EXPLORING YOUNG FEMALE ATHLETES’ PERCEPTIONS OF THEIR MODIFIED SPORT ENVIRONMENT

by

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Abstract

Competitive engineering involves making modifications to the structure of youth sport (e.g., rules, facilities, equipment and competitive structure) to promote positive sport experiences and desirable athlete outcomes. Although this is a promising approach to structure youth sport, empirical evidence supporting competitive engineering has focused on skill development and performance, with little known about how athletes’ perceive these modified competitive environments. Therefore, the purpose of this study was to explore young female athletes’ experiences in their competitively engineered soccer environment. Seventeen recreational and competitive soccer players, aged 8-11, participated in semi-structured interviews that featured several visual qualitative methods (i.e., athlete-directed photography, an athlete drawing exercise, a pile-sort exercise and a photo-elicitation interview) to facilitate insight on their sport environments.

Results from the athlete interviews revealed that the athlete’s competitively engineered soccer experience was perceived as being a unique environment that emphasized personal development, positive relationships with coaches, peers and parents, and the underlying enjoyment of sport. Results were summarized into five themes that fell under the overarching unique environment concept, including: (a) strong friendships, (b) supportive coaching, (c) evolving challenges, (d) emphasizing fun, and (e) family influence. One final underlying concept was revealed by contrasting soccer with other sport settings, highlighting that soccer was just one, of many, unique and potentially positive sport environments for the athletes. While athletes positively viewed the competitive engineering strategies and underlying philosophies they were exposed to in soccer, it is important to note that the athletes’ also reflected positively on the range of experiences, emotions and outcomes they gained from participating in diverse sport
environments. These findings add to the youth sport literature, extending our knowledge of how modifications to the youth sport structure influence the athletes’ experiences, providing practical implications to further promote positive sport outcomes and experiences for young athletes.
Co-Authorship

This thesis presents the original work of Michelle McCalpin, in collaboration with her thesis advisor Dr. Jean Côté, and collaborator Dr. Blair Evans. Dr. Jean Côté provided guidance throughout the entire design, analysis, and writing stages of thesis. Blair Evans offered mentorship for the data analysis conducted in this thesis, as well as assisted in the editing of this thesis document.
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Chapter 1

Introduction

Sport is recognized as one of the most important and favourable activities for youth all over the world (De Knop, Engström, & Skirstad, 1996). As an example, national survey data reveals that approximately 76% of Canadian children and youth are engaged in organized sport (Guèvremont, Findlay, & Kohen, 2008). Structured youth activities, such as organized sport, are an abundant context for children and adolescents to develop numerous skills and positive beliefs that are beneficial in sport, and life more generally (Gould & Carson, 2008). In particular, youth sport provides potential for Positive Youth Development to take place in terms of developing initiative, altruism, identity, and self-esteem, along with broader outcomes such as greater scholastic achievement and enhanced social development (Larson, 2000; Horn, 2004; Eccles & Barber, 1999; Côté, 2002). Participation in youth sport promotes a healthy lifestyle, by allowing youth to experience enjoyment, while acquiring positive outcomes such as enhanced physical and mental health (Fraser-Thomas, Côté, & Deakin, 2005). In addition, physical activity and early sport exposure are associated with reduced rates of both obesity and sport attrition later in life (Robertson-Wilson, Baker, Derbyshire, & Côté, 2003; Yang, Telama, Leskinen, Mansikkanäki, Viikari, & Raitakari, 2007).

Even with all of the positive outcomes mentioned, youth sport nevertheless has the potential to result in negative outcomes for participants, including abuse, harassment, and bullying (Stirling, Bridges, Cruz, & Mountjoy, 2011), as well as dropout and burnout.
(Fraser-Thomas et al. 2005). It is therefore apparent that those responsible for planning and designing youth sport programs have the challenge of creating the ideal environment that develops the positive aspects of sport, while diminishing the potential negative outcomes. As a result, it is vital to explore the features of sport environments that can be shaped in ways that promote ideal developmental sport experiences for young athletes.

Despite the fact that there is a large body of research examining the structure of developmental activities in youth sport during *practice* (e.g., Côté, Baker, & Abernethy, 2007; Williams & Hodges, 2005) there has been very little empirical focus on the structure of organized competitive *games* for children. Simply put, research has heavily focused on the use of manipulated constraints in the practice environment, such as adaptation of the rules, objectives and numbers of players, to further promote athlete development; with less attention on the use of these manipulations of the task, player and environmental constraints in the actual game setting. Recently, researchers have started to investigate this notion of modifying the competitive environment of youth sport to provide more nurturing competitive experiences. As suggested by the work of Burton, Gillham, and Hammermeister (2011), competitive engineering is a new term for the old concept of making modifications to the competitive structure of sport, such as the rules, facilities, and equipment (e.g., smaller balls, shorter nets, fewer players, position rotation rules) in order to enhance desired outcomes, and to ensure positive competitive experiences.
While the concept of competitive engineering is already being implemented throughout youth sport, research has revealed that organizations that make changes in line with competitive engineering provide opportunities for athletes to develop skills (Chase, Ewing, Lirgg, & George, 1994; Martens, Rivkin, & Bump, 1984), perform at a higher level (Chase et al., 1994; Isaacs & Karpman, 1981; Haywood, 1978; Satern, Messier, & Keller-McNulty, 1989), score, and reduce the likelihood of sport attrition (Burton, O’Connell, Gillham, & Hammermeister, 2011). However, the literature surrounding modified youth sport programs is significantly lacking research on the athletes’ perceptions of their competitive sport environment. Consequently, while competitive engineering strategies may promote desired outcomes such as increased scoring and closer games, fully understanding how the athletes perceive their modified environment is essential. Without hearing the voice of the athletes who are directly influenced by competitive modifications, we are left with only a partial picture of how competitive modifications influence the sport experience for young athletes.

Therefore, the goal of this study was to enhance our understanding of the increasingly popular, modified (competitively engineered) youth sport structure from the child’s perspective; an often unheard voice in youth sport research. The current study sought the perceptions of athletes within a program currently undergoing competitive engineering, with the purpose of gathering athletes’ reflections on how their sport experiences are influenced by modifications to sport structure, rules, facilities, and equipment.
Chapter 2

Literature Review

Although positive youth sport experiences promote important developmental outcomes in young athletes, including participation, performance and personal development (i.e., the 3Ps: Côté, Strachan & Fraser-Thomas, 2008), mere participation alone does not guarantee all of these positive outcomes. Therefore, those responsible for planning and designing youth sport programs need to strive to create ideal sport environments that emphasize and promote positive sport experiences, while diminishing negative sport experiences. This is challenging, however, as sport is a complex social experience with many contributors and ‘working parts’. As an example, Côté, Turnnidge, and Evans (2014) described how the extent that a sport environment promotes positive development emerges through interactions of the nature of the relationships, activities within sport, along with the broader social and physical environment surrounding sport. In other words, the ‘who, what, and where’ that sport experiences consist of. They framed this interaction within the Personal Assets Framework, with the expectation that the interaction of these three dynamic elements must together be structured to develop assets of athletes, establishing a positive sport experience. By creating an ideal combination of the three elements and facilitating positive personal experiences, athletes are expected to experience long-term accumulated outcomes of the sport in terms of the athletes’ development of the 3Ps (Côté et al., 2014).
Although positive relationships, appropriate sport activities, and the broader environment are all important, efforts to modify sport in ways that promote positive experiences often focus on the nature of the sport activities young athletes are engaged in. Notably, from a broad perspective, researchers have argued that sport experiences should include more diversity. The Developmental Model of Sport Participation (DMSP: Côté & Abernethy, 2012), highlights the importance of diversity among sport, emphasizing the positive outcomes gained when young athletes are exposed to diverse sport experiences, with a mixture of play and practice, prior to specialization in one sport. From a narrower perspective, sport programs also make changes to the nature of practice and competition even within a single sport (e.g., changing the size of the field). The expectation being that, by changing the design of sport activities that athletes are involved with, sport programs have the opportunity to influence the interaction of all of the elements of the sport experience, creating a sport environment leading to more positive outcomes for the youth sport participants.

**Competitive Engineering**

Exploring the notion of creating diversified sport environments, Burton and colleagues (2011) used the term competitive engineering to refer to how sport programs are optimized to promote youth development. Competitive engineering was described more specifically by Burton and colleagues (2011) as the process of making structural modifications to the competitive sport environment by modifying the sport structure, rules, equipment and facilities to create a more supportive competitive climate, while
enhancing positive outcomes and nurturing experiences for the athletes involved. Burton et al., (2011) used Ryan and Deci’s (2000) self-determination theory (SDT) to support the need for autonomy supportive climates where adults encourage and facilitate athlete’s input and choice to thus enhance intrinsic motivation.

According to Ryan and Deci (2000), SDT is based on the idea that three basic psychological human needs (i.e., competence, autonomy, and relatedness) facilitate the expression of voluntary or self-determined behaviour. Competence is concerned with feeling effective and capable when undertaking tasks. Autonomy involves the feeling of ownership over behaviour, in such a way that actions stem from a sense of choice and internal control. Lastly, relatedness involves feeling meaningful connections to others.

SDT hypothesizes that individuals are motivated for numerous reasons falling on an autonomy continuum from least (i.e., amotivation) to most autonomy (i.e., intrinsic motivation), with the five most prominent types of motivation being: (a) amotivation, (b) four forms of extrinsic motivation (i.e., external regulation, introjected regulation, identified regulation and integrated regulation; and (c) intrinsic motivation (Ryan & Deci, 2000). Studies have shown that the more autonomous an athlete’s motivation (i.e., the more intrinsically motivated), the more superior the benefits, including: persistence, performance and well-being (e.g., Gagne, Ryan, & Bargmann, 2003). Thus, the more autonomous the athlete feels, the easier it becomes for them to feel more competent and related to others. Burton and colleagues’ (2011) working competitive engineering model hypothesizes that the structural modifications to the environment and competition have
the potential to enhance autonomy support by providing opportunities to shape sport to meet the needs of young athletes.

As a means of ensuring that autonomy is supported, the working model of competitive engineering (Burton et al., 2011) operationalizes several implementation strategies that are grounded within Coakley’s (1980) findings on athletes’ preferences in sandlot games. Therefore, competitive engineering focuses around four athlete engagement goals, including: a) extensive action and scoring, b) high levels of personal involvement, c) close scores, and d) positive social relationships. These athlete engagement goals are, in turn, facilitated by making modifications that are in line with the four categories of competitive engineering implementation strategies, including: a) rule changes (e.g., no off-side in soccer), b) facility modifications (e.g., shortening playing fields), c) equipment modifications (e.g., using smaller balls), and d) choice of competitive level (e.g., offering leagues at recreational and competitive levels). Burton and colleagues (2011) have also provided additional tangible examples of competitive engineering strategies that further represent the four athlete engagement goals (e.g., catch-up options to keep scores close, joint practices to maintain positive social relationships, position rotation and playing time rules to create high levels of personal involvement, and increasing number of outs in baseball to increase action and scoring). As a result of this operationalization, it is expected that any competitive engineering strategy that accomplishes one, or more, of the athlete engagement goals should provide an autonomy supportive climate and thus, support child and adolescent intrinsic
motivation for sport (Burton et al., 2011).

