

**EXAMINING THE EXPERIENCES OF ATHLETES IN ADULT-LED  
AND PEER-LED YOUTH SPORT**

by

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## Abstract

Participation in a combination of adult-led and peer-led activities appears to lead to favourable outcomes in sport (Côté, Erickson, & Abernethy, 2013). However, very little is known regarding the potential differences in how youth experience these distinct activities. Thus, the purpose of this project was to investigate the subjective and objective experiences of the same individuals across adult-led and peer-led sport activities.

Recreational male soccer players ( $n = 27$ ;  $M_{\text{age}} = 10.11$ ) were examined using direct observation and experience rating scales in an effort to shed light on the impact that adult-led and peer-led sport activities have on the same athletes. The results clearly illustrated that the experiences of youth across these two activities are very different. In the adult-led activities, youth experienced high levels of effort and concentration, and spent more time being physically or mentally engaged. However, antisocial behaviours were also more frequent in the adult-led activities. Meanwhile, youth experienced high rates of prosocial behaviours, sport-related communication, as well as general communication during the peer-led activities. These findings suggest that rather than one approach being comparatively superior to the other, both adult-led and peer-led sport activities have the potential to yield unique benefits towards children's experiences in sport. The results from the present study may have important practical implications if sport programs can utilize the benefits of both adult-led and peer-led activities to offer youth a sport experience which combines the best of both worlds.

## **Co-Authorship**

This thesis presents the original work of Faizan Imtiaz in collaboration with his advisor,  
Dr. Jean Côté.

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# **Chapter 1**

## **Introduction**

In a constantly changing world full of new challenges and issues, it is becoming increasingly difficult to ensure that today's youth remain engaged in constructive activities that will lead to positive developmental outcomes. To this end, researchers and practitioners have been steadfast in attempting to identify and create environments that are conducive for promoting the physical and psychological well-being of children. One setting that has been suggested as a potential contributor to positive youth development is sport (PYD; Holt, 2008). Sport is a voluntary activity for which youth are intrinsically motivated and direct attention as well as effort towards a challenging goal (Larson, 2000). Hence, youth sport has the potential to be one of the healthiest and most beneficial activities during early development (Fraser-Thomas, Côté, & Deakin, 2005). For these reasons, sport represents a rich and fertile ground for examining the developmental experiences of youth.

Though many youth sport activities possess the characteristics necessary to facilitate positive developmental experiences, the reality is that participation in youth sport has also been linked with numerous negative outcomes. For example, a systematic comparison of the experiences of youth in different organized activities revealed that although sport stood out as a setting with high rates of initiative experiences, participants also reported significantly higher rates of stress in sports compared to other organized activities (Larson, Hansen, & Moneta, 2006). Moreover, a study examining the association between sport participation and deviant behaviour in adolescents found a

positive relationship between involvement in sport and the use of smokeless tobacco and alcohol (Rainey, McKeown, Sargent, & Valois, 1996). Furthermore, highly active athletes also reported significantly more episodes of binge drinking compared to non-athletes (Rainey et al., 1996). Participation in contact sports has also been correlated with lower levels of moral reasoning and greater inclinations towards physical and nonphysical aggression in both boys and girls (Bredemeier, Weiss, Shields, & Cooper, 1986). While these findings may appear rather alarming, research has also shown that sport activities that are implemented in positive environments by trained individuals can offer many redeeming features. For instance, when youth sport coaches are trained with specific behavioural guidelines for fostering positive coach-athlete interactions and increasing team cohesion, young athletes experience significant reductions in performance anxiety over the course of a season (Smith, Smoll, & Barnett, 1995). Involvement in youth sport has also been linked to numerous positive physical and psychosocial outcomes including improvements in cardiovascular fitness, decreased risks of future health-related problems, increased self-esteem, as well as the development of important interpersonal skills through positive intergroup and peer relationships (see Fraser-Thomas, Côté, & Deakin, 2005, for a review). These varied results underline the seemingly hit or miss nature of youth sport participation. Furthermore, even when positive outcomes do result from involvement in sport, the specific experiences that youth are exposed to in different sport activities (e.g., practice versus play) are not well understood, leaving this area of sport research understudied.

Although there has been a litany of research on issues that impact the quality of children's experiences in sport such as participation motivation (Allen, 2003), dropout (Fraser-Thomas, Côté, & Deakin, 2008), family influences (Côté, 1999), and coach behaviour (Smith, Smoll, & Barnett, 1995), the dynamics of the activity in which youth sport occurs have been largely ignored (Stean, 1995). Recently, Taylor and Bruner (2012) asserted that more research exploring the specific mechanics by which positive developmental experiences occur through youth sport participation is required. Furthermore, the researchers noted that, to date, minimal research has been conducted regarding the specific contextual factors that impact developmental experiences in youth sport. This may explain why the majority of interventions aimed at improving youth sport programs have focused on attempting to manipulate individuals and their behaviours rather than changing the actual setting itself, which may well be a more effective means for improving interpersonal interactions and experiences in youth sport (Stean, 1995). The need to investigate the influence of different sport activities is further underscored by the fact that youth engagement in sport consists of a wide range of activities that may lead to different experiences and outcomes. For example, youth may engage in playful games, practices, and competitions throughout their development, each of which might provide different developmental results. In addition, although 'playing sport' has been consistently identified as one of the most popular leisure activities for both boys and girls (Olds et al., 2004), how youth perceive different activities within the sport domain has yet to be examined.

One way to distinguish the different activities of youth sport is by considering the amount of instructional control and input that adults have over the activity (Côté, Erickson, & Abernethy, 2013). At one end of the continuum are activities in which adults have total authority in a completely structured environment, such as an adult-led practice. At the other end of the continuum are activities in which there is no formal instruction from adults and the youth are left to govern themselves in a peer-led setting. A combination of adult-led and peer-led activities appears to be important for the development of talent in sport (Côté, Baker, & Abernethy, 2007). Likewise, it has been asserted that diverse participation in a wide range of sport activities may expose youth to quality early learning experiences that are critical for fostering motivation to continue participation in later years (Kirk, 2005). In spite of these potential benefits, very little is known regarding the potential differences in how youth experience adult-led and peer-led sport activities.

The general purpose of the present study is to examine the experiences of individuals participating in adult-led and peer-led sport activities. Youth sport participants will be examined using direct observation and experience rating scales in an effort to shed light on the impact of varying sport activities on the same athletes. The ultimate goal of this project is to gain a better understanding of adult-led and peer-led sport activities, which may in turn contribute towards the development of a youth sport environment which is most conducive towards promoting positive developmental experiences.

## **Chapter 2**

### **Literature Review**

#### **Adult-led and Peer-led Activities**

Most youth programs primarily utilize an adult-led approach to teach skills in an organized setting (Larson, Walker, & Pearce, 2005). It is believed that the adults' greater knowledge and experience allow them to efficiently guide young people in various activities. This type of approach is especially prominent in sport and performance arts, where there are often numerous technical skills to be taught (Larson et al., 2005). For example, research has shown that when adults are instructed to teach youth sport using a mastery approach, which emphasizes the importance of effort and personal improvement, participants experience significantly greater improvements in motor skill development (Theeboom, De Knop, Weiss, 1995). Thus, under the guidance of trained adults operating in a planned and structured environment, youth may be able to develop certain skills more efficiently than if they were left to learn them on their own. However, over-exposure to this adult-led approach may also have detrimental side effects if youth become disengaged due to lack of control (Larson et al., 2005). Indeed, critics have warned that when adults try to teach youth from a completely authoritarian position, youth autonomy and learning may be undermined (Freire, 1970). In light of this, it has been argued that the only way to make activities truly meaningful to youth is by providing them with ample opportunities to make important decisions and experience autonomy during the activity (Laughlin, 1974).

In contrast to the adult-led approach, peer-led activities allow youth to become active participants and learners as they take full control of the activity (Larson et al., 2005). The rationale behind using a peer-led approach is that information is more efficiently communicated between individuals when they share certain commonalities such as age and interests (Mellanby, Rees, & Tripp, 2000). Bearing this in mind, it should come as no surprise that peer-led activities have proved to be particularly valuable in school-based settings where students assist in delivering educational programs to their peers. For example, Botvin and colleagues (Botvin, Baker, Renick, Filazzola, & Botvin, 1984) found that a substance abuse prevention program for seventh grade students was significantly more effective when led by peers compared to adult teachers. More specifically, post-intervention measures revealed that the participants reported significantly fewer instances of monthly smoking, monthly and weekly marijuana use, as well as less alcohol consumption in the peer-led group compared to the adult-led group. While these findings suggest that less structured interactions with fellow peers in a social environment may provide unique developmental benefits, adopting a purely peer-led approach may also have some significant shortcomings. In fact, research has shown that youth report significantly higher rates of negative influences and negative group dynamics in unstructured leisure time with friends than in adult supervised activities such as organized sport (Larson et al., 2006). Consequently, it has been suggested that the lack of adult supervision in peer-led activities may engender problem behaviours and adult-led activities are therefore better suited to provide positive developmental outcomes with less risk for negative experiences (Larson et al., 2006).

In sport, peer-led activities often include games and rules that are adapted from those of organized sport programs, but with slight modifications to maximize action and personal involvement (Coakley, 1983). Action-enhancing modifications, such as eliminating free throws from a basketball game, are aimed at speeding up the pace of the activity and minimizing interruptions in play. Personal involvement is often promoted by unique game rules that allow all of the participants an equal opportunity to stay involved and have a direct impact on the activity. For example, changing the rules of football so that every member of a team is eligible to receive a pass on any play may give players who would otherwise never touch the ball an opportunity to contribute. Along with these benefits towards action and involvement, a word of caution must be mentioned regarding the impact of peer-led sport activities. That is, bigger, more talented individuals may dominate the activity and exploit or even bully smaller, less talented children (Coakley, 2007). Thus, the success of peer-led sport activities is often dependent on whether or not children can effectively manage interpersonal relationships and make decisions that are deemed fair by the entire group (Coakley, 2007).

In adult-led sport activities, youth are still concerned about action and involvement; however, the emphasis shifts towards playing well and winning (Coakley, 1983). Unlike the rule flexibility that is characteristic of peer-led activities, adult-led sport activities are typically regulated by formal rules that are enforced by adult agents such as coaches, referees, and other game officials. The amount of action provided by the activity is normally determined by supervising adults, who decide how much play or practice time each individual receives (Coakley, 1983). This may become problematic if

there is a large discrepancy in skill levels between the participants, as those on the lower end of the talent pool may receive significantly less play time. Personal involvement in adult-led activities is also predominantly determined by adults, who will often assign specific roles and positions to each participant (Coakley, 1983). The adult supervision also tends to minimize the frequency of overt hostility and antisocial behaviours displayed between participants in adult-led sport activities (Coakley, 1983). On the other hand, visible displays of affection and prosocial behaviour also appear to be thwarted as a result of the formal structure and strict adult control (Coakley, 1983).

Though strong endorsements for adopting an adult-led or peer-led approach in favour of the other are widespread, objective comparisons of what actually transpires in these unique activities are scarce. One study which attempted to shed some light on this issue examined four high-quality adult-led and peer-led programs outside of sport (Larson et al., 2005). The researchers found that rather than one approach being comparatively superior to the other, both activities provided unique developmental benefits. In the adult-led programs, the adults effectively facilitated the development of specific skills and talents, while the peer-led programs yielded high degrees of ownership and empowerment while enhancing leadership and planning skills. In the end, the researchers concluded that both approaches offer unique benefits and may be useful in creating optimal youth programs that offer the best of both worlds. Although this study provided some initial insight about the potential benefits of adult-led and peer-led activities, the researchers were only able to examine four programs using qualitative interviews with a subset of the participants. Therefore, further research employing

multiple methodologies is required in order to make more generalizable conclusions about the influence of adult-led and peer-led activities.

In spite of the encouraging research on the balance between adult-led and peer-led activities outside of sport, no known studies have applied this type of direct comparison within the sport domain. However, previous studies have identified that both adult-led and peer-led activities appear to contribute towards elite talent development in sport. Indeed, the developmental histories of elite athletes have shown that their backgrounds typically involve a diverse range of activities and resources. One of the earliest studies to investigate the socialization process of elite athletes was conducted by Carlson (1988), who examined the developmental experiences of the top five male and top five female professional tennis players in Sweden. The developmental histories of these elite athletes were also contrasted with a control group of ten non-elite players who had experienced similar success as the elite players at the junior level, but failed to maintain elite status at the senior level. The results of this study revealed that the majority of elite players came from rural areas where sport was far less structured and there were plenty of opportunities to participate in informal leisure-time sport activities. In contrast, most of the participants in the non-elite group came from urban areas where sport was offered in a much more structured, adult-led format. Furthermore, the group of elite players took part in a diverse range of sport activities during early adolescence while the control group focused primarily on tennis and training. In the end, many elite players acknowledged their appreciation for having had the opportunity to participate in a diverse range of sport

activities during their development and recognized the positive impact that these experiences had on their future success.

