environment which results in enjoyment would better promote the unique developmental benefits offered by sport. An exploration of the relationship between growth experiences in sport and enjoyment and burnout is warranted.

Summary

Youth sports have the potential to provide an incredible range of positive experiences which in turn can lead to positive developmental outcomes (Fraser-Thomas, et al., 2005; Petitpas, Cornelius, Van Raalte, & Jones, 2005). However, sports can also provide quite negative experiences for youth (Hansen, et al., 2003), which can lead to negative developmental outcomes. There are a variety of sport outcomes studies available, yet there is a lack of literature connecting children's growth experiences in sport to specific outcomes resulting from participation. As an attempt to explore this relationship between the process of development and resulting outcomes, an examination of how positive and negative growth experiences relate to enjoyment and burnout is warranted. Furthermore, consistent with Bronfenbrenner's bioecological model (1999), different sport types may also provide different learning environments for youth. This diversity highlights the need for sport type comparison studies that examine the developmental process (i.e., growth experiences). Interdependence may be an additional dimension of the sport experience that affects the growth experiences of young athletes.

Purpose of Study

This study will examine how different sports may be associated with youth sport experiences and outcomes. Specifically, the main purpose of this study is to compare the growth experiences of the individual sport of distance running and the team sport of basketball, as experienced by young male athletes. This study will also examine how

interdependence may be associated with the growth experiences of young athletes.

Finally, this study will examine how the process of development provided by growth experiences plays a role in the development of enjoyment and burnout.

Chapter 3: Methods

Participants

Participants included 248 male athletes between the ages of 14 and 17, who had an average age of 15.27 years ($SD = 1.04$). Athletes came from two sports. Basketball players ($n = 148$) had an average age of 14.95($SD = .95$) years. Distance runners ($n = 98$) had an average age of 15.77($SD = .98$) years. Basketball players and distance runners were chosen to represent a team and an individual sport.

To participate in this study, athletes participating in basketball had to be playing on a competitive club team which represented a relatively select level of play for their age group, as opposed to a school team. Basketball players had coaches who were required by a provincial governing body to possess at least a full Level 2 National Coaching Certification Program (NCCP; Coaching Association of Canada, 2006; Theory, Technical, Practical) to be allowed to coach.

To match the level of competition and quality of coaching among the basketball players, distance runners also had to be a member on a club track team. Only track club runners were chosen because they represented a relatively select level of performance for their age group. Furthermore, a runner had to be running no less a distance than 800m in their competitions to be considered a distance runner and to be included in this study. Although there were no requirements by a provincial governing body for track and field coaches, attempts were made to recruit only coaches with NCCP certification.

Covariate Variables

Age, the number of years involved in their current sport and the amount of weekly time spent in formal practice were included as covariate variables to control for additional contextual and individual characteristics that might be associated with growth

experiences, enjoyment and burnout. Age was assessed by asking athletes their date of birth. The number of years involved in their current sport was assessed by asking athletes to respond to the statement "Age at which you first started organized running", and then subtracting this age from their current age. To measure the amount of weekly time spent in formal practice, athletes were asked to circle the appropriate number of hours (i.e., 0 to 15 hours or more) in response to the question "Each week, how many hours do you spend in formal practice?"

Procedure

Participants were recruited using two methods. First, convenience sampling through word of mouth between the primary researcher, professional colleagues, and selected participants promoted participation in the study. Second, information available publicly on the Internet through the Basketball Ontario website (Basketball Ontario, 2007) and the Ontario Track and Field Association website (Ontario Track and Field Association, 2007) facilitated participant recruitment. Participants were initially contacted through coaches, either by telephone or by electronic mail. During this initial contact a letter of information was either read or sent to the coach who explained necessary information about the study. If coaches were interested in having their athletes participate, a letter of information for parents, a letter of information for athletes and a consent form were sent to all prospective participants. Because participants were under the age of 18, consent forms were signed by participants' parents. A time was arranged with coaches to meet with the primary researcher, have the participants return the signed parental consent forms, and complete the pen-and-paper style questionnaire. This meeting usually took place before a practice, in a quiet area, either in a gym or other available room. Participants completed the questionnaires in approximately 25 minutes.

Instruments and Scoring

Growth Experiences

Adolescents were asked to complete the YES 2.0 (Hansen & Larson, 2005). As previously outlined in the literature review, the YES 2.0 is a 70 item self-report survey, that explores youth's personal, interpersonal and negative experiences in specific activities. Respondents were asked to base their responses specifically on their involvement in the sport in which they were currently involved. Scale items describe growth experiences in the areas of 1) identity work, 2) initiative, 3) emotional regulation (basic skills), 4) positive relationships, 5) teamwork and social skills, 6) adult networks and social capital, 7) negative experiences. For the same reason that the authors have done in the past (Hansen & Larson, 2005), only the emotional regulation section of the basic skills subscale will be reported. Respondents rated each item on a 4-point Likert scale, ranging from 1 (yes, definitely) to 4 (not at all). Items were reverse coded. A high score indicated more growth experiences. Items for scales are available in Appendix C.

Reliability and validity. The YES 2.0 has been tested psychometrically using data collected from 1822 11th grade students (Hansen & Larson, 2005). Confirmatory factor analysis has provided support for the factor structure of the instrument (Hansen & Larson, 2005) six positive scales as well as the five negative subscales, now combined to form the negative experiences subscale. The YES 2.0 has also demonstrated good internal reliability with Cronbach alpha values ranging from 0.84 to 0.94 for the subscales (Hansen & Larson, 2005).

For the present study, all YES 2.0 subscales demonstrated acceptable internal consistency. Cronbach alpha values ranged from .707 (identity work) to .861 (teamwork and social skills) for the six positive scales. Most athletes reported a low level of negative

experiences ($M=1.46$, $SD = .44$), and as a result, this variable was skewed to the right. For this reason, the natural logarithm of the negative experiences data was used which provided a more normal distribution. The negative experiences subscale also demonstrated acceptable internal consistency with a Cronbach alpha value of .871.

Zero-order, Pearson product moment correlations showed all positive growth experience subscales to be significantly and positively correlated with enjoyment. The range of correlations with enjoyment included the emotional regulation domain with the lowest moderate correlation, $r(210) = .396$, $p = .000$. The highest correlation with enjoyment was with the initiative experiences domain, $r(210) = .456$, $p = .000$. The positive scales were also significantly and negatively correlated with burnout. Positive relationships, $r(210) = -.158$, $p = .000$ had the lowest correlation with burnout while initiative, $r(210) = -.398$, $p = .000$, had the highest correlation with burnout. The negative experiences scale had no significant correlation with enjoyment and had a significant, positive correlation with burnout, $r = .478$, $p = .000$. All correlations were significant at a significance level of .05.

Sport Type

It was conceptually important to select sport types that represented potentially varying levels of interdependence and that also represented distinct settings as understood with Bronfenbrenner's bioecological model. Therefore, consistent with much of the reviewed literature, athletes participating in basketball were chosen to represent a team sport and distance runners were selected to represent an individual sport. Basketball has been categorized in this manner in previous studies (Baker, et al., 2003; Bredemeier & Shields, 1986). Running has previously been included in the category of athletics or track

and field (Martens, et al., 2006) and treated as an individual sport (Baker, et al., 2003, Martens, et al., 2006; Yoo, 2001;).

Interdependence

Interdependence was assessed using the mean item score derived from 10 final items assessing interdependence. This scale was composed of five items from an existing organizational psychology task interdependence scale (Vegt, Emans, & Vliert, 2000; Vegt, Emans, & Vliert, 2001) and six items from an existing outcome interdependence subscale (Vegt, Emans & Vliert, 1998), modified to reflect athletes' experiences in sport. The wording of items was changed. Participants responded on a 5-point scale, anchored by 1 (completely hinder) and 5 (completely benefit) for outcome interdependence items and a 5-point scale with anchors from 1 (strong agree) to 5 (strongly disagree) for task interdependence items. Examples of items are found in Table 1 (Appendix E).

Reliability and validity. The items for both the task interdependence subscale and the outcome interdependence subscale were modified to form a new sport-specific interdependence measure. An exploratory factor analysis was completed on the 11 items designed to measure both task interdependence and outcome interdependence ($N = 248$). An oblique promax rotation was chosen to allow factors to be correlated given the exploratory nature of this analysis. Item 3 was dropped due to a lack of simple structure with the factor loading and a spurious solution as dictated by a high communality estimate exceeding 1.0. Upon further review, this item also appeared to lack the conceptual clarity of the remaining items. The analysis was completed once more and yielded a two factor solution which included 10 of the original 11 items. Judging from the eigenvalues and the screeplot, two factors appeared to represent the best structure. Factor loadings are found in Table 2 (Appendix E).

The outcome interdependence factor (factor 1) reflects the extent to which "people believe that their personal benefits and costs depend on successful goal attainment by other team members" (Vegt, et al., 1998, p. 130). This factor had a Cronbach alpha value of 0.69 and accounted for 20.2% of the variance. The second factor was labeled the task interdependence factor is composed of five items. Items in this factor reflect task interdependence, or the connections between tasks that must exist when the completion of one task depends on the completion of another task (Vegt, et al., 1998). The task interdependence factor had a Cronbach alpha value of 0.632, and accounted for 9.674% of the variance.

Both of these factors were combined and a mean item score was used to measure overall social interdependence ($M = 3.704$, $SD = .523$). Following reverse coding, a high average score on the general scale reflected a high degree of interdependence. This modified interdependence scale demonstrated acceptable internal consistency, with a Cronbach alpha value of .678. In terms of construct validity, interdependence had significant, small, positive correlations with all positive growth experiences. Emotional regulation had the lowest, positive, significant correlation with interdependence, $r(208) = .204$, $p = .003$, while initiative experiences had the highest, positive significant correlation with interdependence, $r(208) = .391$, $p = .000$. Perhaps most importantly, interdependence had a significant positive correlation with teamwork, $r(208) = .295$, $p = .000$.

Enjoyment

Enjoyment was measured using the Sources of Enjoyment in Youth Sport Questionnaire (SEYSQ), which has 28 items, composing six subscales in the areas of self-referenced-competency, competitive excitement, affiliation with peers, effort

expenditure, positive parental involvement, and other-referenced competency and recognition (Wiersma, 2001). For the present analysis, a mean item score using all 28 items was used as a measure of overall enjoyment. The SEYSQ acts as a measure of how enjoyable the sport experience might be for an athlete. A high score indicated greater enjoyment. It is rated using a 5-point, Likert-type scale anchored by 1(not at all) to 5 (very much). Items for this scale are displayed in Appendix C.

Reliability and validity. Questionnaire items were originally developed by the researchers and then subjected to review by a panel of 40 experts in relevant fields of work (Wiersma, 2001). Experts' reviews were assessed with a content validity coefficient, which measured the degree of agreement among judges on an item. A total of 31 items were included in the original list before being reduced to the current total of 28 items using exploratory and confirmatory factor analysis. Using data collected from approximately 1200 youth (Wiersma, 2001), confirmatory factor analysis indicated that a six factor structure was best (comparative fit index = 0.97; Akaike information criteria = 1333.59). In addition, subscales demonstrated acceptable internal reliability with Cronbach alpha values ranging from 0.65 to 0.85.

Most athletes reported a relatively high level of enjoyment ($M = 4.13$, $SD = .58$), and consequently this variable was skewed to the left. Scale values were reversed coded, and then the natural logarithm of the enjoyment variable data was performed. This transformation yielded a more normal distribution.

Using all items, this scale demonstrated acceptable internal consistency with a Cronbach alpha value .92. After correcting for reverse coding, enjoyment had significant positive correlations with all of the positive growth experiences with the emotional regulation domain having the lowest significant positive correlation, $r(208) = .325$, $p =$

.000, and initiative experiences having the highest significant, positive correlation, $r(208) = .456, p = .000$. Negative experiences was not significantly correlated with enjoyment, $r(208) = .039, p = .572$.

Burnout

Burnout was assessed using the Athlete Burnout Scale (ABS; Appendix C; Raedeke & Smith, 2001), which defines burnout as a syndrome and consists of three subscales examining emotional/physical exhaustion, reduced sense of accomplishment, and sport devaluation, respectively. A mean item score using all items was calculated and used as an overall measure of burnout. All scales are rated using a 5-point Likert-type scale anchored by 1 (almost never) to 5 (almost always). A high score indicated higher burnout.

Reliability and validity. The three factor solution for the ABS has demonstrated acceptable fit (goodness of fit = 0.91) and internal reliability with Cronbach alphas values of 0.91, 0.85 and 0.90 for the emotional/physical exhaustion, reduced sense of accomplishment and devaluation subscales respectively (Raedeke & Smith, 2001). The burnout subscales have demonstrated a positive relationship with amotivation, little to no relationship with extrinsic motivation, and a negative relationship with intrinsic motivation, enjoyment and commitment (Raedeke & Smith, 2001).

Most athletes reported a lower level of burnout ($M = 1.95, SD = .71$), and consequently this variable was skewed to the right. The natural logarithm of the burnout variable data was used which provided a more normal distribution following the transformation. For the present study, this scale had a Cronbach alpha value of .893 when using all items for the overall scale. Burnout was significantly and negatively correlated with positive growth experiences with positive relationships having the lowest, negative,

significant correlation, $r(208) = -.163, p = .018$, and initiative experiences having the highest, negative, significant correlation, $r(208) = -.396, p = .000$. Burnout was significantly positively correlated with negative experiences, $r(208) = .474, p = .000$.