Of interesting note, Burton and colleagues (2011) highlight that providing choice in competitive levels may be the most important strategy presented in competitive engineering, as it directly promotes athlete autonomy. As such, competitive engineering emphasizes a competitive structure built around multiple-level sport programming, and it is recommended that recreational programs for young athletes emphasize deliberate play and downplay deliberate practice to promote fun and low-key competition. To further promote low-key competition and the emphasis on enjoyment, competitive aspects of the leagues are also modified, specifically the removal of league standings and elimination of postseason tournaments. As the athletes increase in age and ability, they then can have the choice to continue in a recreational pathway, or a more competitive route for the more skilled athletes who enjoy a greater competitive challenge (Burton et al., 2011).

Although there is extensive practical use of competitive engineering by sport programs, researchers are still developing empirical evidence for its effectiveness. As one recent example of research involving competitive engineering, Burton, O’Connell, et al. (2011) conducted correlational research that focused on the effect of rule modifications, and player perceptions of these changes, in a 4th grade (8 to 9 years old) flag football league. Quantitative data was collected using league records to examine the impact of introducing a rule change (to delay for 3 seconds the defense’s ability to rush the passer) and a modified ball size on scoring and player dropout during the season. When comparing sport outcomes to the previous season, scoring during games increased by
over 100% and player dropout levels was reduced by more than 50% (Burton, O’Connell, et al., 2011). Furthermore, player surveys showed that two-thirds of respondents preferred their new higher-scoring games with lots of action, while three-fifths enjoyed close-scoring games. Therefore, most players accepted the modification as a positive change and were in support of the new rule. This is consistent with the findings of Scanlan and Lewthwaite (1986), indicating that an important source of enjoyment in youth sport is competitive excitement and being involved in the flow of a game.

**Emerging Use of Competitive Engineering in Canadian Youth Soccer**

This perspective of competitive engineering from within academia has indeed been readily integrated into the applied sport domain, and the trend toward manipulating youth sport competitive environments is being employed extensively in Canadian youth sport programs. For instance, the Ontario Soccer Association (OSA; Ontario Soccer Association, 2014) has established standards that call for young players, sport leagues, and coaches to commit to practices that increase player development and enjoyment, while decreasing competition between teams.

Regarding specific competitive engineering changes mandated in 2014, the OSA specifically adapted many of their rules, playing fields, and equipment for children 12 and under. Scaled to fit the needs of each age group, leagues and coaches set modifications that must be adhered to. For example, among athletes under six years of age (i.e., U6), games are played with only three players per side, without a goalkeeper, using a size-3 ball, and on a 20x25m field. As the athletes transition through the age
groups, playing formats change slightly, leading to a larger field, net, and ball size, as well as more players, and the addition of goalkeepers and referees. For instance, for athletes under the ages of 10 (i.e., U9 and U10), games are played in a seven versus seven format, on a 35x55m field, and using a size-4 ball. For all age groups under 12, many competitive aspects of the environment have been removed; including the elimination of recording scores, standings, promotion and all-post season play (i.e., playoffs). See table 1 for additional information.

Table 1.

*Ontario Soccer Association’s Standards for U9 & U10 in 2014*

<table>
<thead>
<tr>
<th>Game organization</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age group</td>
<td>U9 and U10</td>
</tr>
<tr>
<td>Playing format</td>
<td>7v7 (including goalkeeper)</td>
</tr>
<tr>
<td>Squad size</td>
<td>Ideal 9/ Max 12</td>
</tr>
<tr>
<td>Substitutions</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Practice to playing ratio</td>
<td>1:1 to 2:1</td>
</tr>
<tr>
<td>Number of competition days per week</td>
<td>1</td>
</tr>
<tr>
<td>Recommended playing time</td>
<td>Fair time in all positions</td>
</tr>
<tr>
<td>Playing time per player per competition day</td>
<td>50 min</td>
</tr>
<tr>
<td>Max game duration</td>
<td>Max 80 minutes</td>
</tr>
<tr>
<td>Season length</td>
<td>16-20 weeks</td>
</tr>
<tr>
<td>Throw ins</td>
<td>No</td>
</tr>
<tr>
<td>Offside</td>
<td>No</td>
</tr>
<tr>
<td>Field width</td>
<td>30 – 36m</td>
</tr>
<tr>
<td>Field length</td>
<td>40-55m</td>
</tr>
<tr>
<td>Goal size</td>
<td>1.83m x 4.88m</td>
</tr>
<tr>
<td>Ball Size</td>
<td>4 (or 5 light)</td>
</tr>
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</table>
Although many of the competitive engineering modifications are already being employed by youth sport programs, and are evident in the sport structure mandated by the OSA, empirical evidence supporting such changes primarily relates to athletes’ skill development, performance, rate of scoring and reduction of sport attrition (e.g., Chase et al., 1994; Isaacs & Karpman, 1981; Haywood, 1978; Satern et al., 1989; Martens et al., 1984; Burton, O’Connell, et al., 2011). In contrast, past research exploring the nature of competitive engineering has not considered the perception of the youth who are actually playing the game. Therefore, it remains to be seen whether or not modifying rules and decreasing competition enhances children’s enjoyment of their sporting experience. While evidence that competitive engineering modifications do in fact improve athlete skill acquisition is essential, understanding how young athletes perceive these modified competitive sport environments is also necessary, as without it we are left with an incomplete picture of how the modification techniques shape and influence the child’s sport experience. This lack of research with this population is of concern, seeing as children’s early sport experiences will likely influence their future sport participation (Kirk, 2005). It is therefore evident that further child-centred research is needed, allowing children to speak freely and openly about their perceptions and experiences in modified youth sport programs.

Exploring the Voice of Youth Sport Participants

While quantitative, survey and experimental studies with children are vital; they cannot by themselves provide all of the information and insight essential to appreciate
children’s experiences (Darbyshire, MacDougal, & Schiller, 2005). In addition, as Brustad (1998) argues, the use of questionnaires with young children can result in problems with reliability and validity. In contrast, qualitative researchers also face challenges when exploring the voice of youth sport participants. Notably, classic interviewing or focus group approaches with children may not be an interesting or meaningful experience for children (Scott, 2008), and children as a result may not engage in the interview process. These qualitative methodologies also create ethical challenges for researchers working with youth, as disparities of power and status can arise between the adult interviewer and the child participant. In these situations, children may attempt to give an answer they believe the adult researcher wants to hear, rather than true representations of their experiences and perspectives (Clark, 2005). Effective consultations with children require them to remain responsive, engaged and interested, creating an environment that promotes the child’s participation on their own terms (Mathews & Tucker, 2000).

Photo elicitation is an innovative method to address these challenges, and is effective in soliciting the perspectives and experiences of children and youth (Cappello, 2005; Morrow, 2001; Strachan & Davies, 2015). This technique involves giving participants cameras to photograph themes specified by the researcher (Harper, 2002). Although the researcher may dictate the desired themes to be photographed, the children are in control of their camera; therefore, the photos will reflect what they, not the researcher, consider to be important surrounding the theme (Cook & Hess, 2007). The
developed photographs then create a base for the interview, encouraging children to be active in the interview because they have co-created the content being discussed.

As Mathews and Tucker (2000) express, photographs can provide insight into children’s perspectives and inspire communication not normally encouraged in children. Photograph interviews are not only fun for the children participating, but also allows the children to be at ease, granting more insight into their perspectives and experiences (Cappello, 2005; Morrow, 2001). In addition, Morrow and Richards (1996) suggest that “using methods which are non-invasive, non-confrontational and participatory, and which encourage children to interpret their own data, might be one step forward in diminishing the ethical problems of imbalanced power relationships between researcher and researched at the point of data collection and interpretation” (p. 100). Indeed the interpretation of the photos is a fundamental process, as it is essential to conduct interviews regarding the importance of the pictures, instead of having the participants solely just taking pictures. To this point, Morrow (2001) acknowledges that it is not the pictures or photographs that hold the meaning, it is the interpretation and explanation that is important: the participants’ own description of why they generated the images they did.

A variation of photo elicitation that has also been successfully used with children requires the participant to draw pictures about a specific theme and then tell a story about what they drew (Power, 2003). Often termed mapping, researchers ask children to draw and discuss a map of their physical and social environments, allowing the young participants to express their own perceptions and experiences (Darbyshire et al., 2005;
Holt, Spence, Sehn, & Cutumisu, 2008; Morrow, 2001). Parallel with photo elicitation, drawing exercises allow interviews to be interactive and interesting for the children (Darbyshire et al., 2005).

A third qualitative tool, pile sorting, often refereed-to as card sorting (Chapman & Maclean, 1993), is a powerful methodology to understand how children interpret group norms, values, and feelings toward key topics (Yeh et al., 2014). While many variations of this tool exist, McPhail, Beagan and Chapman (2012) devised their pile sorting activity from previous work by Beagan and Chapman (Ristovski-Slijepcivi, Chapman, & Beagan, 2008). Within their activity, participants sorted a stack of photographs representing food into different types of piles – in the case of McPhail et al. (2012) food was sorted into “typically male” and “typically female” categories, forcing participants to gender each food item. This pile sorting activity was used to ensure participants were all given consistent opportunities to discuss the same photographs, as well as facilitating discussions that may have not inherently came up from participants without being prompted.

In consideration of these approaches for providing child interview participants with a voice, it is furthermore important to consider their combined use. Indeed, a combination of qualitative methods is a valuable way to explore the child’s perspective (e.g., Darbyshire et al., 2005; Morrow, 2001; Pearce at el., 2009). One specific study, by Darbyshire and colleagues (2005), considered the use of multiple qualitative methods with children, and found that some of the most important findings of the study would not
have been revealed using a single method approach. The use of multiple qualitative methods provides researchers with different, rather than duplicated, information on the child’s experiences (Darbyshire et al., 2005). Furthermore, although each method represents distinct tools, they all have the same ultimate goal of prompting discussion, using stimuli that are participant-driven. As Cope, Harvey and Kirk found when using photo-interviews and drawings with elementary-aged (i.e., 5 to 11 years of age) children to understand their experiences of sport, “what was taken or drawn was not necessarily always of primary importance; it was more that these served as a starting point or a prompt for a conversation between the researcher and the children” (2015, p. 103). Photographs, drawings, and pile-sorting, are all visual prompts that create an interview process where children can be encouraged to talk about their perceptions of their sport environment.

The Current Study

While it is obvious that adult-led and structured sport can have a significant role on positive youth development, it is crucial to acknowledge that positive outcomes and youth sport commitment are not automatic and are likely influenced by a multitude of factors constructed in the sport environment (Fraser-Thomas et al., 2005). Competitive engineering is a common approach for helping shape the sport activities that youth participate in; however, empirical evidence is significantly lacking the youth’s voice on their perceptions and experiences of these modified competitive environments (Burton et al., 2011). Although there are challenges in exploring the youth perspectives, the current
study sought to explore the perspectives of young athletes who are currently in these modified environments. Specifically, athletes who are currently playing in the Ontario Soccer Association were recruited, as they are exposed to the ongoing process of competitive engineering.