Following Carlson's (1988) findings, numerous studies have quantitatively tracked the developmental histories of athletes, drawing similar conclusions regarding the benefits of participating in various sport activities throughout development. In North America, Soberlak and Côté (2003) examined the developmental trajectories of National Hockey League players. Through retrospective data collection, the authors concluded that the athletes participated in different sport activities during the various stages of their development. Specifically, all participants showed similar patterns of gradual increases in practice activities and gradual decreases in play activities as they progressed through their careers. A surprising finding was that athletes actually accumulated more hours in unstructured play activities than structured practice activities between the ages of 6 and 20, highlighting the important role of play activities without adult supervision towards athletic development.

The benefits of participating in unstructured play activities early in development were also underlined by Ford and colleagues (Ford, Ward, Hodges, & Williams, 2003), who examined the impact of play, practice, and competition in a group of youth soccer players. The findings revealed that compared to former elite players who failed to reach professional status as adults, elite youth players who subsequently progressed to professional status in adulthood participated in significantly more soccer play activities between the ages of 6 and 12. In fact, the elite players who went on to play in the professional ranks as adults accumulated more than twice as many hours per year in play

activities compared to their non-professional peers. These results highlight the benefits of participating in informal play activities in one's primary sport towards the development of expert performance.

Clearly adult-led and peer-led activities have important implications for elite performance, but a balance of these activities may also contribute towards prolonged participation in all youth sport athletes participating across various competitive levels. Participation in informal play activities which are inherently enjoyable may foster a natural love for sport in young children, which may in turn serve as motivation to continue participation in later years (Côté, Baker, & Abernethy, 2003). In contrast, excessive involvement in highly-structured practice activities led by adults may have the opposite effect. In fact, Gould, Udry, Tuffey, and Loehr (1996) found that tennis players identified as having experienced burnout reported significantly less input and control into their training regimens, suggesting that they had participated in more structured activities organized and led by adults (i.e., coach, parent). Likewise, Fraser-Thomas and colleagues (2008) reported that in contrast to engaged swimmers, those who had dropped out from the sport had participated in fewer extra-curricular activities and unstructured swimming play throughout development. Collectively, these findings imply that participating in a wide range of structured and unstructured sport activities may protect young athletes from unnecessary stressors that lead to negative sport outcomes such as burnout and dropout.

Together, the literature on adult-led and peer-led activities suggests that both approaches influence development and sport outcomes in unique ways. However, the

impact that these activities have on developmental outcomes has yet to be empirically studied in youth sport. Two potential ways that adult-led and peer-led activities may affect outcomes is through their impact on the subjective and objective experiences of the youth involved.

### **Subjective Experiences**

Research on youth development has recently experienced a paradigm shift towards viewing youth as full of promise and potential rather than problems and difficulty. This positive youth development approach asserts that, rather than trying to reduce or eliminate problem behaviours, the best way to ensure positive development outcomes is by surrounding children with healthy environments that will naturally translate their potential into productivity (Lerner, 2005). Nevertheless, determining the specific characteristics of the environments that best promote favourable outcomes remains unclear. It has been argued that in order for youth activities to lead to positive developmental outcomes, children must learn to give meaning to those activities which they find most intrinsically motivating (Csikszentmihalyi & Larson, 1984). That is, youth must learn to direct their limited energy towards endeavours which are challenging and worthwhile, but at the same time enjoyable enough to maintain motivation over an extended period of time. Hence, experiences that are enjoyable, require high levels of concentration, and challenge the participants to exert high levels of effort have the potential to result in optimal developmental outcomes (Larson, 2000).

Youth experiences may fluctuate across activities that vary in terms of organization and social context (Coakley, 2007). More specifically, children's subjective

experiences differ in informally organized activities controlled by peers compared to formally organized activities controlled by adults (Coakley, 2007). Generally, it has been reported that youth report their lowest levels of intrinsic motivation in places that are most structured and led by adults (Csikszentmihalyi & Larson, 1984). In contrast, they report their highest levels of motivation in the places that are furthest from any adult control (Csikszentmihalyi & Larson, 1984). Along with these general findings, youth subjective experiences also appear to differ across the various domains that make up their daily lives.

School is one of the first activities that must be considered as it represents one of the central components in the life of every young person. In fact, youth spend nearly one-third of their total time in school (Csikszentmihalyi & Larson, 1984). One of the major positives to take away from children's experience in school is that when youth are in class, they report significantly high levels of concentration. At the same time, intrinsic motivation is extremely low. Thus, in spite of the fact that they are engaged in a productive endeavour, youth would much rather spend their time elsewhere (Csikszentmihalyi & Larson, 1984). Subsequent research using similar experience sampling methodologies has found the same pattern regarding the inner subjective experiences of youth during schoolwork (Leone & Richards, 1989). These findings suggest that although youth do not generally enjoy schoolwork, they are extrinsically motivated enough to concentrate and pay attention. Still, this setting does not provide youth with the high levels of enjoyment, concentration, and effort required for optimal development.

Unstructured leisure activities represent a second major domain where youth spend a significant amount of their time. In fact, the largest proportion of American adolescents' time (40%) is spent in leisure activities (Csikszentmihalyi & Larson, 1984). Indeed, youth spend nearly half of their waking hours in self-directed leisure activities, with the majority of this time devoted to socializing with friends and watching television (Csikszentmihalyi & Larson, 1984). When socializing with friends, youth feel active and alert and report high levels of affect and intrinsic motivation (Csikszentmihalyi & Larson, 1984). The only thing preventing these activities from being in complete harmony with the elements suggested for optimal developmental outcomes is the fact that youth also report relatively low levels of concentration and challenge while socializing with friends. The leisure time that youth spend watching television paints a similar picture. While watching television, youth report generally positive levels of motivation, but low levels of concentration (Larson & Kubey, 1983). Therefore, in spite of the fact that youth spend a significant amount of their leisure time watching television, it does not appear to capture their attention and engage them in a productive manner. Thus, similar to schoolwork, leisure activities appear to offer youth some positive experiences, but fail to provide adequate opportunities to experience high levels of enjoyment, concentration and effort in concordance with one another.

One setting which does offer all three of these elements simultaneously is voluntary structured activities such as sport (Csikszentmihalyi & Larson, 1984). By combining the discipline and concentration required in school with the intrinsic enjoyment that is experienced during leisure time with friends, sport distinguishes itself

from all other activities by offering a rare blend of intrinsic motivation and concerted effort that is virtually unmatched in all other aspects of children's daily lives (Larson, 2000). Although these findings highlight the potential of sport to be used as a vehicle towards promoting positive developmental outcomes, the reality is that sport can be experienced in many distinct contexts and more research is required on the impact of different sport activities (e.g., adult-led and peer-led sport activities) on the subjective experiences of youth sport participants.

It has been argued that the sum of immediate experiences in sport is equally as important as the long term effects of sport participation (Chalip, Csikszentmihalyi, Kleiber, & Larson, 1984). However, how participants experience sport activities while they are engaged in them remains largely unknown. In one of the only studies to examine this issue, Chalip and colleagues (1984) monitored the subjective experiences of 75 adolescents during their daily lives, including while participating in various sport activities such as organized sport, informal sport, and physical education classes. The results indicated that compared to baseline self-reports from all parts of their lives, participants reported significantly higher moods during informal sport and gym class, but not during organized sport. These findings suggest that informal sport activities may be more enjoyable than more structured sport activities. Furthermore, levels of challenge were significantly higher during all three sport activities compared to baseline levels, suggesting that all of the sport activities provide equally high levels of challenge. Finally, no significant differences emerged in terms of concentration. In regards to the specific differences between the three sport activities, the youth reported feeling like there was

significantly “more at stake” during organized sport activities. Though this may initially appear to be a by-product of adult influence, the same measure was substantially lower in gym classes where there are also adults present, suggesting that the highly structured component of organized sport may make participants perceive these activities as more important. Another interesting finding of this study was a significant positive correlation between sense of skill and perception of challenge in informal sport, but not in organized sport or gym class. In other words, the participants reported greater consonance between challenge and skill during informal sport, possibly due to the fact that it is much easier to manipulate activities in these types of informal settings. In contrast, the disharmony between challenge and skill in organized sport and gym class suggests that there is often a mismatch between demand and ability in these types of settings. Although this study provided some interesting preliminary findings regarding the subjective experiences of youth in different sport activities, it failed to provide an in-depth description of the objective experiences (i.e., behaviours) that youth are exposed to in varying sport activities. Hence, a study examining the subjective and objective experiences of the same youth sport athletes in distinct sport activities (i.e., adult-led and peer-led) could add substantially to the existing knowledge base.

### **Objective Experiences**

Regardless of the activity, it is clear that youth sport occurs in a social context that is heavily influenced by adults (e.g., coaches and parents) and peers (Brustad, Babkes, & Smith, 2001). Although the behaviours of coaches and parents have garnered considerable attention from researchers (e.g., Côté, 1999; Smith, Smoll, & Barnett,

1995), the behaviours of peers in sport remains a relatively unexplored topic (Murphy-Mills, Bruner, Erickson, & Côté, 2011). This is unfortunate because peer interactions play a major role in the developmental experiences of youth, especially in late childhood and adolescence (Brustad et al., 2001). Through interactions with peers, youth acquire a wide range of behaviours, skills, and attitudes that influence their development throughout their life span (Rubin, Bukowski, & Parker, 2006). Early experiences with peers have important implications for the development of children's social, emotional, as well as cognitive functioning (Rubin et al., 2006). In light of this, it has been asserted that peer interactions are imperative for children's social development because they contribute to the advancement of social competencies in a manner that is distinct from children's interactions with adults (Rubin et al., 2006).

The extant literature on peer interactions in sport has shown that there may be an important connection between peer acceptance and physical competence. For example, Evans and Roberts (1987) reported that boys' social status plays an important role in determining the amount of playing and leadership opportunities they receive in informal sport activities. Likewise, Weiss and Duncan (1992) found a significant positive relationship between peer acceptance and indices of physical competence in both boys and girls ranging in ages from 8 to 13 years. Specifically, children who scored high in perceived and actual peer acceptance also perceived themselves as being highly physically competent and were rated high in competence by their teachers. Furthermore, greater perceived acceptance by one's peer group is also positively associated with physical self-worth in adolescent males and females (Smith, 1999). Besides having

important implications for the development of physical competence, positive peer interactions may also facilitate psychosocial development in youth sport participants. A study by Daniels and Leaper (2006) investigated this question by examining the longitudinal relationship between sport participation, perceived peer acceptance, and global self-esteem in a group of adolescent boys and girls. The analyses revealed that peer acceptance significantly mediated the relationship between sport participation and self-esteem, highlighting the importance of viewing sport participation outcomes in light of the larger social context in which they occur. Along with their influence on physical and psychosocial development, peer interactions may also affect motivation in sport. In fact, greater perceptions of friendships and peer-acceptance are associated with more positive affect towards physical activity, which, in turn, enhances motivation for participation (Smith, 1999). Thus, the presence of positive social relationships may attract youth to sport and serve as motivation to stay involved throughout their development. Indeed, positive social interactions with peers have been cited as one of the most salient sources of sport enjoyment among youth sport athletes (Scanlan & Simons, 1992). In contrast, difficult and unpleasant interactions with peers have also been identified as a major source of stress in elite adolescent athletes (Scanlan, Stein, & Ravizza, 1991).

Given the enormous amount of influence that peer interactions have on the experiences of youth in sport, it is surprising that athlete behaviours have not been extensively studied. Indeed, researchers have called for more studies on peers in sport as this may enhance our understanding of the psychological outcomes related to youth sport participation (Brustad et al., 2001). However, empirical studies investigating athlete

behaviours remain infrequent. In the few studies that have examined athlete behaviours in sport, factors such as prosocial and antisocial behaviour (e.g., Kavussanu, Seal, & Phillips, 2006), sport related communication (e.g., Hanin, 1992), and the amount of time spend being engaged during the activity (e.g., McKenzie, 1986) have been identified as important determinants of children's experiences in sport.

