

PROGRAM QUALITY IN YOUTH SPORT

Examining the Role of Program Quality in Youth Sport Programming

Corliss Bean

Dissertation submitted to the Faculty of Graduate and Postdoctoral Studies

in partial fulfillment of the requirements

for the degree of Doctor of Philosophy in Human Kinetics

Faculty of Health Sciences, School of Human Kinetics

University of Ottawa, Ottawa, Ontario, Canada

© Corliss Bean, Ottawa, Canada, 2017

Abstract

The purpose of this doctoral dissertation was to examine the role of program quality within youth sport and understand the relationships between program quality, basic psychological needs support, and psychosocial development. Data were gathered from 33 youth programs across South Eastern Ontario using observations and corresponding field notes, self-report questionnaires from leaders and youth participants, and semi-structured interviews with leaders. The dissertation is composed of five articles. The first article uses structural equation modeling to examine the role of basic psychological needs support in mediating the relationship between program quality and psychosocial outcomes in the youth sport context. Results from this study indicate that both program quality and basic psychological needs play a role in facilitating psychosocial development; however, future research is needed to continue to understand this relationship. The second article presents findings from a sub-sample of the larger study in which a polynomial regression was conducted to examine discrepancies in program quality related to youth volleyball athletes' needs support. Results indicated that discrepancies existed between researcher- and coach-perceptions of program quality and findings outline how this influences basic needs. The third article represents a mixed-methods examination of program quality and basic psychological needs support within two physical activity-based in-school mentoring programs. Findings from this study revealed a significant difference in program quality across the two programs, specifically related to psychological needs support. Program quality was found to significantly predict needs support within the girls' program, but not in the boys' program. Further, field notes were analyzed and practical strategies emerged that were found to help facilitate a quality mentoring program. The fourth article examined the importance of intentionally structuring the youth sport context to facilitate positive youth development across

three types of youth programming. Results revealed that intentionally structured programs (both leadership and sport) scored higher on program quality and psychosocial outcomes than non-intentionally structured sport programs. In addition, intentional sport programs scored higher on some elements compared to intentionally structured leadership programs. Finally, the fifth article was a qualitative study that explored youth sport coaches' perceptions of life skill development. Results indicated that coaches considered life skills to be important, yet believed they were a by-product of sport participation. Coaches also identified challenges associated with using an explicit approach to teaching life skills. Findings from this dissertation provide some of the first empirical accounts of examining program quality within youth sport and suggest that program quality plays an important role in fostering basic psychological needs support and psychosocial development. Moreover, the findings illustrate that there is a need for coach education related to how to structure the youth sport context in order to deliver a high quality program that facilitates psychosocial outcomes.

Acknowledgements

I would like to express my gratitude to a number of individuals who helped me complete my doctoral dissertation. First and foremost, I would like to thank my supervisor, Dr. Tanya Forneris, for being my mentor. Over the past several years, she has given me the support and encouragement to grow as a person where I learned both valuable lessons in research and in life. I feel privileged to have had such an outstanding graduate school experience and I know Dr. Forneris played a significant role in fostering this experience. I am grateful for the time, patience, guidance, support, and learning opportunities she provided me with. I would not be where I am today without her and I sincerely appreciate all that she has done for me. She has taught me virtually all but how to ride a bike—oh wait she did that too. ☺

To my committee members, Dr. Martin Camiré and Dr. Michelle Fortier, I am grateful for their insightful comments, guidance, and input throughout this process and for being great mentors and collaborators throughout my graduate school experience.

To the participants who were involved in this research, I would not have been able to complete this dissertation without them. I am grateful for the time they invested, as well as the coordination and cooperation in this project. To the research assistants who helped with data collection, I appreciate the time and dedication you put into this project and I am grateful for working with me through the learning process.

To past and present students of in the School of Human Kinetics at the University of Ottawa, I am grateful for their friendship and support—both emotional and instrumental—that made my journey through graduate school at the University of Ottawa an exceptional experience. To Kelsey Kendellen, who was my rock in the lab; thank you for always sharing your positive

attitude and energy with me, for our swim and spin dates, and for encouraging me to celebrate successes.

To Bennett Challis, I am so grateful for having him as my biggest supporter in life and throughout my doctoral work. His unwavering love and support have been the foundation that helped drive me each day. He always brings a smile to my face. Thank you for always keeping my best interest in mind, believing in me, and encouraging me to pursue my goals and dreams without limits. Regardless of our proximity, I can always count on him to be there for me.

Further, I would like to thank my family and friends; I am truly grateful to have such supportive people around me. To my parents and sister, Candice, who have supported me in all of my endeavours long before I decided to pursue a graduate school, thank you for being great role models and for teaching me so much over the years. I would not be where I am today without the endless support of my family. To all of my friends, I am eternally grateful for your love, laughs, and support.

Finally, support for the writing of this manuscript was given through a doctoral research grant from the Social Sciences and Humanities Research Council of Canada (grant no. 767-2013-2142) and the Ontario Graduate Scholarship.

Table of Contents

Abstract.....	ii
Acknowledgements.....	vi
Table of Contents.....	vvi
List of Figures.....	xi
List of Tables.....	xii
List of Appendices.....	vi
List of Abbreviations.....	vi
Contributions of Authors.....	xvi
Overview of Dissertation.....	xix
Chapter One: Introduction and Review of Literature.....	1
Introduction.....	4
Review of Literature.....	4
Constructive Leisure and Youth Development.....	4
Sport-based Youth Programming.....	7
Proposed Best Practices for Youth Sport Programs.....	10
Evaluation of Youth Sport Programs.....	14
Conceptual Frameworks.....	16
Positive Youth Development.....	16
Basic Needs Theory.....	17
The Present Study.....	19
Research Purposes.....	19
Chapter Two: Overview of Methodology.....	23

Participants.....	224
Procedures and Measures.....	25
Validity and Trustworthiness.....	33
Data Analysis.....	33
Chapter Three: Examining the Role of Needs Support in Mediating the Relationship between Program Quality and Developmental Outcomes in Youth Sport.....	34
Abstract.....	35
The Present Study	40
Methods.....	41
Results.....	46
Discussion.....	50
Acknowledgements.....	55
References.....	56
Table 1	65
Table 2	67
Figure 1.....	68
Figure 2.....	69
Chapter Four: Investigating Discrepancies in Program Quality Related to Youth Volleyball Athletes' Needs Support.....	70
Abstract.....	71
The Present Study	75
Method	76
Results.....	84

Discussion.....	87
Acknowledgements.....	95
References.....	96
Table 1	105
Table 2	107
Table 3	107
Chapter Five: Examining Differences in Program Quality and Needs Support in two Physical Activity-based In-School Mentoring Programs	
Abstract.....	111
Introduction.....	115
Methods.....	115
Results.....	121
Discussion.....	131
Conclusion	135
Acknowledgements.....	136
References.....	137
Table 1.	143
Chapter Six: Examining the Importance of Intentionally Structuring the Youth Sport Context to Facilitate Positive Youth Development	
Abstract.....	145
Introduction.....	151
Method	151
Results.....	159