Ultimately, the goal of this study was to enhance our understanding of the increasingly popular, modified (competitively engineered) youth sport structure from the child’s perspective; a viewpoint that is often neglected in youth sport research. To provide the greatest potential to reach the youth voice, the current study combined several visual qualitative methods including; athlete-directed photography, an athlete drawing exercise, a pile-sort exercise and a photo-elicitation interview. The interviews were designed in line with Burton and colleagues’ (2011) competitive engineering definition – asking to gain insights in the relation to the structure, rules, facilities and equipment. More specifically, specific attention was given to the following research questions:

1. What are children’s perceptions of their current competitively engineered sport environment?
2. What specifically in their physical sport structures (e.g., rules, facilities, equipment) do young athletes perceive as positive and negative?
3. When asked to contrast their current competitively engineered sport experience with other current or past sport experiences, what concepts or descriptions distinguish the two experiences for young athletes?
Chapter 3

Methods

Qualitative Methodology

Our exploration of youth perceptions and experiences of competitive engineering integrated a series of qualitative tools to bring about vivid responses from the young athlete participants. As a result, as opposed to using a single clearly defined methodology, the research process adopted processes from numerous complementary methodological qualitative tools, whereby interviews included mapping, pile-sorting and photo-elicitation. When integrating this range of tools, however, the broader methodological approach was informed by foundational research and existing guidelines relating to conducting qualitative research and analysis that is methodologically sound (i.e., Braun & Clarke, 2006; Lincoln & Guba, 1985; Patton, 2002).

The guiding theoretical orientation of this study was symbolic interactionism. Symbolic interactionism provides a theoretical perspective for examining how individuals interpret objects and other people in their lives and, therefore, how this process of interpretation leads individuals to act on the basis of the meaning they have attached to things (Benzies & Allen, 2001). Using this perspective in the context of this current study, when young athletes respond to questions about competitively engineered sport, they are likely responding in relation to their own meanings and experiences with it – which are largely generated in relation to interactions with parents, peers, and coaches. Symbolic interactionism supports the idea that the individual and the context that the
individual exists are inseparable; therefore, the focus of research should be through the individual’s interpretation of reality in a social context (Benzies & Allen, 2001). As an example of how symbolic interactionism influenced my assumptions about this research, I expected that images and objects related to the soccer environment would hold unique meanings for each individual grounded in personal experiences and relationships with others. As such, images and objects would provide an opportunity to generate in-depth responses from athletes.

**Participants**

Seventeen female athletes between the ages of 8 and 11 years ($M = 9.7$, $SD = 0.9$) with 4.6 years’ experience playing soccer participated in the study. All athletes resided in Eastern Ontario and participated in soccer leagues within the Ontario Soccer Association, which as of 2014, has made changes to rules, playing fields and equipment as a means of competitively engineering sport among children 12 and under (Ontario Soccer Association, 2014). This age range is therefore consistent with the Ontario Soccer Association Learning to Train stage, where respective ages will have similar rules, equipment and sport structure (Ontario Soccer Association, 2014). An integral part of the inclusion criteria was that each athlete participant be currently or recently (i.e., within one year) involved in at least one more organized sporting activity in addition to soccer. ’Organized sporting activity’ was operationally defined as sport experiences that includes a team/club, has a coach, holds regular practices, and includes regular competitions (Wankel & Kreisel, 1985). The purpose of this inclusion criterion was to ensure that
athletes were able to reflect on their diverse sport experiences, to contrast across varied environments and sport structures.

In total, athletes represented 10 different teams across 3 different leagues in a medium-sized city in Eastern Ontario. Five athletes had a parent on their coaching staff, as a head coach, assistant coach or trainer. Athletes’ alternate sports were heavily represented by hockey (n= 8), basketball (n=5) and gymnastics (n=3). On average, athletes played 3.1 different organized sports within a year. To gain a better understanding of the diverse environments within soccer, athletes were also recruited from both competitive teams with frequent practices and competitions (n = 8), as well as recreational teams that competed less frequently, competed against local teams, and only practiced during a short period of time before games (n = 9). The study was restricted to female athletes, as there is research suggesting that boys and girls differ in how they perceive psychosocial factors associated with their sport experience during childhood (Holt & Morley, 2004). It has also been suggested that building a strong rapport with the children will increase the likelihood of them fully cooperating in the research process (Hill, 1997). Therefore, as the primary researcher of this study was female, girls were specially chosen to increase the likelihood of building rapport with the young athletes.

Procedure

All procedures for this study were approved by the Queen’s Research Ethics Board research prior to initial contact with athletes. Most initial athlete recruitment was initiated by approaching coaches across several leagues and subsequently gaining
permission to attend a practice or game to explain the study objectives to the parents on
the team (see Appendix A). Further recruitment followed a snowball effect, where
already recruited athletes referred their friends for the study. Potential athletes and their
parents were given a letter of information and consent form (see Appendix B), as well as
an assent form (see Appendix C). Interested athletes were then screened via a
demographic questionnaire (see Appendix D) to ensure they met the requirements
defined by the study, before scheduling a time to meet with the researcher. The athletes,
and the athletes’ parents were required to provide written consent prior to participation.
Coaches of the athletes were also contacted in person or via email, to provide a coaches
letter of information (see Appendix B) explaining the study and indicating why the
athletes will have a camera at their games.

The data collection process consisted of three important phases, including: (a) an
introduction meeting and researcher-led drawing exercise, (b) the athlete-guided
photographing, and finally (c) the primary interview phase.

**Introduction meeting phase.** The introduction phase was a meeting at the
athlete’s home or at soccer field prior to practice, and involved the researcher, the athlete
participant, and her parents. The meetings generally lasted 30 minutes. This first phase
was effective in building rapport with the athletes and allowing them to get used to
talking to the researcher in a relaxed and comfortable setting. During this meeting, the
researcher explained the study protocol, answered any questions that each athlete and
parent had, and prepared each athlete participant to complete the second phase of the
study on her own. During this meeting, the study outline was verbally explained and athletes received a demonstration on how to use the digital camera, and were provided with written instructions for the camera’s use (see Appendix E). Furthermore, athletes received a list of instructions outlining the four themes they were asked to take pictures of (see Appendix E).

In the final portion of the initial meeting, athletes were also asked to complete a drawing exercise, which formed the initial step of data collection. Athletes were given a blank 8.5” by 11” sheet of paper, and coloured pencils. They were then asked to draw a picture of their soccer experience and were not prompted or given ideas about what to draw. As shown by Morrow (2001), drawing exercises are valuable for eliciting children’s perceptions of their environment, differing from what they portray in their photographs. Athletes were asked to leave the drawing with the researcher, to ensure it was available for the subsequent interview.

**Athlete-directed photographing phase.** After the introductory meeting, athletes were provided with a digital camera for roughly one week to complete the photographing tasks. The photo instructions (see Appendix E) were designed using Burton and colleagues (2011) framework of competitive engineering, and instructed athlete participants to take four pictures (i.e., sixteen pictures in total) that reflect each of the four themes as listed in the instructions: (a) the rules that are part of your game, (b) where you compete in your sport (the game environment), (c) the equipment used in your sport, and (d) anything else that is meaningful to your sport experience. While on average athletes
took sixteen pictures, there was an overall range from 8 to 22. Athletes were told their pictures may contain people, but were instructed to ensure they obtained permission before taking anyone’s picture. The importance of obtaining consent was stressed to the athletes, who were also provided with a reminder on the written instruction sheet, in addition to having a reminder note on each camera. After all of the photographs had been taken, the primary researcher collected the camera at a location of the parent’s choice, and all pictures were developed before the final interviewing phase.

**Interviewing phase.** The final phase of the study consisted of a photograph-based interview to explore the meaning that athletes attributed to their personal photographs and drawing, along with the meaning attributed to a series of general photographs selected by the researcher. Similar to phase one of the study, the interviews were conducted at athletes’ homes or at a sport facility. The interviews were conducted one-on-one with the athletes, within two weeks after the collection of the cameras. Importantly, the interviews followed a semi-structured interview guide (see Appendix C) that prompted discussion and outlined the use of three key qualitative tools to derive in-depth responses, including: (a) the photo-interviewing technique involving athletes’ photographs (Hurworth, 2003), and (b) pile-sorting including general photographs selected by the researcher (McPhail et al., 2012).

All interviews were audio-recorded and were generally 45 minutes in length. Athletes were given back the camera at the final interview, which they were able to keep as a form of compensation for their participation in the study, in addition to a copy of all
of their photographs if interested. All athletes were given the choice to either keep their drawing or, as the majority of athletes did, give it back to the researcher.

**Interview guide.**

The semi-structured interview guide (see Appendix F) developed at the beginning of the study was used to ensure the interview focused directly on athletes’ opinions and perceptions of their soccer environment and other sport experiences. Questions were designed to target the sport structure, rules, facilities and anything meaningful to their experience. The interview questions and probes were established before the interviews took place. The primary researcher utilized pilot interviews with athletes from the same age bracket to refine the questions and probes to ensure they were appropriate and clear for the participants’ age. In addition, the primary researcher allowed the actual interview processes to shift over time with refined probes and questions to reflect emerging concepts (Patton, 2002).

The photo-interview process consisted of laying all of the pictures, as well as the athletes’ drawing, out on a table and asking the athlete to select which picture to talk about first. The open-ended question “tell me about this photograph” (or drawing) was asked of each picture. Once the discussion of the first picture was complete, the researcher then asked the athlete to select the next photo they would like to talk to about, asking a similar structure of questions as the first picture. This process continued until each picture had been discussed.
After each of the athlete’s own photos had been discussed, a brief pile-sorting exercise took place (McPhail et al., 2012). Athletes were asked to sort through a pile of 10 pictures (see Appendix H) of commonly represented objects or people in a youth soccer environment. As the athletes flipped through the photos, they sorted each photo into one of two piles, positive or negative, to identify characteristics of their sport involvement that were either positive or were negative to their soccer experience. The researcher then prompted athletes to reflect on why each photo was put in the selected pile.

To conclude the interview, athletes responded to five summary questions to gather further insight into each athlete’s experiences. Of particular note, athletes were encouraged to reflect more specifically on the contrast between their engineered soccer environment and alternative sport environments they had experienced.

**Data Analysis**

Provided the range of interview, photograph, and illustration-based information gathered from the athletes, the analysis process carefully integrated each of these sources. However, in line with our overarching theoretical orientation, it is important to note that athletes’ personal descriptions were the primary unit of analysis. In contrast, athlete-taken photographs, drawings and researcher interview notes were used to complement and further interpret the athletes’ personal reflections.

The primary researcher, along with two undergraduate research assistants, transcribed the tape-recorded interviews verbatim, resulting in 352 pages of text.
Pseudonyms were used throughout this research project and were introduced within the interview transcripts to protect athletes’ anonymity, and the anonymity of those described by athletes (e.g., coaches, parents). Throughout this process, initial analysis took place through personal notes and memos that the primary researcher and undergraduate research assistants continually prepared to describe emerging themes and concepts.