**Prosocial and antisocial behaviour.** In sport, prosocial behaviour can be defined as voluntary behaviour that is exhibited with the intention of helping or benefiting others (e.g., helping an opponent off the floor; Kavussanu, Seal, & Phillips, 2006). In contrast, antisocial behaviour can be defined as behaviours which intend to harm or disadvantage others (e.g., aggressive acts such as trying to injure opponents; Kavussanu et al., 2006). It has been argued that if sport is to be used as a means to build prosocial character, researchers must determine if and when prosocial behaviours are exhibited during sport activities (Kavussanu, 2006). To this end, Kavussanu (2006) recently utilized post-participation questionnaires to examine the effects of goal orientations and perceived motivational climate on prosocial and antisocial behaviour in male youth soccer. Hierarchical regression analyses revealed that task orientation and mastery climate were positive predictors of prosocial behaviour, while ego orientation and performance climate were positive predictors of antisocial behaviour. That is, athletes who were more likely to use self-referenced criteria to evaluate their competence and focused on personal progress and improvement were significantly more likely to report engaging in prosocial behaviours. From these findings, the author concluded that youth sport activities must strive to strengthen task orientation and mastery climate in order to foster positive

interactions between athletes. A significant drawback of this study was the use of self-reported questionnaires rather than direct observation to measure the frequency of prosocial and antisocial behaviours.

To address this limitation, Kavussanu and colleagues (2006) followed up these findings by complementing similar questionnaires with a direct video observation component to measure prosocial and antisocial behaviours in adolescent male soccer teams. The coding system used to analyze the athletes' behaviours consisted of a list of prosocial (e.g., helping opponents, congratulating opponents, kicking ball out of play for an injury) and antisocial behaviours (e.g., late tackle, provoking opposing players, shirt-pulling) constructed from previous observation of soccer games, previous research on moral behaviour and sport, and consultation with expert players. The findings revealed that although the athletes' self-reports indicated similar amounts of engaged prosocial and antisocial behaviours, the actual observed frequencies of antisocial behaviours were much greater, and much more diverse, than the observed prosocial behaviours. The authors also noted that a significant limitation of this study was that all of the behaviours were coded and analyzed only at the group level, and not for each individual athlete. Identifying and analyzing each participant's individual behaviour should be pursued as the results may yield unique findings in term of how athletes vary in their behaviours during the same activity.

More recently, Šukys and colleagues (Šukys, Zakrasienė-Stankevičiūtė, Nickus, & Šukienė, 2011) also used direct video observation to examine the manifestation of observed prosocial and antisocial behaviours in adolescent basketball players during

league games. Similar to the study by Kavussanu and colleagues (2006), the coding system used to evaluate athlete behaviour consisted of a list of behaviours that could be attributed to prosocial (e.g., respecting referee decisions, respecting opponents, game etiquette) and antisocial (e.g., demonstration of anger, physical aggression, obscene words) actions. The authors reported that when the difference in final score of the games was less than 10 points, athletes displayed significantly more antisocial behaviours such as demonstrations of anger and the use of obscene language. Together, these findings suggest that as the competitive environment increases, so do the antisocial behaviours exhibited by athletes. This is noteworthy as researchers have asserted that we must identify which practices are likely to mitigate the negative effects of competition in order to promote prosocial development in youth sport (Kleiber & Roberts, 1981). Similar to the work conducted by Kavussanu and colleagues (2006), the study by Šukys and colleagues (2011) only examined athlete behaviours at the group level, leaving the investigation of observed prosocial and antisocial behaviours by each individual unexamined. Furthermore, the observed frequencies of prosocial and antisocial behaviours have only been examined during competitive games, limiting the generalizability of the results to other sport activities. To advance these findings, researchers must examine the frequency of prosocial and antisocial behaviour exhibited by each individual athlete in varying sport activities.

**Sport related communication.** Along with prosocial and antisocial behaviours, another important component of athlete interaction is direct communication with peers. Communication is especially critical in team sport settings where athletes must

effectively coordinate their actions with one another by continuously adapting to a complex, changing field of information (LeCouteur & Feo, 2011). In fact, researchers have claimed that communication may be the single most important aspect of intra-team interactions (Sullivan & Feltz, 2003). Additionally, it has been argued that the study of social interactions within the sport domain would benefit greatly from the examination of real life communicative behaviours displayed by athletes in competitive and training environments (Hanin, 1992). In spite of this call, the process of intra-group communication has been continuously neglected within the sport psychology literature.

In one of the few studies to examine communication in sport, Hanin (1992) investigated the communication patterns of collegiate and national teams from numerous ball sports such as volleyball, basketball, and handball. Athlete behaviours were coded using an observational system consisting of five categories: 1) orienting (i.e., planning and coordinating actions with teammates), 2) stimulating (i.e., urging teammates to alter activity levels), 3) evaluation (i.e., positive and negative appraisal), 4) task irrelevant (i.e., communication having no direct impact on sport activity), and 5) performance behaviour (i.e., sport specific actions). The results indicated that the top teams from each sport exhibited stable communication patterns within their respective sport. However, communication patterns varied between sports, with “stimulating” behaviours being most common in volleyball and “orienting” behaviours being the most frequent in basketball and handball. These findings highlight the importance of context and how different sport activities may yield distinct behaviours and communication patterns.

More recently, LeCouteur and Feo (2011) examined verbal communication between elite level international netball defenders during successful (i.e., no shot allowed) and unsuccessful (i.e., shot allowed) defensive plays. An observational system was developed to code verbal communication into the following four categories: 1) tactical (i.e., instructions to teammates), 2) motivational (i.e., verbal encouragement), 3) other (i.e., unrelated to the play), and 4) none (i.e., no verbal communication). The analysis revealed that players engaged in more communicative behaviour during unsuccessful defensive play, suggesting that athlete communication may be enhanced during critical moments.

Communication patterns between teammates were also examined by Lausic and colleagues (Lausic, Tennenbaum, Eccles, Jeong, & Johnson, 2009), who videotaped and analyzed verbal and non-verbal communication between winning and losing pairs in women's collegiate tennis. These researchers used a total of six categories to code the athlete behaviours: 1) action, 2) acknowledgement, 3) factual, 4) emotional, 5) non-task, and 6) uncertain. Results showed that, overall, the winning pairs communicated twice as much as the losing pairs and also had more homogenous communication patterns. Furthermore, "emotional" and "action" behaviours were the most common interactions, accounting for over 84% of the total communication patterns.

Together, these findings clearly demonstrate that the amount and quality of communication exhibited by athletes is greatly dependent on the activities and situations to which athletes are exposed. Apart from these few studies, however, the literature on observed athlete communication in sport is extremely limited, and the work which has

been done has focused exclusively on how communication impacts performance related outcomes in elite athletes. Likewise, researchers have examined athlete communication only during competitive games. Hence, a study examining the sport-related and non-sport related communication patterns in a population of youth sport athletes participating in both adult-led and peer-led sport activities is warranted.

**Time spent being engaged.** Another important aspect of athlete behaviour is the amount of time youth spend being mentally and physically engaged during sport activities. Although sport has the potential to provide developmental benefits such as experiencing adequate levels of daily physical activity, it is not clear how much physical activity is actually provided in various sport activities (Leek et al., 2011).

In order to investigate youth engagement in a wide variety of activities, Trost and colleagues (Trost, Rosenkranz, & Dziewaltowski, 2008) used accelerometers to analyze physical activity levels in after school programs consisting of numerous structured and unstructured activities such as free play, organized games, snack time, and academic time. Within the sport activities, the researchers found that moderate-to-vigorous activity was significantly higher during free play compared to organized sport activities. The authors concluded that these findings should serve as an important reminder that facilitating children's natural inclination to move freely in an unstructured environment is an important strategy that should be employed in order to promote physical activity levels. Furthermore, the researchers noted that a significant limitation of this study was that the accelerometers failed to capture the actual behaviours that were displayed by athletes and the social environments in which these behaviours occurred (Trost et al.,

2008). To address these limitations, it has been suggested that studies using direct video observation are required in order to capture the complex contextual features of athlete engagement during sport activities (Troost et al., 2008).

In one of the rare studies that examined levels of athlete engagement using direct video observation, McKenzie (1986) investigated the physical and mental engagement of elite American National level volleyball players during a coach-led practice. It was expected that under the supervision of experienced coaches, highly motivated athletes would consistently display high-quality practice behaviours that would maximize practice efficiency. Athlete behaviours were coded into the following predetermined physical and mental categories: 1) motor appropriate (i.e., motor skill behaviour at appropriate intensity or execution), 2) motor inappropriate (i.e., motor skill behaviour at inappropriate intensity or execution), 3) motor support (i.e., motor skill behaviour with intent to service other players), 4) non-motor attending (i.e., attending to instructions), 5) non-motor waiting (i.e., waiting in line until one's turn), 6) non-motor interim (i.e., attending to non-instructional behaviour), 7) non-motor maintenance (i.e., not engaged in ongoing activity), 8) non-motor off-task (i.e., engaged in inappropriate behaviour). The results indicated that the players spent 82.4% of the total practice time either physically or mentally engaged in the activity. More specifically, athletes were physically engaged in motor appropriate behaviour during 54.2% of the total practice time, while 28.2% of their time was spent being mentally engaged in non-motor behaviours such as listening to instruction or waiting in line during drills.

Although McKenzie's study provided some insightful information regarding the engagement levels of elite athletes in practice settings, it failed to account for athlete behaviours across varying sport activities and skills levels. Thus, a study examining the physical and mental engagement of youth sport athletes in both adult-led and peer-led sport activities could add substantially to the existing body of knowledge.

### **Direct Behavioural Observation**

The natural interactions and behaviours that take place in various youth sport activities clearly play a major role in how participants experience sport. However, specific research efforts designed to evaluate and understand the behaviours that make up these interactions are lacking (Murphy-Mills et al., 2011). In the limited studies that have examined the impact of athlete behaviour in sport, researchers have primarily utilized traditional methodological techniques to focus on individual perceptions of their interactions (e.g., Kavussanu, 2006). While this research has been necessary and valuable, it fails to capture the complex and dynamic nature of peer interactions in naturalistic sport settings. In order to address this gap in the literature, it has been suggested that researchers should draw from a variety of methods and approaches including direct observation in order to build on the existing knowledge base regarding athlete behaviour in youth sport (Brustad et al., 2001). Using video observations, researchers can directly observe, record, and analyze the behaviour of individuals in either laboratory or naturalistic settings (Coie, Dodge, & Kupersmidt, 1990). Thus, researchers can use observational coding systems to systematically define and operationalize behaviours (Coie et al., 1990). Therefore, behavioural observation can be

used to complement other methodological tools such as self-reported rating scales by providing a unique behavioural account of the natural interactions that occur in youth sport (Murphy-Mills et al., 2011).

As mentioned earlier, only a few studies have examined athlete behaviour using a direct observation approach. Moreover, the coding systems developed for these studies have been designed to focus only on a specific set of behaviours such as prosocial and antisocial behaviour (e.g., Kavussanu et al., 2006; Šukys et al., 2011), athlete communication (e.g., Hanin, 1992; LeCouteur & Feo, 2011; Lausic et al., 2009), and levels of engagement (McKenzie, 1986). As a result, there is currently no observational system capable of capturing the full spectrum of athlete behaviours within the sport psychology literature.

In developmental psychology, however, there has been a long tradition of observing and coding youth behaviours in naturalistic and experimental play settings. Dodge (1983) developed a comprehensive event recording coding system designed to capture the breadth of peer interactions in youth play groups. Each play group, consisting of eight participants between the ages of 7 and 8 years, participated in 20 minutes of structured activity time led by an adult instructor followed by 40 minutes of unstructured free time with adult supervision but no intervention. The observational system was composed of 18 main categories spanning over five overarching themes: 1) solitary activity, including categories such as solitary play, watching peers, on-task behaviour and off-task behaviour, 2) interactive play, which included categories such as cooperative play and rough and tumble play, 3) verbalizations, covering categories such as social

conversations, rule-making and directions, hostile verbalizations and supportive verbalizations, 4) physical contact with peers, including categories such as striking peers, grabbing and altering objects, and affectionate behaviour, and 5) interactions with group leader, consisting of two categories, namely conversation with adult leader and being reprimanded by the adult leader. A similar coding system was developed by Rubin (2001) to assess youth free play behaviours in early and middle childhood. Rubin's *Play Observation Scale* includes 5 cognitive play categories: 1) functional (e.g., repetitive motor movements with or without objects), 2) constructive (e.g., manipulating objects to construct or create something), 3) exploration (e.g., reading), 4) dramatic (e.g., taking on a role of someone else), 5) games-with-rules (e.g., basketball) that youth can engage in either by themselves, parallel to other children, or in a group. Additionally, several non-play categories (e.g., active conversation; unoccupied and onlooker behaviour; overt and relational aggression; rough and tumble play) may also be recorded.

The main difference between the coding systems developed by Dodge (1983) and Rubin (2001) and the ones from the sport psychology literature is that they cover a wide range of behaviours that may occur in both structured and unstructured youth activities. Likely, a synthesis of these types of general coding system with the previously mentioned coding systems from the sport psychology literature may be required in order to study athlete behaviours in various sport activities.