Discussion.....	162
References.....	168
Table 1.	176
Table 2.	177
Chapter Seven: Is Life Skill Development a By-Product of Sport Participation? Perceptions of Youth Sport Coaches	178
Abstract.....	179
Introduction.....	183
Methods.....	183
Data Analysis and Results	186
Discussion.....	197
Conclusion	205
Acknowledgements.....	206
Funding.....	206
References.....	207
Table 1.	213
Chapter Eight: General Discussion.....	215
Limitations and Future Research.....	224
Conclusion	229
Statement of Contribution.....	230
References.....	231
Figure 1.	253
Table 1.	254

Table 2.	255
Appendices.....	256
Appendix A: Demographic Information for Participants	256
Appendix B: Sample Information Sheet for Coaches.....	257
Appendix C: Parental Consent Form	258
Appendix D: Leader Consent Form.....	260
Appendix E: Youth Assent Form.....	262
Appendix F: Youth Program Quality Assessment.....	263
Appendix G: Youth Program Quality Survey.....	264
Appendix H: Learning Climate Questionnaire	265
Appendix I: Positive Youth Development Inventory-Short Version.....	266
Appendix J: Leader Interview Guide.....	267
Appendix K: Research Assistant Confidentiality Form.....	268

List of Figures

Overview of Dissertation

Figure 1. A graphical illustration of the five articles presented within the dissertation.....	253
---------------------------------------------------------------------------------------------------	-----

Article 1

Figure 1. a) Direct effect of program quality on PYD outcomes; b) Direct effect of basic needs support on PYD outcomes.....	68
--------------------------------------------------------------------------------------------------------------------------------	----

Figure 2. A graphical representation of the path of simple mediation analysis. X represents the independent variable (program quality), Y represents the dependent variable (PYD outcomes) and M indicates the mediator (basic needs support). The effect of $X \rightarrow M$ is represented by a, the effect of $M \rightarrow Y$ is represented by b. The total effect (c) of program quality (X) on PYD outcomes (Y) is comprised of the sum of the direct (c') and indirect effects ($c - c'$).....	69
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----

List of Tables

Chapter One

Table 1: Program setting features proposed to foster youth development.....	254
--------------------------------------------------------------------------------	-----

Chapter Two

Table 2: Overview of the associated domains, subscales, and item numbers of each subscale for the YPQA.....	255
----------------------------------------------------------------------------------------------------------------	-----

Chapter Three

Table 1: Descriptive statistics and correlations between the observed constructs in the model.....	65
Table 2. Standardized and unstandardized estimates, standard error, and <i>p</i> -value within the models.....	67

Chapter Four

Table 1. Descriptive statistics and correlations of all study variables.....	105
Table 2. Heteroscedasticity regression analyses between researcher-assessed and coach-assessed program quality by subscale.....	107
Table 3. Surface values of assessed program quality subscales as related to basic needs support.....	109

Chapter Five

Table 1. Observed program quality researcher scores (YPQA), youth perceived program quality (YPQS), and youth perceived needs support (LCQ) outlining differences	
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

between programs.....143

Chapter Six

Table 1. Program characteristics across three program types.....176

Table 2. Descriptive statistics and differences of researchers’
observed program quality scores (YPQA), youth
perceived program quality (YPQS), and youth perceived
PYD outcomes (PYDI-S) across programs contexts177

Chapter Seven

Table 1. Participants’ gender, age, ethnicity, years of
experience, and type of sport coached (including
sport type, level of competition, and gender of
youth athletes)213

List of Appendices

A. Demographic Information for Participants.....256

B: Sample Information Sheet for Coaches.....257

C: Parental Consent Form.....258

D: Leader Consent Form.....260

E: Youth Assent Form.....262

F: Youth Program Quality Assessment263

G: Youth Program Quality Survey.....264

H: Learning Climate Questionnaire.....265

I: Positive Youth Development Inventory-Short Version.....266

J: Leader Interview Guide.....267

K: Research Assistant Confidentiality Form.....268

List of Abbreviations

BNT: Basic Needs Theory

LDI: Life Development Intervention

PYD: Positive Youth Development

RDST: Relational Developmental Systems Theory

SDT: Self-Determination Theory

SUPER: Sports United to Promote Education and Recreation

TPSR: Teaching Personal Social Responsibility

WHO: World Health Organization

Contributions of Authors

Article 1: Examining the Role of Needs Support in Mediating the Relationship between Program Quality and Developmental Outcomes in Youth Sport

Author: Corliss Bean

Contributions: Designed the study, performed literature review, collected data, conducted data analyses, and drafted and revised the manuscript; primary author of the manuscript.

Co-author: Tanya Forneris, Ph.D.

Contributions: Assisted with the study design, discussed the results and implications and edited the manuscript.

Status of manuscript: Accepted for publication in the International Journal of Sport and Exercise Psychology

Article 2: Investigating Discrepancies in Program Quality Related to Youth Volleyball Athletes' Needs Support

Author: Corliss Bean

Contributions: Designed the study, performed literature review, collected data, conducted data analyses, drafted and revised manuscript; was primary author of the manuscript.

Co-author: Tanya Forneris, Ph.D.

Contributions: Assisted with the study design, discussed the results and implications and edited the manuscript.

Co-author: Jennifer Brunet, Ph.D.

Contributions: Assisted with the data analyses, interpretation of results, and edited the manuscript.

Status of manuscript: Published in Psychology of Sport and Exercise

Article 3: Examining Differences in Program Quality and Needs Support in two Physical Activity-based In-School Mentoring Programs

Author: Corliss Bean

Contributions: Designed the study, performed literature review, collected data, conducted data analyses, drafted and revised manuscript; primary author of the manuscript.

Co-author: Tanya Forneris, Ph.D.

Contributions: Assisted with the study design, discussed the results and implications and edited the manuscript.

Status of manuscript: Published in PHEnex Journal

Article 4: Examining the Importance of Intentionally Structuring the Youth Sport Context to Facilitate Positive Youth Development

Author: Corliss Bean

Contributions: Designed the study objectives as part of a larger study, performed literature review, collected data, conducted data analyses, drafted and revised manuscript; primary author of the manuscript.

Co-author: Tanya Forneris, Ph.D.

Contributions: Assisted with the study design, discussed the results and implications and revised the final manuscript.

Status of manuscript: Published in the Journal of Applied Sport Psychology

Article 5: Is Life Skill Development a By-Product of Sport Participation? Perceptions of Youth Sport Coaches

Author: Corliss Bean

Contributions: Designed the study objectives as part of a larger study, performed literature review, collected data, conducted data analyses, drafted and revised manuscript; primary author of the manuscript.

Co-author: Tanya Forneris, Ph.D.

Contributions: Assisted with the study design, discussed the results and implications and edited final the manuscript.

Status of manuscript: Published in the Journal of Applied Sport Psychology

Overview of Dissertation

The following document is a scholarly presentation of my doctoral research. There are eight chapters to this document, followed by a reference list and appendices. Chapter one provides a contextual background, including an introduction, review of the literature, theoretical frameworks used to guide this research, and research objectives. Within this chapter, limitations of the current research are outlined to highlight the importance of this research study at both academic and practical levels. Chapter two provides an overview of the methods used within the dissertation. Chapters three to seven present the five scholarly manuscripts that emanated from this research. Specifically, Chapter three presents a cross-sectional study that examined the role of basic psychological needs support in mediating the relationship between program quality and positive psychosocial outcomes in the youth sport context (Bean & Forneris, accepted). Chapter four is a quantitative study in which polynomial regression and response surface analysis were used to investigate the associations between researcher- and coach-assessed program quality scores as they relate to youth volleyball athletes' basic needs support (Bean, Forneris, & Brunet, 2016). Chapter five presents a multiple case study of two physical activity-based mentoring programs in which mixed-methods were used to examine program quality and basic needs support within these two programs (Bean & Forneris, 2016). Chapter six is a quantitative study that examined the importance of intentionally structuring the youth sport context to facilitate positive youth development across three groups of youth programming (Bean & Forneris, 2016). Chapter seven qualitatively explored youth sport coaches' perceptions of life skill integration through the perspectives of coaches who did not intentionally integrate life skills into their sport practice (Bean & Forneris, 2017). Chapter eight summarizes findings from all five studies and highlights the theoretical, conceptual, methodological, and practical implications of these findings, along with a conclusion.