Data Analysis

To address the first two purposes of this study seven different hierarchical multiple regression models corresponding to the seven domains of the YES 2.0 as dependent variables, were conducted. Age, the number of years the athletes had been involved in the current sport and the number of hours the athletes spent in formal practice each week were entered as covariate variables in the first step of a three step model. Second, sport type was entered in to the model. Third, interdependence was entered in to the model. This procedure helped to determine the independent relationships of sport type and interdependence with the growth experiences of young athletes by examining the standardized beta coefficients and variances accounted for by each predictor variable. Because of the manner in which the sport type literature often attributes sport type differences to interdependence (Baker, et al., 2003; Bredemeier & Shields, 1986; Martens, et al., 2006; Rudd & Stoll, 2004; Vallerand, et al., 1997; Yoo, 2001) sport type was entered first in to the regression model, before interdependence to determine whether interdependence captured any significant amount of variance in the growth experience domains, over and above sport type. Regression model F -tests were conducted using a Bonferroni adjusted nominal alpha value of .0023 per test, based on an actual alpha value of .05 divided by 21 F -tests from all 3 model steps. Furthermore, as recommended by Mundfrom, Perrett, Schaffer, Piccone, and Roozeboom (2006), regression coefficient tests were conducted using a Bonferroni adjusted nominal alpha value of .0042 per test,

based on an actual alpha value of .05 divided by 12 regression coefficient tests per outcome variable.

For the third purpose of this study, hierarchical multiple regression procedures were employed to determine how growth experiences might independently predict the outcomes of enjoyment and burnout. Both outcomes were separately regressed on the covariate variables of age, weekly time in formal practice, and the number of years involved in current sport in the first step of each outcome regression model. For the second step, all growth experience domains were included in each regression model. Growth experiences were not individually added step by step so that the R^2 change statistic could be examined for each domain because the factor structure of the YES 2.0 questionnaire has already been established (Hansen & Larson, 2005) and there was no literature that might provide a rationale for a possible order for adding the different growth experiences in this case. Therefore, the R^2 change statistic became less relevant for the individual growth experience domains. Consequently, semi-partial R^2 values were examined, in addition to standardized beta coefficient significance levels. With no rationale for order, the hierarchical multiple regression procedure in this case helped to control for the covariate variables only. Bonferroni corrections were made when required to maintain a significance level of .05. Specifically, regression model F -tests were conducted using a Bonferroni adjusted alpha value of .025 per test based on an actual alpha value of .05 divided by 2 tests. Furthermore, as recommended by Mundfrom, Perrett, Schaffer, Piccone, & Roozeboom (2006), regression coefficient tests were conducted using a Bonferroni adjusted alpha value of .0038 per test based on an actual alpha value of .05 divided by 13 tests per outcome variable.

Chapter 4: Results

All statistical tests were conducted using the SPSS version 14. An actual alpha value of .05 was used for all statistical tests. The relationship between sport type and growth experiences was examined first using hierarchical multiple regression models that also included interdependence in the regression model. These hierarchical regression models also allowed for an examination of the relationship between interdependence and growth experiences, consistent with the second objective of this study. The relationship between growth experiences and enjoyment and burnout was examined as part of the third purpose of this study. The output tables for all statistical tests are available in Appendix D. The means and standard deviations for growth experiences, interdependence, burnout and enjoyment variables according to sport type are presented in Table 3 (Appendix E).

Covariate Variables

Age, the number of years involved in their current sport and the amount of weekly time spent in formal practice were included as covariates. Mean and standard deviation for covariates are listed in Table 4.

Age. Basketball players were significantly younger than distance runners, $t(246) = -6.490, p = .000$. The age of players was significantly correlated with the numbers of years an athlete had been involved in their current sport, although this correlation was small, $r(210) = .168, p = .014$.

Weekly hours in formal practice. There was no significant difference between the sports in the amount of formal practice each week, $t(239) = .085, p = .993$.

Number of years involved in current sport. Basketball players and distance runners did not differ in the number of years they had been involved in their current sport, $t(220) = .522, p = .622$.

Table 4

Covariate Variable Means and Standard Deviations

Variable	Basketball	Distance Running
	M (SD)	M (SD)
Age (Years)**	14.95 (.95)	15.77 (.98)
Weekly Hours in Formal Practice	6.75 (3.30)	6.72 (3.48)
Number of Years Involved in Current Sport	5.20 (2.73)	5.00 (2.87)

*significant difference at $p < .05$, **significant difference at $p < .001$

Determining Growth Experiences: Sport Type and Interdependence

First, it was determined whether basketball players reported a different level of interdependence compared to distance runners. Basketball players ($M = 3.75, SD = .54$) reported experiencing slightly more interdependence than distance runners ($M = 3.63, SD = .49$). However, this difference was not significant, $t(244) = 1.812, p = .071$.

The correlation between interdependence and sport type was then examined, controlling for the covariate variables of age, weekly time in formal practice and the number of years involved in current sport. Sport type was not significantly correlated with interdependence, $r(205) = .124, p = .075$, which suggested the independent variables

were independent of each other. Correlations between all regression variables, controlling for covariate variables, are presented in Table 5 (Appendix E).

For each growth experience domain's hierarchical regressions, the final model (3rd step) including covariates, sport type and interdependence as predictor variables, significantly predicted identity work, $F(5, 210) = 9.803, p < .05$, initiative experiences, $F(5, 210) = 11.155, p < .05$, positive relationships, $F(5, 210) = 5.257, p < .05$, teamwork and social skills, $F(5, 210) = 9.222, p < .05$, adult networks and social capital, $F(5, 210) = 7.696, p < .05$. The final model for the emotional regulation domain, $F(5, 210) = 2.874, p < .05$, and the negative experiences domain $F(5, 210) = 3.066, p < .05$, were not significant. Table 6 presents the full hierarchical multiple regression statistics for the three step regression models performed for each growth experience domain. Sport type was coded so that basketball had a value of 1 and distance running had a value of 2.

Sport Type

When sport type was added to each growth experience domain's hierarchical regression model in the second step, sport type accounted for a significant additional 6.3% of the variance in teamwork and social skills, $F_{change}(1, 211) = 14.940, p < .001$, and a significant, additional 4.6% of the variance in adult networks and social capital, $F_{change}(1, 211) = 10.713, p < .05$. Based on significant standardized beta coefficients, sport type was an independent predictor of teamwork and social skills, $\beta = -.239, p < .05$, and adult networks and social capital, $\beta = -.201, p < .05$.

Indeed, basketball players ($M = 3.27, SD = .53$) reported a significantly greater rate of growth experiences promoting teamwork and social skills, compared to distance runners ($M = 2.94, SD = .65$). Furthermore, basketball players ($M = 2.83, SD = .69$)

experienced significantly more growth experiences promoting adult networks and social capital, compared to distance runners ($M=2.46, SD=.71$).

As described in Table 6, sport type was not an independent predictor of identity work, initiative experiences, positive relationships, emotional regulation, or negative experiences, $p < .05$. However, in the case of negative experiences, sport type accounted for a significant additional 4.1% of the variance, $F_{change}(1, 211) = 9.376, p < .05$. Sport type also had a significant beta coefficient in the third step, $\beta = -.228, p < .05$. Basketball players ($M = .40, SD = .30$) reported significantly higher natural logarithm scores for negative experiences, in comparison to distance runners ($M = .28, SD = .21$). The data for this variable before transformation showed that basketball players ($M=1.53, SD=.49$) reported more negative experiences, compared to distance runners ($M = 1.35, SD = .29$). However, because the overall regression model predicting negative experiences was not significant, sport type did not independently predict negative experiences.

Interdependence

When interdependence was added in the third step for each growth experience domain's hierarchical regression model, interdependence accounted for a significant additional 13.4% of the variance in identity work $F_{change}(1, 210) = 34.682, p < .001$, 12.6% of the variance in initiative experiences, $F_{change}(1, 210) = 33.487, p < .001$, 4.7% of the variance in positive relationships, $F_{change}(1, 210) = 11.079, p < .05$, 6.8% of the variance in teamwork and social skills $F_{change}(1, 210) = 17.398, p < .001$, and 6.0% of the variance in adult networks and social capital, $F_{change}(1, 210) = 14.973, p < .001$. An

Table 6
Summary of Hierarchical Multiple Regression Statistics for Sport Type and Interdependence Predicting Growth Experiences

Dependent Variable	Variables Entered	Model <i>F</i>	<i>Adjusted R</i> ²	<i>R</i> ² Δ	Standardized β (3rd step)
Identity Work					
	1.Covariates ^a	3.301	.031	.045	
	2.Sport Type	1.189	.037	.011	-.064
	3:Interdependence	9.803**	.170	.134**	.371**
Initiative Experiences					
	1.Covariates ^a	6.086*	.066	.079*	
	2.Sport Type	4.828**	.066	.005	-.026
	3.Interdependence	11.155**	.191	.126**	.360**
Emotional Regulation					
	1.Covariates ^a	.945	.000	.013	
	2.Sport Type	2.051	.019	.024	-.148
	3.Interdependence	2.874	.042	.027	.165
Positive Relationships					
	1.Covariates ^a	3.406	.032	.046	
	2.Sport Type	3.628	.047	.018	-.119
	3.Interdependence	5.257**	.090	.047*	.219*
Teamwork and Social Skills					
	1.Covariates ^a	3.661	.036	.049	
	2.Sport Type	6.661**	.095	.063**	-.239*
	3.Interdependence	9.222**	.161	.068**	.264**
Adult Networks and Social Capital					
	1.Covariates ^a	3.613	.035	.049	
	2.Sport Type	5.512**	.077	.046*	-.201*
	3.Interdependence	7.696**	.135	.060**	.249**
Negative Experiences					
	1.Covariates ^a	1.794	.011	.025	
	2.Sport Type	3.743	.049	.041*	-.228*
	3.Interdependence	3.066	.046	.002	-.043

Note: Sport Type coded as: Basketball = 1, Distance Running = 2.

^aPredictors: Age, Weekly Hours in Formal Practice, Years Involved in Current Sport

* $p < .05$, ** $p < .001$

examination of the standardized beta coefficients, revealed interdependence to be an independent predictor of identity work, $\beta = .371, p < .001$, initiative experiences, $\beta = .360, p < .001$, positive relationships, $\beta = .219, p < .05$, teamwork and social skills, $\beta = .262, p < .001$, and adult networks and social capital $\beta = .249, p < .001$.

Determining Outcomes: Growth Experiences

As previously demonstrated in Table 5 (Appendix E), correlations between the growth experience domains were significant, $p < .05$. Because these domains were subscales measuring related constructs, this finding was expected. However, none of these variables were highly correlated.

Using the burnout variable data before transformation, youth in basketball ($M = 1.87, SD = .70$) reported lower absolute levels of burnout than youth in distance running ($M = 2.06, SD = .72$). Using the transformed variable, this difference was significant $t(236) = -2.261, p = .025$, with basketball players ($M = .57, SD = .34$) having the lower mean score compared to distance runners ($M = .67, SD = .33$).

There was no significant difference between sports in enjoyment, $t(243) = -.774, p = .440$ with basketball players ($M = .57, SD = .31$) reporting approximately the same enjoyment score as distance runners ($M = .60, SD = .28$). The variable before transformation also showed basketball players ($M = 4.15, SD = .60$) reported approximately the same level of enjoyment as distance runners ($M = 4.11, SD = .54$).

For each growth experience domain's hierarchical regression models, the final model (2nd step) including covariates and growth experiences, significantly predicted burnout, $F(10, 201) = 13.413, p < .001$, and enjoyment, $F(10, 206) = 9.519, p < .001$. Table 7 presents the hierarchical multiple regression statistics for each outcome.

Table 7

Summary of Hierarchical Multiple Regression Statistics for Growth Experiences Predicting Outcomes

Dependent Variable	Variables Entered	Model <i>F</i>	Adjusted <i>R</i> ²	<i>R</i> ² Δ	Standardized β (3rd step)	<i>R</i> ² (semi-part)
Burnout						
	Step 1: Covariates	1.374	.005	.019		
	Step 2: Growth Experiences	13.413**	.370	.381**		
	Identity Work				-.110	.01
	Initiative Experiences				-.191	.02
	Emotional Regulation				-.067	.00
	Positive Relationships				.026	.00
	Teamwork and Social Skills				-.111	.01
	Adult Networks and Social Capital				-.018	.00
	Negative Experiences				.490**	.21
Enjoyment						
	Step 1: Covariates	3.233*	.030	.044*		
	Step 2: Growth Experiences	9.519**	.283	.273**		
	Identity Work				-.089	.004
	Initiative Experiences				-.169	.013
	Emotional Regulation				.078	.003
	Positive Relationships				-.165	.014
	Teamwork and Social Skills				-.170	.013
	Adult Networks and Social Capital				-.139	.008
	Negative Experiences				.045	.002

Note: Sport Type coded as: Basketball = 1, Distance Running = 2.