Once transcripts were reviewed and completed, thematic content analysis was used as the primary analytic approach, and progressed through the six-step process outlined by Braun and Clarke (2006). Thematic content analysis provides a flexible and useful tool, which has the potential to provide a rich and detailed account of the data. Furthermore, this type of analysis is particularly useful for identifying, analyzing, and reporting patterns or themes within the data (Braun & Clarke, 2006). To further understand the thematic content approach that was adopted in the current study, it is vital to consider key characteristics that shaped analytic decisions. Notably, because youth athlete perceptions of competitively engineered sport environments have rarely been studied in the past, the coding process was driven by athletes’ personal descriptions rather than pre-existing themes or theories. Furthermore, as this population was elementary-aged children, the development of the themes involved interpretive work that strove to look beyond just strictly the words the athletes said. This interpretive approach, referred to as latent thematic analysis by Braun and Clarke (2006), provided opportunities to examine the ideas and assumptions that may underlie perceptions of competitively engineered sport.
The first step of thematic analysis involved open coding. This process involved separating athletes’ comments into coherent units (i.e., meaning units; Côté, Salmela, Baria, & Russell, 1993) and classifying each using a descriptive open code. Initial coding resulted in over 50 open codes. The open codes were, in turn, progressively amalgamated, collapsed and organized within themes that emerged in the data. The themes remained flexible throughout the analysis and were continually refined, aiming to find the best representation of the material. Selecting and organizing the themes took place through discussions with the authorship team, along with undergraduate coders. Once all relevant themes had been created, original interview transcripts were reviewed to allow for reinterpretation of the data and to account for previously uncategorized experiences (Patton, 2002).

Trustworthiness

Throughout this research, several steps were taken to ensure trustworthiness. First, credibility was addressed through continuous interactions between members of the authorship and research team (e.g., supervisors, co-authors, research assistants) throughout the study design, analysis and writing stages. Frequent meetings enabled the authorship team to provide the primary researcher with advice from their expertise in youth sport research, as well as providing a sounding board for the primary researcher to test her own developing ideas and interpretations.

The current study also integrated confirmability through reflexivity (Lincoln & Guba, 1985). By bringing personal beliefs and assumptions to light, ensuring reflexivity
is a process to address researcher subjectivities and promote athletes’ voice within analyses. At the outset of the research, reflexivity was established by reflecting on my own personal expectations. Considering that this project aimed to elicit perceptions and opinions of children on their competitive sport environment, I anticipated that athletes may share information on factors of their modified game that they do and do not favour. As an athlete who had a positive experience within a competitive youth sport environment that included limited competitive engineering (i.e., Women’s hockey), it was vital to recognize my preconceived beliefs of modified youth sport. My personal experiences throughout sport exposed me to numerous benefits from experiencing many of the competitive characteristics of sport that are removed through competitive engineering. Consequently, I completed a detailed list of any and all thoughts, feeling or emotions relating to the research topic, often known as a reflexive journal (Lincoln & Guba, 1985), in an effort to control any preconceptions I had of modified youth sport that could influence the research process. In addition, I used this journal as a place to record emotions of the athletes and myself during the interview, as well as other anecdotal conversations that may have happened, to further provide context to the interview that may have not been recognizable in the transcripts. Furthermore, during the interview process, I sought to ensure the trustworthiness of what I was hearing by repeating my understanding of the athlete’s narrative to gain confirmation and clarification.
Chapter 4

Results

When reflecting on their personal experiences within a competitively engineered soccer environment, athletes highlighted a myriad of outcomes associated with their experience. Considering the diversity of themes that emerged from athlete discussions, it is important to reflect on the extent that discussions of youth sport environments encompassed an array of related concepts. Whereas this study was designed to explore children’s perceptions of their physical environment – notably the influence of adaptations to rules, equipment, and competitive structure (e.g., changing the size of field, structure of rules, removing the score) – it became evident early on that the participants could not isolate one part of their environment without discussing the entire youth sport experience. While the athletes were certainly able to reflect on their experiences with engineered elements, these changes were inseparable from other more dynamics elements of the sport environment. Thus, discussions inherently emerged around the importance of the social aspects in the environment, such as family, peers, and coaches. In other words, although elements like removing the score and standings from games were evident to athletes, these changes only held meaning because of other elements of the broader social soccer environment.

Unique Environment

In line with the complex interaction among all elements of youth sport environments, an overarching theme that emerged from all athletes’ responses was that
their competitively engineered soccer experience provided a unique environment, when contrasted with other sport experiences. When striving to define this overarching theme, numerous components reflected the unique environment encompassed in this competitively engineered sport. Perhaps most strikingly, athletes’ description of their soccer experiences as unique often extended beyond the competitive engineering that was of initial focus in this research, and emerged as a comprehensive description of a person-centered sport environment, which emphasizes athlete personal development, positive relationships with coaches, peers and parents, and the underlying pure enjoyment of sport. Whether athletes were commenting on other team-based sport they took part in, such as hockey or basketball, or they were mentioning other sport they enjoyed, such as gymnastics and swimming, their soccer environment was seen as positive and distinct from any other activity. It is also important to note that athletes had diverse sport backgrounds, including playing either competitive or recreational soccer, as well as diversity in the competitiveness of their other sports experiences. As one athlete alluded to when talking about soccer versus her other sports, experiences within her soccer league provided opportunities to focus on skill development and enjoyment:

*Soccer is different, it is more skill development, but when you have a chance to go [up to score] you can go and stuff. But it’s not all about winning, like you try to win but it’s all about the fun you have, footwork and passing with the team* (P11, Age 9).
A commonly discussed example of why athletes viewed their engineered soccer environment as unique was due to the engineered removal of the official score, standings and post-season play in soccer. While this element was often brought up as something exclusive to soccer, it is interesting to note that athletes viewed this aspect in a positive light. The removal of formal score and most competitive aspects of the game did not remove the desire to score or the pure enjoyment athletes felt from getting a goal. In fact, while athletes acknowledged removing the score was not necessarily appropriate for other sport environments, this unique engineered aspect of removing the score was actually viewed in line with the overall atmosphere for their soccer environment and was associated with positive outcomes (e.g., teamwork and skill development).

To further describe and give context to this unique environment, five themes were identified within this overarching concept, including: (a) strong friendships, (b) supportive coaching, (c) evolving challenges, (d) emphasizing fun, and (e) family influence (see Figure 1). In the next section I will describe these five themes, as well as a broad underlying theme, of soccer as one, of many, unique sport environments. These themes enlighten how the athletes perceive this competitively engineered environment and what aspects of this experience lead them to identifying it as distinct to all of their other sport settings.
Figure 1. The unique environment of modified youth soccer. This figure is a visual representation of the athletes’ modified soccer experience. Athletes’ classified this environment as being unique to any other sport experience, identifying five main themes in their environment within this overarching concept. Number of athletes discussing each theme represented by $n$.

**Emphasizing Fun**

A dominant theme that emerged as athletes discussed their photographs and drawn photos was the overall atmosphere of their soccer environment, which emphasized the notion of “just for fun”. Athletes stressed that a vital outcome of their soccer games was the fun they experienced, regardless of anything else in the game. As one athlete
indicated in relation to prioritizing enjoyment: “Yeah it’s just the fun times, like the most important thing, that’s what our coaches and my dad, since he is one of the coaches, always tells us is to have fun out there (P4, Age 10).” As encompassed in the athlete’s quote, coaches were seen as promoters of playing for fun, creating an atmosphere in soccer that focused around the enjoyment they have while playing the game.

One athlete, whose coach kept score of their game but no formal scores in the league were kept, expanded on her view of winning and losing:

Yeah, cause like we don’t care if we win or lose, like if we lose we say “Oh well we had fun”... If we lost we wouldn’t really get upset about it, saying good game to them (at the end of the game) is just a way to show that like it’s still just for fun and like if we win we’ll just show them it’s just for fun. I like that cause it’s sort of just congratulating the other team just to say good game and show that it’s not all about winning (P4, Age 10).

As shown in this quote, discussions about the competitive aspects of the game, such as keeping track of the score, were analogous among athletes. As one athlete put it: “I don’t really care about the score (P10, Age 10)!” Athletes rarely reported that winning was emphasized, and several athletes described the positive outcomes took place for both teams following tied scores. When expanding on a picture from the pile-sort exercise of a scoreboard portraying an uneven score, one athlete commented: “Yeah, and they’re almost tied, it would be good if the other team got a goal, so they’d be tied and that way, everyone’s happy about it (P1, Age 10)”. Athletes also reflected on feeling happy when
their team scores more in a game, but not being upset or feeling down when then the other team scores more.

When discussing why their soccer organization does not keep official score, or have a visible scoreboard, several athletes identified that this decision was in line with the emphasis on fun. This was highlighted by one athlete when she was discussing a pile-sort photograph of a scoreboard, commenting:

_We don’t use those in our soccer, because ours is all about having fun and all that. And also because we just do it for fun and cause, if you’re losing by 4 goals... It would just remind you: ‘Okay I gotta get going here.’ And you would waste all your energy trying to get more and more goals, that’s happened before to us in the past. Like trying to just score cause we were losing, and then we lose focus of like the good passes and the stuff like that_ (P4, Age 10).

Similarly, while discussing the same pile-sort photograph of a scoreboard, another athlete remarked: “[In soccer] we don’t really keep score like that because it doesn’t even matter, like there is not even a score clock that like keeps track of it (P15, Age 8)”.

**Strong Friendships**

Athletes also reflected on the uniqueness of their soccer experiences in regard to the importance and strength of friendships they had created and maintained. As explained by numerous athletes, friends and teammates were a fundamental reason for playing soccer. Due to soccer being a summer sport, it gave athletes the chance to see friends they normally wouldn’t see during summer months when school is not in session, as well as
meet new friends outside of their school. As one athlete recalled with enthusiasm about a photo she drew of her teammates (see Appendix G, Illustration 1):

*I drew just a picture of team members, all together with their hands on their back, because I think friendship is really important to me in the game...And that’s just what I really like about the game, because I always get to meet new friends and usually there’s not many, cause at my school I like I’ve met everyone... So when I get to play soccer, I get to meet new friends* (P4, Age 10).

Friendships developed and strengthened as the season went on, with many athletes alluding to the entire team being a very close friend group by the end of the season. Teammate relationships were reported very positively, stemming from teamwork, support and advice. As an example, teammates were described as a major part of each game, by providing guidance on positions while on the field, being social on the bench, and hugging after games. When contrasting with their other sports they participated in, athletes saw their soccer teammate relationships as inclusive, with fewer cliques or exclusion they had experienced in other sports (e.g., hockey). As one athlete described:

“There’s, I think my soccer is more close. My hockey team this year, they are kind of groups and I really don’t like that. Like they are nicer to some people and kind of exclude the others” (P16, Age 11). When describing the picture she drew of her soccer team huddling up after a goal, the same athlete highlighted (see Appendix G, Illustration 2):

*I like how we all get...like we are all happy and my team congratulates not only the goal scorer but also the person who started the play. So I like how we all
huddle up after someone scores a goal. So I just drew all of us like piling up and
everyone really excited (P16, Age 11)!