Chapter One

Introduction and Review of Literature

Introduction

Adolescence is a critical period as it is during this time that youth experience a number of psychological and physiological changes. Although this period is a time of tremendous growth and potential, it is also a period of potential risk during which social settings impose strong influences (World Health Organization [WHO], 2014). Because of this, research has shown that adolescence is a valuable time for intervention (Hamburg, 1997; Public Health Agency of Canada [PHAC], 2011). Moreover, researchers and practitioners assert that when youth are not provided with opportunities to develop competencies and skills, they may fail to reach adulthood as healthy, resilient, and engaged citizens (PHAC, 2007).

Over the course of the twentieth century, there has been a growth of extra-curricular programming, with the purpose of providing youth with opportunities to develop values and behaviours that are believed to facilitate a successful transition to adulthood (Redding, 2014). Extra-curricular activities¹ fall within the classification of constructive leisure which requires “effort and provides a forum in which to express one’s identity or passion in sports, performing arts, and leadership activities” (Eccles & Barber, 1999, p. 11-12). Such contexts have proved to be important with Canadian youth, as research has indicated that more than 86 percent of youth in Canada participate in at least one organized extra-curricular activity (Guèvremont, Findlay, & Kohen, 2008). Moreover, research has shown that youth experience greater psychosocial development² when participating in constructive leisure (e.g., extra-curricular and community-based programming) compared to passive leisure, which are defined as social activities or

¹ Many terms are synonymously used with the term *extra-curricular activity* within the literature that include ‘community programming’, ‘out-of-school programming’, ‘after-school programming’, and ‘leisure activities.’ When describing the literature, we use the term outlined by the researcher. However, for this research the term ‘extra-curricular activities’ is used to identify programming that takes place out of the school context and includes both sport and non-sport activities.

² The term ‘psychosocial development’ will be used throughout this paper; however, it is important to note that other terms are used interchangeably within the literature that include ‘psychosocial outcomes’, ‘life skills’, ‘developmental outcomes’, ‘characteristics’, ‘behaviours’, ‘competencies’, ‘ecological assets’

activities that require little effort (e.g., spending time with friends, watching TV, reading, listening to music; Barber, Eccles, & Stone, 2001; Bartko & Eccles, 2003; Benson, Scales, & Syvertsen, 2010; Eccles & Gootman, 2002; Employment and Social Development Canada, 2014).

Researchers have begun to emphasize the importance of program quality in youth programs (Roth & Brooks-Gunn, 2015; Yohalem & Wilson-Ahlstrom, 2010) and have proposed a number of best practices that can foster positive psychosocial outcomes in youth (e.g., Barber et al., 2014; Durlak & DuPree, 2008; Eccles & Gootman, 2002; Lerner et al., 2011). However, limited research has examined program quality based on the key strategies that have been proposed by various authors. For the purposes of this research, program quality was measured based on the presence of the eight key strategies proposed by Eccles and Gootman (2002) in their work with the National Research Council and Institute of Medicine (NRCIM; 2002) as these are the mostly widely cited strategies for program quality in the current literature. These eight strategies are: (a) physical and psychological safety; (b) appropriate structure; (c) supportive relationships; (d) opportunities to belong; (e) positive social norms; (f) support for efficacy and mattering; (g) opportunities for skill building; (h) integration of family, school, and community efforts (Eccles & Gootman, 2002). To date, only two studies have empirically explored these eight setting features in a sport context (Povilaitis & Tamminen, 2017; Strachan, Côté, & Deakin, 2011). Both studies took on a qualitative approach and aimed to understand how these features were contextualized within a competitive youth sport (Strachan et al., 2011) and a youth residential sport summer camp (Povilaitis & Tamminen, 2017) context. Specifically, one study explored the ways in which positive developmental experiences were facilitated at a residential summer sport camp for youth and found that the environment was deliberately structured to

facilitate leaders' provision of growth opportunities for campers. Moreover, the leaders provided opportunities for youth to grow through providing supportive relationships, positive social norms, and opportunities for skill building (Povilaitis & Tamminen, 2017). However, only one study has quantitatively examined these eight setting features in youth sport (Flett). In addition, this research will also examine whether key strategies that have been consistently recognized in the literature as critical for effective youth programs (e.g., the intentional teaching of life skills and the development of supportive relationships between leaders and youth) have important influences on the psychosocial development of youth (Gould & Carson, 2008; Petitpas et al., 2005; Pierce et al., 2017).

Review of Literature

This review of literature is comprised of five sections. The review begins with a general overview of the research on the impact that participation in extra-curricular activities can have on the psychosocial development of youth. This section is followed by the literature that has focused solely on the impact of sport-based programming on the psychosocial development of youth. The third section presents the various strategies that researchers have proposed for best practices in youth programming. The fourth and final section of the review addresses the current state of program evaluation. The review of literature is followed by a discussion of the conceptual frameworks used to guide this study and the presentation of the research questions for the current dissertation.

Constructive Leisure and Youth Development

Numerous researchers have examined the impact of youth participation in constructive leisure (e.g., Barber, Abbott, Neira, & Eccles, 2014; Hopper & Iwasaki, 2017; Mahoney, Cairns, & Farmer, 2003; Mahoney, Larson, Eccles, & Lord, 2005; Peck, Roeser, Zarrett, & Eccles,

2008). Earlier research in this field typically examined whether participation in such activities was associated with positive psychosocial outcomes for youth. For example, in a review of the youth development literature, it was found that participation in extra-curricular activities was associated with positive academic, psychological, and social outcomes that manifested themselves both in the short- and long-term (Eccles & Templeton, 2002). More specifically, research has shown that youth involved in constructive leisure report increases in a number of psychosocial outcomes such as responsibility, initiative, leadership, problem solving, goal setting, communication, intrinsic motivation, time management, autonomy and stronger peer relationships (Bruce, Nicola, & Menke, 2006; Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Eccles, Barber, Stone, & Hunt, 2003; Eccles & Gootman, 2002; Hellison, Martinek, Walsh, & Holt, 2008; Mahoney et al., 2005; Zarrett et al., 2009). More recent research further supports the importance of involvement in constructive leisure. For example, Blomfield and Barber (2009) found that participation in any type of extra-curricular activity was associated with a higher social and academic self-concept and general self-worth compared to no participation in extra-curricular activities. Similar results were found by Guèvremont et al. (2014), who used the Canadian National Longitudinal Survey of Children and Youth to examine the impact of participation in youth programming. This survey compiles data on children's healthy development. Within this study, a cross-sectional sample of youth between the ages of 14 and 17 ($n = 3202$) and findings indicated that weekly participation in out-of-school or in both in-school and out-of-school activities led to higher scores on socio-emotional (e.g., higher pro-social behaviour, higher self-image) and academic outcomes.