^aPredictors: Age, Weekly Hours in Formal Practice, Years Involved in Current Sport

* $p < .05$, ** $p < .001$

Growth Experiences

When growth experiences were added in the second step of each outcome's regression model, growth experiences accounted for a significant additional 38.1% of the variance in burnout $F_{change}(7, 201) = 18.231, p < .001$, and 27.3% of the variance in enjoyment, $F_{change}(7, 206) = 11.725, p < .001$. With respect to standardized beta coefficients, none of the growth experience domains significantly predicted enjoyment, $p < .05$. Only negative experiences significantly predicted burnout, $\beta = .490, p < .001$.

Chapter 5: Discussion

The first purpose of this study was to examine how the growth experiences of young athletes were associated with sport type. The second purpose of this study was to explore how the growth experiences of young athletes were related to interdependence. It should be noted that the intention was not to predict what specific growth experiences are more likely to occur in basketball or distance running. Using sport type and the degree of interdependence as independent variables, seven domains of growth experiences were examined based on surveys of young male athletes in basketball or distance running. The third purpose of this study was to examine the relationships between growth experiences and the outcomes of enjoyment and burnout.

Sport type independently predicted adult networks and social capital, and teamwork and social skills. Indeed, compared to distance runners, basketball players reported greater rates of growth experiences that promoted adult networks and social capital, and teamwork and social skills. That differences were found between the team sport (i.e., basketball) and the individual sport (distance running) is consistent with previous research comparing team and individual sports that have also found important differences on a variety of outcome measures (Baker, et al., Côté, 2003; Bredemeier & Shields, 1986; Martens, et al., 2006; Rudd & Stoll, 2004; Vallerand, et al., 1997; Yoo, 2001).

Sport has been cited as a context which can facilitate development of social capital (Seippel, 2006), and teamwork and social skills (Mahoney, Cairns, & Farmer, 2003; Patrick, Ryan, Alfeld-Liro, Fredericks, Hruda, & Eccles, 1999). However, much of this literature does not distinguish between sport types. Therefore, the finding that different sport types report different rates of growth experiences promoting adult

networks and social capital and teamwork and social skills is unique. Consistent with Bronfenbrenner's bioecological model, the finding highlights the importance of treating each sport as a distinct learning environment providing different kinds of growth experiences.

Although highly speculative, one possible reason for the sport type differences found in this study may be that regional communities perceive the achievements of individual basketball players in the context of their team and their community because of a perceived sense of shared responsibility among basketball players for team success in the sport. In contrast, although distance runners may be members of a track team representing regional communities, competition and training is often more individually focused. The achievements of individual runners may not be interpreted in a community context but be perceived as representing the talent of the individual runner because of the perceived independent responsibility for success in winning a race. This difference in community perspective may influence the frequency of interaction and the kinds of relationships that parents and other community members have with athletes, leading to significant differences in social settings for the sport of basketball and distance running.

With respect to interdependence and the second purpose of this study, no difference was found between the team sport basketball players and the individual sport distance runners. This finding is significant because it contradicts the position that team sports and individual sports necessarily represent different levels of interdependence and highlights the value of considering how people interact both across and within sport types. Furthermore, while controlling for sport type, interdependence was associated with 5 growth experience domains: (a) identity work, (b) initiative, (c) positive relationships, (d) teamwork and social skills, and (e) adult networks and social capital. For these

growth experience domains, a higher level of interdependence was associated with a higher rate of each growth experience. Overall, interdependence appeared to have a greater relationship with the kinds of growth experiences in the sport setting than did sport type. Interdependence independently predicted both of the growth experiences predicted by sport type (i.e., adult networks and social capital, and teamwork and social skills) in addition to independently predicting three other growth experience domains (i.e., identity work, positive relationships and, initiative).

Previous studies have shown how sport, as a general category of youth activities, may influence identity development (Nasco & Webb, 2006), initiative (Larson, 2000), relationships (Dworkin, et al., 2003; Hansen & Larson, 2002; Hansen, et al., 2003; Larson, 2000; Larson, et al., 2006), social capital (Seippel, 2006) and teamwork and social skills (Patrick, et al., 1999; Mahoney, et al., 2003). However, no research has examined how interdependence might promote the specific growth experiences examined in this study.

These findings are consistent with the literature on interdependence. Social interdependence is reflected in the actions of one individual within the group that will have implications for the next member and ultimately the group as a whole (Johnson & Johnson, 1998; Schultz & Schultz, 2000,). Social interdependence theory posits that the way in which people interact in a situation is determined by the way participants' goals are structured (Johnson, 2003). Furthermore, these interaction patterns determine the outcomes of the situation (Johnson, 2003). As previously described, more cooperative settings promote positive psychological health, positive interpersonal relationships, and a higher effort to achieve compared to more individualistic, competitive settings (Johnson, 2003; Johnson & Johnson, 1998; Stanne, et al., 1999).

A successful athlete in a highly interdependent setting must successfully navigate the structure of tasks in the sport setting while in relationship with other teammates and competitors. Therefore, highly interdependent settings would facilitate teamwork and social skills by forcing the athlete to consider tasks, teammates and coaches. How successful an athlete may be at navigating the tasks of the setting in relationship with other teammates, competitors, coaches and parents might in turn influence whether an athlete has more positive or negative relationships with other teammates, coaches and parents. He might be well respected for his abilities and have greater opportunities to develop positive relationships with others through increased social interactions. Furthermore, increased interdependence might also push the athlete to think about who he is as an individual by highlighting the individual's responsibilities and influences within a larger system (Bronfenbrenner, 1999). This type of setting would also have implications for initiative (Larson, 2000). The successful athlete in an interdependent setting would be required to engage with the tasks at hand to help facilitate the goals of others because of the reciprocal relationship of success in the interdependent setting.

As a third purpose, the present study aimed to explore how the experiences occurring within a setting might lead to specific outcomes. As a group, growth experiences did predict both enjoyment and burnout. However, none of the growth experience domains were related to the outcome of enjoyment. Furthermore, only negative experiences were related to burnout. Distance runners reported greater rates of burnout than basketball players.

Although burnout is generally recognized as a potential problem for all athletes at all levels of sport (Weinberg & Gould, 2003) some concern about an elevated risk for burnout has been expressed for youth participating in endurance running events such as

marathons, half-marathons and triathlons, as well as athletes in individual sports (Brenner & Council on Sports Medicine and Fitness, 2007; Coakley, 1992; Gustafsson, Kenta, Hassmen, & Lundqvist, 2007). However, there is a lack of empirical studies on this relationship. The literature on burnout also describes how stress, interpersonal difficulties with coaches, parents and other athletes, and overly high or low demands for competition (Coakley, 1992; Cresswell, & Eklund, 2007; Gustafsson, et al., 2007; Rotella, Hanson, & Coop, 1991) can lead to burnout.

One reason for there being little relationship between specific growth experiences and the outcomes measured in this study may be that growth experiences that benefit a child involve both positive and negative affective experiences. For example, although scoring the winning goal may be enjoyable as a competitive achievement, learning about one's identity may occur over a period of years and include both enjoyable (i.e., tried doing new things you liked) and unpleasant experiences (i.e., tried doing new things you didn't like) promoting identity exploration. A study by Dworkin and Larson (2006) demonstrated that in some cases, negative experiences, although often causing negative emotions, lead to beneficial coping methods and personal learning among high school aged youth. Therefore, the content of growth experiences is not necessarily related to the affective responses that might occur from growth experiences. This affective ambiguity might be one reason why no growth experiences were related to enjoyment and why no other positive growth experiences were inversely related to burnout. Therefore, to better assess how developmental outcomes might be influenced by growth experiences occurring during development, future studies might benefit from choosing outcomes that more directly relate to the content of the learning that might occur in growth experience domains under study. For example, studies measuring growth experiences promoting

identity work in different sports, might also examine a relationship to self-concept or self-esteem.

Determining Growth Experiences: Sport Type versus Interdependence

Bronfenbrenner's bioecological model (1999) emphasizes context and the manner in which different settings can provide different learning environments. This is facilitated by the range of proximal processes associated with the different contexts of different sports. The present study supported this position. Distance runners were exposed to a different learning environment compared to basketball players. From a bioecological perspective, the interactions between the people, objects and symbols in the basketball environment must have differed from those in the distance running environment, resulting in two different learning environments providing different growth experiences. In other words, the presence of teammates, coordination of team effort and goals, and team interaction with a coach, referees and parents among basketball players might have differed from the sport of distance running where some of these elements might not be present. Furthermore, relationships with higher levels of context, such as family and community support, may have contributed to differences between sports. These differences may provide opportunities in one sport that are not present in another sport and may contribute to different learning environments resulting in different kinds of growth experiences.

Sport type did predict significant differences in the growth experiences of basketball players and distance runners. However, interdependence appeared to have a greater relationship than sport type with the athletes' growth experiences. Although distance running and basketball would appear to provide different levels of interdependence as an individual sport and a team sport, the present study found no

differences in interdependence levels between basketball players and distance runners. This finding was interesting because it contradicted the position that a team sport and an individual sport necessarily represent different levels of interdependence. From an athlete's perspective, sport type might include more than simply the athlete's time on the court or the race track. For example, coaches may ask basketball players to train on their own, in a weight room with a teammate, or at the track to improve their speed. Similarly, distance runners might also participate in weight training with a partner, or participate in other forms of cross training, all within the context of distance running. From an athlete's perspective, experiences in one type of sport, such as a team sport, may include a variety of sport experiences with varying levels of interdependence. However, all of these experiences are interpreted within the context of their primary sport, such as basketball, resulting in a team sport and an individual sport reporting similar levels of interdependence. Even though the researcher may ask about an athlete's experiences in one sport, the athlete may include a variety of different physical activities beyond the court or race track, that are critical to their overall primary sport experience. This finding highlights a potential disconnect between sport type and interdependence and suggest greater detail is required to understand different sport settings than the general categorization of sport type.

Team sports versus individual sports comparison studies often attribute significant findings to different kinds and degrees of interdependence or modes of interaction provided by the sport types (Baker, et al., 2003; Bredemeier & Shields, 1986; Martens, et al., 2006; Rudd & Stoll, 2004; Vallerand, et al., 1997; Yoo, 2001). However, many of these studies do not explicitly measure interdependence in a way that goes beyond the more superficial sport type comparison. Studies that neglect to consider the nature of

tasks and how people interact with these tasks in the setting will miss a critical dimension of the sport experience. In addition, explanations about sport type differences attributed to interdependence without accurately measuring interdependence may be misleading and cause researchers to neglect other explanations for sport type differences that may not be so readily apparent.

The greater association of interdependence with growth experiences suggests that the theory of social interdependence could help explain differences in athlete's experiences. The theory of social interdependence stresses the influence of social interaction in a setting in addition to emphasizing the inter-related influences of other individuals, tasks, and social spheres (e.g., family, school; Johnson, 2003). Different settings with varying levels of interdependence will provide different experiences for those individuals involved (Johnson, 2003). Comparisons between sport types (i.e., team sport versus individual sport) fail to measure the true nature of interdependence that may be found in different sport settings and even with the same sport. For example, basketball players at an elite level of competition with highly qualified coaches may engage with the tasks and goals of the sport very differently from players at a recreational level with volunteer coaches. Therefore, based on the findings of the present study, this variation in interdependence may lead to different learning environments within a sport type that differ more than the learning environments of different sports at similar levels of competition and instruction. Although specific tasks are critical to our understanding of interdependence, it is also important to consider how individuals socialize and interact with the tasks of the sport in relationship with each other.

The items employed for the interdependence scale measured the degree to which athletes' experiences were dependent on the nature of tasks and how people interacted

with these tasks. Furthermore, the items reflected the ability of the sport setting to be structured by how people interacted with these tasks, independent of sport type. As social interdependence theory posits, the way goals are structured and the manner in which individuals interact determine the outcomes of a situation (Johnson, 2003). The wordings of items used to measure interdependence are found in Table 1 (Appendix E). Indeed, how an athlete might respond to the items used to measure interdependence in this study has the potential to be shaped by the manner in which coaches, parents, and other athletes interact with the goals and tasks of the sport setting. For example, coaches for both team and individual sports can act as a facilitator of the sport experience by creatively reinforcing specific goals, expectations, and behaviours for tasks in the sport setting. Further, coaches can offer timely encouragement, and can critique and question athletes with the goal of facilitating specific growth experiences that are creatively designed around the tasks of a particular sport to foster a particular type of learning environment.

Coaches may define team goals and the manner in which the team will achieve these goals so as to promote individual success as dependent on the success of others. In basketball, a coach may instruct a highly talented individual player to perform certain skills, strategies and tasks, but within a larger team system. The coach may emphasize that the team performs better when the athlete embraces the coach's perspective because it gives everyone involved a better chance at making it to the championship game, which would ultimately improve the player's chance at being recruited by a university. A track coach might demonstrate to a distance runner that his own success may be dependent on the success of other athletes because he may learn from their strategies, techniques and training ethic. Although the nature of tasks is a central idea to interdependence, coaches

may have the potential to shape what athletes believe tasks mean for the team and the individual athlete, and how the athletes and coaches interact with sport tasks.