### **Purpose**

The purpose of the present study is to determine whether the subjective (i.e., enjoyment, concentration, and effort) and objective (i.e., prosocial and antisocial

behaviour, sport related and non-sport related communication, and levels of engagement) experiences of the same athletes vary in adult-led and peer-led sport activities. Specific hypotheses are as follows:

- 1) In light of the fact that intrinsic motivation and affect appear to be relatively higher in unstructured activities compared to those structured and led by adults (Csikszentmihalyi & Larson, 1984), it is hypothesized that enjoyment will be significantly higher in the peer-led activities compared to the adult-led activities.
- 2) During adult-led sport activities, youth focus their energy on performing well and winning (Coakley, 1983), which requires high levels of concentration and effort. Likewise, it has been shown that structured sport activities tend to yield high levels of challenge among youth (Chalip et al., 1984). Therefore, it is hypothesized that both effort and concentration will be significantly higher in the adult-led activities compared to the peer-led activities.
- 3) Youth report significantly higher rates of negative influences and negative group dynamics in unstructured leisure activities compared to adult supervised activities such as organized sport (Larson et al., 2006). At the same time, overt displays of affection and prosocial behaviour are also diminished in highly structured activities led by adults (Coakley, 1983). Thus, we expect significantly higher rates of both prosocial and antisocial behaviours in the peer-led activities compared to the adult-led activities.

4) Structured sport activities are effective at engaging youth over an extended period of time (Larson, 2000). Thus, we expect levels engagement to be significantly higher in the adult-led activities compared to the peer-led activities.

5) Finally, it is hypothesized that the autonomy that youth are afforded in peer-led activities will enhance self-expression and lead to significantly higher rates of both sport-related and general communication among athletes (Coakley, 1983).

## **Chapter 3**

### **Methods**

#### **Participants**

Participants were recruited from four recreational male soccer teams in Eastern Ontario. All of the players ( $n = 27$ ) were between the ages of 10 and 12 ( $M = 10.11$ ,  $SD = 0.32$ ) and played in the same youth soccer league. Along with the athletes, one female instructor also played a prominent role in the study by leading all of the adult-led activities and supervising all of the peer-led activities. The instructor was a former University Varsity Women's Soccer player and had accumulated more than 18 years of playing experience over the course of her career. Furthermore, she had amassed over 9 years of experience as a coach in youth soccer. However, the instructor did not possess any formal coach education or certifications.

#### **Procedure**

All of the athletes, along with the athletes' parents were required to provide written consent/assent prior to participation in the study. A brief information session was also provided for the athletes and parents in order to further explain the nature of the project and to answer any questions prior to the data collection process. Each participating team was videotaped using two video cameras, which were set up on opposite sides of the soccer field in order to capture all of athletes' behaviours and interactions. Athletes' verbalizations were captured using a combination of microphones attached to the video cameras and a mobile parabolic microphone. Each team was videotaped three times, for a total of 12 videotaped sessions. For each team, the first

videotaped session served two important purposes: 1) to acclimatize the athletes to the presence of the research team and being videotaped, and 2) to act as a pilot video to test and refine the observational coding system. The two subsequent videotaped sessions were used for data analysis and consisted of one adult-led and one peer-led sport activity. In order to counterbalance the effect of which activity the athletes experienced first, two of the teams were videotaped participating in the adult-led activity first, while the other two teams were videotaped participating in the peer-led activity first.

To control for variance in activity structure between the four teams, the same instructor led all of the activities. The instructor followed the same general outline for each activity (see Appendix A). More specifically, each adult-led activity began with a quick introduction by the instructor in regards to the goals and formal rules of the activity. Following the introduction, each team participated in 15 minutes of ball control drills led by the instructor. After a short water break, each team continued the adult-led activity by engaging in 15 minutes of passing drills typical of a youth soccer practice. Following a second water break, the instructor concluded each adult-led activity with a controlled scrimmage that included frequent stoppages and debriefings intended to provide feedback and instruction to the players.

Similar to the adult-led activities, the instructor initiated each peer-led activity by outlining regulations of the activity. Each team was then supplied with all of the equipment (e.g., balls, cones) that was utilized in the adult-led activities. The players were also instructed to stay within the bounds of play in order to make sure that they remained observable to the cameras. Apart from these general guidelines, the participants

were given the freedom to do whatever they liked during the peer-led activity. The instructor was asked to stay on the sidelines in order to ensure that there were no serious injuries. However, the instructor was also explicitly told to refrain from intervening or influencing the activity in any manner.

Along with the video observation, the athletes were administered an experience sampling rating scale designed to assess their subjective experiences twice during each activity. The rating scales were administered before the two water breaks, which occurred roughly 15 and 30 minutes into each activity. The scores were averaged for each individual in order to obtain a more accurate measure of the athletes' experiences during each activity. The rating scale was composed of three short questions in order to minimize the disruption of the activities. All of the athletes were able to complete the form and return to the session within five minutes. The primary researcher clearly explained to the athletes that they were answering the questions based on their current feelings and emotional states for the activity in which they were participating. The primary researcher also emphasised confidentiality and highlighted the independent nature of the rating scale. All of the data were collected mid-season within a two month time frame.

## **Measures**

**Subjective experiences measure.** Athletes' self-reported experiences were assessed using a 3-item rating scale designed to capture the level of enjoyment (1 item; "How much do you enjoy what you are doing?"), effort (1 item; "How hard are you working?"), and concentration (1 item; "How hard are you concentrating?") experienced

by each individual during the adult-led and peer-led sport activities (see Appendix B). The rating scale was adapted from the experience sampling methodology (Csikszentmihalyi & Larson, 1987), which aims to provide systematic self-reports of individuals' subjective experiences at random occasions during their daily lives. The athletes responded to these questions using a 9-point Likert-type scale ranging from 1 (not at all) to 9 (very).

**Objective experiences measure.** Athlete behaviours were coded using a new, contextually based coding system designed to capture the breadth of athlete behaviours across various sport activities. The development of this coding system was in accordance with the process recommended by Brewer and Jones (2002) for creating a valid and reliable observational instrument for use in sport. Brewer and Jones (2002) emphasized that the behavioural categories of existing coding systems must be carefully reviewed and adapted to the context of use in order to minimize the frequency of “uncodable” behaviours and to capture a complete and accurate record of the event under study. The newly developed Revised Athlete Behaviour Coding System (R-ABCS) is intended for observation of youth soccer players across varying adult-led and peer-led sport activities. The R-ABCS provides an exhaustive list of mutually exclusive behavioural categories that cover the full spectrum of behaviours displayed by youth soccer players. A detailed description of how the behavioural categories were selected for inclusion is discussed below.

***Athlete behaviour categories.*** Although there is a longstanding tradition of directly observing coach behaviours in sport (e.g., Smith, Smoll & Hunt, 1977; Erickson,

Côté, Hollenstein, & Deakin, 2011), the same cannot be said regarding observational research on athlete behaviours (Murphy-Mills et al., 2011). Recently, Vierimaa (2013) developed the first known coding system designed exclusively to measure athlete behaviours in sport. The Athlete Behaviour Coding System (ABCS; Vierimaa, 2013) utilizes continuous time-sampled recording to measure both the frequency and duration of athlete behaviours. The coding system was designed to examine the behavioural interactions of adolescent females participating in volleyball practices. The ABCS is comprised of the following eight behavioural content categories: 1) prosocial communication, 2) technical/tactical communication, 3) directive communication, 4) general communication, 5) engaged, 6) non-cooperative/disruptive, 7) antisocial communication, and 8) uncodable.

The ABCS is well equipped to account for the breadth of athlete behaviours displayed in sport. Therefore, it was chosen as the base upon which the coding system used by the present study was developed. However, amendments were nonetheless required to the ABCS in order to adapt it to the context of the present study examining the behaviours of youth soccer athletes participating in adult-led and peer-led sport activities. The development of the R-ABCS began with the 8 categories included in the original ABCS. Pilot videos of adult-led and peer-led youth soccer practices were then reviewed in order to make sure that no behaviours were given undue prominence and no behaviours were mistakenly absent from the original coding system. Moreover, an extensive review of previous coding systems examining participant interactions both in sport (Hanin, 1992; Kavussanu et al., 2006; Lausic et al., 2009; LeCouteur and Feo,

2011; McKenzie, 1986; Šukys et al., 2011) and beyond (Dodge, 1983; Rubin, 2001) further guided the modification process. The adapted coding system included the following 7 behaviour content categories: 1) prosocial behaviour, 2) antisocial behaviour, 3) sport-related communication, 4) general communication, 5) engaged, 6) disengaged, and 7) uncodable. A summary of the behavioural categories is presented in Table 1, and an in-depth description of the complete coding manual can be found in Appendix B.

Table 1.

*The Revised Athlete Behaviour Coding System (R-ABCS)*

Behaviour category	Behavioural description
1. Prosocial behaviour	Behaviours explicitly aimed at helping or benefiting others. Can be both verbal and non-verbal: E.g., giving a teammate a high-five; “good job, bud!”
2. Antisocial behaviour	Behaviours explicitly aimed at harming or disadvantaging others. Can be both verbal and non-verbal: E.g., pushing an opponent; “you guys suck at soccer!”
3. Sport-related communication	Any communication between two participants that is related to the sport activity: E.g., giving instruction to teammates; “pass me the ball!”
4. General communication	Any communication between two participants that is unrelated to the sport activity: E.g., making a comment about a car that just drove by; “have you seen that movie?”
5. Engaged	Athlete is physically or mentally engaged in the activity and not directly communication with another participant: E.g., athlete is participating in a drill; athlete is listening to the coach’s instructions between drills
6. Disengaged	Athlete is not physically or mentally engaged in the activity and not directly communicating with another participant: E.g., athlete refuses to participate in a drill; athlete purposely goes against the coach’s instructions
7. Uncodable	Athlete is out of view for an extended period of time and no reasonable assumption can be made about his behaviour: E.g., athlete leaves the field and does not return for the remainder of the practice

When modifying the ABCS, the first issue that needed to be addressed was the fact that the original coding system was designed to study female adolescents in a

competitive volleyball context. In contrast, the present study aims to examine youth males in a recreational soccer context. The marked differences in sport, sex, age, and competitive level necessitated a thorough review and adjustment of the behaviours that were included in the original coding system in order to contextualize the coding system to the specific sport setting being addressed.

Another major alteration was the amalgamation of the “technical/tactical communication” and “directive communication” categories into one general category labeled “sport communication”. In light of the fact that the ABCS was designed to provide an in-depth description of the behavioural profiles of female volleyball players, having two distinct categories for athletes’ sport related communication was justified. However, the aim of the present study is not to describe, but rather to compare the behaviours of athletes across varying sport activities. Thus, having one distinct category which encompasses all of the sport related communication displayed by athletes was deemed most appropriate. Furthermore, researchers have asserted that combining behavioural categories that appear to be closely related may significantly reduce measurement error and improve the reliability of coding systems (Sherman & Hassan, 1984).

***Establishing context validity.*** Members of a panel consisting of an elite level soccer player, youth soccer coaches, and researchers with extensive experience in the field of systematic observation were consulted independently and asked to provide feedback regarding the appropriateness of the behavioural categories contained in the R-

ABCS. Upon debriefing, each individual approved the specificity of the behavioural categories.

*Coder training and reliability.* The primary researcher and an independent coder engaged in an extensive, multi-step process to establish the inter-rater reliability of the R-ABCS. The first step involved an extensive review of the coding manual as well as the objectives of the present study in order to develop a clear understanding regarding the intended utility of the coding system. The coders then met and discussed any potential questions that arose during the review phase. The coders then reviewed multiple pilot videos while informally discussing how they would code particular behaviours using the R-ABCS. This phase proved to be especially valuable as any disagreements that arose between the coders were extensively debated until a clear consensus was reached concerning how the behaviour should to be coded. Next, in order to establish inter-coder reliability, each coder repeatedly coded 10 minutes of video until an acceptable standard for frequency agreement was achieved. Frequency agreement refers to the total number of times that all coders activate the same behavioural codes within a three second window. The coders were required to meet a minimum agreement of 75% on frequency on two consecutive video segments before being allowed to code videos intended for data analysis (Erickson et al., 2011; Hollenstein, Granic, Stoolmiller, & Snyder, 2004). The coders successfully met the criteria, averaging 94.5% agreement on frequency between the two consecutive segments.

## **Data Analysis**

In order to compare the subjective experiences of each athlete between the adult-led and peer-led sport activities, two-tailed dependent t-tests ( $p$ -value set at .05) were utilized to examine whether the two groups scored significantly differently on enjoyment, effort, and concentration between the two activities. Additionally, effect sizes ( $d$ ) were calculated to indicate the respective strengths of the observed relationships. Effect sizes of 0.20, 0.50, and 0.80 were considered small, medium and large effects, respectively (Cohen, 1992).