A few studies extended beyond understanding how general participation in constructive leisure is linked to psychosocial outcomes by examining how the intensity of involvement may

be important. Bartko and Eccles (2003) found that youth who were highly involved (usually everyday) in constructive activities (e.g., extra-curricular activities that were either school-based, sport-based, volunteer-based, or a combination of these) scored higher on psychosocial, behavioural, and academic achievement while youth who engaged in few constructive activities (less than once a month) scored the lowest of all groups on all measured subscales. Similar to Bartko and Eccles (2003), Agans et al. (2014) found that high participation (once a week or more) in activities was consistently associated with fewer negative outcomes and higher scores on psychosocial outcomes, as compared to youth who were less likely to participate in activities. The authors also found that little (a couple of times a month) or no engagement was associated with an increase in substance use, depressive symptoms, and risky behaviours (Agans et al., 2014). Although these studies have made an important contribution to the literature on youth involvement and development, they only focused on examining whether or not participation in a program impacted psychosocial outcomes as well as whether intensity of involvement influences psychosocial outcomes.

In summary, the benefits of participation in extra-curricular programs have been well-supported and have been shown to provide opportunities for youth to experience high levels of enjoyment and engagement while also facilitating the development of a variety of psychosocial outcomes (e.g., Eccles et al., 2003; Eccles & Gootman, 2002; Mahoney et al., 2005; Vandell, Pierce, & Dadisman, 2004; Zarrett et al., 2009). However, these studies failed to account for the quality of the program and its impact on the psychosocial development of youth. More recently, Hopper and Iwasaki (2017) argued that adopting a top-down approach for constructive leisure may be detrimental and encouraged the use of youth-led/guided leisure pursuits that encourage leadership and mentoring opportunities for youth. To date, limited research is available in

understanding the critical ingredients in fostering quality constructive leisure pursuit. Of the limited research that does exist, a national study in the United States indicated that only nine percent of youth receive high level support for acquiring key developmental capacities, suggesting there is significant room for improvement in both the scope and quality of youth programming (Scales, Benson, & Roehlkepartain, 2011). This national study also showed that although 68 percent of youth are in some extra-curricular activity, only 35 percent of these programs were identified as having high-quality features linked to positive outcomes (Scales et al., 2011; Scales, Roehlkepartain, & Benson, 2009). There are a number of different types of constructive leisure programs available for youth to participate in including sport programs, creative arts programs, leadership programs, and service programs. However, sport has consistently been found to be among the most popular constructive leisure activity in which youth participate (e.g., Eccles & Barber, 1999; Feldman & Matjasko, 2007; Guèvremont et al., 2014)

Sport-based Youth Programming

Sport has been identified as a favourable environment in which to promote the development of youth because it is a highly valued social activity in which youth are generally motivated to engage (Gould & Carson, 2008). As a result, there has been an extensive body of literature examining the impact of sport participation on youth development. On one hand, several studies have shown that sport participation leads to a number of psychosocial outcomes, such as increased self-esteem, life skill development, confidence, citizenship, academic achievement, and decreased delinquency (Broh, 2002; Eccles et al., 2003; Mahoney & Stattin, 2000; Weiss, Stuntz, Bhalla, Bolter, & Price, 2013). Moreover, sport participation has been associated with the reduction of negative behaviours as well (i.e. conduct disorder, anti-social

behaviour; (Rutten et al., 2007; Samek, Elkins, Keyes, Iacono, & McGue, 2015). Recent research has also found that youth are more likely to experience positive psychosocial development through engagement in sport and physical activity or a combination of sport and other constructive leisure activities compared to only other constructive leisure activities (Forneris, Camiré, & Williamson, 2015; Jones, Edwards, Bocarro, Bunds, & Smith, 2017; Peck et al., 2008; Zarrett et al., 2008). Specifically, Hansen, Larson, and Dworkin (2003) found that sport appeared to provide unique and positive experiences compared to all other organized activities in which youth participated. Further, Larson and Seepersad (2003) found that youth's experiences in sport stood out from all other activities in providing opportunities for enjoyment while working towards an identified goal.

In contrast, there is a body of research that indicates that sport participation can lead to a number of negative outcomes, such as increased anxiety; stress, burnout, and dropout; aggression; injury; reduced self-esteem; bullying; and delinquent behaviour (Bean, Fortier, Post, & Chima, 2014; Fraser-Thomas, Côté, & Deakin, 2005; Lonsdale, Hodge, & Rose, 2009; Merglen, Flatz, Bélanger, Michaud, & Suris, 2014; Shields & Bredemeier, 2001). Specifically, there is much literature surrounding the negative physical and psychological effects of early specialization in youth athletes (Bridge & Toms, 2013; Jayanthi, Pinkham, Dugas, Patrick, & LaBella, 2013; Jayanthi, Pinkham, Luke, & Jayanthi, 2011) and recent evidence-based recommendations have been made outlining that intense training in one sport should be delayed until late adolescence in order to enhance success while reducing risks of injury, psychological stress, and burnout (e.g., Gould, 2010; Jayanthi et al., 2013). Moreover, in a position paper developed by the Canadian Academy of Sport Medicine, the authors outlined that there has been an emergence of incidents of abuse, harassment, and bullying reported in Canadian sport

(Stirling, Bridges, Cruz, & Mountjoy, 2011). Within the article, recommendations for coaches and medical professionals are provided pertaining to proper reporting and working to eliminate these issues, as the rights of athletes to enjoy a safe and supportive sport environment should be at the forefront of youth sport (Stirling et al., 2011).

In sum, the research on sport-based youth programs has indicated the potential for both positive and negative behaviours and outcomes. A great limitation of the research to date is that there has been little examination of the underlying mechanisms that could help explain why some programs are more effective than others. The potential negative effects that can accrue with participation in youth sport may be minimized or eliminated through delivering a high-quality youth sport programming. However, limited research has examined how the quality of the youth programs influence youth's psychosocial development. Although researchers agree that psychosocial development may not be facilitated through mere participation in sport and that youth programs must be appropriately structured to enhance youth development (Coakley, 2011; Danish, Forneris, Hodge, & Heke, 2004; Gould & Carson, 2008; Petitpas, Cornelius, Van Raalte, & Jones, 2005) no research has specifically examined what this means in practice. Given the importance of constructive leisure, such as youth sport programming, in promoting psychosocial development in youth, it is important to understand whether there are critical program features related to program quality that can facilitate such development (Mueller et al., 2011). Therefore, examining program quality could enrich the current literature on youth programming as it may help explain how and why participation can lead to different types of psychosocial outcomes. Such work may have important implications for research related to models and theories in the field of youth sport as well as important practical implications for youth sport including, but not limited to, coach education training.