Supportive Coaching

In addition to positive teammate relationships, all athletes also discussed the
importance and impact of their soccer coaches. Athletes described soccer as a supportive
learning environment where coaches were seen as laid-back, in comparison to strict.
Coaching styles focused on positive feedback, such as how to improve personally as an
athlete, and instructional advice for the team on how to work better together. Compared
to coaches in the other sporting environments, soccer coaches were viewed as always
being positive, never yelling and rarely creating negative sporting experiences. As one
athlete commented when contrasting her soccer experiences with those in hockey:

Oh yeah, in soccer the coaches are always like “good job” and then they will tell
you what you did wrong, but with hockey they will tell you if you had a terrible
game or not and they will yell at you in the dressing room (P7, Age 9).

Furthermore, soccer coaches, in comparison to other sport coaches, were said to
advocate for being positive and nice to the opponent, emphasizing a sport environment
built around sportsmanship. One athlete expanded on the impact of her soccer coach’s
philosophy:

Yeah he doesn’t really focus on the score, so I think my [soccer] team is really
good at that. No one gets upset if we lose. No one gets really down, but my hockey
is very like that. Like my soccer team is very sportsmanlike and my hockey team
isn’t so much. Because I have noticed that at the end of [hockey] games, if we win we all clap our sticks and when we lose I’m really the only one clapping my stick (P16, Age 11).

Overall, athletes revealed that coaches in soccer had the ability to create teaching environments based on continuous personal and team development. As one athlete said when expanding on a photograph about her soccer coaching staff:

*They are very helpful...they get people to try new things sometimes and they want people to try goalie sometimes, they get people to try positions that they have never tried before* (P17, Age 10).

**Evolving Challenges**

Evolving challenges is multi-faceted and dominant theme that emerged through the discussions of most athletes. Adaptations to the structure of soccer across age groups, and the overarching philosophies of the league, parents, and coaches, provided opportunities for the athletes to perceive that they were being widely challenged, notably increasing the importance of challenges that go beyond simply scoring. For clarity, this theme can be broken down further into three categories, including: (a) in-game challenges, (b) season-length development and (c) opportunities to take risks.

**In-game challenges.** First, when reflecting on the structure of soccer, athletes described how their soccer environment prioritized personal development over winning and social comparison. In turn, allowing the team to accomplish in-game challenges that focused on skill and development prior to scoring. As an example of how athletes...
described this focus on development, some athletes explained cases where coaches established team objectives to achieve a certain number of passes before scoring, or outlined that passes would have to be completed to certain players (e.g., midfielder). Thus, giving the athletes objectives to work towards, rather than just passing to the best player to score. Through discussions around a photograph she took of her teammates passing (see Appendix G, Illustration 5), one athlete highlighted a short-term challenge her coach would often use:

*We were winning by eight [goals], so my coach said that we have to pass five times before we can get a goal. So we had to pass from each player five times; it was more fun than just one person always getting the ball, and then shooting it.*

(P1, Age 10).

Athletes also mentioned that tied scores throughout the game were used to promote short-term challenges, instilling a competitive desire to be the first team to score. As one athlete enthusiastically highlighted when discussing ties in her soccer games:

*“Cause it’s really to challenge both teams, they each think ‘I want to score first’ and ‘I want to score first’” (P14, Age 9)!*

**Season-length development.** Coaches’ efforts to prioritize personal development in soccer were congruent with athletes’ reflections on how their soccer structure was adapted throughout their seasons. The competitively engineered structure of the soccer association that was studied involves a transition-based pathway, which integrates changes to the rules and playing format as the athletes move through the age groups (e.g.,
older age groups learn to perform a throw-in from the sideline, versus a kick-in for younger ages). Thus, the challenge of learning new rules and techniques each year provided opportunities for novelty, growth, and development. When discussing a photo that represented her league’s recent rule change from kick-ins from the sidelines to throw-ins, an athlete commented (see Appendix G, Illustration 6): “I like how it is throw-ins, not kick-ins, now because I have been doing kick-ins all these years and now it’s time (for throw-ins), it was a new challenge (P9, Age 10)”.

As well, the addition of more players on the field and a bigger playing surface created team-based goals to work together and learn new plays. Athletes emphasized that bigger playing fields allowed for more running and the challenge to keep the ball away from more players. When describing a photograph that represented her recent transition to a bigger playing surface and more players on the field (see Appendix G, Illustration 7), one athlete highlighted: “It gives you more of a challenge (P2, Age 11)”. The addition of more players on the field, gave athletes opportunities to experience a broader range of more diverse positions and learn more about their own skills and preferences. Athletes often acknowledged that the smaller fields and fewer players of the younger age groups are designed to suit the ability of younger players – appreciating that soccer became more challenging as they get older. As one athlete commented: “Well I think the older you get the more rules in soccer there is going to be... So I like how it changes so it’s like new experiences and everything (P14, Age 9).”
Opportunities to take risks. Lastly, many athletes discussed opportunities to take risks. Again, with the atmosphere of the environment not promoting ‘win at all costs’, soccer allowed them to take risks and try moves and plays without worry about the consequence of an unsuccessful attempt; something they wouldn’t be able to do if winning was the most important thing. This opportunity to try something new was positively reported by the athletes and was seen in both game situations and practices. One athlete excitedly talked about the picture she drew, saying:

I once had a breakaway when I went through the whole team, and it was really fun for me to go through them and then I got to kick at the soccer net, and it landed on the post, and went off...No I didn’t score but it was close, but I took the ball all the way through the other team and it was really fun (P7, Age 9)!

Family Influence

The final theme that emerged though the data related to the athletes’ influence and connection with their family through soccer. When compared to their other sports, athletes associated playing soccer with a strong family connection, helping to develop relationships with family members through sport. Fathers and older siblings were noted by athletes in this study as transmitting an interest in soccer – as an example, many fathers served as parent-coaches. One athlete expanded on this saying:

And then another thing that is important to me is my dad because he’s our coach... so I think that’s pretty important that like cause he plays soccer and he’s
like taught us a lot of stuff that we know about the game. And I just like that he’s there with us (P4, Age 10).

Furthermore, a common soccer ritual athletes highlighted was when their team would run over and shake hands with the parents on the sidelines after the games (see Appendix G, Illustration 9), allowing the chance to get to know the other parents of the team. In this sense, soccer provided an opportunity for families to share common interests, and athletes often felt that soccer represented a family night. As one athlete mentioned when talking about her mom and siblings on the sidelines: “It’s meaningful that people care and clap for you that you did a good job (P3, Age 10).” Interestingly, one athlete alluded to the fact that she felt that the decision to not keep score in soccer anymore was due to the parents previously being so negative and vocal on the sidelines, commenting:

And they did that because of the parents, because they were always mad and yelling so they decided to not keep score. They don’t want people to win then the other parents will be like “it’s the refs fault”… it’s because the parents were kind of being too competitive with their kids (P16, Age 11).

Soccer as One of Many Unique Sport Environments

In addition to all of the previously stated themes, it is vital to explore an underlying concept that extends throughout the analysis of the athletes’ experiences within soccer – that soccer was one, of many, unique and potentially positive sport environments (see Figure 2).
Although athletes positively reported the unique environment elements reflected in the competitive engineering (e.g., no official score) and philosophies (e.g., just for the fun of it) underlying their soccer experiences, other sport environments that differed on these concepts were also reflected on positively. As a specific example, when asked to contrast soccer with other sport experiences, none of the athletes wanted to change any of other sports to be more like soccer. Interestingly, they also did not want soccer to implement any aspects of their other sports. For instance, whereas athletes indicated that they enjoyed that soccer did not keep the score or have a scoreboard, they never wanted one of their other sports that do keep the score to adopt soccer’s design.

It was evident when discussing with the athletes that they enjoyed the different experiences they gained from their multiple sport environments. Athletes often alluded to the fact that their different sports brought on different emotions, outcomes and reasons for participating; allowing athletes to appreciate and admire their diverse sports for different reasons. Athletes commented on positive aspects of both their engineered and their non-engineered sport environments, appreciating that what works well for one sport does not mean it is appropriate for other sports. For example, athletes often commented that the removal of the standings and playoffs seemed appropriate for soccer, but would not be fitting for a sport that they felt was more competitive (e.g., hockey, basketball and swimming). Accordingly, the modifications that this soccer association has implemented appear to fit in line with leagues’ broader philosophy and competitive outlook, whereas this would not necessarily fit in line with other soccer associations or other youth sports.
Largely speaking, athletes were able to comprehend and appreciate that their sport environments are diverse for numerous reasons, viewing this array of developmental experiences as positive and favourable. As one athlete explained when asked about her soccer experience compared to her hockey experience: “But I like them both the way they are, cause they’re different. They are both fun, it’s not the same thing (P14, Age 9).”

Figure 2. Athletes’ overall sport experiences. This figure illustrates how athletes’ overall positive perceptions of their sport experiences are shaped by a variety of diverse sport environments; soccer just being one, of the many, positive environments they are exposed to.
Chapter 5

Discussion

The model of competitive engineering introduced by Burton and colleagues (2011) has potential to promote positive sport experiences by shaping the sporting activities that youth participate in. Nevertheless, existing empirical evidence has overlooked athletes’ perceptions and experiences in modified competitive environments. Therefore, the goal of the current study was to combine several visual qualitative methods to explore the competitively engineered youth sport structure from the viewpoint of the actual athletes immersed in these environments. When reflecting on their competitively engineered soccer participation, athletes described a unique environment that emphasized personal development, positive relationships with coaches, peers and parents, and the underlying enjoyment of sport. Importantly, elements of sport that were competitively engineered were embedded within an environment that prioritized elements such as personal relationships, supportive coaching, evolving challenges, and fun.

Considering the themes altogether, athletes described soccer as one, of many, unique and potentially positive sport environments. While athletes positively viewed the competitive engineering strategies and underlying philosophies they were exposed to in soccer, it is important to note that the athletes also reflected positively on the range of experiences, emotions and outcomes they gained from participating in diverse sport environments. These findings add to the youth sport literature, as they enable us to see the modified youth sport environment from the athletes’ eyes and bridge our current
understanding of how adaptations to the youth sport structure influence the athletes’ experience. With the goal of bridging the current findings to practical and theoretical use, the implications of the results will be explored in the following sections.

**Competitive Engineering Outcomes**

When considering how these findings inform the emerging line of research related to competitive engineering, a striking result involves the congruency between the current results and Burton et al.’s (2011) initial framework. First, these findings relate to the overall goal of competitive engineering, which is the promotion of intrinsic motivation and creation of autonomy supportive motivational climates. As SDT suggests, the more autonomous an athlete’s motivation (i.e., the more intrinsically motivated), the easier it becomes for them to feel more competent and related to others (Ryan & Deci, 2000).

Intrinsic motivation was mirrored in the theme ‘emphasizing fun’, as athletes’ reported playing soccer purely for the fun and enjoyment they felt during the games. Specifically, motivation for these athletes stemmed from pleasure and relationships, not external rewards such as winning or trophies. The three basic psychological needs, as suggested by SDT, are also portrayed throughout the results of this study. For instance, competence was highlighted as the athletes talked about their improvement in teamwork and personal development (e.g., skills and strategies) throughout their soccer season. Autonomy was highly represented in the ‘evolving challenges’ theme, as athletes felt that they had input into decisions (e.g., positions they played) and independence to use personal strategies and techniques. Lastly, relatedness was heavily displayed as athletes felt they had strong
connections to their teammates, coaches and parents throughout soccer; as well as reporting their opportunities to make new friends and often discussed their soccer team as a cohesive and inclusive.