Therefore, the response to an interdependence item such as "In order to perform well, I have to work closely with my teammates or other athletes I practice with" (See Table 1 in Appendix E), depends just as much on the people involved in the setting as it does on the nature of tasks specific to a sport type. Indeed, coaches and parents play a critical role in the lives of young athletes and have the potential to positively or negatively affect their experiences in sport (Baker, et al., 2003; Côté, 1999; Fraser-Thomas, et al., 2005). In other words, the coaches, parents and other athletes in the sport setting might have more to do with the growth experiences of young athletes from different sports than the type of sport. Coaches and parents that structure the setting so as to promote interdependence are likely to provide richer learning environments with more growth experiences.

Baker and colleagues (2003) concluded that team sport athletes might prefer coaches with greater control over the strategy and tasks of the sport environment. The authors found that such coaching behaviours as negative personal rapport, mental preparation, goal setting, competition strategies, personal rapport, and technical skills were all moderated by sport type. Therefore, when the present study suggests that coaches can act as facilitators of the learning environment, there may be some limits to how much variation is possible within a sport type. Clearly, sport type remains a meaningful comparison but the findings of the present study demonstrate how interdependence can act as a more detailed dimension of the sport experience.

Learning Environments and the Developmental Model of Sport Participation

This study's results suggest different sport types provide different learning

environments through different growth experiences. In addition, sport settings with higher levels of interdependence also appear to provide richer learning environments with more growth experiences. Sampling (Côté, 1999; Côté, et al., 2003; Côté & Hay, 2002; Fraser-Thomas, et al.) can provide an opportunity for youth to be exposed to different learning environments provided by different sport types and settings with varying levels of interdependence. Consistent with this perspective are those studies that have cited the potential for youth activities to act as a context full of developmental experiences fostering positive youth development (Eccles & Barber, 1999; Eley & Kirk, 2002; Larson, 2000; Smoll, Smith, Barnett, & Everett, 1993). Often, sport may be treated as a general category of youth activities, but the present study's findings illustrate the diversity within the general categorization and demonstrate the potential for different sport settings to provide very different learning environments for youth.

Chapter 6: Conclusion

The present study first examined how sport type related to the growth experiences of young athletes from basketball and distance running. Second, the relationship between interdependence and growth experiences was examined. Third, this study examined how the process of development provided by growth experiences was related to the development of enjoyment and burnout as outcomes. The YES 2.0, SEYSQ, ABQ and interdependence scale developed specifically for this study were used to survey male athletes, aged 14 to 17, about their experiences in either basketball or distance running. The findings suggest that interdependence better explains the range of growth experiences reported by athletes, in comparison to sport type. The relationship between growth experiences and enjoyment and burnout was less clear.

Sport type appeared to play a critical role in the provision of growth experiences promoting adult networks and social capital, and teamwork and social skills. Sport type independently predicted growth experiences promoting adult networks and social capital, and teamwork and social skills with basketball, as a team sport, reporting the highest rate in each domain. These findings are consistent with previous research that has also found sport type differences between team and individual sports (Baker, et al., 2003; Bredemeier & Shields, 1986; Martens, et al., 2006; Rudd & Stoll, 2004; Vallerand, et al., 1997; Yoo, 2001).

No difference was found between basketball players and distance runners in their levels of interdependence. Additionally, interdependence was associated with 5 growth experience domains: (a) identity work, (b) initiative, (c) positive relationships, (d) adult networks and social capital, and (e) teamwork and social skills. Interdependence may better explain the range of growth experiences among athletes, in comparison to sport

type, and should at least be considered in a supplementary role in future sport type comparison studies. These findings are consistent with social interdependence theory, which posits outcomes are the results of patterns of social interaction determined by the structure of goals in a setting (Johnson, 2003).

As a group, growth experiences significantly predicted both outcomes. However, individually, only negative experiences independently predicted burnout. Furthermore, distance runners reported higher burnout scores. In predicting burnout, negative experiences resembled other factors leading to burnout in the existing literature, such as stress, interpersonal difficulties, and competitive pressures (Cresswell & Eklund, 2007; Coakley, 1992; Gustafsson, et al., 2007; Rotella, Hanson, & Coop, 1991). A lack of specific relationships between individual growth experiences and burnout and enjoyment suggested growth experiences may not lead be inherently enjoyable or unpleasant; developmental learning may occur regardless of whether a setting promotes enjoyment or burnout.

The present study extends the current youth sport literature on growth experiences by examining sport types and interdependence using social interdependence theory. Although many studies have compared sport types on various measures, the results of the present study emphasize the potential influence of social interaction and interdependence on the learning environments in youth sport. Compared to sport type, interdependence may better explain athletes' growth experiences. Comparisons based on sport type may lack the theoretical and empirical depth to explain sport type differences, and consequently fail to recognize the continuum of interdependence that may exist both between and within all sport types. A greater influence on the growth experiences of young athletes appears to be tasks, goals and how athletes and coaches interact with these

tasks and goals, and with each other. At the very least, interdependence and social interdependence theory should be considered as a supplementary dimension of analysis when comparing sport types.

This study supports the Bioecological model (Bronfenbrenner, 1999) as well as social interdependence theory (Johnson, 2003). Consistent with the bioecological model, the differences found between the sports reflect how different settings are likely to provide distinct learning environments (Bronfenbrenner, 1999). The multi-level environmental influences described in the bioecological model, such as community perceptions, might also help explain why basketball players reported greater rates of teamwork and social skills, and adult networks and social capital growth experiences, compared to distant runners, the sport type differences in growth experiences.

Furthermore, social interdependence theory was also supported by the present study's findings. A central tenet of social interdependence theory is that the way in which people interact in a setting is determined by how goals are structured. Indeed, athletes in settings structured to promote interdependence, experienced a richer learning environment, compared to sport settings with lower levels of interdependence. Although both sport type and interdependence were associated with growth experiences, interdependence appeared to best explain the growth experiences of athletes from both sports.

Therefore, promoting interdependence in a setting might be one way to promote a richer learning environment. Coaches, parents and other athletes can promote a positively interdependent sport setting by emphasizing the value of helping others, giving and receiving feedback with others, and encouraging self-reflection. A setting can be structured so that individuals understand the value of mutual influence with others, and respectfully challenge each other's thoughts and behaviours so as to promote specific

behaviours and goals that benefit both the group and the individual. A setting structured to promote interdependence will help facilitate a richer learning environment.

Limitations and Future Directions

One limitation of the present study is that the growth experiences of only two sports were compared. Although in a team sport, basketball players also engage in a degree of individual competition in both games and practice. Similarly, although distance runners participate individually, training can occur quite often in a group setting. Future studies would benefit from including other sports with more diverse training and practice behaviours. For example, it might be beneficial to include athletes from sports who compete and train alone (e.g., bowlers), or train alone and compete together (e.g., football punters). Including more sports would help clarify the relationship between sport type and growth experiences.

Sport type comparisons remain meaningful, but this study has demonstrated how interdependence, independent of sport type, can affect the learning environment of young athletes. Equally beneficial to the literature are studies that explore how interdependence is related to the learning environments of athletes from one specific sport at various competitive levels, and with coaches of various abilities and qualifications. The ability of coaches, parents, mentors and other athletes to influence the experiences of young athletes, as a result of how they structure the interdependence in settings, is a worthwhile topic for future study. Studies of this nature would provide a better understanding of how coaches, parents, mentors and other athletes in one sport type may differently structure interdependence, and how these differences affect learning environments.

Studies that explore the relationship between growth experiences and interdependence in one specific sport would also help to address the sample as a second

limitation of this study. The young athletes from both basketball and distance running were all involved in their sport at a select level for their age group. The select nature of the participants may have provided a group of young athletes who are very motivated, attentive and heavily invested in what is needed to succeed in their sport. These characteristics might increase their sensitivity to the effects of high and low interdependence in the form of influential relationships between other athletes, coaches and parents. The present study examined interdependence in a select group of potentially highly motivated athletes. Future studies could examine the potential influence of interdependence at less select levels of competition among athletes who might not be so committed to achieving individual or team success, but more interested in the recreational nature of sport participation.

A third limitation of the study concerns the choice of enjoyment and burnout as outcomes of specific growth experiences. Burnout and enjoyment were chosen as outcomes because of their relationship with continued sport participation (Brustad, et al., 2001; Garn & Cothran, 2006; Hollander, et al., 1995; Molinero, et al., 2006; Motl, et al., 2001; Raedeke & Smith, 2001; Sallis, et al., 1999; Scanlan, Carpenter, Schmidt, et al., 1993, Scanlan, Carpenter, Simons, et al., 1993; Scanlan, et al., 2003; Weiss & Ferrer-Caja, 2002; Yan & McCullagh, 2004), and physical and psychological health (Sallis, et al., 1999). Establishing a relationship between growth experiences and such critical outcomes would have demonstrated that specific experiences occurring during the process of development can lead to specific outcomes. Although the present study did find a relationship between negative experiences and burnout, no other individual growth experiences domains independently predicted enjoyment or burnout.

Finally, a fourth limitation of the present study relates to the data obtained from the interdependence measure. The interdependence items used were derived from two existing interdependence scales and modified to reflect the experiences of athletes in a sport setting. Appropriate psychometric techniques were employed and attempts made to address validity and reliability. As expected, the interdependence measure did demonstrate a significant relationship with teamwork and social skills, and demonstrated acceptable internal consistency. However, the scale was developed specifically for this study. Additional psychometric analysis on the interdependence scale is needed in future studies.

The present study responds to Peterson's (2004) call to study positive experiences, positive individual traits and institutions that enable such traits and experiences. This study demonstrated that youth sport does facilitate positive youth development through growth experiences. The present study used the bioecological model and social interdependence theory to examine and explain how sport type and interdependence might be associated with positive youth development. This study's findings indicate that interdependence should be considered as an important dimension of the sport experience, independent of sport type.

Although sport has been associated with a range of negative outcomes (Baker & Robertson-Wilson, 2003; Bredemeier & Shields, 1986; Coakley, 1992; Colburn, 1986; Davison, Earnest, & Birch, 2002; Eccles & Barber, 1999; Engel, et al., 2003; Hollander, et al., 1995; Patel, Greydanus, Pratt, & Phillips, 2003; Sherman, et al., 2005; Wankel & Berger, 1990), clearly different sporting environments have the potential to act as a setting promoting positive youth development. The present study has demonstrated that various levels of interdependence in youth sports are associated with different growth

experiences. This finding supports the idea that it is the people involved in youth sports, such as coaches, parents and athletes themselves, who help to create an environment that promotes positive youth development.

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Appendix A

E-MAIL Recruitment Message

Hello,

A study entitled “The Influence of Sport Type on the Growth Experiences of Young Athletes” is being conducted at Queen’s University. The principal researcher is Jonathan Hall, supervised by Dr. Jean Côté, from the School of Kinesiology and Health Studies. The purpose of the research project is to examine how the physical and psychosocial environments of different sport types may affect children's learning experiences in sport. This email is being sent to you on behalf of the researchers to inform you about the project and to request your participation. Your email information was obtained from XXX.

We are interested in asking your athletes about their learning experiences in sport, using a simple pen and paper questionnaire. It would take approximately 40 minutes for your athletes to complete the questionnaire and therefore could occur before, or after a practice or game. Of course, prior to providing the questionnaire, we would obtain written permission from your athletes’ parents to participate. During this time, researchers will also be available to answer any questions that you or other parents might have about youth sports in general.

In the next couple of days, I will be contacting you again by telephone to discuss participation.

Thank you for your time and consideration.

Jonathan Hall - Principal Researcher

School of Kinesiology and Health Studies
Queen’s University
Kingston, Ontario
E-mail: 4jdh2@post.queensu.ca
Phone: (613) 533-6000 ext. 74699

Appendix B

Letter of Information (Parents)

A study entitled “The Influence of Sport Type on the Growth Experiences of Young Athletes” is being conducted at Queen’s University. The principal researchers are Jonathan Hall and Jean Côté, from the School of Kinesiology and Health Studies. The purpose of the research project is to examine how the physical and psychosocial environments of different sport types may affect children's learning experiences in sport. We would like to invite your child to contribute to this study because of your child’s sport participation.

The Questionnaire

Your child will be asked to complete a short, pen and paper questionnaire. The survey should take approximately 40 minutes to complete. First, the survey asks about your child's personal background (e.g., age, grade, sport). Second, the survey asks about a variety of experiences that your child may or may not be having in her/his current sport. For example, the survey asks about interpersonal learning experiences relating to such topics as identity experiences and the development of initiative. The survey also contains questions about interpersonal learning experiences, such as team work and positive relationships. Finally, the survey asks about possible negative experiences in sport, such as stress. An example of a phrase to which your child would respond is "This activity got me thinking about who I am." With the coach’s permission this survey would take place before or after a practice or game. A copy of the questionnaire is available to view upon request.

Freedom to Withdraw

Your child will be free to withdraw at any time without pressure or coercion from either the researchers or the coach. Even if your child starts the questionnaire and wants to stop, they may do so without pressure. Any child who submits a questionnaire with the “Draw Form” is eligible to receive the prize, even if they do not complete the questionnaire.

Risks

There are no known risks associated with participation in this study. Participants may withdraw from the study or refuse to answer any questions that they find objectionable. Refusal to participate or withdrawal from this study at any time will in no way affect the treatment of your child and his/her participation or playing time in sport.

Confidentiality/Anonymity

The data obtained from the interview is strictly confidential to the researchers only and will be stored in a secure location. All identities of the participating athletes and sport organizations will remain confidential. The results of the study may be published in academic journals and presented at conferences but all publications and presentations will not identify specific individuals or teams. Coaches will not be informed of specific individual or team results but all teams and sport clubs who participate in this study will be provided with a summary of the study’s results upon request. Researchers are available to parents to answer questions about youth sports in general.