Proposed Best Practices for Youth Sport Programs

As mentioned above, researchers and practitioners have proposed key strategies to facilitate psychosocial outcomes in youth programs (Durlak, Weissberg, & Pachan, 2010; Eccles & Gootman, 2002; Gould & Carson, 2008; Petitpas et al., 2005; Shernoff & Vandell, 2007; Zaff et al., 2003). For example, Lerner (2004) proposed broad and general strategies, which he termed as “the Big Three”: (a) positive and sustained adult–youth relations, (b) youth life-skill building activities, and (c) youth participation and leadership in community activities. Similarly, Petitpas et al. (2005) developed a framework within the sport environment, where they identified four critical conditions for youth sport programs that aim to foster youth development. First, Petitpas et al. asserted that youth need to be engaged in a challenging and motivating activity within a physically and psychologically safe environment (context). Second, youth also need to be surrounded by responsible and caring adult mentors and a positive peer group (external assets). Third, teaching of life skills (internal assets) are critical in helping youth develop the capacity to successfully cope with various life situations. Lastly, Petitpas et al. stressed the importance of evaluating programs developed to ensure that the program is leading to the desired outcomes (research and evaluation). Thus, according to these authors, when appropriate actions are taken to ensure these four conditions are implemented, it will lead to positive psychosocial development of youth participants.

Other researchers have outlined more specific strategies, which overlap with Lerner’s (2004) and Petitpas’ (2005) framework. For example, Eccles and Gootman (2002), in their work with the National Research Council and Institute of Medicine (NRCIM), proposed eight program features that are believed to be linked with positive psychosocial development and overall program quality. These features include: (a) physical and psychological safety; (b) appropriate

structure; (c) supportive relationships; (d) opportunities to belong; (e) positive social norms; (f) support for efficacy and mattering; (g) opportunities for skill building; (h) integration of family, school, and community efforts (Eccles & Gootman, 2002; see Table 1 for description of each feature). Moreover, these features have been recognized as being valuable within youth sport (Côté & Hancock, 2014; Côté & Mallett, 2013; Côté, Strachan, & Fraser-Thomas, 2008).

Although these various strategies proposed by researchers are a result of the findings from research within developmental psychology, limited research has examined the relationships between the different key strategies and psychosocial development in youth.

Therefore, a predominant intention of this research was to assess program quality across youth sport programming as it relates to psychosocial development in youth. For the purposes of this research, Eccles and Gootman's (2002) eight setting features that have been proposed to foster positive psychosocial development within youth programming were used as a guiding framework to assess program quality. These features were used because they are the most widely discussed and most-supported framework within the literature. Further, selection of this framework addresses calls to empirically examine these features in youth sport (Côté et al., 2008; Holt & Jones, 2008).

A second purpose of this research was to examine whether there are strategies that are of particular importance for fostering psychosocial development given the attention they have received by researchers in the literature. Within youth sport, there has been an emphasis on the importance of teaching life skills as well as the adult-youth relationships that are formed through consistent programming (Forneris, Camiré, & Trudel, 2012; Gould & Carson, 2008; Markowitz, 2012; Petitpas et al., 2005; Pierce, Gould, & Camiré, 2017). For example, Biddle (2008) reviewed 11 different life skills programs and concluded that although it was difficult to specify

features of the interventions that might distinguish between successful and less successful programs, due to the variability between the programs, two critical elements were outlined as important. These include ensuring that there is a supportive learning environment that deliberately integrates life skills and ensuring the development and support of positive interpersonal relationships between youth and adult mentors. Therefore, although this dissertation examines overall program quality, a specific focus on the intentional teaching of life skills and the development of a psychologically supportive environment is also warranted. The next two sections provide an overview of these two components in more detail.

Intentional teaching of life skills and supportive environment. Over the past 15 years, many researchers in the field of youth sport have asserted that incorporating the teaching of life skills is a critical component for enhancing psychosocial development (Danish et al., 2004; Forneris et al., 2012; Gould & Carson, 2008; Pierce et al., 2017). Life skills can be behavioural (communicating effectively with peers), cognitive (making effective decisions), interpersonal (being assertive), or intrapersonal (setting goals; Danish et al., 2004). In order for a skill to be classified as a ‘life skill’, one must have the ability to transfer that skill to other contexts outside of where it was learned (e.g., school, home, work, or community), helping youth develop the capacity to successfully cope with various life situations (Allen, Rhind, & Koshy, 2015; Gould & Carson, 2008; Pierce et al., 2017). Further, life skills should be taught through both demonstration and modeling. Furthermore, time needs to be provided to the youth to practice the skills until they can be used consistently and independently (Danish et al., 2004; Wallace, Forneris, & Danish, 2008). As many definitions exist for this term, it is often challenging to identify what is considered to be a ‘life skill’ (Gould & Carson, 2008). For the purpose of this study, ‘life skills’ are defined as “abilities for adaptive and positive behaviour that enable

individuals to deal effectively with the demands and challenges of everyday life” (WHO, 1999, n.p.).

In their seminal work, Petitpas et al. (2005) and Gould and Carson (2008) outlined the importance of designing activities which intentionally integrate life skills teaching in a systematic manner and offering clear strategies to youth that help foster generalizability of these skills to other domains. More recently, Pierce and colleagues (2017) outlined that intentional integration of life skills involves discussion of the skills and opportunities for leadership and team building. However, although many researchers assert the importance of teaching life skills, and some qualitative research has provided evidence that intentional teaching of life skills fosters psychosocial development (e.g., Camiré, Trudel, & Forneris, 2012; Gould, Voelker, & Griffes, 2013), to date, no quantitative studies have assessed the effect of intentionally teaching life skills in youth sport.

As noted above, researchers have long discussed that youth programs are likely to have a greater influence when youth have opportunities to build supportive relationships with adult leaders (Conroy & Coatsworth, 2007; Duerden & Gillard, 2008; Fraser-Thomas et al., 2005; Petitpas et al., 2008). More recently, Pierce et al. (2017) reinforced that strong coach–athlete relationships have been identified as indirectly influencing positive psychosocial development, whereas Turnnidge and colleagues (2014) outlined that quality relationships are the foundation of enhanced psychosocial development in youth sport. Further, this notion has been empirically supported in the youth sport literature (e.g., Armour, Sandford, & Duncombe, 2013; Bean et al., 2014; Biddle et al., 2008; Strachan, Côté, & Deakin, 2011). One of the conceptual frameworks on which this research is based is Basic Needs Theory (BNT; see further details below). This theory helps to explain one’s need for nurturing from their social environment. More

specifically, this theory emphasizes the importance of creating an environment that supports youth's needs for autonomy, competence, and relatedness and has started to gain traction as a foundation theory in the fields of youth physical activity and sport (e.g., Adie, Duda, & Ntoumanis, 2008; Duda, 2013; Hodge, Danish, Forneris, & Miles, 2016; Quested & Duda, 2010; Quested et al., 2013). Several researchers have begun to examine BNT in youth contexts such as physical education, summer camp, and leadership programming (e.g., Choi et al., 2016; Standage, Duda, Ntounamis, 2005). For example, Standage and colleagues (2005) found that students within the physical education setting who perceived a need-supportive environment by their teacher experienced greater levels of need satisfaction, which predicted intrinsic motivation. However, limited research has utilized BNT to understand the influence and/or importance of relationships within the youth sport context. This research aims to address this gap.