The second analysis examined the objective experiences of the same athletes across adult-led and peer-led sport activities. The Observer XT Software by Noldus (Noldus, Trienes, Hendricksen, Jansen, & Jansen, 2000) was utilized to continuously code (accounting for every second of the videotaped activity) the behaviours of each athlete in both adult- and peer-led sport activities. Together, the videos for the adult-led and peer-led activities were viewed 52 times (once for each athlete) in order to code all of the athlete behaviours. Each team was assigned to a specific coder, who coded the behaviours of each athlete during the adult-led and peer-led activities for that particular team. Though coding times varied depending on the amount and type of interactions displayed by the athletes, the coders were able to analyze roughly 20 minutes of video per hour. Thus, it took approximately 20 hours of continuous coding to account for all of the athlete behaviours. Frequencies of prosocial behaviour, antisocial behaviour, sport related communication, and general communication were summed to provide a total score for each individual during the adult-led and peer-led activities. For engagement and disengagement, the amount of time that each individual spent in each category was

summed for both activities. In order to account for the slight differences in activity durations, all of the scores were standardized by dividing the total frequency or duration of each behavioural category by the number of minutes the activity lasted (e.g., 50 minutes) and multiplying by 60 to get a rate per hour. Finally, two-tailed dependent t-tests ( $p$ -value set at .05) were employed to determine if the frequency of prosocial behaviour, antisocial behaviour, sport related communication, general communication displayed per hour by each individual differed between the adult-led and peer-led activities. Likewise, two-tailed dependent t-tests ( $p$ -value set at .05) were also used to determine if the amount of time that each individual spent being engaged and disengaged per hour differed between the two activities. Moreover, effect sizes ( $d$ ) were calculated to indicate the strength of each relationship.

## Chapter 4

### Results

#### Preliminary Analysis

There were no univariate outliers found in the z-score distribution of the subjective experiences scores. Furthermore, the distribution of subjective experiences difference scores between the adult-led and peer-led activities was normally distributed.

As for the objective experiences data, eight video segments were used for analysis, with each segment including an average of 1599.63 behavioural events ( $SD = 380.76$ ), or a total of 12,797 behavioural events. Of these 12,797 total events, there were only 4 incidences of disengaged behaviour displayed by the athletes across both adult-led and peer-led activities. In light of these extremely rare occurrences, the disengaged variable was deemed irrelevant and removed from any subsequent analysis. One univariate outlier was found in both the adult-led antisocial behaviour and adult-led general communication variables ( $z > \pm 3.29, p < .001$ ; Tabachnick & Fidell, 2001). Moreover, the distribution of the objective experiences difference scores was non-normally distributed ( $z > \pm 2.58, p < .01$ ; Tabachnick & Fidell, 2001) for both of these variables. In an attempt to remedy the data, square root transformations were carried out on the raw scores of the adult-led antisocial behaviour and adult-led general communication variables. The transformations proved to be successful, as no univariate outliers were found and the data for both variables were normally distributed following the transformations. It should be noted that for ease of interpretation, the raw mean and

standard deviation scores will be displayed herein for all of the variables. However, the transformed scores were utilized when conducting the t-tests.

### **Main Analysis**

**Subjective experiences.** Descriptive statistics for athletes' subjective experiences across the adult-led and peer-led sport activities can be found in Table 2. In general, the participants rated both sport activities very highly in terms of enjoyment, concentration and effort. As a matter of fact, the lowest mean score between all three variables was 7.60 out of 9. The results from the dependent t-tests revealed that, on average, participants did not experience a significant difference in enjoyment between the adult-led activities ( $M = 8.05$ ,  $SD = 1.10$ ) and peer-led activities ( $M = 7.66$ ,  $SD = 1.02$ ),  $t(25) = 1.59$ ,  $p > .05$ ,  $d = 0.37$ . For effort, participants did, on average, score significantly higher in the adult-led activities ( $M = 8.11$ ,  $SD = 1.05$ ) compared to the peer-led activities ( $M = 7.63$ ,  $SD = 1.07$ ),  $t(25) = 2.12$ ,  $p < .05$ ,  $d = 0.45$ . Likewise, the participants reported significantly higher rates of concentration in the adult led activities ( $M = 7.98$ ,  $SD = 0.91$ ) as opposed to the peer-led activities ( $M = 7.60$ ,  $SD = 0.96$ ),  $t(25) = 2.30$ ,  $p < .05$ ,  $d = 0.41$ .

Table 2

*Descriptive statistics of athletes' subjective experiences across adult-led and peer-led sport activities.*

Variable	Adult-led		Peer-led	
	M	SD	M	SD
Enjoyment	8.05	1.10	7.66	1.02
Effort	8.11	1.05	7.63	1.07
Concentration	7.98	0.91	7.60	0.96

**Objective experiences.** Descriptive statistics regarding the frequency of prosocial behaviour, antisocial behaviour, sport-related communication, and general communication displayed by athletes per 60 minutes of activity are summarized in table 3. The results of the dependent t-tests comparing the frequencies of different behaviours revealed that, on average, participants displayed significantly more prosocial behaviours in the peer-led activities ( $M = 9.01$ ,  $SD = 6.93$ ) compared to the adult-led activities ( $M = 3.35$ ,  $SD = 3.50$ ),  $t(25) = -5.44$ ,  $p < .001$ ,  $d = -1.03$ . In fact, the frequency of prosocial behaviours displayed per hour was nearly three times greater in the peer-led activities. In contrast, antisocial behaviours were displayed, on average, significantly more in the adult-led activities ( $M = 2.98$ ,  $SD = 4.68$ ) compared to the peer-led activities ( $M = 0.78$ ,  $SD = 1.29$ ),  $t(25) = 2.59$ ,  $p < .05$ ,  $d = 0.64$ . Indeed, athletes engaged in more than three times as many antisocial behaviours per hour in the adult-led activities. Moving on to communication, the results show that participants displayed significantly more sport-

related communication in the peer-led activities ( $M = 101.80$ ,  $SD = 47.55$ ) as opposed to the adult-led activities ( $M = 78.29$ ,  $SD = 29.09$ ),  $t(25) = -3.79$ ,  $p < .001$ ,  $d = 0.60$ .

Similarly, there was significantly more general communication displayed in the peer-led activities ( $M = 21.12$ ,  $SD = 21.12$ ) compared to the adult led activities ( $M = 3.84$ ,  $SD = 4.55$ ),  $t(25) = -3.97$ ,  $p < .001$ ,  $d = -1.13$ . As a matter of fact, the athletes exhibited more than five times as many general communicative behaviours in the peer-led activities.

Table 3

*Descriptive statistics for the frequency of behaviours displayed per 60 minutes across adult-led and peer-led sport activities.*

Variable	Adult-led		Peer-led	
	M	SD	M	SD
Prosocial behaviour	3.35	3.50	9.01	6.93
Antisocial behaviour	2.98	4.68	0.78	1.29
Sport-related communication	78.29	29.09	101.80	47.55
General communication	3.84	4.55	21.12	21.12

Finally, the analysis comparing the amount of time that participants spent being physically and mentally engaged across the adult-led and peer-led activities revealed that participants spent the vast majority of their time being engaged during both activities. More specifically, the athletes spent over 93% of their total time being engaged in the adult-led activities, while over 85% of their time was spent being engaged in the peer-led activities. Although engagement was very high in both settings, the results of the

dependent t-test comparing levels of engagement between the two activities revealed that athletes spent significantly more time being engaged during the adult-led activities ( $M = 55.98$ ,  $SD = 1.85$ ) compared to the peer-led activities ( $M = 51.11$ ,  $SD = 5.03$ ),  $t(25) = 6.04$ ,  $p < .001$ ,  $d = 1.29$ .

## **Chapter 5**

### **Discussion**

The purpose of the present study was to determine whether the subjective (i.e., enjoyment, effort, and concentration) and objective (i.e., prosocial and antisocial behaviour, sport related and general communication, and levels of engagement) experiences of the same youth sport athletes varied across adult-led and peer-led sport activities. The results clearly illustrate that the experiences of youth across these distinct activities are markedly different. Inconsistent with our hypothesis that enjoyment would be higher in the peer-led activities, the findings revealed that there were no significant differences between the two activities. However, as expected, effort and concentration were both significantly higher in the adult-led activities. Meanwhile, objective experiences that supported our hypotheses included higher rates of prosocial behaviour, sport-related communication, and general communication in the peer-led activities, as well as higher levels of physical and mental engagement in the adult-led activities. Finally, our hypothesis regarding the frequency of antisocial behaviours was not supported, as youth displayed significantly higher rates of antisocial behaviours in the adult-led activities. Collectively, these findings indicate that both adult-led and peer-led sport activities contribute unique benefits towards children's experiences in sport.

#### **Benefits of adult-led activities**

**Enjoyment.** One of the most interesting findings from the present study was the lack of significant differences in enjoyment between the adult-led and peer-led sport activities. In fact, both activities were rated very highly, suggesting that youth perceive

adult-led and peer-led sport activities to be equally enjoyable. While these results were expected for the peer-led activities, the high levels of enjoyment experienced in the adult-led activities are somewhat surprising considering the fact that previous research has shown that youth generally report higher levels of intrinsic motivation in unstructured peer-led activities compared to those under adult control (Csikszentmihalyi & Larson, 1984). One possible explanation for these results could be that sport is a rare exception to this trend. That is, unlike highly structured adult-led activities from other domains such as school, structured sport activities may not only yield high levels of effort and concentration, but also give way to high levels of enjoyment as well. In fact, studies examining the subjective experiences of elite athletes during various sport activities have reported that the structured sport activities which are rated as most relevant to improving individual performance are also the ones rated as most enjoyable (Helsen, Starkes, & Hodges, 1998; Hodges & Starkes, 1996). These findings highlight the fact that highly structured sport practices have the potential to not only be productive but also inherently enjoyable.

Another possible explanation for why enjoyment was not significantly higher in the peer-led sport activities is the role that the instructor played in the present study. Indeed, adult influence has consistently been identified as a major determinant of children's positive and negative experiences in sport (Fraser-Thomas et al., 2005). Having a competent, caring adult leading youth sport activities could contribute considerably towards participants experiencing high levels of enjoyment. As it relates to the present study, the instructor's prior experiences as an elite player and youth coach may have

allowed her to create a positive sport atmosphere that was deemed highly enjoyable by the athletes. Indeed, research has shown that having skilled coaches leading structured youth sport practices can significantly alter the subjective experiences of children in sport. For example, Smoll and colleagues (Smoll, Smith, Barnett, & Everett, 1993) found that trained and untrained coaches distinctively influenced the subjective experiences of youth baseball players between the ages of 10 and 12. Specifically, the researchers reported that compared to the untrained coaches, those that were taught to provide positive reinforcement for effort, mistake-contingent encouragement, and detailed technical instructions ended up coaching players who reported significantly higher levels of enjoyment at the end of the season. A similar study was conducted by Scanlan and Lewthwaite (1983), who investigated the predictors of sport enjoyment in a group of competitive youth wrestlers aged 9 to 14. The results indicated that compared to athletes who had more negative post-season perceptions, those who felt like their coaches were more satisfied with their effort and performance reported greater levels of enjoyment at the end of the season. These findings indicate that enjoyment in adult-led activities is highly dependent on the characteristics and leadership of the adult in charge.

**Effort, concentration, and engagement.** Effort, concentration, and engagement were significantly higher in the adult-led activities compared to the peer-led activities. These results suggest that adult-led activities may be well suited to provide youth with a structured environment in which they must remain engaged and exert concerted effort over an extended period of time. These findings are consistent with previous research highlighting the ability of adult-led sport activities to engage and challenge youth

(Larson, 2000). For example, studies utilizing self-reports of children's subjective experiences during their daily lives have found that youth report significantly high levels of effort and concentration during structured sport activities (Csikszentmihalyi & Larson, 1984). Similarly, it has been shown that compared to baseline levels from all facets of their lives, youth report experiencing significantly higher levels of challenge while they are participating in structured sport activities (Chalip et al., 1984).

Likely, high levels of effort, concentration, and engagement experienced by youth in the adult-led activities are the result of formal structure. In fact, researchers have proclaimed that young athletes are attracted to structure and clearly defined limits in sport, while at the same time being deterred by unpredictability and inconsistency (Smith & Smoll, 1997). In light of this, it has been recommended that youth sport coaches should attempt to structure sport activities in such a way that things always remain under control and the activity progresses efficiently through drills and frequent stoppages (Smith & Smoll, 1997). Adult-led sport activities may be well equipped to provide these features as they are typically composed of sequences of individual and collective responses to predetermined adult orders (Coakley, 1983). A formal outline for youth to follow throughout the activity may ensure that participants do not become disengaged and lose focus. This point is especially relevant to the present study as the instructor followed a detailed outline during all of the adult-led activities. This formal structure could have, in turn, arbitrarily increased levels of effort, concentration, and engagement.