In addition, athletes’ descriptions of their modified sport environments often featured the engagement goals outlined by Burton et al. (2011): Extensive action and scoring, high levels of personal involvement, close scores, and positive social relationships. Notably, many of these goals were evident in the theme ‘evolving challenges’, as athletes highlighted their enjoyment of challenges including: tie games, learning new positions and including as many teammates in plays as possible.

It is interesting to note that Burton et al.’s (2011) athlete engagement goals were based directly from Coakley’s (1980) findings on children’s preferences for participating in sport by exploring how sandlot games were structured informally by the youth participants. Notably, athlete-organized sandlot games reflect the competitive structure children prefer when they are allowed to organize their own competitive experiences to create more opportunities to maximize intrinsic motivation and a more enjoyable competitive experience for all athletes involved. Thus, the findings in this study support that the modifications implemented create similar competitive experiences as informal games organized by the youth themselves.

The similarities between the goals of competitive engineering and the athletes’ experiences in their modified soccer environment support the belief of competitive engineering implementation strategies for desired athlete outcomes. However, a novel
contribution of this current study is that, while the present engineered strategies were viewed as positive, athletes acknowledged and grasped that what works for one sport does not mean it is appropriate for others. Indeed, the strategies of this soccer league appeared to fit in line with the leagues’ broader philosophy and competitive outlook, whereas this would not necessarily fit in line with other soccer associations or other youth sports. This finding lends support for the notion that not all competitive engineering implementation strategies may be equally beneficial in promoting positive climate changes across sport (Burton et al., 2011).

**Sampling Diverse Sport Environments Throughout Childhood**

When considering how to engineer youth sport environments, it is clear that engineering is not appropriate as a one-size-fits-all strategy. Rather, athletes valued the diversity when contrasting soccer experiences with other environments – a general finding that is supported theoretically by the Developmental Model of Sport Participation (DMSP; Côté, 1999; Côté & Abernathy, 2012). Notably, the DMSP is a developmental framework that focuses on the transitions from play to practice and from diversity to intensity through development for sport expertise and lifelong sport participation. A main tenet of the DMSP is the value placed on the sampling years, wherein diverse sport experiences during childhood (i.e., under twelve) precede specialization and intense training in one sport (Côté, Horton, MacDonald, & Wilkes, 2009). Experiencing diversity in sport throughout childhood allows young athletes the advantage of a breadth of opportunities and environments (e.g., different sports, positions, coaches, peer groups)
prior to selecting a sport path for adolescence. Empirical evidence (e.g. Busseri, Rose-Krasnor, Willoughby, & Chalmers, 2006; Fredericks & Eccles, 2006) shows that a range of experiences in various extra-curricular activities is an indicator of continued involvement in more intense activities later in life and of successful personal development.

This finding thus provides further support of sampling from the child’s perspective, portraying that young athletes (i.e., eight to eleven) like the opportunuity of experiencing diverse sport environments throughout childhood. Most notably, when given the opportunity, the athletes did not want their sport environments to become more congruent. Therefore, this finding lends support for practical applications, whereby parents and coaches should encourage diverse sport opportunities and dissimilar environments for children through taking part in a variety of different sports and settings, instead of enforcing specialization and increased time-commitment to one sport/activity in one type of setting. For parents in particular, this suggests that they should encourage diversity and exploration of different types of sport settings. Similarly coaches should encourage their athletes to play other sports throughout the year and not enforce extreme intensity or involvement in a specific activity.

**Immediate Experiences**

Regardless of which components of competitive engineering a sport setting does or does support, intrinsic motivation in the athletes is fundamental. As suggested by Deci and Ryan (1985), intrinsically motivated individuals engage in an activity for its own
sake, they are motivated to act for the in-the-moment fun and challenge of the activity itself rather than external pressures or rewards. This was reflected in a dominant theme that emerged from the results, as the overall atmosphere of these athletes’ soccer environments emphasized the notion of “just for fun”. Regardless, the athletes stressed that the vital outcome of their games was the enjoyment they had while playing.

This finding falls in line with recent adaptations made to the Personal Assets Framework for sport, following qualitative youth sport research by Vierimaa, Turnnidge, Bruner and Côté (submitted). Vierimaa et al. (submitted) specifically adapted the framework to stress the importance of the immediate sport experiences for athletes (i.e., fun, enjoyment and effort) as the central process that promotes positive development. In other words, the adaptations reveal that the ultimate goal of structuring the dynamic elements of sport (i.e., appropriate settings, personal engagement of activities and quality social relationships) should ideally be to produce immediate/real-time positive sport experiences among athletes, so they are more likely to continue to put forth effort and participate. Therefore, it is the immediate enjoyment in sport experiences that may work as an intermediary, linking the immediate sport experiences to continued sport participation and positive development for young athletes.

It has been shown that “fun” is a primary reason for participation in sports teams, whereas “no longer fun” is the most frequently cited reason among youth for dropping out of sport (Petlichkoff, 1992; Scanlan, Carpenter, Schmidt, Simons, & Keeler, 1993). Indeed, it should come as no surprise that momentary feelings of fun and enjoyment
during games should be youth sport programs first priority for their athletes.

Nevertheless, there are many ways for sport programs to promote fun. For instance, Visek, Achrati, Manning, McDonnell, Harris and DiPietro (2014) recently developed a theoretical framework of fun using a mixed-method assessment of participants in youth soccer (i.e., FUN MAPS). The FUN MAPS identified 81 specific fun-determinants, within 11 fun-dimensions reported as influencing fun. Furthermore, this work highlights the three most important dimensions of fun relative to all others (i.e., “Being a Good Sport”, “Trying Hard”, and “Positive Coaching”), which are paramount for maximizing fun experiences in practices and games (Visek et al., 2014).

While it is not suggested that all youth sport programs structure their sport environments alike or adopt the same philosophy (i.e., just for fun), it can be suggested that overall youth sport programs should emphasize the momentary enjoyment the athletes feel while playing the game. As opposed to concentrating on long-term outcomes, coaches and parents, should instead focus their attention on ensuring that the young athletes are having in-the-moment enjoyable sport experiences as repeatedly emphasized by the young participants in this study.

**True Competition**

To promote fun and enjoyment, sport organizations often focus their competitive engineering process toward the structure of competition. In the case of the league studied in the current work, the official score was removed from games and, furthermore, there were no league standings or post-season play. As Torres and Hager (2007) highlight, this
trend toward de-emphasizing competition is believed to downplay the growing emphasis on winning and performance that has generated around youth sport programs. However, youth sport programs need to be careful to the extent to which competition is removed from the game, as competitive excitement is a common source of sport enjoyment for many young athletes (Wiersma, 2001). For example, athletes in the current study frequently reflected on how scoring goals was a key aspect of soccer that they enjoyed. As such, competition itself is neither inherently negative nor positive, but rather how competition is structured and implemented in a sport setting determines how it impacts the athletes.

In reflecting on ways to positively frame competition when it does occur, Shields and Bredemeier (2009) defined two different types of competition that help to explain its positive and negative aspects. One type of competition labeled true competition is a process based on a shared understanding of striving for excellence, which serves the mutual interest of all participants as they engage in an oppositional form of cooperation (Shields & Bredemeier, 2009). In other words, competitors will each benefit in some way as they perform. On the contrary, decompetition occurs when athletes seek to demonstrate their superiority over their opponents, and thus only serving the interests of winners as enjoyment is gained from extrinsic rewards. In decompetition, opponents are enemies to be defeated rather than respected partners in the chase for excellence.

In the current study, athletes readily identified true competition as they described cooperation among teammates to perform as a group, as well as having respect for their
opponents. In addition, athletes highlighted that they felt comfortable to take risks and try plays that may not be successful (i.e., score) without any fear of consequence from their coach or teammates. Perhaps the removal of the league standings and playoffs presented less pressure to “beat” opponents and more opportunities to develop personally. Competitive leagues can promote true competition in their athletes by emphasizing playing to the best of their own ability, recognizing achievements as personal improvements versus comparing final outcomes to the other team. Furthermore, as reflected by the current athletes, opponents should be appreciated and seen as challenge to rise to.

**Importance of Social Relationships**

Provided that elements such as competition and even intrinsic motivation are largely social constructs, they also link closely with the personal relationships described by athletes in the current study. Indeed, a fundamental contribution of this research relates to the myriad of social outcomes associated with athletes’ engineered environment, even though the original intent of this study was to examine the athletes’ perceptions of their modified *physical* and organizational environment (e.g., adaptations to rules, equipment, and competitive structure). Distinguishing features of athletes’ social environment were the quality relationships with teammates, parents, siblings and coaches. While the athletes were certainly able to reflect on their experiences with engineered elements, these changes were inseparable from the social elements of the sport environment. This finding is in line with Côté and colleagues’ (2014) Personal
Assets Framework for sport, suggesting that it is the interaction of the personal factors, relational factors and organizational environment that together form a specific sport experience. These three dynamic elements are separate, yet interactive entities; therefore, the overall sport experience for the athletes will be influenced by changes in any one of the elements.

In light of this present study, changes to the sport structure influenced the overall sport experience, in particular quality relationships. Perhaps modifications, such as fewer players on the field, rotation through positions and the removal of competitive aspects of the league, may have promoted these positive relationships. Overall, the impact that positive relationships had on the participants’ sport experiences further lends support to the contention that the manner in which social agents, such as coaches, parents, peers and siblings, interact with young athletes can have important implications for the outcomes that the youth derive for their sport participation (e.g., Jowett & Poczwardowski, 2007; Keegan, Harwood, Spray, & Lavallee, 2009; Ullrich-French & Smith, 2006).

**Methodological Considerations**

Advancing beyond the direct theoretical implications for the structure of youth sport, this research holds numerous implications for adapting qualitative methodologies to explore young athletes’ perspectives. Notably, a strength of this study was the combination of visual qualitative methods used to explore the child’s perspective (e.g., Darbyshire et al., 2005; Morrow, 2001; Pearce et al., 2009) – prompting young athletes to be open and enthusiastic when discussing experiences in their sport environment. When
considering the successes and challenges of adapting numerous qualitative methods in the current study, it is particularly important to discuss: (a) flexibility and preferences for each visual method, (b) using methods to empower the athlete voice, and giving athletes ownership within research, and (c) the importance of interpretation within the current qualitative process.