Evaluation of Youth Sport Programs

Apsler's (2009) review on studies that evaluated youth programs reported that "nearly all the research that generated these outcomes suffers from serious methodological flaws (p. 4). This conclusion is seconded by a meta-analysis that examined the impact of after-school programs for youth, yet the authors found too few high-quality evaluations to be able to conduct the meta-analysis appropriately (Scott-Little, Hamann, & Jurs, 2002). Apsler (2009) discussed how most studies have used a pre-post design without any comparison groups or relied solely on self-report measures. As such, this limits the conclusions that can be drawn from these studies. Yohalem and Wilson-Ahlstrom (2010) extended this concern by outlining that measures of program quality are often not even assessed within community-based youth programs (e.g., Eccles & Templeton, 2002; Kahn, Bronte-Tinkew, & Theokas, 2008). Further, in Granger and colleagues' (2007) report on improving after-school program quality, they discussed the need to supplement

the measurement of youth outcomes with an ongoing assessment of program and staff practices. For example, the authors noted that an important question yet to be addressed in the literature is: “What are the most promising and practical methods for intervening in programs to improve the quality of youth experiences and youth outcomes?” (p. 11). In addition, Durlak et al’s (2010) meta-analysis of after-school programs called for identification of program characteristics that help understand why some programs are more successful than others and clarification on how different aspects of program quality influence different youth outcomes. As a result, recent researchers have called for increased evaluative research of youth programming (Roth & Brooks-Gunn, 2015; Weiss et al., 2013).

Numerous sport and physical activity-based programs have also been evaluated over the past decade to examine the programs impact on psychosocial development such as Hellison’s (1995, 2011) Teaching Personal and Social Responsibility model, Danish’s (1996) Sports United to Promote Education and Recreation (SUPER) program (e.g., Hellison & Walsh, 2002; Martinek & Hellison, 2016), or Weiss’ (2013) The First Tee program. However, similar to the research on youth programming in general, these studies have used single group pre-post designs that focused on self-reported outcomes. As a result, Holt, Deal and Smyth (2016) outlined the need for more evaluation research to be conducted within youth sport and in particular evaluations designed to gain a better understanding of the processes through which psychosocial outcomes may be fostered through sport participation. This study will contribute to this gap.

Conceptual Frameworks

Positive Youth Development

The framework of Positive Youth Development (PYD) will be used as the overarching conceptual framework for this study. This framework emerged from the field of positive

psychology in the late 1990's, which focused on building necessary strengths and qualities that help individuals and communities to flourish (Snyder & Lopez, 2002). More specifically, this framework was developed in response to the deficit-reduction approach that viewed youth as problems to be managed within society and in turn, focused on minimizing problem behaviours within youth (Damon, 2004; Roth & Brooks-Gunn, 2003). The PYD framework is grounded in relational developmental systems theory (RDST) and emphasizes the importance of the relationship between an individual and his/her context. Specifically, this meta-theory can be used to understand the reciprocal relationship between the youth within a program, and the programs contextual elements (Lerner & Overton, 2008; Overton, 2015). From these interactions, one can optimize developmental opportunities and create change (Bronfenbrenner & Morris, 1998; Lerner & Castellino, 2002). Overall, aligning youth strengths (abilities to lead and be contributing members of society) with contextual program elements (e.g., creating a needs-supportive environment and meeting program quality recommendations), can lead to healthy development among youth (Lerner et al., 2014). As a result, the framework of PYD stresses the importance of this relationship and the contextual features of one's environment. As the current study focuses on understanding important contextual features of sport-based youth programming as well as how these contextual features impact the development of youth, PYD seems to be a natural guiding framework for this study.

Basic Needs Theory

Holt et al. (2016) outlined that nowhere is the lack of guiding theory within the field of PYD more obvious than in evaluation research. As such, this research will be guided by BNT as researchers have hypothesized that supporting basic psychological needs may be an important mechanism through which program quality leads to psychosocial development. The Basic Needs

Theory (BNT) is a sub-theory within Self-Determination Theory (Deci & Ryan, 1985), which proposes that humans function and effectively develop as a result of the social environment and its potential for basic needs satisfaction (Ryan & Deci, 2000a). Ryan and Deci (2000a; 2002) have argued that humans have three basic needs: autonomy, competence, and relatedness. Autonomy is concerned with individuals having the ability to make choices and act in accord with their sense of self, such as setting and working towards goals (Adie, Duda, & Ntoumanis, 2008). Competence is an individual's need to feel a sense of mastery within their environment (Deci, Ryan, & Williams, 1996), such as the feelings experienced when one achieves a goal. Relatedness refers to having a sense of belonging both with other individuals and with one's community; caring about and being cared for by others (Ryan & Deci, 2002). Research has indicated that environments that foster these three needs will result in positive psychological development and optimal psychological well-being (Ryan & Deci, 2000a, 2000b).

Moreover, recent work by Hodge, Martin and Danish (2012) recognized that BNT may help further explain why youth sport programs that intentionally teach life skills are effective. Hodge and colleagues proposed a model for life skills programs that integrates BNT into the original Life Development Intervention (LDI) framework developed by Danish and colleagues (1983; 1993). The LDI framework emphasizes the importance of self-directed change, being goal-directed and focused on the future, while understanding what needs to be done in the present to attain one's best possible future. The rationale behind the LDI framework is that teaching people life skills will lead to an overall increased sense of personal competence, facilitating greater psychological functioning (Danish et al., 1993). What has been missing in the LDI framework is an understanding of the mechanisms of change and because of this Hodge et al. proposed that BNT may be helpful in understanding how sport-based youth programs lead to

positive psychosocial outcomes. However, to date, limited empirical research and no quantitative studies have examined the relationship between program quality and basic needs support or whether support of the three basic needs helps to explain and moderate the relationship between a program's structure (i.e. program quality) and positive psychosocial outcomes within youth sport. As a result, this dissertation also contributed to this current gap in the literature.

The Present Study

The overall purpose of this research is to examine program quality in youth sport programs. Based on the current research, there appears to be a number of proposed key strategies for youth programming, but a lack of rigorous and empirical evaluation that measures whether such key strategies are being implemented (Holt & Jones, 2008; Roth & Brooks-Gunn, 2015). Utilizing Eccles and Gootman's (2002) eight program setting features to empirically examine program quality within youth sport will act as an important first step in contributing to this gap. Further, much of the research conducted in the field of PYD has been based on self-report findings and little research has incorporated observational methods (Flett, Gould, & Lauer, 2012). Therefore, this research aims to contribute methodologically to the field of youth development and specifically answer calls by Holt and Jones (2008) to utilize the Youth Program Quality Assessment (YPQA) as an assessment tool in youth sport programming. Moreover, Holt and colleagues (2016) highlighted the need for researchers to better understand the processes through which psychosocial development occurs in sport participation. As limited research has examined the relative importance of particular strategies that have been proposed, such as the intentional teaching of life skills and the development of a supportive environment, this research aimed to contribute to this gap. Finally, this research will be the first to integrate theory to explore the mechanisms through which program quality may foster psychosocial outcomes

within youth sport. As mentioned above, this dissertation is comprised of five articles and the specific purposes and research questions of each article are outline below.

Research Purposes

An overview of the five research articles are presented in Figure 1. The first article aimed to examine the relationship between the three main study variables by examine the role of program quality and needs support in facilitating psychosocial development in youth sport programming. This study had two research questions. First, do program quality and psychological needs support independently predict psychosocial outcomes? It was hypothesized that program quality and basic psychological needs support would independently play roles in youth fostering psychosocial outcomes. Secondly, this paper examined if basic needs support mediate the relationship between program quality and psychosocial outcomes in the youth program context. It was hypothesized that program quality would positively predict psychosocial outcomes and that basic psychological needs would mediate this relationship.