Along with the formal structure of the activity, the actual presence of an adult authority figure may also lead to youth experiencing high levels of effort, concentration,

and engagement in adult-led activities. Indeed, it has been asserted that learning how to manage relationships with authority figures is one of the major benefits that youth experience in structured sport activities (Coakley, 2007). By adhering to the rules and regulations set out by the adult leader, youth learn the importance of meeting expectations in highly structured settings. Furthermore, adult-led activities give youth the opportunity to gain knowledge concerning the importance of accepting decisions made by individuals in positions of legitimate power. This notion has been previously echoed by Sage (1978), who argued that adult-led sport activities will necessarily bring about conformity and engagement from participants due to their emphasis on performance and skill development. By establishing a clear hierarchy of power from the onset of the activity, organized sport activities compel participants to submit their wills to the adult leader (Sage, 1978). Thus, regardless of their personal feelings regarding the individual in charge of the activity, those who partake in adult-led sport activities will obey instructions and remain engaged as that is exactly what the activity mandates. In the present study, the instructor began each adult-led activity by clearly outlining the formal rules and regulations that would regulate the activity. By being exposed to these demands right from the beginning of the activity, athletes may have felt more inclined to remain engaged and adhere to the regulations set out by the instructor.

**Antisocial behaviours.** Along with the aforementioned benefits of the adult-led sport activities, it is also important to note that the results of the present study also highlighted a potential drawback of highly structured sport activities led by adults. Namely, the frequency of antisocial behaviours displayed by athletes was significantly

higher in the adult-led activities compared to the peer-led activities. Indeed, athletes engaged in more than three times as many antisocial behaviours per hour during the adult-led activities. These results are surprising considering the fact that youth generally report lower rates of negative influences in activities supervised by adults compared to unstructured leisure activities with peers (Larson, 2006). Likewise, research has shown that the presence of an adult tends to minimize the frequency of overt hostility and antisocial behaviours exchanged between participants in structured sport activities (Coakley, 1983).

One factor that could account for the unique results found in the present study is competition. Regardless of the amount of influence that adults have vested on the activity, there is no doubt that all sport activities include some degree of competition. Moreover, it has been suggested that athletes are drawn to sport in large part due to the competitive and physical nature that various sport activities provide (Helsen et al., 1998). For example, a cross-cultural analysis of children's motives for sport participation revealed that youth from the United States, Australia, and New Zealand all included competition and the excitement of competition as one of their primary reasons for being involved in competitive sport (Weinberg et al., 2000). As a matter of fact, competition was rated as the single most important reason for participation, accounting for 33.9 % of the total variance (Weinberg et al., 2000). Additionally, other studies examining youth motivation for sport participation have found that competition and challenge are consistently cited among the most important reasons for participation among both boys and girls (Gill, Gross, & Huddleston, 1983; Gould et al., 1985).

In spite of these benefits, an over-emphasis on competition may also lead to higher rates of antisocial interactions between participants if athletes perceive the sport activity to be overly competitive. Adult-led activities may naturally ramp up competition levels due to their inherent focus on elements such as feedback, evaluation, and winning and losing (Adler & Adler, 1998). This is consistent with previous research showing that there is greater emphasis on performing well and winning in adult-led sport activities compared to those managed by peers (Coakley, 1983). Along the same lines, it has been shown that youth report feeling as though there is significantly “more at stake” in organized sport activities compared to informal sport activities and physical education classes (Chalip et al., 1984). In the present study, one of the primary roles of the instructor during the adult-led activities was to provide feedback and corrective instruction to the participants. This element of evaluation may have inclined athletes to focus more on their performance and less on the moral and social aspects of the activity.

### **Benefits of peer-led sport activities**

**Prosocial behaviours.** One of the most noteworthy findings from the present study is reflected in the fact that rates of prosocial behaviours were significantly higher in the peer-led activities compared to the adult-led activities. As a matter of fact, the frequency of prosocial behaviours displayed per hour was nearly three times greater in the peer-led activities. These results are in line with Coakley’s (1983) assertion that visible displays of affection and prosocial behaviours are more likely to occur in peer-led activities due to their informal, play-type atmosphere. One possible explanation for this finding is that youth were provided with autonomy in terms of activity choices during the

peer-led activities, which may have afforded them more opportunities to act upon their natural predisposition to engage in positive interactions with peers. Indeed, children's desire to experience friendships and positive social norms in sport is well documented (Allen, 2003). For example, Alderman (1976) reported that opportunities to attain, maintain, and consolidate positive personal interactions with other participants served as the most salient source of athletes' motivation to persist in their sport participation. Furthermore, these incentives for positive affiliation are consistent among children regardless of their age, sport, sex, or culture (Alderman, 1978). Opportunities to freely interact with peers and develop friendships may be more readily available in peer-led activities, contributing to the greater frequency of prosocial behaviours observed in this setting.

Another possible explanation is that the athletes may have felt more inclined to interact with one another positively during the peer-led activities in order to ensure the longevity of each activity. With no adult leader present to intervene and resolve conflicts as they arise, youth must deal directly with the consequences of their actions in peer-led activities (Coakley, 1983). As such, children quickly realize that they must interact with one another positively and avoid skirmishes that may have detrimental side effects and possibly jeopardize the short term and long term future of the activity (Coakley, 1983). In fact, researchers have suggested that individuals will be more likely to adhere to social norms and cooperate with one another when they have a say in forming the rules of the activity and publicly commit to abiding by them (Smith & Smoll, 1997). In light of the fact that participants were given the independence to form their own set of rules during

the peer-led activities, it is not surprising that they also displayed more occurrences of prosocial behaviours.

The findings concerning the high rates of prosocial behaviours in the peer-led activities may have important implications for the types of activities that youth are exposed to in sport. Indeed, it has been asserted that if sport is to be used as a means to foster prosocial tendencies in children, researchers must determine the specific settings in which these behaviours are most frequent (Kavussanu, 2006). The results of the present study highlight the ability of peer-led sport activities to expose youth to prosocial interactions. Hence, the inclusion of peer-led sport activities may prove to be extremely beneficial for sport organizations looking to promote prosocial development through youth sport participation.

**Communication.** Along with yielding higher rates of prosocial behaviours, youth also displayed significantly higher levels of both sport-related and general communication in the peer-led activities. The peer-led activities may have facilitated communication between participants by allowing them to freely interact with each other throughout the activity. In contrast, communication may have been thwarted during the adult-led activities due to the fact that youth were required to listen and adhere to the instructions of the adult for a significant portion of the activities. The increased communication in peer-led activities could also be explained by the fact that these types of activities generally require youth to use a myriad of interpersonal skills throughout the activity. In fact, it has been argued that the success of peer-led activities is often contingent upon the interpersonal skills of the participants (Coakley, 2007). Furthermore,

a longitudinal ethnographic study examining children's participation across various social activities revealed that peer-led sport activities teach youth how to use a wide range of communicative skills such as organization, negotiation, and problem solving (Adler & Adler, 1998). For example, youth must organize and plan what they wanted to do, set up parameters, and establish rules and roles for the participants in peer-led sport. Likewise, they must routinely negotiate differences in desires, select which course of action is best, and make adjustments whenever things do not go according to plan. Furthermore, youth must utilize a wide range of problem solving skills due to the fact that arguments, hurt feelings, and fights are bound to occur in peer-led activities. By being exposed to these various issues and challenges, youth learn how to effectively communicate with one another and find resolutions to the many complications that arise when they are in control of the activity (Adler & Adler, 1998).

The flexibility that is characteristic of peer-led sport activities may also give way to high levels of communication between participants by stimulating creativity in youth. Though a lack of adult direction may initially stall peer-led activities, this minor set-back may also force youth to realize that they cannot be passive and wait for things to happen on their own. Indeed, it has been suggested that the flexibility of peer oriented play activities allows youth more opportunities to explore, experiment, and alter reality so that it fits with their unique perceptions of the world (Devereux, 1976). On the other hand, youth are unlikely to acquire anything beyond a relatively limited learning experience if they are unable to manipulate and control the environment of the activity in which they are participating (Devereux, 1976). Insofar as communication is concerned, Kleiber

(1976) stated that peer-led activities that are free of limiting rules and regulations will naturally foster self-expression as participants realise that they are in a safe environment with peers who are only making judgements in that specific context. Opportunities to be creative and express one's ideas are likely to enhance communication between participants as they discuss the numerous options at their disposal in peer-led sport activities.

The results regarding the high levels of sport-related and general communication in peer-led sport activities are especially noteworthy given that social development is often stated as one of the primary objectives of most contemporary youth sport organizations (Gould & Carson, 2008). Certainly, the ability to learn how to communicate effectively with peers and adults is often prioritized as one of the major goals of large scale intervention programs that aim to incorporate the teaching of transferable life skills in structured sport programs. The results of the present study suggest that, rather than altering structured, adult-led sport activities, the development of social skills may be naturally fostered during peer-led activities. Indeed, it has been argued that in order for sport experiences to serve their socialization function effectively, it is imperative that youth engage in a wide range of sport activities composed of varying levels of complexity (Devereux, 1976, Côté et al., 2013). In this light, peer-led sport activities may be used as a vehicle to promote social development in youth through increased exposure to positive interactions such as prosocial behaviours and intra-group communication. ,

## **Chapter 6**

### **Conclusions**

The analysis from the present study suggests that rather than one approach being comparatively superior to the other, both adult-led and peer-led sport activities have the potential to yield unique benefits towards children's positive experiences in sport. In the adult-led activities, youth experienced high levels of effort, concentration, and engagement, all of which may be important for the development of specific skills and talents. Meanwhile, youth experienced high rates of prosocial behaviours as well as sport-related and general communication during the peer-led activities, which may contribute to the development of important social skills.

These results may have important practical implications if sport programmers can utilize the potential benefits of both adult-led and peer-led activities and offer youth a sport experience which combines the best of both worlds. Indeed, it has been argued that sport programs should offer youth a more diverse sporting experience consisting of various activities in order to ensure favourable outcomes (Coakley, 1983; Côté et al., 2013). One way to go about this is by incorporating both adult-led activities as well as peer-led activities into youth sport programs. Through exposure to both settings, youth may be able to extract unique benefits that would otherwise be unattainable if they were exposed exclusively to only one of the settings. Alternatively, sport programs could also incorporate peer-led components into already existing adult-led practices. This may be a more feasible option as the vast majority of sport organizations only offer adult-led activities to youth (Devereux, 1976).

## **Limitations and Future Directions**

As with any research findings, it is important to consider the implications of the present study in light of its inherent limitations. Firstly, the results from both activities may have been significantly influenced by presence of the adult instructor. In the adult-led activities, the instructor clearly played a major role in how the youth experienced the activity. In light of this, it is important to note that youth experiences may vary substantially across adult-led activities which rely heavily on adult control. Though the results of the peer-led activities may be more consistent than those of the adult-led activities, the mere presence of the adult instructor may have nonetheless indirectly influenced how the youth experienced the activity. That is, in spite of the fact that the instructor did not directly intervene in the activity, her presence may have altered the behaviours and interactions displayed by the participants.

Furthermore, although the experiences of youth sport athletes were examined across varying activities, all of the data were obtained from the sport of soccer. Examining and comparing youth experiences across different sports would certainly be beneficial and may yield interesting results regarding how athlete's experiences are unique to particular sports. Given that this was the first study to examine the subjective and objective experience of the same athletes across adult-led and peer-led activities, focusing only on one sport was deemed most appropriate. However, branching out to other sports may prove to be a worthwhile endeavour moving forward.

Another limitation of the present study involves the generalizability of the results across varying competitive contexts and age levels. It may be that the results of the

present study are reflective only of children participating in a recreational soccer environment. Hence, it is conceivable that older athletes participating in elite competitive levels may have different experiences. Moreover, the present study only examined the experiences of athletes at one point in time. Future studies may benefit from using longitudinal designs to investigate how the subjective and objective experiences of the same athletes change over the course of a sport season. This type of analysis may shed light on how the experiences and interactions of young athletes develop and evolve as they progress through a complete season.

Overall, the present study clearly established that the experiences of youth sport athletes differ across adult-led and peer-led sport activities. These findings contribute to the existing body of literature by providing researchers with clear justification for examining the impact of varying sport contexts in greater detail. Although the present study did not examine developmental outcomes, the results strongly suggest that the implications of participating in adult-led and peer-led sport activities may be very different. Through the use of various methodologies such as developmental questionnaires, qualitative interviews, and accelerometers, researchers should investigate how participation in adult-led and peer-led sport activities affects developmental outcomes. This line of research will help to build on the existing knowledge base regarding how youth experience sport and aid in developing sport environments which are most conducive for the psychological and physical well-being of children.