Draw

All participants who submit a survey, whether completed or not, will be entered into a draw for a) 2 Raptor's Ticket or (b) \$50 Gift Certificate to a local sporting store, (c) t-shirts. To give your child a chance at the draw, I will need your child's name and address on the DRAW CARD. This information will be used for the Draw only and will be kept separate from the data.

Thank you so much for your time and consideration. Your help is truly appreciated.

If you have any further questions, comments or complaints regarding this study, please contact the researchers or the General Research Ethics Board at the address below.

Jean Côté, PhD – Principal Researcher
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Joan Stevenson, PhD - Chair, General Ethics Research Board
Queen's University
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Draw Information

As a sign of appreciation for your child's participation in this study, they are eligible to participate in a draw for 3 prizes. Your time and consideration is valued and as a show of appreciation, I would like to extend the offer of a draw where there is the chance to win (a) 2 Raptors game ticket for a home game, (b) \$50 Gift Certificate to a local sporting store or (c) t-shirts .

This draw is quite exclusive and will contain a very small number of entrants (approximately 300). Winners of one prize are not entered into subsequent draws for prizes.

All participants will be included in the draw whether they have completed the questionnaire or not. However to enter the draw I must have your child's name and contact number. Please leave his/her name and contact information (e.g. phone, e-mail) on the provided sheet of paper. To enter the draw, you or your child may return the study questionnaire and the Draw Card to the researcher. I will separate the questionnaires from the draw cards as soon as they are received. Upon completion of data collection for this study, a draw will take place and 3 names will be drawn to receive 3 separate prizes.

If your child does enter the draw, at no time will the contact information be used to identify the information provided in the study questionnaire booklet and therefore any information disclosed in the study questionnaire will remain private and anonymous.

DRAW CARD:

Contact Information (e.g., phone or address or telephone number):

Name:

Letter of Information (Athletes)

A study entitled “The Influence of Sport Type on the Growth Experiences of Young Athletes” is being conducted at Queen’s University. The principle researcher is Jonathan Hall and Jean Côté, from the School of Kinesiology and Health Studies. The purpose of the research project is to examine how the physical and psychosocial environments of different sport types may affect children's learning experiences in sport. You are invited to participate in this study because of your participation in sport.

Requirements of the Participant

You will be asked to complete a short, pen and paper questionnaire. The survey should take approximately 40 minutes to complete. First, the survey asks about your personal background (e.g., age, grade, sport). Second, the survey asks about a variety of experiences that you may or may not be having in your current sport. For example, the survey asks about interpersonal learning experiences relating to such topics as identity experiences and the development of initiative. The survey also contains questions about interpersonal learning experiences, such as teamwork and positive relationships. Finally, the survey asks about possible negative experiences in sport, such as stress.

Freedom to Withdraw

You are free to withdraw at any time without pressure or coercion from either the researchers or the coach. Even if you start the questionnaire and want to stop, you may do so without pressure. Any athlete who submits a questionnaire with the “Draw Form” is eligible to receive the prize, even if they do not complete the questionnaire.

Risks

There are no known risks associated with participation in this study. Participants may withdraw from the study or refuse to answer any questions that they find objectionable. Refusal to participate or withdrawal from this study at any time will in no way affect the treatment of your child and his/her participation or playing time in sport.

Confidentiality/Anonymity

The data obtained from the interview is strictly confidential to the researchers only and will be stored in a secure location. All identities of the participating athletes and sport organizations will remain confidential. The results of the study may be published in academic journals and presented at conferences but all publications and presentations will not identify specific individuals or teams. Coaches will not be informed of specific individual or team results but all teams and sport clubs who participate in this study will be provided with a summary of the study’s results upon request. Researchers are available to parents to answer questions about youth sports in general.

Draw

All participants who submit a survey, whether completed or not, will be entered into a draw for a) 2 Raptor’s Ticket or (b) \$50 Gift Certificate to a local sporting store, (c) t-shirts. To give your child a chance at the draw, I will need your child’s name and address on the DRAW CARD. This information will be used for the Draw only and will be kept separate from the data.

If you have any further questions, comments or complaints regarding this study, please contact the researchers or the General Research Ethics Board at the address below.

Thank you so much for your time and consideration. Your help is truly appreciated.

Jean Côté, PhD – Principal Researcher
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Informed Consent Form

“The Influence of Sport Type on the Growth Experiences of Young Athletes”

I, _____, have read the accompanying letter of information and understand the proposed study.

I understand the procedures and expectations of the study and my questions have been answered to my satisfaction. I am aware that my participation in this project is to gain insight into how the physical and psychosocial environments of different sport types may affect children's learning experiences in these settings. I am aware that I may contact the researchers (Dr. Jean Côté, Jonathan Hall) or the General Research Ethics Board of Queen’s University if I have questions, concerns or complaints. I reserve the right to not answer any questions that I do not feel comfortable with or withdraw from the study entirely at any time. I understand that my participation in this study is completely voluntary. Not participating in the study will in no way affect your sport involvement or playing time. Also, I am aware that any information that I provide in this study will be stored in a secure location and remain confidential.

Signed: _____

Date: _____

If under the age of 18

Parent's signature: _____

Date: _____

If you have any further questions, comments, or complaints regarding this study, please contact the researchers or the General Research Ethics Board at the address below.

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Appendix C

*The influence of sport programs on youth
development:
Distance Running Version*

Queen's University

Principal Investigator	Jonathan Hall	School of Kinesiology and Health Studies	613-533-6000.ext. 74699	jonathandalehall@yahoo.com
Supervisor	Dr. Jean Côté	School of Kinesiology and Health Studies	613-533-3054	Jc46@post.queensu.ca

Demographic Questions

Please read all questions carefully and respond thoughtfully. Thank you for your time.

Personal Background

Date of birth: _____

Age at which you first started organized (races, club, etc.) running: _____

1. Each week, how many hours do you spend in formal practice with a coach?

0 hours _____ 2 hours _____ 3 hours _____ 4 hours _____

5 hours _____ 6 hours _____ 7 hours _____ 8 hours _____

9 hours _____ 10 hours _____ 11 hours _____ 12 hours _____

13 hours _____ 14 hours _____ 15 hours or more _____

2. What other activities/sports are you involved in? Fill out the table below:

Activity/Sport	Number of years involved	Number of hours per week

Interdependence

Please read each sentence carefully and thoughtfully. With a circle, indicate on the numbers 1 to 5 on the right, the extent to which your experience reflects the experiences described in the sentence. For example, in question#1, you would circle the number 5, if you "strongly disagree" that you have to obtain information and advice from teammates or other athletes with whom you practice, to perform well. Remember that each sentence specifically concerns your experiences in your sport.

	Strongly Agree 1	2	Neither Agree or Disagree 3	4	Strongly Disagree 5
1. I have to obtain information and advice from teammates or other athletes I practice with, to perform well.	1	2	3	4	5
2. I depend on my teammates or other athletes I practice with to perform well.	1	2	3	4	5
3. I rarely have to work with others.	1	2	3	4	5
4. In order to perform well, I have to work closely with my teammates or other athletes I practice with.	1	2	3	4	5
5. My teammates and other athletes I practice with, have to obtain information and advice from me in order to perform well.	1	2	3	4	5

Please read each sentence carefully and thoughtfully. With a circle, indicate on the numbers 1 to 5 on the right, the extent to which your experience reflects the experiences described in the sentence. For example, in question #1, you would circle the number 5, if you believe that it "completely hinders" you when your teammates or other athletes with whom you practice, attain their goals. Remember that each sentence specifically concerns your experiences in your sport.

	Completely + 1	2	Neutral 3	4	Completely -- 5
1. It (benefits/hinders) me when my teammates or athletes with whom I practice, attain their goals.	Completely Benefits 1	2	3	4	Completely Hinders 5
2. In my sport, the things my teammates or athletes with whom I practice, want to accomplish and the things I want to accomplish are (compatible/incompatible).	Completely Compatible 1	2	3	4	Completely Incompatible 5
3. It is (advantageous/disadvantageous) for me when my teammates or athletes with whom I practice succeed in their sport.	Completely Advantageous 1	2	3	4	Completely Disadvantageous 5
4. When my teammates or athletes with whom I practice, succeed in their sport, it is at my (expense/benefit).	Completely at my Expense 1	2	3	4	Completely at my Benefit 5
5. In my sport, how strongly my teammates, or athletes with whom I practice, care about achievement (helps/hinders) my own achievement.	Completely Helps 1	2	3	4	Completely Hinders 5
6. When my teammates or athletes with whom I practice succeed in their sport, it works out (positively/negatively) for me.	Completely Positively 1	2	3	4	Completely Negatively 5

The Youth Experiences Survey (YES) 2.0

Instructions: Based on your current or recent involvement please rate whether you have had the following experiences on your RUNNING TEAM

Your Experiences In.....			
RUNNING			
Yes, Definitely	Quite A Bit	A Little	Not At All

IDENTITY EXPERIENCES

Identity Exploration				
1. Tried doing new things	1	2	3	4
2. Tried a new way of acting around people	1	2	3	4
3. I do things here I don't get to do anywhere else	1	2	3	4

Identity Reflection				
4. Started thinking more about my future because of this activity	1	2	3	4
5. This activity got me thinking about who I am	1	2	3	4
6. This activity has been a positive turning point in my life	1	2	3	4

INITIATIVE EXPERIENCES

Goal Setting				
7. I set goals for myself in this activity	1	2	3	4
8. Learned to find ways to achieve my goals	1	2	3	4
9. Learned to consider possible obstacles when making plans	1	2	3	4

Effort				
10. I put all my energy into this activity	1	2	3	4
11. Learned to push myself	1	2	3	4
12. Learned to focus my attention	1	2	3	4

Problem Solving				
13. Observed how others solved problems and learned from them	1	2	3	4
14. Learned about developing plans for solving a problem	1	2	3	4
15. Used my imagination to solve a problem	1	2	3	4

Time Management				
16. Learned about organizing time and not procrastinating (not putting things off)	1	2	3	4
17. Learned about setting priorities	1	2	3	4
18. Practiced self discipline	1	2	3	4

BASIC SKILL	Yes, Definitely	Quite A Bit	A Little	Not At All
Emotional Regulation				
19. Learned about controlling my temper	1	2	3	4
20. Became better at dealing with fear and anxiety	1	2	3	4
21. Became better at handling stress	1	2	3	4
22. Learned that my emotions affect how I perform	1	2	3	4
COGNITIVE SKILLS				
In this activity I have improved:				
23. Academic skills (reading, writing, math, etc.)	1	2	3	4
24. Skills for finding information	1	2	3	4
25. Computer/internet skills	1	2	3	4
26. Artistic/creative skills	1	2	3	4
27. Communication skills	1	2	3	4
Physical Skills				
28. Athletic or physical skills	1	2	3	4
POSITIVE RELATIONSHIPS				
Diverse Peer Relationships				
29. Made friends with someone of the opposite gender	1	2	3	4
30. Learned I had a lot in common with people from different backgrounds	1	2	3	4
31. Got to know someone from a different ethnic group	1	2	3	4
32. Made friends with someone from a different social class (someone richer or poorer)	1	2	3	4
Prosocial Norms				
33. Learned about helping others	1	2	3	4
34. I was able to change my school or community for the better	1	2	3	4
35. Learned to stand up for something I believed was morally right	1	2	3	4
36. We discussed morals and values	1	2	3	4
TEAM WORK AND SOCIAL SKILLS				
Group Process Skills				
37. Learned that working together requires some compromising	1	2	3	4
38. Became better at sharing responsibility	1	2	3	4
39. Learned to be patient with other group members	1	2	3	4

40. Learned how my emotions and attitude affect others in the group		1	2	3	4
41. Learned that it is not necessary to like people in order to work with them		1	2	3	4
		Yes, Definitely	Quite A Bit	A Little	Not At All
Feedback					
42. I became better at giving feedback		1	2	3	4
43. I became better at taking feedback		1	2	3	4

Leadership and Responsibility					
44. Learned about the challenges of being a leader		1	2	3	4
45. Others in this activity counted on me		1	2	3	4
46. Had an opportunity to be in charge of a group of peers		1	2	3	4

ADULT NETWORKS AND SOCIAL CAPITAL

Integration with Family					
47. This activity improved my relationship with my parents/guardians		1	2	3	4
48. I had good conversations with my parents/guardians because of this activity		1	2	3	4

Linkages to Community					
49. Got to know people in the community		1	2	3	4
50. Came to feel more supported by the community		1	2	3	4

Linkages to Work and College					
51. This activity opened up job or career opportunities for me		1	2	3	4
52. This activity helped prepare me for college		1	2	3	4
53. This activity increased my desire to stay in school		1	2	3	4

NEGATIVE EXPERIENCES

Stress					
54. Demands were so great that I didn't get homework done (skip this item if your Target Activity is a class)		1	2	3	4
55. This activity interfered with doing things with family		1	2	3	4
56. This activity has stressed me out		1	2	3	4

Negative Peer Influences					
57. Felt pressured by peers to do something I didn't want to do		1	2	3	4

58. I did something in this activity that was morally wrong	1	2	3	4
59. I was ridiculed by peers for something I did in this activity	1	2	3	4
60. Youth in this activity got me into drinking alcohol or using drugs	1	2	3	4

Social Exclusion

61. Felt like I didn't belong in this activity	1	2	3	4
62. I felt left out	1	2	3	4
63. There were cliques in this activity	1	2	3	4

Negative Group Dynamics

	Yes, Definitely	Quite A Bit	A Little	Not At All
64. I get stuck doing more than my fair share	1	2	3	4
65. Other youth in this activity made inappropriate sexual comments, jokes, or gestures	1	2	3	4
66. Was discriminated against because of my gender, race, ethnicity, disability, or sexual orientation	1	2	3	4

Note: The following set of items (67-70) will not be asked if there is no adult or young adult, coach, director, teacher, or leader.