Article 2 and 3 built on the first study with the goal of further understanding the relationship between program quality and basic psychological needs using a sub-sample of the larger research. As previously identified literature has emphasized the importance of supporting basic psychological needs, and the critical role of a coach in the youth sport context, these studies aimed to extend the initial work of using structural equation modelling and mediation analysis in Article 1. The purpose of Article 2 was to examine the associations between program quality and youth volleyball athletes' basic needs support, specifically related to the agreement, discrepancy, and direction of the associations between researcher- and coach-assessed program quality and basic needs support. Two research questions were posed: What were the associations between researchers' and coaches' perceptions of program quality related to the agreement,

discrepancy, and direction of the associations? And How did the agreement, discrepancy, and direction of the associations influence basic psychological need support of youth athletes? As these questions were exploratory in nature, no directional hypotheses were proposed.

Article 3 used a multiple case study to take an in-depth exploration of program quality and needs support in two physical activity-based in-school mentoring programs using a mixed-methods approach. This study took on a mixed methods approach to extend the work conducted in Articles 1 and 2 as well as the field related to program quality and needs support. This study investigated if scores of program quality and basic needs support differ across two physical activity-based in-school mentoring programs? The second purpose of this study was to examine how youths' perceptions of program quality influenced basic psychological needs support. The research question was: Does total program quality predict basic psychological needs support within the two physical-activity based in-school mentoring programs? It was hypothesized that higher scores in program quality would predict higher perceived needs support by youth. The final purpose of Article 3 was to qualitatively explore strategies used by leaders to foster quality in both programs. As noted, Articles 2 and 3 aimed to explore the relationship and relative importance of certain program quality features and its influence of needs support.

Articles 4 and 5 aimed to examine another element of program quality that has been identified in the literature: intentionally teaching life skills. As such, the purpose of Article 4 was to examine the differences in program quality and psychosocial development across three youth programming contexts (intentional sport, non-intentional sport, intentional leadership) pertaining to the importance of intentionally teaching life skills. The research question was: What differences exist pertaining to program quality and psychosocial development across the program contexts? It was hypothesized that intentionally structured programs would yield higher program

quality scores by researchers and youth and higher self-reported PYD scores than non-intentionally structured programs. Building off the findings of Article 4 in which intentionally teaching life skills was identified as an importance element that influenced program quality and psychosocial development, a qualitative approach was taken to gain an in-depth understanding of the perceptions of life skill development from youth sport coaches' who do not intentionally teach life skills. This was done to advance the field in its novel sample of participants as previous work that has explored coaches' perceptions of life skills development has been with model coaches who already integrate life skills into their youth sport practices.

Chapter Two

Overview of Methodology

Overview of Methodology

The purpose of this section is to provide an overview of the broader epistemology and methodology used in the dissertation. This research was mixed-methods in nature and overall adopted a pragmatic approach which has been advocated for as a paradigm for this type of research (Morgan, 2014; Somekh & Lewin, 2005; Teddlie & Tashakkori, 2003). Such an approach rejects a position between the two opposing viewpoints (i.e., positivism and constructivism) surrounding issues of truth and reality (Yvonne Feilzer, 2010). Further, pragmatist researchers focus on the 'what' and 'how' of the research problem by using methods that best answer the proposed research questions (Creswell, 2013). However, it should be acknowledged that based on the methodological designs for each of the articles, multiple paradigms were adopted. For example, articles 1, 2, and 4 adopted a post-positivist approach that uses critical realism to arrive at a truth but at the same time recognizing that there may be more than one truth (Guba & Lincoln, 1994). This was important given that this thesis also integrated qualitative methods. In addition, article 5 took on a constructivist approach to align with the qualitative nature of the study. Adopting a constructivist approach allowed for the recognition that multiple realities exist with the goal of understanding the lived experiences of those individuals (Guba & Lincoln, 1994).

Within this thesis, two mixed-methods designs were utilized. The primary design used was an embedded mixed-methods approach whereby both quantitative and qualitative data were collected, yet the qualitative data played a supplemental role into the larger quantitative study (Creswell, 2013b; Greene & Caracelli, 1997). This type of design is useful, as it allows for greater breadth and depth of understanding and corroboration of the data, while offsetting the weaknesses of each approach. The quantitative data were intended to examine program quality

from three perspectives (researcher, leader, youth), as well as needs support and psychosocial development from the youth perspective. The qualitative data supplemented the quantitative data by utilizing field notes and interviews to further understand program quality within each program and to gain a more in-depth understanding of leaders' perceptions and strategies utilized in program facilitation. The second mixed-methods design used in this research was an explanatory sequential design (Ivankova, Creswell, & Stick, 2006). This design was chosen for Articles 4 and 5. Program quality and psychosocial development were first examined quantitatively. Based on the results of this quantitative study (Article 4), participants were purposefully selected to engage in a qualitative interview that aligned with Article 5's purpose.

In addition, the methods used in this research aligned with Yohalem and Wilson-Ahlstrom's (2010) recommendation that program quality is best measured using multiple measures from multiple sources over multiple time points over the course of a program. Further, it has been argued that researchers should utilize comparison groups instead of one-group designs to strengthen the confidence and to better understand the relationship between implementation and program outcomes (Durlak & Dupree, 2008).

Participants

Participants included 414 youth (161 boys, 253 girls; $M_{\text{age}} = 14.19$, $SD = 2.10$) and 37 leaders and/or coaches (hereafter referred to as 'leaders') from 33 different youth programs/teams (hereafter referred to as 'programs') involved with eight different community organizations. All participants were asked to complete demographic information (see Appendix A). Participants involved in the sport-based programming engaged in volleyball ($n = 211$; 16 programs within 2 organizations), ice hockey ($n = 36$; 2 programs, within 2 organizations), floor hockey ($n = 54$; 7 programs within 1 organization), and physical activity-based mentoring

programs ($n = 24$, 2 programs within 1 organization). Six leadership programs ($n = 89$) within two organizations were also included as comparison groups for Article 4. Youth self-identified as the following ethnicities: Caucasian (68%), Black (8%), Arabic (7%), Asian (7%), other (6%), Aboriginal (2%) and 2% did not disclose their ethnicity. Youth's involvement in his/her given program ranged from 1 to 9 years ($M = 2.67$, $SD = 1.68$).

Thirty-seven program leaders (25 males, 12 females; $M_{age} = 34.80$, $SD = 13.42$; Range = 20-61 years of age) also participated in the research. Twenty-seven participants were identified as main program leaders (or head coaches) and 10 participants were identified as assistant leaders or (assistant coaches). Program leaders identified as predominantly Caucasian ($n = 30$), while the remaining leaders identified as Asian ($n = 3$), Black ($n = 2$), and Indian ($n = 2$). Leaders' length of experience within his/her given program ranged from 1 to 30 years ($M = 4.60$, $SD = 5.50$).

Procedures and Measures

All procedures were approved by the University of Ottawa's Office of Research Ethics and Integrity. The researcher contacted these organizations via email and provided an information letter outlining the study details (see Appendix B for sample information sheet). Interested parties contacted the researcher, who then followed-up with an in-person meeting with leaders and parents of youth participants. At this meeting, more detailed information was provided about the research and consent forms were distributed. Upon return of all consent forms (see Appendices C, D, and E), data collection began. As mentioned, this research used a number of data collection methods to examine the various research questions, including an observational measure and accompanying field notes, questionnaires, and interviews. The measures chosen in this research were carefully selected not only based on the available psychometrics supporting

the validity and reliability of these measures in a youth programming context, but also because the measures were developed based on Eccles and Gootman's (2002) eight setting features proposed to foster psychosocial development. This selection helped with congruency and alignment within the dissertation and worked to address the need to empirically examine these setting features in the youth sport context (Côté et al., 2008; Holt & Jones, 2008).