One interesting observation found during the interviews, was that not all athletes responded to the different visual tools (i.e., athlete-taken photography, athlete drawing exercise and pile-sorting exercise) the same way. For instance, some athletes were not as interested in the photographing portion, represented by taking less photos than asked of them and not having too much to reflect on when discussing the photos. However, these athletes were much more interactive with the drawing task and enthusiastic to discuss what they drew. The opposite was found as well, as some athletes didn’t seem to enjoy the drawing activity; yet, thoroughly enjoyed the novelty of having a digital camera and being able to discuss their photos. Additionally, the pile-sorting exercise was found to be very effective at stimulating conversations that may not otherwise have been discussed; yet similarly, some athletes were more receptive to the exercise than others. Therefore, while knowledge was gained from all of the different methods, a strength of the study was to let the participants be flexible in terms of the method they enjoyed and wanted to spend more time discussing. Future research using multiple visual qualitative methods could strongly benefit from the use and integration of all three of these data collection techniques instead of using a single data collection method.
Overall, similar to other research with athletes in this age group (e.g., mixed visual methods to understand young athletes’ experiences in sport; Cope et al., 2015), the use of athlete-produced photographs and drawings resulted in the athletes taking a sense of ownership over their work, provoking excitement to talk about the pictures they created. Interviews surrounding the athlete-produced pictures allowed discussions to be formed around what the athletes wanted to talk about, truly letting the athletes be the experts in the interviews and the central part of the research process. Comparable to previous work exploring youth sport experiences through photo elicitation (e.g., Strachan & Davies, 2015), these mixed visual methods successfully gave the athletes who are immersed in this adult-run setting a voice, allowing their own perceptions of their modified environment to be heard.

Lastly, in line with the research by Cope and colleagues (2015), the photographs and drawings were primarily used as a starting point to prompt conversation between the athlete and researcher throughout the interview. A key process within research that explores children’s perspectives using visual methods is the interpretation of the photos from the children directly. Rather than accepting the photographs and drawings based on the face-value from the perspective of an adult-researcher, it was vital to probe further and get a sense of how athletes described the images, and the meanings attributed to them. This approach was in line with Morrow’s (2001) visual qualitative work with children, stating “a picture or a photograph has no meaning in and of itself, it is the interpretation and explanation that is important – in this case, the participants’ own
explanation of why they had generated the images they had” (p. 266). It is important to note that since the athletes’ photographs and drawing were used to complement and help visualize the athletes’ descriptions; it therefore would be beneficial in future studies to assure that the researcher keep the original or a photocopy of each drawing.

**Limitations and Future Directions**

The implications of the present work should be considered within the limitations inherent to this study. Firstly, this study was conducted throughout one league (i.e., Ontario Soccer Association), with all athletes exposed to the same progression of engineered modifications (i.e., for U9 and U10 games are played in a seven versus seven format, on a 35x55m field, using a size-4 ball, with no record of standings or post-season play; Ontario Soccer Association, 2014). In addition, this study only looked at the perceptions of female athletes in these environments. Therefore, there are limits on the generalizability of all aspects of the current findings. However, due to widespread and real-world program that was examined, there may be certain concepts and implications that can be transferred to other youth sport settings. To address these limitations, it would be beneficial for future studies to explore athletes, both males and females, exposed to a variety of competitively engineered environments. These future studies could provide insight into whether the engineered aspects of other sport environments provide similar positive experiences as seen throughout this study.

Additionally, it is important to acknowledge the overall context in which this study was completed. As indicated, this study was done in Eastern Ontario, an area that is
very “hockey-oriented”. For instance, eight of the athletes in the study played hockey in addition to soccer. While the athletes highlighted that they enjoyed their “just for fun” atmosphere of soccer, none of the athletes wanted their other sports to adopt this philosophy and become less competitively-oriented. Therefore, it is interesting to imagine if engineered strategies that appear to promote a more “just for fun” atmosphere would be viewed as positive in a sport such as hockey for athletes in this area? Furthermore, would the “just for fun” attitude and lack of long-term competitive features of this soccer league be well accepted in countries that are more soccer focused? An interesting avenue for future research could look more in depth at the contextual factors that shape which implementation strategies are appropriate and successful for different sports in different culture. Given the decline of opportunities for active play (e.g., pickup games) among youth (Active Healthy Kids Canada, 2014) the competitively engineered soccer experience examined in this study seems to fulfill a need in children’s experiences of different sport activities.

A further limitation of the study is the possible parental influence that could have affected the athletes’ response. While the parents were not in hearing distance during the athlete interviews, it was hard to control for the views that parents potentially instilled on their children before the interview took place. As several of the parents involved in this study were parent-coaches to their children, they especially may have had preconceived beliefs about modified youth sport which may have been transferred to the athletes perceptions of their modified sport environment. One possible future direction would be
to directly interview the coaches and/or parents on their perceptions of competitively engineered youth sport. For instance, research could be conducted with coaches who have coached both in more traditionally organized youth sport, as well as in a modified environment, to understand their opinions of how the modified aspects influence their coaching technique and their athletes’ experiences.

An effective intervention is often determined by the impact of the program for the intended audience. For instance, the RE-AIM model (Glasgow, Vogt, Boles, 1999) is a successful framework for evaluating public health interventions, assessing their: reach, efficacy, adoption, implementation and maintenance. The framework not only supports the idea of making changes so interventions are more effective, but also making them low-cost and able to reach a vast audience. In this light, competitive engineering is an extremely promising approach for changing youth sport experiences, as it operates at the structural level of youth sport and is, as a result, extremely low cost and far-reaching. With its value as an implementation approach in mind, it is thus vital to ask the question: What specific competitive engineering strategies are most effective at promoting positive youth sport experiences?

Overall the findings in this study highlight positive outcomes associated with competitive engineering strategies implemented in the Ontario Soccer Association for the young athletes (ages 8 to 11) emerged in these environments. However, it is acknowledged that these findings do not support that all youth sport organizations, at all age levels, should implement the same strategies to promote positive experiences. It is,
therefore, vital that future research efforts aim to understand what implementation strategies are most effective for a range of youth sport to create repeated and consistent positive experiences among youth.

In the meantime, current sport league administrators should take the time to reflect on the goals of the league, the experiences of the participants, and the outcomes they are looking to achieve in their athletes, prior to implementing any engineered aspects to the youth sport structure. Choice of modifications should aim to support what the leagues are trying to promote, so the modified environment fits in line with the broader philosophy of the leagues. As the results in this study imply, while competitive engineering is a promising approach to youth sport programming, it cannot be seen as a “one-size-fits-all” answer.
Chapter 6

Conclusion

Similar to child-led games seen in backyards and playgrounds, competitive engineering looks to create age-appropriated sport environments where children are motivated to play and highly invested in the game. Overall, competitive engineering works at the structural level of youth sport, modifying the rules, equipment, facilities and structure to create more nurturing environments, therefore promoting positive outcomes and experiences for the young athletes involved (Burton et al., 2011). Yet, little is known about how these modifications influence the overall sport experience for the athletes. Thus, the goal of the current study was to combine several visual qualitative methods (i.e., athlete-directed photography, an athlete drawing exercise, a pile-sort exercise and a photo-elicitation interview) to explore the competitively engineered youth sport structure from the viewpoint of the actual athletes immersed in these environments.

The results of this study revealed that the athlete’s competitively engineered soccer was perceived as being a unique environment that emphasized personal development, positive relationships with coaches, peers and parents, and the underlying enjoyment of sport. To give further context, results were summarized into five themes that fell under the overarching unique environment concept, including: (a) Strong friendships, (b) supportive coaching, (c) evolving challenges, (d) emphasizing fun, and (e) family influence. One final underlying concept was revealed, highlighting that soccer was just one, of many, unique and potentially positive sport environments for the athletes.
The findings of this study offer insight into the perceptions and experiences of the athletes who are exposed to competitively engineered strategies in their soccer environment. Specifically, these results support the objectives of competitive engineering, offering insight into how the athletes positively view this modified environment. In addition, the findings support the existing youth sport literature on diversity of athletes’ sport experiences during childhood, as athletes acknowledged wanting their sport environments varied from one another. Furthermore, in line with previous research on the importance of immediate positive sport experiences for the youth, this study highlights the significance of coaches and parents emphasizing and promoting the momentary enjoyment the athletes feel while playing sport. Overall, these findings extend our knowledge of how modifications to the youth sport structure influence the athletes’ experiences, providing practical implications to further promote positive sport outcomes and experiences for young athletes.
References


Appendix A

Recruitment Script
RECRUITMENT SCRIPT

**Title of the study:** Exploring Young Female Athletes’ Perceptions of Their Modified Competitive Sport Environment

Recruiting methods for this research project may include personal requests of passers-by and recruiting through word of mouth. Regardless of the method, researchers will follow the recruiting script as outlined below.

1. Introduction of researcher’s name and affiliation with Queen’s University.
   a. Michelle McCalpin  
      *Primary Investigator*  
      MSc Candidate  
      School of Kinesiology and Health Studies  
      Queen’s University  
      Kingston, ON  
      (613) 533-6000, ext. 78207  
      7mem1@queensu.ca

2. Introduction of the title and main objectives of the project.
   a. Your daughter is invited to participate in a research project entitled ‘Exploring Young Female Athletes’ Perceptions of Their Modified Competitive Sport Environment’. The purpose of this study is to investigate how young female athletes perceive their current soccer environment, specifically looking at the game setting in soccer leagues that have modified their sport structure, rules, facilities, and equipment. This study will use a unique research process that aims to empower the children, allowing them to engage in the research and to let their opinions be heard.

3. Ask if person is interested in hearing more about the project
   a. If answer is “No”, say “Thank you, have a nice day”
   b. If yes, proceed to step 4.
4. Explain the project as outlined in the Letter of Information to the parent/guardian/athlete including:
   a. Ethics approval,
   b. Purpose (to investigate how young female athletes perceive their current soccer environment, specifically looking at the game setting in soccer leagues that have modified their sport structure, rules, facilities, and equipment),
   c. Inclusion criteria,
   d. Data collection procedures,
   e. Total time commitment (approximately 1¾ hours),
   f. Potential risks,
   g. Potential benefits,
   h. Storage of data and confidentiality procedures,
   i. Right to withdraw.

5. Ask if the child assents to participate in the study
   a. If answer is “No”, say, “Thank you, have a nice day”
   b. If answer is “Yes”, ensure that all items in the consent and assent for have been covered and then proceed by having the child sign the assent form and the parent/guardian sign the consent form
Appendix B

Letters of Information and Consent Forms
PARENTAL LETTER OF INFORMATION AND INFORMED CONSENT

Title of the study: Exploring Young Female Athletes’ Perceptions of Their Modified Competitive Sport Environment

Your daughter is invited to participate in a research project entitled ‘Exploring Young Female Athletes’ Perceptions of Their Modified Competitive Sport Environment’. Please read this form carefully and feel free to ask any questions you or your daughter may have. A copy of this consent form will be left with you for your records and reference. It should give you the basic idea of what the research is about and what participation will involve for your daughter. If you would like more detail about something mentioned here, or information not included here, please feel free to ask.

Purpose and Procedures
The purpose of this study is to investigate how young female athletes perceive their current soccer environment, specifically looking at the game setting in soccer leagues that have modified their sport structure, rules, facilities, and equipment. This study will use a unique research process that aims to empower the children, allowing them to engage in the research and to let their opinions be heard.

If you are willing to allow your daughter to participate, she will be asked to attend two different sessions as part of this study. The first session, which you are asked to attend, will inform her about the details of the study and how to take pictures on a digital camera. In addition, she will be asked to think about what she finds meaningful in her sport experience. During this session a short (15 minute) drawing exercise will also take place to generate ideas about how the participants see their sport environment. This session will take approximately 45 minutes.