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Inappropriate Adult Behavior

67. Adult leaders in this activity are controlling and manipulative	1	2	3	4
68. Adult leaders "hit" on me (made sexual advances)	1	2	3	4
69. Adult leaders made inappropriate sexual comments or jokes	1	2	3	4
70. Adult leaders encouraged me to do something I believed morally wrong	1	2	3	4

Sources of Enjoyment in Youth Sport Questionnaire

Directions: An athlete may enjoy several things about sports. Enjoyment can be thought of as experiences or events that lead to positive feelings of pleasure, liking, and fun. Please think about your entire experience in sport: the competitions, practices, times away from your sport environment, and your experiences with other people involved in your sport participation. Think about not only your present experience, but your experience in sports overall, and then answer the following questions. There are no right or wrong answers, so please respond honestly.

Please indicate your answer to the statement by circling the number that follows each item (1= not at all; 2= a little; 3= not sure; 4= yes; 5= very much).

During the times when I most enjoy sport, I usually experience that enjoyment from...

	Not at all	A little	Not sure	Yes	Very Much
1. Playing up to my potential.	1	2	3	4	5
2. Working hard in practice.	1	2	3	4	5
3. Improvement of my performance based on my ability to outperform others.	1	2	3	4	5
4. Being with the friends on my team.	1	2	3	4	5
5. Doing skills other kids my age cannot do.	1	2	3	4	5
6. The feeling of team spirit and togetherness I feel from being on a team.	1	2	3	4	5
7. Getting support and encouragement from my teammates.	1	2	3	4	5
8. Participating in a close game, meet, or competition.	1	2	3	4	5
9. Participating in and finishing a difficult practice.	1	2	3	4	5
10. Making new friends in my sport.	1	2	3	4	5
11. Doing things with my teammates away from practice or competition.	1	2	3	4	5
12. Being known by others for being an athlete.	1	2	3	4	5
13. Playing hard during competition.	1	2	3	4	5
14. Improvement of performance based on how I've done in the past.	1	2	3	4	5
15. Hearing the crowd cheer during a close game, match, race, or competition.	1	2	3	4	5
16. Showing that I am better than others who play my sport.	1	2	3	4	5
17. Getting encouragement from my parent(s).	1	2	3	4	5
18. Being better in my sport than other athletes my age or in my league.	1	2	3	4	5
19. Being recognized by others because I participate in sport.	1	2	3	4	5
20. Feeling exhausted after a practice or competition.	1	2	3	4	5
21. Playing well compared to how I've played in the past.	1	2	3	4	5
22. The thrill of competition.	1	2	3	4	5
23. Getting support from my parents for playing my sport.	1	2	3	4	5
24. The excitement of competition.	1	2	3	4	5
25. Having my parent(s) watch me compete.	1	2	3	4	5

26. Giving a lot of effort in practice or competition.	1	2	3	4	5
27. Achieving personal goals I set for myself based on my own performances.	1	2	3	4	5
28. Having my parents pleased with my performance no matter what.	1	2	3	4	5

Athlete Burnout Questionnaire

Directions: Burnout is defined as a psychological syndrome of emotional/physical exhaustion, reduced sense of accomplishment, and sport devaluation. Please read each statement carefully and decide if you ever feel this way about your current sport participation. Please indicate how often you have had this feeling by circling a number 1 to 5, where 1 means, "Almost Never" and 5 means, "Almost Always." Please try to answer all questions. There are no right or wrong answers, so please respond honestly

Please indicate your answer to the bolded statement by circling the number that follows each item (1= almost never; 2= rarely; 3= sometimes; 4= frequently; 5= almost always).

	Almost Never 1	Rarely 2	Sometimes 3	Frequently 4	Almost Always 5
1. I'm accomplishing many worthwhile things in RUNNING .	1	2	3	4	5
2. I feel so tired from my training that I have trouble finding energy to do other things.	1	2	3	4	5
3. The effort I spend in RUNNING would be better spent doing other things	1	2	3	4	5
4. I feel overly tired from my RUNNING participation	1	2	3	4	5
5. I am not achieving much in RUNNING .	1	2	3	4	5
6. I don't care as much about my RUNNING performance as I used to	1	2	3	4	5
7. I am not performing up to my ability in RUNNING .	1	2	3	4	5
8. I feel "wiped out" from RUNNING .	1	2	3	4	5
9. I'm not into RUNNING like I used to be.	1	2	3	4	5
10. I feel physically worn out from RUNNING .	1	2	3	4	5

11. I feel less concerned about being successful in RUNNING than I used to.	1	2	3	4	5
12. I am exhausted by the mental and physical demands of RUNNING.	1	2	3	4	5
13. It seems that no matter what I do, I don't perform as well as I should.	1	2	3	4	5
14. I feel successful at RUNNING.	1	2	3	4	5
15. I have negative feelings towards RUNNING.	1	2	3	4	5

***The influence of sport programs on youth
development:
Basketball Version***

Queen's University

Principal Investigator	Jonathan Hall	School of Kinesiology and Health Studies	613-533-6000.ext.74699	jonathandalehall@yahoo.com
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Demographic Questions

Please read all questions carefully and respond thoughtfully. Thank you for your time.

Personal Background

Date of birth: _____

Age at which you first started organized (games, league, etc.) basketball:

1. Each week, how many hours do you spend in formal practice with a coach?

0 hours _____ 2 hours _____ 3 hours _____ 4 hours _____

5 hours _____ 6 hours _____ 7 hours _____ 8 hours _____

9 hours _____ 10 hours _____ 11 hours _____ 12 hours _____

13 hours _____ 14 hours _____ 15 hours or more _____

2. What other activities/sports are you involved in? Fill out the table below:

Activity/Sport	Number of years involved	Number of hours per week

Interdependence

Please read each sentence carefully and thoughtfully. With a circle, indicate on the numbers 1 to 5 on the right, the extent to which your experience reflects the experiences described in the sentence. For example, in question#1, you would circle the number 5, if you "strongly disagree" that you have to obtain information and advice from teammates or other athletes with whom you practice, to perform well. Remember that each sentence specifically concerns your experiences in your sport.

	Strongly Agree 1	2	Neither Agree or Disagree 3	4	Strongly Disagree 5
1. I have to obtain information and advice from teammates or other athletes I practice with, to perform well.	1	2	3	4	5
2. I depend on my teammates or other athletes I practice with to perform well.	1	2	3	4	5
3. I rarely have to work with others.	1	2	3	4	5
4. In order to perform well, I have to work closely with my teammates or other athletes I practice with.	1	2	3	4	5
5. My teammates and other athletes I practice with, have to obtain information and advice from me in order to perform well.	1	2	3	4	5

Please read each sentence carefully and thoughtfully. With a circle, indicate on the numbers 1 to 5 on the right, the extent to which your experience reflects the experiences described in the sentence. For example, in question #1, you would circle the number 5, if you believe that it "completely hinders" you when your teammates or other athletes with whom you practice, attain their goals. Remember that each sentence specifically concerns your experiences in your sport.

	Completely + 1	2	Neutral 3	4	Completely -- 5
1. It (benefits/hinders) me when my teammates or athletes with whom I practice, attain their goals.	Completely Benefits 1	2	3	4	Completely Hinders 5
2. In my sport, the things my teammates or athletes with whom I practice, want to accomplish and the things I want to accomplish are (compatible/incompatible).	Completely Compatible 1	2	3	4	Completely Incompatible 5
3. It is (advantageous/disadvantageous) for me when my teammates or athletes with whom I practice succeed in their sport.	Completely Advantageous 1	2	3	4	Completely Disadvantageous 5
4. When my teammates or athletes with whom I practice, succeed in their sport, it is at my (expense/benefit).	Completely at my Expense 1	2	3	4	Completely at my Benefit 5
5. In my sport, how strongly my teammates, or athletes with whom I practice, care about achievement (helps/hinders) my own achievement.	Completely Helps 1	2	3	4	Completely Hinders 5
6. When my teammates or athletes with whom I practice succeed in their sport, it works out (positively/negatively) for me.	Completely Positively 1	2	3	4	Completely Negatively 5

The Youth Experiences Survey (YES) 2.0

Instructions: Based on your current or recent involvement please rate whether you have had the following experiences on your RUNNING TEAM

Your Experiences In.....			
BASKETBALL			
Yes, Definitely	Quite A Bit	A Little	Not At All

IDENTITY EXPERIENCES

Identity Exploration				
1. Tried doing new things	1	2	3	4
2. Tried a new way of acting around people	1	2	3	4
3. I do things here I don't get to do anywhere else	1	2	3	4

Identity Reflection				
4. Started thinking more about my future because of this activity	1	2	3	4
5. This activity got me thinking about who I am	1	2	3	4
6. This activity has been a positive turning point in my life	1	2	3	4

INITIATIVE EXPERIENCES

Goal Setting				
7. I set goals for myself in this activity	1	2	3	4
8. Learned to find ways to achieve my goals	1	2	3	4
9. Learned to consider possible obstacles when making plans	1	2	3	4

Effort				
10. I put all my energy into this activity	1	2	3	4
11. Learned to push myself	1	2	3	4
12. Learned to focus my attention	1	2	3	4

Problem Solving				
13. Observed how others solved problems and learned from them	1	2	3	4
14. Learned about developing plans for solving a problem	1	2	3	4
15. Used my imagination to solve a problem	1	2	3	4

Time Management				
------------------------	--	--	--	--

16. Learned about organizing time and not procrastinating (not putting things off)	1	2	3	4
17. Learned about setting priorities	1	2	3	4
18. Practiced self discipline	1	2	3	4

BASIC SKILL

Yes, Definitely Quite A Bit A Little Not At All

Emotional Regulation				
19. Learned about controlling my temper	1	2	3	4
20. Became better at dealing with fear and anxiety	1	2	3	4
21. Became better at handling stress	1	2	3	4
22. Learned that my emotions affect how I perform	1	2	3	4

COGNITIVE SKILLS

In this activity I have improved:	1	2	3	4
23. Academic skills (reading, writing, math, etc.)	1	2	3	4
24. Skills for finding information	1	2	3	4
25. Computer/internet skills	1	2	3	4
26. Artistic/creative skills	1	2	3	4
27. Communication skills	1	2	3	4

Physical Skills

28. Athletic or physical skills	1	2	3	4
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POSITIVE RELATIONSHIPS

Diverse Peer Relationships

29. Made friends with someone of the opposite gender	1	2	3	4
30. Learned I had a lot in common with people from different backgrounds	1	2	3	4
31. Got to know someone from a different ethnic group	1	2	3	4
32. Made friends with someone from a different social class (someone richer or poorer)	1	2	3	4

Prosocial Norms

33. Learned about helping others	1	2	3	4
34. I was able to change my school or community for the better	1	2	3	4
35. Learned to stand up for something I believed was morally right	1	2	3	4
36. We discussed morals and values	1	2	3	4

TEAM WORK AND SOCIAL SKILLS

Group Process Skills

37. Learned that working together requires some compromising	1	2	3	4
--	---	---	---	---

38. Became better at sharing responsibility	1	2	3	4
39. Learned to be patient with other group members	1	2	3	4
40. Learned how my emotions and attitude affect others in the group	1	2	3	4
41. Learned that it is not necessary to like people in order to work with them	1	2	3	4
Feedback	Yes, Definitely	Quite A Bit	A Little	Not At All
42. I became better at giving feedback	1	2	3	4
43. I became better at taking feedback	1	2	3	4

Leadership and Responsibility				
44. Learned about the challenges of being a leader	1	2	3	4
45. Others in this activity counted on me	1	2	3	4
46. Had an opportunity to be in charge of a group of peers	1	2	3	4

ADULT NETWORKS AND SOCIAL CAPITAL

Integration with Family				
47. This activity improved my relationship with my parents/guardians	1	2	3	4
48. I had good conversations with my parents/guardians because of this activity	1	2	3	4

Linkages to Community				
49. Got to know people in the community	1	2	3	4
50. Came to feel more supported by the community	1	2	3	4

Linkages to Work and College				
51. This activity opened up job or career opportunities for me	1	2	3	4
52. This activity helped prepare me for college	1	2	3	4
53. This activity increased my desire to stay in school	1	2	3	4

NEGATIVE EXPERIENCES

Stress				
54. Demands were so great that I didn't get homework done (skip this item if your Target Activity is a class)	1	2	3	4
55. This activity interfered with doing things with family	1	2	3	4

56. This activity has stressed me out	1	2	3	4
---------------------------------------	---	---	---	---

Negative Peer Influences				
57. Felt pressured by peers to do something I didn't want to do	1	2	3	4
58. I did something in this activity that was morally wrong	1	2	3	4
59. I was ridiculed by peers for something I did in this activity	1	2	3	4
60. Youth in this activity got me into drinking alcohol or using drugs	1	2	3	4

Social Exclusion				
61. Felt like I didn't belong in this activity	1	2	3	4
62. I felt left out	1	2	3	4
63. There were cliques in this activity	1	2	3	4

Negative Group Dynamics				
	Yes, Definitely	Quite A Bit	A Little	Not At All
64. I get stuck doing more than my fair share	1	2	3	4
65. Other youth in this activity made inappropriate sexual comments, jokes, or gestures	1	2	3	4
66. Was discriminated against because of my gender, race, ethnicity, disability, or sexual orientation	1	2	3	4
<i>Note: The following set of items (67-70) will not be asked if there is no adult or young adult, coach, director, teacher, or leader.</i>				

Inappropriate Adult Behavior				
67. Adult leaders in this activity are controlling and manipulative	1	2	3	4
68. Adult leaders "hit" on me (made sexual advances)	1	2	3	4
69. Adult leaders made inappropriate sexual comments or jokes	1	2	3	4
70. Adult leaders encouraged me to do something I believed morally wrong	1	2	3	4

Sources of Enjoyment in Youth Sport Questionnaire

Directions: An athlete may enjoy several things about sports. Enjoyment can be thought of as experiences or events that lead to positive feelings of pleasure, liking, and fun. Please think about your entire experience in sport: the competitions, practices, times away from your sport environment, and your experiences with other people involved in your sport participation. Think about not only your present experience, but your experience in sports overall, and then answer the following questions. There are no right or wrong answers, so please respond honestly.