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## **Appendix A**

### **Guidelines for the Adult-led and Peer-led Activities**

### **Adult-led Activities Timeline**

Pre-activity: Instructor outlines formal goals and rules for the activity.

Minutes 1-15: Instructor leads youth in various dribbling and ball control drills. Instructor should frequently stop the drills and provide feedback as needed.

Minutes 15-20: Water break and 1<sup>st</sup> Experience Sampling Rating Scale.

Minutes 20-35: Instructor leads youth in various passing drills. Instructor should frequently stop the drills and provide feedback as needed.

Minutes 35-40: Water break and 2<sup>nd</sup> Experience Sampling Rating Scale.

Minutes 40-55: Instructor is to provide frequent feedback and input as youth engage in a controlled scrimmage.

### **Peer-led Activities Timeline**

Pre-activity: Instructor outlines regulations for the activity.

Minutes 1-15: Youth are provided equipment and allowed to participate in 15 minutes of uninterrupted peer-led sport activities.

Minutes 15-20: Water break and 1<sup>st</sup> Experience Sampling Rating Scale.

Minutes 20-35: Uninterrupted peer-led sport activities.

Minutes 35-40: Water break and 2<sup>nd</sup> Experience Sampling Rating Scale.

Minutes 40-55: Uninterrupted peer-led sport activities.

## **Appendix B**

### **Experience Sampling Rating Scale**

## Experience Sampling Rating Scale

Name: \_\_\_\_\_

Directions: Please answer the following 3 questions based on your feelings about the **current adult-led** activity you are participating in.

### Enjoyment

---

**How much do you enjoy what you are doing?**

---

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Not at all		Not really		Neutral		Somewhat		Very

---

### Effort

---

**How hard are you working?**

---

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Not at all		Not really		Neutral		Somewhat		Very

---

### Concentration

---

**How hard are you concentrating?**

---

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Not at all		Not really		Neutral		Somewhat		Very

---

## Experience Sampling Rating Scale

Name: \_\_\_\_\_

Directions: Please answer the following 3 questions based on your feelings about the ***current peer-led*** activity you are participating in.

### Enjoyment

---

**How much do you enjoy what you are doing?**

---

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Not at all		Not really		Neutral		Somewhat		Very

---

### Effort

---

**How hard are you working?**

---

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Not at all		Not really		Neutral		Somewhat		Very

---

### Concentration

---

**How hard are you concentrating?**

---

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
Not at all		Not really		Neutral		Somewhat		Very

---

**Appendix C**  
**Coding Manual**

## **REVISED ATHLETE BEHAVIOUR CODING SYSTEM (R-ABCS)**

### **Quick Reference Sheet**

#### **Subject (letters)**

A – Athlete A  
B – Athlete B  
C – Athlete C

#### **Athlete Behaviour Content**

##### **1 – Prosocial**

- Verbal (e.g., “that was a nice shot!”, “good try”, etc.)
- Non-verbal (e.g., high five, thumbs up, celebration after goal, etc.)

##### **2 – Antisocial**

- Verbal (e.g., “that was an awful shot!”, “you suck”, etc.)
- Non-verbal (e.g., aggressive slide tackle, pushing/shoving, kicking another participants ball away on purpose during a drill, etc.)

##### **3 – Sport related communication**

- E.g., organizing a drill and directing other participants, setting up a scrimmage, picking teams for a drill or game
- E.g., “pass me the ball”, “go back and play defence now”, etc.

##### **4 – General communication**

- E.g., talking about school, movies, food
- E.g., “have you even seen that movie?”, “it smells like pizza”

##### **5 – Engaged**

- Physical (e.g., participating in a drill, running after a ball, etc.)
- Mental (e.g., listening to coach’s instruction, moving between drills, etc.)

##### **6 – Disengaged**

- Actively disrupting the activity or refusing to participate

##### **7 – Uncodable**

## **General Overview**

The Revised Athlete Behaviour Coding System (R-ABCS) is intended to continuously code the behaviours of youth sport athletes across various sport activities (e.g., adult-led and peer-led sport activities). The R-ABCS was developed through numerous amendments to existing coding systems from multiple domains of research including coach-athlete interactions (e.g., Erickson, Côté, Hollenstein, & Deakin, 2011), athlete interactions (e.g., Vierimaa, 2013), athlete prosocial and antisocial behaviour (e.g., Kavussanu, Seal, & Phillips, 2006), athlete communication (e.g., LeCouteur, & Feo, 2011), athlete engagement (McKenzie, 1986), as well as peer interactions in adult-led and peer-led activities outside of sport (e.g., Dodge, 1983; Rubin, 2001).

The R-ABCS has been created for use across various sport activities. However, for the purpose of the present study, the coding system has been designed to focus on athlete behaviours in adult-led and peer-led soccer activities. As a result, some fragments of the coding system (e.g., descriptions and examples of behavioural categories) may be specific to the sport of soccer and minor modifications may be required prior to applying the R-ABCS in other sport contexts.

Each code included in the R-ABCS is based on behaviours across two main dimensions:

### **1 - Subject**

- This dimension refers to the participant whose behaviour is being coded at any given time. Before being allowed to choose from any of the behavioural content categories, coders must identify which participant is engaging in the behaviour by selecting from a set of unique identification codes assigned to each of the participants.

### **2 - Content**

- The content dimension refers to the specific behaviour that the athlete is engaging in at any given time. These categories can be interaction and solitary, verbal and non-verbal, as well as physical and mental.

### **Coding Procedure**

The R-ABCS is applied using the Observer XT Software by Noldus (Noldus, Trienes, Hendricksen, Jansen, & Jansen, 2000). The Observer XT allows for the continuous coding of behaviours at different playback speeds, while maintaining a proper time reference. Using a computer keyboard, independent coders score participant behaviours in real-time while going through each video file. More specifically, coders score the subject and content of each behaviour that is displayed during the video segment.

The continuous behaviours displayed by all participating individual must be coded for each video file. In order to become familiar with the data, it is recommended that coders watch each video that they will be coding prior to actually coding it. Moreover, it is also highly recommended that rather than focusing on the behaviours displayed by all of the participants simultaneously, coders should focus on and code the behaviours of one particular individual throughout the activity, subsequently moving on to the next participant until everyone is accounted for. The amount of time required to code each activity will vary depending on number of participants, experience of the coder, and the behavioural content that is being exhibited in each activity.

## **Coding Rules**

Along with the general overview and procedural instructions, the following coding rules are intended to provide coders with explicit decision making rules on how to code ambiguous behaviours.

### **1 – Three Second Rule**

This rule implies that a coder must wait three seconds before changing an individual's behaviour from any active code to "engaged". More specifically, this rule applies to the following situation:

- A coder must wait three full seconds prior to coding an athlete as "engaged" when his behaviour is transitioning from any active behavioural code. In other words, the waiting period from the time that the original behaviour stopped must be at least three seconds in order for you to code the athlete as "engaged". If this occurs, the coder would rewind the video back three seconds and begin coding the athlete as "engaged" at the true initiation point of the behaviour. For example, if two athletes are conversing with one another, and then pause momentarily before resuming their conversation, the pause must be at least three seconds in order for their communicative code to change. Finally, if a separate behaviour occurs within this three second period, it can be coded immediately as it occurs.

### **2 – Default Codes**

This rule states that in the absence of any observable behaviour, specific behavioural codes are to be coded by default. These default codes are to be used only when the specific criteria for every other behavioural category cannot be established. The following default code may be utilized in the absence of any other codable behaviour:

- "Engaged" if the athlete is not directly interacting with anybody and not being actively disruptive

## **Subject Identification**

Due to the fact that there are multiple participants in each video, coders must specify which subject they intend to code prior to coding for behavioural content. Once a subject is assigned a designated ID, he must be coded using that same ID for the remainder of the analysis. Each participating athlete will be given a unique subject code prior to the initiation of coding. The subject codes will be referenced by each participant's name and physical appearance (e.g., clothing, jersey number).

An example of subject codes are:

a – Athlete A  
b – Athlete B  
c – Athlete C  
d – Athlete D  
e – Athlete E  
f – Athlete F  
g – Athlete G  
h – Athlete H  
i – Athlete I  
j – Athlete J  
k – Athlete K  
l – Athlete L  
m – Athlete M  
n – Athlete N  
o – Athlete O  
p – Athlete P  
q – Athlete Q  
r – Athlete R  
s – Athlete S  
t – Athlete T  
u – Athlete U  
y – Athlete Y  
z – Athlete Z

## Athlete Content

### 1 – Prosocial Behaviour

Explicit behaviour that is voluntarily displayed with the intention of helping or benefiting others. Behaviour must clearly reflect an element of affection, concern, empathy, and cooperation towards the interaction individual or group.

- Includes verbal behaviour displayed towards an individual (e.g., good job buddy!) or group (e.g., great job, guys!)
- Also includes non-verbal physical behaviour towards an individual (e.g., hugging a teammate after he scores a goal) or group (e.g., giving every member of the team a high five during a group huddle)
- Typical behaviours include compliments, encouragement, physical displays of affection, positive reinforcement, helping individuals following an injury.
- Also includes apologies (e.g., “sorry that was a bad pass”) or reconciliation (e.g., that’s alright, we’ll get it next time”) after mistakes or failures

### Examples

- Following a team huddle, athlete a goes around and gives a high five to each member of his team prior to resuming with the activity.

Code: *athlete a* → *prosocial behaviour* (Note: player who receives the high five is also coded as displaying prosocial behaviour if he returns the high five)

- Athlete a runs up to athlete b after he scores a goal and gives him a high five.

Code: *athlete a* → *prosocial behaviour*; *athlete b* → *prosocial behaviour*

- After athlete a misses a shot on a breakaway, athlete b provides verbal encouragement (e.g., nice try, buddy!)

Code: *athlete b* → *prosocial behaviour*

- Athlete a goes back to athlete b and helps him up of the field after accidentally tripping him

Code: *athlete a* → *prosocial behaviour*

### Non-Examples

- A team huddles up together and discusses as one group. However, there are no explicit physical or verbal behaviours or affection exchanged between the players.

Code: *athlete a* → *sport related communication*

## **2 – Antisocial Behaviour**

Explicit behaviour which is voluntarily displayed with the intention of helping or disadvantaging or harming others. Behaviour must clearly reflect an element of blame, criticism, disapproval or negative emotion towards an individual or a group of individuals.

- Includes physical behaviour that is exhibited towards an individual (e.g., aggressive physical contact with another participant) or an individual's equipment (e.g., kicking away another individual's ball away from him during a drill)
- Verbal behaviour such as the use of obscene language towards an individual (e.g., "you are a jerk") or group (e.g., "your team sucks!"). Also includes sarcasm intended to highlight another individual's poor performance
- Category also encompasses threats made towards other individuals or groups regardless of whether or not they are actually carried out.
- Typical behaviours include pushing teammates or opponents, aggressive tackles intended to injure opponents, name-calling, laughing at individuals following an injury.
- Also includes non-verbal behaviour such as negative or aggressive body language

### **Examples**

- Athlete a runs towards athlete b and pushes him to the group before taking away his ball.

Code: *Code: athlete a* → *antisocial behaviour*

- During a drill, athlete a makes a mistake by passing the ball in the wrong direction, to which athlete b responds by saying, "that was the worst pass ever!"

Code: *athlete b* → *antisocial behaviour*

- Athlete a kicks the ball of athlete b away from him while he is engaging in a drill. Athlete b subsequently kicks the ball of athlete a away in a similar manner

Code: *athlete a* → *antisocial behaviour*; *athlete b* → *antisocial behaviour* (Note: if athlete b does not retaliate, only athlete a is coded as displaying antisocial behaviour. However, as soon as there is retaliation, athlete b is also coded as antisocial.

- Athlete a kicks the ball of athlete b away from him while he is engaging in a drill. Athlete b turns to athlete a and threatens to retaliate if he does it again.

Code: *athlete a* → *antisocial behaviour*; *athlete b* → *antisocial behaviour* (Note: even if athlete b does not actually carry out the threat, any overt threat containing physical or emotional aggression is to be coded as antisocial behaviour.

- Athlete a throws his hands up in the air and shakes his head after athlete b makes a poor pass towards him

Code: *athlete a* → *antisocial behaviour* (Note: although there is no physical or verbal elements of aggression in the behaviour, the visible display or negative body language towards another individual warrants the antisocial code.

### **Non-example**

- Athlete a runs up to his teammate after he misses a shot and criticizes him with a smile on his face, to which the teammate responds with laughter.

Code: *athlete a* → *sport related communication* (Note: in certain situations, context must be taken into consideration while interpreting certain behaviours. In a case such as this one, if it is clearly discernible that athlete a was making a lighthearted comment towards his teammate with no intention of harm, and both players interacted with one another in a positive manner, the behaviour should not be coded as antisocial.