After the first session, your daughter will be taking the camera into her sport environment for one week and will take pictures based on themes identified in the first session. After she has had the
camera for a week, the primary researcher will collect the camera and will develop the photos that were taken to be used in the second session to stimulate conversation. Next, the second session will take place. The second session will consist of an interview with your daughter, around the meanings and thoughts behind the pictures that she photographed and drew. This session will consist of a one-on-one interview with the researcher and will take approximately 1 hour. The goal is to get an understanding of what areas of her soccer game environment she finds meaningful, using the photos to encourage conversation.

The total time commitment for this study is approximately 1 hour and 45 minutes.

**Potential Risks**
There are no known physical, psychological, economic, or social risks associated with participation in this study. Your daughter may refuse to answer any questions. She may withdraw from the study by contacting the primary researcher and will be given all of the copies of her pictures. Further, information obtained through pictures will be destroyed. Refusal to participate and/or withdrawal from this study will in no way affect her treatment on her team.

**Potential Benefits**
There are no personal benefits associated with participation in this study; however, your daughter may help researchers gain knowledge about how athletes view their competitive sport experience. In compensation for participation, your daughter will be able to keep the camera she will be given for this study as well as a copy of her pictures.

**Storage of Data**
All data obtained during the course of this study will remain confidential. All data collected from your daughter will be assigned codes to help maintain anonymity. No one will have access to this information except for the primary researcher and her supervisor Dr. Jean Côté. All data, including consent and assent forms, will be kept in a locked filing cabinet at the PLAYS Lab at Queen’s University for a maximum of seven years, as per American Psychological Association requirements. After 7 years, all data will be destroyed. Access to this cabinet is limited to the researchers assigned to this research project.
Confidentiality
The results of the study may be published in academic journals and presented at conferences or workshops. The identities of all those who participated in the study will be protected and will remain confidential in any presentation or publication.

Right to Withdraw
Your daughter may withdraw from the study for any reason, at any time, without penalty of any sort. To withdraw from the study at any time please contact, the principal investigator, Michelle McCalpin (613-533-6000 ext. 78207 or 7mem1@queensu.ca). Participation in this study is completely voluntary. If your daughter withdraws from the study any information collected up to the time of the withdrawal will be destroyed. This study has been granted clearance according to the recommended principles of Canadian ethics guidelines, and Queen’s policies.

All participants in this study will be provided with a summary of the study’s results upon request through contact with the principal investigator, Michelle McCalpin (613-533-6000 ext. 78207 or 7mem1@queensu.ca).

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to allow your daughter to participate. In no way does this consent waive your daughter’s legal rights, nor does it release the researchers, sponsors, or Queen's University from their legal and professional responsibilities. You daughter is free to withdraw from the study at any time, and/or refrain from answering any questions, without prejudice or consequence. Your signature on this form also indicates that your daughter is aware of the details of this study, she understands it is completely voluntary and she knows the confidentiality measures that are being done to ensure her privacy. Please feel free to ask for clarification or new information throughout the course of the study.
Participants name: ____________________________________

Parent/Guardian name: ____________________________________

Parent/Guardian Signature: ____________________________ Date: _____________

Relationship to Participant: ____________________________

Please list a location that would be convenient for both you and your daughter, where you would like to meet for the first session involved in this study (such as; your home, a park, etc.):
________________________________________
________________________________________

Any questions about study participation may be directed to Michelle McCalpin at 613-533-6000, ext. 78207 or 7mem1@queensu.ca. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at 613-533-6000, ext. 74025 or chair.GREB@queensu.ca.

Michelle McCalpin                Jean Côté, PhD
Primary Investigator             Research Project Supervisor
MSc Candidate                    Director of School of
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COACHES LETTER OF INFORMATION

Title of the study: Exploring Young Female Athletes’ Perceptions of Their Modified Competitive Sport Environment

A player on your team has been invited to participate in a research project entitled ‘Exploring Young Female Athletes’ Perceptions of Their Modified Competitive Sport Environment’. Please read this form carefully and feel free to ask any questions you may have.

Purpose and Procedures
The purpose of this study is to investigate how young female athletes perceive their current soccer environment, specifically looking at the game setting in soccer leagues that have modified their sport structure, rules, facilities, and equipment. This study will use a unique research process that aims to empower the children, allowing them to engage in the research to let their opinions be heard.

The data collection process for this study involves giving a camera to the participant for one week, where she will take various pictures of her soccer game environment. The photos that are taken will be used to stimulate conversation between the researcher and the child, surrounding her meanings and perceptions of her competitive sport environment. The goal is to get an understanding of what areas of her soccer game environment she finds meaningful and to understand her perceptions on recent modifications that have been made to the youth soccer game structure (e.g., rules, facilities, equipment).

This study does not require you, as the coach, to do or change anything in your normal coaching routine. However, it is important for you to know that your athlete will have a camera for one week, where she will be taking pictures at all games that fall in that specific time period. We are asking for your acceptance and patience with the athlete as she takes several (roughly 12) pictures of her soccer game environment. Pictures may be taken at any point before, during or after the game. However, all pictures during the game should take place while she is on the side-line and
not physically playing in the game. The participant will be told that her pictures can contain people or objects that help to explain how she feels about her sport environment. However, she will be instructed to ensure she asks permission before taking anyone’s picture.

All data obtained during the course of this study will remain confidential. No one will have access to this information except for the primary researcher and her supervisor Dr. Jean Côté. The identities of those who participated in the study, as well as any pictures that are taken, will be protected and will remain confidential in any presentation or publication.

Any questions about study participation may be directed to Michelle McCalpin at 613-533-6000, ext. 78207 or 7mem1@queensu.ca. Any ethical concerns about the study may be directed to the Chair of the General Research Ethics Board at 613-533-6000, ext. 74025 or chair.GREB@queensu.ca.

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Appendix C

Assent Form
Title of the study: Exploring Young Female Athletes’ Perceptions of Their Modified Competitive Sport Environment

This letter will give you an idea about what I am researching and how you can help. If you have any questions, please ask me! Read this letter carefully...

I am doing a study about the sport experiences of children who play soccer. I am hoping to have a lot of help from you in this study. The results will help me learn about the sport programs for young athletes.

There are 3 different parts to the study that you would help with:
1. You will meet with me and learn more about the study, as well as learn how to use a digital camera. You will also be asked to draw a picture of your sport environment (this will take roughly 45 minutes).
2. You will take the digital camera to your soccer games and take pictures of things that are meaningful to you. Copies will be made for you to keep! At the end of study you will get to keep the digital camera too!
3. I will meet with you again and together you will discuss your pictures, drawing, and thoughts (this will take roughly 1 hour).

The total time spent with me will be roughly 1 hour and 45 minutes. I want you to know that I will not be telling your coaches, parents, or any other kids what you say.

Your mom and/or dad have said it’s OK for you to be in this study. Would you like to help? You won’t get into any trouble if you say ‘no’. If you start the study then decide you don’t want to do it anymore, that’s OK too! You can ask questions at any time, now or later.

If you would like to help, you will be given a camera to take pictures of your soccer game environment. You may take pictures of people, but you must ask their permission before taking their picture. Please sign your name below if you would like to help in this study and if you understand that you must ask permission before taking anyone’s picture with the camera.

Name: ______________________________________

Date: __________________________

Thank you,

Michelle McCalpin
Primary Researcher
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Appendix D

Demographic Questionnaire
Demographic Information of Participants

*This information may be collected with the help of a parent*

Section A:

Demographic Information

Athlete’s name: ______________________________________

Athlete’s birthdate: ________________________________

Gender: __________________________________________

Section B:

Sport Information

1) At what age did you begin playing soccer? ___________________________

2) Have you always played in this league? ______________________________

3) How many sports do you play right now? _________________________

4) How many organized sports were involved in (played) during the last calendar year? __________

Please list sports:

Sport: ______________________________
Number of years involved in sport: __________

Sport: ______________________________
Number of years involved in sport: __________

Sport: ______________________________
Number of years involved in sport: __________

Sport: ______________________________
Number of years involved in sport: __________

Sport: ______________________________
Number of years involved in sport: __________
Appendix E

Camera Instructions
DIRECTIONS TO PARTICIPANTS

General Directions for Using The Camera

1. First, make sure the camera is on.
2. To take a picture, look through the screen and press the button on the top of the camera on the right side.
3. Make sure the object you are photographing is close, so you can clearly see it.
4. Once you have taken the picture, you should see it pop up on the screen on the back on the camera.

Specific Directions For Taking Pictures of Your Sport Environment

Take 4 pictures that represent how you feel (good and/or bad) about the following areas of your sport environment:

1. The rules that are part of your game
2. Where you compete in your sport (your game environment)
3. The equipment used in your sport
4. Anything else that is meaningful to your sport experience

* Please remember to ask permission before taking someone’s picture.

Researcher will pick up the camera on (date): ____________________________
Interview Guide

This guide is intended to provide a semi-structured guideline for the second session.

Opening Question: Seeing as we have just recently met, can you tell me a little about yourself?

Question to be asked of every picture/drawing:

1) Can you tell me about this picture?

Potential Probes:

What does this photograph mean to you?

Can you tell me more about what this picture represents?

How do you feel about what is happening in this picture?

Is this typical of all of your sport experiences?

I find this picture very interesting; can you explain more about why you took this picture?

How the athlete describes the picture’s meaning will dictate the line of questioning that follows, however the goal is to gain insight into their opinions and perception of their sport environment, including:

a) Sport structure

b) Rules

c) Equipment

d) Facilities
Photo Sorting Exercise

Please take this new pile of photographs and sort it into two different piles. The pile on the left will be for photos resembling things you do not like or think are negative in your sport. The pile on the right will be for photos resembling things you do like and think are positive in your sport.

Summary Questions

1) If you could change something about your sport environment, what would it be?
   - Why is that?

2) How do you feel about this current sport environment compared to other sports you are currently or have played?

3) What would be something in this sport environment that you wish was happening in your other sports?

4) What would be something in another sport you have played that you wish happened in this sport environment?

5) Is there anything I have missed or anything you think is important to talk about in your sport environment that we haven’t talked about?
Appendix G

Athlete-Taken Illustrations
Illustration 1. Picture drawn by P4 representing her friendship with her soccer teammates.
Illustration 2. Picture drawn by P16 illustrating how her soccer team congratulates all players after a goal.
Illustration 3. Picture drawn by P17 representing the enjoyment she feels after scoring in soccer.
Illustration 4. Picture drawn by P5 displaying her teammates doing a common passing drill, highlighting the large emphasis that her coach puts on passing within the team.
Illustration 5. Photo taken by P1 showing her teammates passing in a game.

Illustration 6. Photo taken by P9 to illustrate her league’s recent rule change from kick-ins from the sidelines to throw-ins.
Illustration 7. Photo taken by P2 to display her recently changed bigger field size and the addition of more players on the field.

Illustration 8. Photo taken by P1 of her team shaking hands with the opponents after a game.
Illustration 9. Photo taken by P12 representing a game day tradition of her team, to shake the hands of all of the parents after the game.

Illustration 10. Photo taken by P9, showing her team picking positions before a game.
Illustration 11. Photo taken by P11 illustrating a common passing drill her coach runs in practice.

Illustration 12. Photo taken by P16 of her teammates at halftime in a game.
Appendix H

Pile-Sort Activity Illustrations