Please indicate your answer to the statement by circling the number that follows each item (1= not at all; 2= a little; 3= not sure; 4= yes; 5= very much).

During the times when I most enjoy sport, I usually experience that enjoyment from...

	Not at all	A little	Not sure	Yes	Very Much
1. Playing up to my potential.	1	2	3	4	5
2. Working hard in practice.	1	2	3	4	5
3. Improvement of my performance based on my ability to outperform others.	1	2	3	4	5
4. Being with the friends on my team.	1	2	3	4	5
5. Doing skills other kids my age cannot do.	1	2	3	4	5
6. The feeling of team spirit and togetherness I feel from being on a team.	1	2	3	4	5
7. Getting support and encouragement from my teammates.	1	2	3	4	5
8. Participating in a close game, meet, or competition.	1	2	3	4	5
9. Participating in and finishing a difficult practice.	1	2	3	4	5
10. Making new friends in my sport.	1	2	3	4	5
11. Doing things with my teammates away from practice or competition.	1	2	3	4	5
12. Being known by others for being an athlete.	1	2	3	4	5
13. Playing hard during competition.	1	2	3	4	5
14. Improvement of performance based on how I've done in the past.	1	2	3	4	5
15. Hearing the crowd cheer during a close game, match, race, or competition.	1	2	3	4	5
16. Showing that I am better than others who play my sport.	1	2	3	4	5
17. Getting encouragement from my parent(s).	1	2	3	4	5
18. Being better in my sport than other athletes my age or in my league.	1	2	3	4	5
19. Being recognized by others because I participate in sport.	1	2	3	4	5
20. Feeling exhausted after a practice or competition.	1	2	3	4	5
21. Playing well compared to how I've played in the past.	1	2	3	4	5
22. The thrill of competition.	1	2	3	4	5

23. Getting support from my parents for playing my sport.	1	2	3	4	5
24. The excitement of competition.	1	2	3	4	5
25. Having my parent(s) watch me compete.	1	2	3	4	5
26. Giving a lot of effort in practice or competition.	1	2	3	4	5
27. Achieving personal goals I set for myself based on my own performances.	1	2	3	4	5
28. Having my parents pleased with my performance no matter what.	1	2	3	4	5

Athlete Burnout Questionnaire

Directions: Burnout is defined as a psychological syndrome of emotional/physical exhaustion, reduced sense of accomplishment, and sport devaluation. Please read each statement carefully and decide if you ever feel this way about your current sport participation. Please indicate how often you have had this feeling by circling a number 1 to 5, where 1 means, "Almost Never" and 5 means, "Almost Always." Please try to answer all questions. There are no right or wrong answers, so please respond honestly

Please indicate your answer to the bolded statement by circling the number that follows each item (1= almost never; 2= rarely; 3= sometimes; 4= frequently; 5= almost always).

	Almost Never 1	Rarely 2	Sometimes 3	Frequently 4	Almost Always 5
1. I'm accomplishing many worthwhile things in BASKETBALL.	1	2	3	4	5
2. I feel so tired from my training that I have trouble finding energy to do other things.	1	2	3	4	5
3. The effort I spend in BASKETBALL would be better spent doing other things.	1	2	3	4	5
4. I feel overly tired from my BASKETBALL participation.	1	2	3	4	5
5. I am not achieving much in BASKETBALL.	1	2	3	4	5
6. I don't care as much about my BASKETBALL performance as I used to.	1	2	3	4	5
7. I am not performing up to my ability in BASKETBALL.	1	2	3	4	5
8. I feel "wiped out" from BASKETBALL.	1	2	3	4	5
9. I'm not into BASKETBALL like I used to be.	1	2	3	4	5
10. I feel physically worn out from BASKETBALL.	1	2	3	4	5

11. I feel less concerned about being successful in BASKETBALL than I used to.	1	2	3	4	5
12. I am exhausted by the mental and physical demands of BASKETBALL.	1	2	3	4	5
13. It seems that no matter what I do, I don't perform as well as I should.	1	2	3	4	5
14. I feel successful at BASKETBALL.	1	2	3	4	5
15. I have negative feelings towards BASKETBALL.	1	2	3	4	5

Appendix D

Hierarchical Multiple Regression Statistics for Sport Type and Interdependence Predicting Identity Work

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.211 ^a	.045	.031	.62234	.045	3.301	3	212	.021
2	.235 ^b	.055	.037	.62031	.011	2.392	1	211	.123
3	.435 ^c	.189	.170	.57604	.134	34.682	1	210	.000

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: IDNEX

ANOVA^e

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.836	3	1.279	3.301	.021 ^a
	Residual	82.110	212	.387		
	Total	85.946	215			
2	Regression	4.756	4	1.189	3.090	.017 ^b
	Residual	81.190	211	.385		
	Total	85.946	215			
3	Regression	16.264	5	3.253	9.803	.000 ^c
	Residual	69.682	210	.332		
	Total	85.946	215			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: IDNEX

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	2.421	.633		3.825	.000	1.173	3.669
AGE	.008	.041	.013	.197	.844	-.074	.090
YRSORG	.012	.016	.052	.764	.446	-.019	.043
COACHWK	.038	.013	.198	2.935	.004	.012	.063
2 (Constant)	2.220	.644		3.446	.001	.950	3.490
AGE	.036	.045	.059	.797	.426	-.053	.125
YRSORG	.009	.016	.040	.574	.567	-.022	.040
COACHWK	.037	.013	.196	2.903	.004	.012	.063
SPORT	-.145	.094	-.113	-1.546	.123	-.330	.040
3 (Constant)	.718	.650		1.103	.271	-.564	2.000
AGE	.021	.042	.034	.495	.621	-.062	.103
YRSORG	.008	.015	.034	.532	.595	-.021	.036
COACHWK	.031	.012	.161	2.564	.011	.007	.054
SPORT	-.082	.088	-.064	-.930	.353	-.255	.092
INTERNEW	.453	.077	.371	5.889	.000	.302	.605

a. Dependent Variable:

IDNEX

Hierarchical Multiple Regression Statistics for Sport Type and Interdependence
Predicting Initiative Experiences

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.282 ^a	.079	.066	.49027	.079	6.086	3	212	.001
2	.290 ^b	.084	.066	.49021	.005	1.050	1	211	.307
3	.458 ^c	.210	.191	.45634	.126	33.487	1	210	.000

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: INITI

ANOVA^e

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.389	3	1.463	6.086	.001 ^a
	Residual	50.957	212	.240		
	Total	55.345	215			
2	Regression	4.641	4	1.160	4.828	.001 ^b
	Residual	50.704	211	.240		
	Total	55.345	215			
3	Regression	11.614	5	2.323	11.155	.000 ^c
	Residual	43.731	210	.208		
	Total	55.345	215			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: INITI

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	2.286	.499		4.584	.000	1.303	3.269
AGE	.036	.033	.075	1.112	.267	-.028	.101
YRSORG	.022	.012	.118	1.752	.081	-.003	.046
COACHWK	.035	.010	.226	3.416	.001	.015	.055
2 (Constant)	2.180	.509		4.283	.000	1.177	3.184
AGE	.051	.036	.104	1.428	.155	-.019	.121
YRSORG	.020	.012	.110	1.616	.108	-.004	.044
COACHWK	.034	.010	.225	3.388	.001	.014	.054
SPORT	-.076	.074	-.074	-1.025	.307	-.222	.070
3 (Constant)	1.011	.515		1.962	.051	-.005	2.027
AGE	.039	.033	.080	1.176	.241	-.026	.104
YRSORG	.019	.012	.104	1.652	.100	-.004	.042
COACHWK	.029	.009	.191	3.084	.002	.011	.048
SPORT	-.027	.070	-.026	-.382	.703	-.164	.111
INTERNEW	.353	.061	.360	5.787	.000	.233	.473

a. Dependent Variable:

INITI

Hierarchical Multiple Regression Statistics for Sport Type and Interdependence
Predicting Emotional Regulation

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.115 ^a	.013	.000	.74323	.013	.945	3	212	.420
2	.193 ^b	.037	.019	.73578	.024	5.312	1	211	.022
3	.253 ^c	.064	.042	.72726	.027	5.973	1	210	.015

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: EMOREG

ANOVA^e

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.567	3	.522	.945	.420 ^a
	Residual	117.106	212	.552		
	Total	118.672	215			
2	Regression	4.442	4	1.111	2.051	.088 ^b
	Residual	114.230	211	.541		
	Total	118.672	215			
3	Regression	7.602	5	1.520	2.874	.016 ^c
	Residual	111.071	210	.529		
	Total	118.672	215			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: EMOREG

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	3.441	.756		4.552	.000	1.951	4.931
AGE	-.044	.049	-.062	-.896	.371	-.142	.053
YRSORG	.018	.019	.069	.987	.325	-.018	.055
COACHWK	.016	.015	.071	1.033	.303	-.014	.046
2 (Constant)	3.085	.764		4.037	.000	1.578	4.591
AGE	.005	.053	.007	.087	.931	-.101	.110
YRSORG	.013	.019	.049	.711	.478	-.023	.050
COACHWK	.015	.015	.067	.983	.327	-.015	.045
SPORT	-.257	.111	-.170	-	.022	-.477	-.037
				2.305			
3 (Constant)	2.298	.821		2.798	.006	.679	3.916
AGE	-.003	.053	-.005	-.062	.950	-.108	.101
YRSORG	.013	.018	.047	.684	.495	-.024	.049
COACHWK	.012	.015	.051	.762	.447	-.018	.041
SPORT	-.224	.111	-.148	-	.045	-.442	-.005
				2.014			
INTERNEW	.238	.097	.165	2.444	.015	.046	.429

a. Dependent Variable:

EMOREG

Hierarchical Multiple Regression Statistics for Sport Type and Interdependence
Predicting Positive Relationships

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.214 ^a	.046	.032	.64704	.046	3.406	3	212	.019
2	.254 ^b	.064	.047	.64230	.018	4.141	1	211	.043
3	.334 ^c	.111	.090	.62749	.047	11.079	1	210	.001

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: POSREL

ANOVA^e

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.278	3	1.426	3.406	.019 ^a
	Residual	88.757	212	.419		
	Total	93.035	215			
2	Regression	5.986	4	1.497	3.628	.007 ^b
	Residual	87.049	211	.413		
	Total	93.035	215			
3	Regression	10.349	5	2.070	5.257	.000 ^c
	Residual	82.686	210	.394		
	Total	93.035	215			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: POSREL

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	3.603	.658		5.474	.000	2.305	4.900
AGE	-.065	.043	-.102	1.499	.135	-.150	.020
YRSORG	.020	.016	.083	1.215	.226	-.012	.052
COACHWK	.033	.013	.169	2.497	.013	.007	.060
2 (Constant)	3.328	.667		4.989	.000	2.013	4.643
AGE	-.027	.047	-.042	-.576	.566	-.119	.065
YRSORG	.016	.016	.066	.969	.334	-.016	.048
COACHWK	.033	.013	.165	2.461	.015	.007	.059
SPORT	-.198	.097	-.148	2.035	.043	-.390	-.006
3 (Constant)	2.403	.708		3.392	.001	1.007	3.800
AGE	-.036	.046	-.057	-.793	.429	-.126	.054
YRSORG	.015	.016	.063	.943	.347	-.016	.046
COACHWK	.029	.013	.145	2.198	.029	.003	.054
SPORT	-.159	.096	-.119	1.659	.099	-.348	.030
INTERNEW	.279	.084	.219	3.329	.001	.114	.444

a. Dependent Variable:
POSREL

Hierarchical Multiple Regression Statistics for Sport Type and Interdependence
Predicting Teamwork and Social Skills