### **3 – Sport-related communication**

Any communication that is directly related to the sport activity. Can include communication related to organization, feedback, instruction, and technique between two individuals or an individual and a group.

- Includes verbal communication related to organization between individual (e.g., “you go on that team”) or group (e.g., “you guys start on that end”)
- Giving, receiving, or asking for feedback (e.g., “am I doing this right?”)
- Instructional communication between individuals (e.g., you should kick it a little softer”) and groups (e.g., we need to play more aggressively”)
- Can also be non-verbal if the behaviour is clearly detectable (e.g., waving hand in the air to ask for a pass)
- If instructor is providing one-on-one instruction or feedback to an individual, the athlete may be coded as displaying “sport related communication”. However, if instructor is conveying general instructions or providing feedback to the whole group, the athletes should be coded as “engaged”
- High threshold: short bursts of communication such as yelling a teammates name or waving to call for a pass must be clearly audible or visible in order to be coded as sport related communication

## **Examples**

- Instructor asks if anyone knows how to perform a specific skill, to which athlete a responds by putting up his hand and then demonstrating the skill when he is acknowledged by the instructor.

Code: *athlete a* → *Sport-related communication*

- Athlete a asks athlete b whether or not he is correctly performing a skill. Athlete b provides correctional feedback on how to improve.

Code: *athlete a* → *sport-related communication*; *athlete b* → *sport-related communication*

- Athlete a runs up the sidelines with his hand outstretched in the air in order to signal to his teammate for a pass.

Code: *athlete a* → *sport-related communication* (Note: In this situation, the behaviour should only be coded as communication if it is clearly apparent that athlete a has his hand in the air with the intention for calling for a pass)

## **Non-example**

- The instructor splits the participants into two groups by assigning each athlete to a particular side. The instructor signals to athlete a to go to the left side.

Code: *athlete a* → *engaged* (Note: If athlete a acknowledges the instruction by verbally responding to the instructor (e.g., “okay, coach”), this would be sport-related communication. However, if he simply follows the general orders, he remains “engaged”).

## **4 – General Communication**

Any communication with another individual or a group of individuals that is clearly unrelated to the sport activity. The communication does not have any bearing the current activity.

- Talking about matters completely unrelated to the sport activity such as school (e.g., “what school do you go to?”), movies (e.g., have you seen that movie?”), and friends (e.g., “he looks exactly like my friend?”)
- Includes general comments made about the surroundings in which the activity is occurring (e.g., “it is very hot today”)
- General social communication such as joking around also falls in the category
- Also includes singing out loud to oneself or others as long as it is clearly audible

- Communication regarding organizational behaviour that are unrelated to the sport activity (e.g., asking where the garbage is)

### **Examples**

- Athlete a makes a general comment regarding a car that drives by while waiting in line during a drill (e.g., “that was a really nice car”)

Code: *athlete a* → *general communication*

- Athlete a and athlete b start conversing about basketball while they wait for the next drill to be set up

Code: *athlete a* → *general communication*; *athlete b* → *general communication*

### **Non-Example**

- Athlete a makes a comment regarding his energy expenditure due to the weather conditions during the activity (e.g., “I am so tired because of the heat”).

Code: *athlete a* → *sport related communication* (Note: the feature which distinguishes this comment from a general comment about the weather is that it also includes the impact of the weather on the current activity. Thus, any comment that is directly related to the sport activity is considered “sport related communication”)

## **5 – Engaged**

Athlete is physically or mentally engaged in the activity and not directly communicating with an individual or a group of individuals.

- Physical engagement may include participating in drills, moving to a new location as a response to directional instruction from a coach, playing during a scrimmage or a game
- Mental engagement may include listening instructions from a coach or teammate, asking a relevant question regarding the activity, waiting in line for one’s turn during a drill, and waiting for the instructor to set up the next drill.
- This is the default code for when an athlete is not actively interacting with individuals and not disrupting the activity. If this occurs and the specific criteria for the other behavioural categories cannot be established, the athlete should be coded as “engaged”.
- An athlete is to be coded as “engaged” if he is out of the view of the camera for a short period of time and it can be reasonably inferred that he is still participating in the activity (e.g., athlete goes to retrieve a ball that is out of camera’s view and comes back with the ball 20 seconds later)

- Three second rule is to be applied prior to coding an athlete as “engaged” from any active behavioural code

### **Examples**

- Athlete a is participating in a drill alongside all of the other participants. The athletes are taking turns rotating through the drill.

Code: *athlete a* → *engaged* (Note: Athlete a is to be coded as “engaged” for the entire duration of the drill regardless of whether he is actively participating or waiting his turn unless criteria for another behavioural code is met)

- Athlete a is participating in a 6 on 6 scrimmage while the instructor supervises. After a play, the instructor blows the whistle and yells general feedback to the entire group before resuming the scrimmage.

Code: *athlete a* → *engaged* (Note: Athlete is should be coded as “engaged” the entire time unless the instructor specifically provides individual feedback to him or he communicates with the instructor.

- Athlete a takes a ball and starts doing dribbling drills independently while the other participants play a game during a unstructured free time period.

Code: *athlete a* → *engaged*

### **Non-Example**

- Athlete a is talking to his teammate about a movie while the instructor explains a drill to the entire group.

Code: *athlete a* → *general communication*

### **6 – Disengaged**

Athlete is not engaged in the sport activity and also not actively interacting with an individual or a group of individuals. Behaviour that is clearly non-compliant with the instructions given for the particular activity.

- No regard for the rules and norms set for the activity
- May include active behaviour that is exhibited with the intention of disrupting the sport activity
- May also include non-behaviour such as refusing to participate in the sport activity
- Intention to oppose current activity must be both obvious and clear from the athlete’s behaviour in order for it to be coded as “disengaged”

### **Examples**

- Following a water break, athlete a is instructed to rejoin his peers in the sport activity. However, he refuses to participate without given a reason as to why.

Code: *athlete a* → *disengaged*

- Athlete a intentionally breaks the rules of the activity by repeatedly going out of bounds in spite of the instructor's orders to remain within the field of play

Code: *athlete a* → *disengaged*

### **Non-Example**

- Athlete a walks to the sideline and sits down in order to take a break while the other participants continue with the activity. When asked to rejoin, athlete a comes back and starts to participate.

Code: *athlete a* → *engaged*

### **6 – Uncodable**

To be used in instances when athlete is not observable for an extended period of time and no reasonable assumptions can be made regarding his behaviour.

- When an athlete is out of view for a short period of time but his behaviour can be reliably inferred (e.g., athlete goes to retrieve a ball), he should be coded as “engaged” and not “uncodable”
- If an athlete were to go out of view and not return for the remainder of the activity, this would warrant being coded as “uncodable”.
- Three second rule is to be applied prior to coding an athlete as “uncodable” following a active behavioural code.

### **Example**

- Athlete a leaves the field of play for a water break but does not return for 15 minutes.

Code: *athlete a* → *uncodable* (Note: Athlete should be coded as uncodable because it is cannot be reasonably inferred that the athlete was on the water break for the entire duration of his departure.

### **Non-Example**

- Athlete is out of view of the camera for short periods of time periodically during a drill.

Code: *athlete a* → *engaged*

## **Appendix D**

### **Letters of Information and Consent Forms**



School of Kinesiology and Health  
Studies

**QUEEN'S UNIVERSITY**

28 Division St.

Kingston, Ontario, Canada K7L 3N6

PHONE (613 )533-6000 x79049

FAX (613-533-2009)

## **PARTICIPANT PARENTAL LETTER OF INFORMATION AND CONSENT FORM**

### **Title of the study:** Examining Youth Development in Sport

We would like to ask for your son's or daughter's assistance with a study that is being carried out by a team of researchers from Queen's University. The purpose of this study is to examine how youth develop personally through sport. The findings from this project will provide important information to coaches, sport programmers, and educators in regard to promoting positive personal development in sport settings and beyond as contributing members of society. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies.

If your son or your daughter volunteers to participate in this study, he/she may be asked to participate in two parts of the study. Part I of the study will involve teams being observed at least twice over the course of their season. Multiple sessions within the sport setting will be videotaped. The videotaped practices will then be watched by the researchers to understand the different peer interactions that occur within sport.

In part II of the study, participants will be asked to complete a short questionnaire. The questionnaire asks questions about your son or daughter's sport environment and their sport experiences. The questionnaire should not take longer than 5 minutes to complete. These answers will be kept completely anonymous and will not be shown to the other athletes. They have the right to not answer any questions that they are uncomfortable with and they are invited to contact TeleHealth Ontario at 1-866-797-0000 if any of these questions trigger emotional upset.

There will be no deception used in this study. Participation is completely voluntary and your child will be informed that he/she can withdraw at any time.

This is part of a research project for which Jean Côté is the primary researcher. The results from this study will be published and presented at conferences; however, the identity of your son or daughter will be kept confidential. All the information provided through the questionnaires and observations will be confidential and will be stored by in a locked office at Queen's University for a minimum of seven years after the completion of the study. As a reminder, participation is completely voluntary and should you (or your son or daughter) wish, he/she may withdraw from all or part of the study at any time, for any reason, without explanation or consequences by contacting the principal researcher, Dr. Jean Côté. Any information collected up to the time your son or daughter withdraws from the study will be destroyed.

With your permission and your son's/daughter's permission, the questionnaires and observations will be used to help improve young athlete development. If you and your son or daughter decides that he/she would like to be a part of this study, please complete the attached form. Also, please ask your son or daughter to read their letter and indicate his/her consent as well. Any questions about study participation may be directed to Dr. Jean Côté at 613-533-6000 x79049. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at chair.GREB@queensu.ca or 613-533-6081.

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Joan Stevenson, PhD  
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General Ethics Review Board  
Queen's University  
Kingston, ON  
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**PARENTS/GUARDIANS PLEASE READ and SIGN YOUR CONSENT**

I have read and understood the purpose of this study and my son's/daughter's involvement in this study. I am aware that my son/daughter will remain anonymous throughout the study and in any written results of the data collection through participation in this project.

I understand that my son/daughter's participation in this research project is completely voluntary and that he/she has the right to not answer any question(s) that he/she feels comfortable with. I also recognize that my son/daughter has the right to withdraw from the study at any time without penalty and that any data collected to this point will be destroyed.

Finally, any questions I have about this research project and my son/daughter's participation have been answered to my satisfaction. I understand that I am invited to contact the primary researcher and/or the General Ethics Review Board should I have any further questions or concerns about this research project and my son/daughter's participation.

I, \_\_\_\_\_ give permission to allow \_\_\_\_\_  
to participate in the study conducted by the School of Kinesiology and Health  
Studies at Queen's University.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Please indicate if you wish to receive a summary of the study findings:  Yes  No



School of Kinesiology and Health  
Studies

**QUEEN'S UNIVERSITY**

28 Division St.

Kingston, Ontario, Canada K7L 3N6

PHONE (613) 533-6000 x79049

FAX (613-533-2009)

### **PARTICIPANT CONSENT FORM-ATHLETE**

You are invited to participate in a study entitled 'Examining Youth Development in Sport'. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen's policies. Please read this form carefully and feel free to ask any questions you may have.

**Purpose and Procedures.** The purpose of this research study is to examine the personal development of youth in sport. If you volunteer to participate in this study, you will be asked to complete questionnaires evaluating your personal experiences in sport.

**Potential Risks.** You have the right to not answer any questions that you are uncomfortable with and are invited to contact Telehealth Ontario at 1-866-797-0000 if any of these questions trigger emotional upset.

**Potential Benefits.** As a participant, you may be making important contributions to the research literature. We cannot and do not guarantee or promise that you will receive any direct benefits from the study.

**Storage of Data.** The original questionnaires and videotaped observations will be safeguarded and securely stored in a locked filing cabinet at Queen's University for a minimum of seven years as per University requirements.

**Confidentiality.** The data from this study will be published and presented at conferences; however, your identity will be kept confidential.

**Right to Withdraw.** You may withdraw from the study for any reason, at any time, without penalty of any sort by contacting the principal investigator, Dr. Jean Côté (613-533-6000 x79049). There will be no team related effects associated with withdrawal. You do not have to answer any questions that you do not feel comfortable answering. Any information collected up to the time you withdraw from the study will be destroyed.

#### **Questions.**

Any questions about study participation may be directed to Dr. Jean Côté at 613-533-6000 x79049. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at [chair.GREB@queensu.ca](mailto:chair.GREB@queensu.ca) or 613-533-6081.

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**Consent to Participate**

I have read and understood the description provided above. I have been provided with an opportunity to ask questions and my questions have been answered satisfactorily. I consent to participate in the study described above, understanding that I may withdraw this consent at any time. A copy of this consent form has been given to me for my records.

\_\_\_\_\_  
Signature of Participant

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Researcher

\_\_\_\_\_  
Date