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.222 ^a	.049	.036	.59397	.049	3.661	3	212	.013
2	.335 ^b	.112	.095	.57536	.063	14.940	1	211	.000
3	.424 ^c	.180	.161	.55422	.068	17.398	1	210	.000

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: TEAMWRK

ANOVA^e

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.874	3	1.291	3.661	.013 ^a
	Residual	74.794	212	.353		
	Total	78.668	215			
2	Regression	8.820	4	2.205	6.661	.000 ^b
	Residual	69.848	211	.331		
	Total	78.668	215			
3	Regression	14.164	5	2.833	9.222	.000 ^c
	Residual	64.504	210	.307		
	Total	78.668	215			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: TEAMWRK

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	3.458	.604		5.725	.000	2.268	4.649
AGE	-.041	.040	-.070	1.029	.305	-.119	.037
YRSORG	.045	.015	.208	3.032	.003	.016	.074
COACHWK	.011	.012	.061	.904	.367	-.013	.035
2 (Constant)	2.991	.598		5.006	.000	1.813	4.169
AGE	.024	.042	.041	.564	.574	-.059	.106
YRSORG	.038	.015	.176	2.640	.009	.010	.067
COACHWK	.010	.012	.054	.832	.407	-.014	.033
SPORT	-.337	.087	-.274	3.865	.000	-.509	-.165
3 (Constant)	1.968	.626		3.145	.002	.734	3.201
AGE	.013	.040	.023	.328	.743	-.066	.093
YRSORG	.038	.014	.172	2.680	.008	.010	.065
COACHWK	.005	.012	.030	.471	.638	-.017	.028
SPORT	-.294	.085	-.239	3.471	.001	-.460	-.127
INTERNEW	.309	.074	.264	4.171	.000	.163	.455

a. Dependent Variable: TEAMWRK

Hierarchical Multiple Regression Statistics for Sport Type and Interdependence
Predicting Adult Networks and Social Capital

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.221 ^a	.049	.035	.70658	.049	3.613	3	212	.014
2	.308 ^b	.095	.077	.69093	.046	10.713	1	211	.001
3	.394 ^c	.155	.135	.66913	.060	14.973	1	210	.000

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: ADNTSC

ANOVA^e

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.411	3	1.804	3.613	.014 ^a
	Residual	105.844	212	.499		
	Total	111.255	215			
2	Regression	10.526	4	2.631	5.512	.000 ^b
	Residual	100.729	211	.477		
	Total	111.255	215			
3	Regression	17.230	5	3.446	7.696	.000 ^c
	Residual	94.025	210	.448		
	Total	111.255	215			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: ADNTSC

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	3.448	.719		4.798	.000	2.032	4.865
AGE	-.075	.047	-.108	1.593	.113	-.168	.018
YRSORG	.030	.018	.116	1.692	.092	-.005	.065
COACHWK	.034	.015	.155	2.293	.023	.005	.062
2 (Constant)	2.973	.718		4.144	.000	1.559	4.388
AGE	-.010	.050	-.014	-.192	.848	-.108	.089
YRSORG	.023	.017	.089	1.322	.188	-.011	.057
COACHWK	.032	.014	.149	2.259	.025	.004	.061
SPORT	-.343	.105	-.234	3.273	.001	-.549	-.136
3 (Constant)	1.827	.755		2.418	.016	.338	3.316
AGE	-.021	.049	-.031	-.435	.664	-.117	.075
YRSORG	.022	.017	.086	1.309	.192	-.011	.055
COACHWK	.027	.014	.126	1.961	.051	.000	.055
SPORT	-.294	.102	-.201	2.879	.004	-.495	-.093
INTERNEW	.346	.089	.249	3.869	.000	.170	.522

a. Dependent Variable:
ADNTSC

Hierarchical Multiple Regression Statistics for Sport Type and Interdependence
Predicting Negative Experiences

Model Summary^e

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.157 ^a	.025	.011	.26851	.025	1.794	3	212	.149
2	.257 ^b	.066	.049	.26336	.041	9.376	1	211	.002
3	.261 ^c	.068	.046	.26374	.002	.402	1	210	.527

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: LNNEGEXP

ANOVA^e

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.388	3	.129	1.794	.149 ^a
	Residual	15.285	212	.072		
	Total	15.673	215			
2	Regression	1.038	4	.260	3.743	.006 ^b
	Residual	14.635	211	.069		
	Total	15.673	215			
3	Regression	1.066	5	.213	3.066	.011 ^c
	Residual	14.607	210	.070		
	Total	15.673	215			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT

c. Predictors: (Constant), COACHWK, AGE, YRSORG, SPORT, INTERNEW

d. Dependent Variable: LNNEGEXP

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.642	.273		2.350	.020	.103	1.180
AGE	-.021	.018	-.080	1.155	.249	-.056	.015
YRSORG	-.007	.007	-.075	1.088	.278	-.021	.006
COACHWK	.009	.006	.110	1.619	.107	-.002	.020
2 (Constant)	.472	.274		1.727	.086	-.067	1.011
AGE	.003	.019	.010	1.138	.890	-.035	.040
YRSORG	-.010	.007	-.101	1.471	.143	-.023	.003
COACHWK	.009	.005	.105	1.570	.118	-.002	.019
SPORT	-.122	.040	-.222	3.062	.002	-.201	-.044
3 (Constant)	.546	.298		1.835	.068	-.041	1.133
AGE	.003	.019	.013	1.177	.860	-.034	.041
YRSORG	-.010	.007	-.100	1.460	.146	-.023	.003
COACHWK	.009	.005	.109	1.620	.107	-.002	.020
SPORT	-.125	.040	-.228	3.112	.002	-.205	-.046
INTERNEW	-.022	.035	-.043	-.634	.527	-.092	.047

a. Dependent Variable: LNNEGEXP

Hierarchical Multiple Regression Statistics for Growth Experiences Predicting Burnout

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.139 ^a	.019	.005	.33935	.019	1.374	3	208	.252
2	.633 ^b	.400	.370	.26998	.381	18.231	7	201	.000

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, EMOREG, LNNEGEXP, IDNEX, POSREL, TEAMWRK, INITI, ADNTSC

c. Dependent Variable: LNBO

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.475	3	.158	1.374	.252 ^a
	Residual	23.953	208	.115		
	Total	24.428	211			
2	Regression	9.777	10	.978	13.413	.000 ^b
	Residual	14.651	201	.073		
	Total	24.428	211			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, EMOREG, LNNEGEXP, IDNEX, POSREL, TEAMWRK, INITI, ADNTSC

c. Dependent Variable: LNBO

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.159	.346		.460	.646	-.523	.842
AGE	.035	.023	.108	1.554	.122	-.009	.080
YRSORG	-.008	.009	-.069	-.979	.329	-.025	.009
COACHWK	-.007	.007	-.068	-.975	.330	-.021	.007
2 (Constant)	.554	.303		1.828	.069	-.044	1.153
AGE	.046	.018	.140	2.468	.014	.009	.082
YRSORG	.002	.007	.016	.273	.785	-.012	.016
COACHWK	-.004	.006	-.035	-.596	.552	-.015	.008
IDNEX	-.060	.042	-.110	-	.155	-.142	.023
INITI	-.127	.053	-.191	-	.018	-.233	-.022
EMOREG	-.031	.034	-.067	-.917	.360	-.097	.035
POSREL	.013	.040	.026	.336	.737	-.065	.092
TEAMWRK	-.063	.045	-.111	-	.165	-.151	.026
ADNTSC	-.008	.039	-.018	-.215	.830	-.086	.069
LNNEGEXP	.642	.077	.490	8.285	.000	.489	.794

a. Dependent Variable:

LNBO

Hierarchical Multiple Regression Statistics for Growth Experiences Predicting
Enjoyment

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.209 ^a	.044	.030	.29785	.044	3.233	3	213	.023
2	.562 ^b	.316	.283	.25611	.273	11.725	7	206	.000

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, EMOREG, LNNEGEXP, IDNEX, POSREL, TEAMWRK, INITI, ADNTSC

c. Dependent Variable: LNENJ6M

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.860	3	.287	3.233	.023 ^a
	Residual	18.896	213	.089		
	Total	19.756	216			
2	Regression	6.244	10	.624	9.519	.000 ^b
	Residual	13.512	206	.066		
	Total	19.756	216			

a. Predictors: (Constant), COACHWK, AGE, YRSORG

b. Predictors: (Constant), COACHWK, AGE, YRSORG, EMOREG, LNNEGEXP, IDNEX, POSREL, TEAMWRK, INITI, ADNTSC

c. Dependent Variable: LNENJ6M

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1 (Constant)	.939	.301		3.118	.002	.345	1.532
AGE	-.013	.020	-.046	-.679	.498	-.052	.026
YRSORG	-.014	.007	-.128	1.859	.064	-.029	.001
COACHWK	-.012	.006	-.137	2.027	.044	-.024	.000
2 (Constant)	1.893	.285		6.643	.000	1.331	2.455
AGE	-.019	.017	-.066	1.100	.273	-.053	.015
YRSORG	-.004	.007	-.039	-.645	.519	-.017	.009
COACHWK	-.003	.005	-.032	-.533	.595	-.014	.008
IDNEX	-.043	.038	-.089	1.119	.264	-.118	.033
INITI	-.101	.050	-.169	2.013	.045	-.199	-.002
EMOREG	.032	.031	.078	1.026	.306	-.029	.093
POSREL	-.076	.037	-.165	2.036	.043	-.149	-.002
TEAMWRK	-.086	.042	-.170	2.021	.045	-.169	-.002
ADNTSC	-.059	.037	-.139	1.595	.112	-.131	.014
LNNEGEXP	.050	.069	.045	.721	.472	-.087	.187

a. Dependent Variable: LNENJ6M

Appendix E

Table 1.

Item Wordings for Interdependence Scale Used in Analysis

Item	Wording
1	I have to obtain information and advice from teammates or other athletes I practice with, to perform well.
2	I depend on my teammates or other athletes I practice with to perform well.
4	In order to perform well, I have to work closely with my teammates or other athletes I practice with.
5	My teammates and other athletes I practice with, have to obtain information and advice from me in order to perform well.
6	It (benefits/hinders) me when my teammates or athletes with whom I practice, attain their goals.
7	In my sport, the things my teammates or athletes with whom I practice, want to accomplish and the things I want to accomplish are (compatible/incompatible).
8	It is (advantageous/disadvantageous) for me when my teammates or athletes with whom I practice succeed in their sport.
9	When my teammates or athletes with whom I practice, succeed in their sport, it is at my (expense/benefit).
10	In my sport, how strongly my teammates, or athletes with whom I practice, care about achievement (helps/hinders) my own achievement.
11	When my teammates or athletes with whom I practice succeed in their sport, it works out (positively/negatively) for me.

Table 2.
Factor Loadings of Interdependence Scale

	Factor 1	Factor 2
Item 1	0.144	0.607
Item 2	0.220	0.577
Item 4	0.159	0.559
Item 5	0.173	0.451
Item 6	0.579	0.228
Item 7	0.493	0.268
Item 8	0.638	0.267
Item 9	0.392	0.014
Item 10	0.465	0.145
Item 11	0.608	0.143

Table 3.
Variable Means and Standard Deviations for Growth Experiences, Outcomes and Interdependence

Variable	Basketball <i>M (SD)</i>	Distance Running <i>M (SD)</i>
Growth Experiences		
Identity Experiences	2.91 (.63)	2.81 (.60)
Initiative Experiences	3.19 (.50)	3.16 (.53)
Emotional Regulation	3.04 (.67)	2.81 (.79)
Positive Relationships	3.02 (.66)	2.80 (.63)
Teamwork and Social Skills**	3.26 (.53)	2.95 (.66)
Adult Networks and Social Capital*	2.79 (.71)	2.46 (.71)
Negative Experiences(ln)*	.39 (.30)	.27 (.21)
Outcomes		
Burnout(ln)*	.57 (.34)	.67 (.33)
Enjoyment(-ln)	.57 (.31)	.60 (.28)
Interdependence		
Interdependence	3.75 (.54)	3.63 (.49)

*significant difference, $p < .05$, **significant difference, $p < .001$

Table 5
Partial Correlations Among Variables, With Covariates Controlled (N = 205)

Variables	1	2	3	4	5	6	7	8	9	10	11
Sport Type	.										
Inter-dependence	-.124	.									
Identity Work	-.113	.369**	.								
Initiative Experiences	-.059	.377**	.565**	.							
Emotional Regulation	-.151*	.197**	.488**	.512**	.						
Positive Relationships	-.135	.230**	.513**	.499**	.491**	.					
Teamwork, Social Skills	-.243**	.289**	.480**	.541**	.569**	.570**	.				
Adult Networks, Social Capital	-.203**	.264**	.597**	.497**	.547**	.591**	.593**	.			
Negative Experiences(ln)	-.193**	.010	.111	-.132	.051	.181**	.059	.156*	.		
Burnout(ln)	.102	-.145*	-.243**	-.401**	-.250**	-.142*	-.270**	-.188**	.491**	.	
Enjoyment(-ln)	-.055	-.285**	-.377**	-.424**	-.316**	-.419**	-.433**	-.419**	-.035	.191**	.

* $p < .05$, ** $p > .001$