Observations. To examine program quality, observations were conducted by the researchers using the Youth Program Quality Assessment (YPQA) tool (High/Scope Educational Research Foundation [H/SERF], 2005). The YPQA assesses the quality of developmental experiences youth have within extra-curricular programs (H/SERF, 2005). In addition, the YPQA integrates the NRCIM's eight contextual features proposed by Eccles & Gootman (2002) within four broad domains: (a) safe environment, (b) supportive environment, (c) interaction, and (d) engagement (H/SERF, 2005; see Appendix F). This measure is also recognized as a valid and reliable tool to use for both school and community-based programs for grades 4 to 12 (Smith & Hohmann, 2005; Yohalem & Wilson-Ahlstrom, 2009). Please see Table 2 for complete breakdown of the domains, subscales, and number of items for the YPQA which is comprised of 63 items within 18 subscales. Each question uses a scale that identifies if none of something (1), some of something (3) or all of something (5) exists. High/Scope training related to proper use and scoring of the YPQA was completed prior to data collection (H/SERF, 2005).

Twenty-eight of the 33 programs were involved in the observational portion of the study. As the study was voluntary in nature, some coaches opted out of the observations, yet wanted to still be involved in the self-report questionnaire portion. One hundred ninety-four on-site observations were conducted in total across the 28 programs. One-hundred-two of these observations were conducted by the lead researcher (myself) and the remaining 92 observations

were conducted with the assistance of four research assistants, as having two researchers assess the same program session independently was important for enhancing reliability of the data. Although two researchers were present at almost all observed sessions (90%), even with the best planning, unexpected events occurred (i.e. weather, other conflicts) that prevented two researchers from being present for every observed program session. As such, the 10% of observations were accounted for within each program's quality score because the researchers were confident with the inter-rater reliability (moderate to substantial agreement). However, these could not be taken into account for inter-rater reliability.

In addition, an average of 7.17 ($SD = 2.10$, range = 4 to 10) program sessions were observed for each program to enhance the validity of the data. These observation sessions lasted between 1 and 3 hours depending on individual program length. Each researcher completed the YPQA form independently at the end of the program session. To minimize social desirability during the observations, the researchers reinforced the purpose of the study was to understand program quality features and that individual coach behaviour and competence was not being directly assessed. Additionally, coaches were reminded of the voluntary nature of the study and assured that observations and YPQA scores would remain confidential. Also, this measure was completed by the program leaders as a self-assessment of their program's quality, which allowed for comparison between internal and external perceptions of program quality within these programs.

Field notes. The researchers took field notes during each program session to supplement the quantitative completion of the YPQA. A total of 465 pages of field notes (Times New Roman, single spaced) were taken over the course of the project. These field notes were coded under each item allowing for objective and detailed accounts (i.e., concrete examples) that

provided reference to the subsequent item scored within the YPQA. Such field notes are required as part of the comprehensive completion of the YPQA. Within the YPQA, it is outlined that observers should write field notes that are factual, objective, specific and detailed. It is recommended that these notes should also include anecdotal descriptions of interactions, quotations of youth/leader interactions, as well as sequencing of events within the program.

Self-report measures. Three self-report measures were used to examine youth's perceptions of program quality, basic psychological needs support, and psychosocial development. The self-report measures for perceptions of program quality and basic needs support were collected midway through each program, while a self-report measure of psychosocial development was collected at the end of the program. Youth completed these questionnaires at two different time points for two reasons: (a) to minimize participant burden and (b) to employ a longitudinal design in which program quality and needs support were assessed *during* program participation and psychosocial development was measured at the end of a program enabling youth to reflect on what skills they perceived to have developed as a result of program participation. Below is a brief description of each measure; more details are provided in the specific articles presented in the subsequent chapters.

Program quality. The Youth Program Quality Survey (YPQS) was developed to assess youth's experiences within extra-curricular programs (Silliman & Schumm, 2013). This questionnaire, similar to the YPQA, focuses on the contextual features of youth programs shown to promote PYD that have been identified by the NRCIM (Eccles & Gootman, 2002). Developed by Silliman and colleagues (2008, 2010), the YPQS, was comprised of eight subscales (one for each of the program setting features) including: (a) safety, (b) support, (c) social norms, (d) social inclusion, (e) skill-building opportunities, (f) self-efficacy, (g) structure, and (i) synergy

with family and community. Three items were developed for each of the eight contextual features, resulting in a 24-item survey (see Appendix G). The measure uses a 4-point Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*). More recently Silliman and Schumm (2013) reviewed the measure and proposed two additional factor structures based on the age of youth involved in a given program. However, after testing both models, and the original 8-factor model, poor model fits were identified for all three models using the present project's study sample (Bean & Forneris, 2016). As such, an exploratory factor analysis was performed and a revised 4-factor, 19-item model was proposed and used in the analyses of this dissertation as the measurement model showed good fit and did not vary between younger and older youth participants.

Basic psychological needs support. The learning climate questionnaire (LCQ) was adapted by Standage, Duda, and Ntoumanis (2005) from the Health-Care Climate Questionnaire (Williams & Deci, 1996). The LCQ is a measure that examines basic psychological needs support and provides an understanding of how well a program leader or coach meet participants' three needs (autonomy, competence, relatedness). The LCQ is comprised of 24-items and is measured on a 6- point Likert scale from 1 (*strongly disagree*) to 6 (*strongly agree*; see Appendix H). The LCQ has been shown to have good internal consistency with youth in leadership programming, physical education, and residential camp settings (Bean, Harlow, & Forneris, 2016; Bean, Kendellen, & Forneris, 2016; Standage et al., 2005). Further, a recent three-study psychometric assessment of the LCQ in youth sport and physical activity programming revealed the measure to be valid, reliable, and invariant across gender within this context (Bean, Rocchi, & Forneris, under review).

Psychosocial development. The positive youth development inventory-short (PYDI-S) was developed in response to identified gaps from academics and practitioners for a valid and reliable outcome measure for youth development programs (Arnold, Nott, & Meinhold, 2012). The measure is based on the NRCIM's program setting features proposed by Eccles and Gootman (2002). This measure was chosen for this study not only because it was based on these eight features, allowing for congruence between the utilized measures, but also because youth were asked to complete multiple measures and therefore a short-form was used to reduce participant burden. The PYDI-S uses the stem "As a result of participating in this program" and is measured on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*; see Appendix I). Within this study, four subscales of PYDI-S were used, including: (a) personal standards (5 items; e.g., "It is important for me to do the right thing"), (b) friendships (8 items; e.g., "I make friends easily"), (c) emotional regulation (3 items; e.g., "I can manage my emotions"), and (d) pro-social values (4 items; e.g., "Other people's feelings matter to me"). As this is a relatively new instrument, psychometric testing for the short version of this measure is not yet available (Arnold et al., 2012); however, testing with the PYDI revealed good reliability and adequate convergent validity with the instrument (Arnold et al., 2012).

Semi-structured interviews. In addition to the quantitative measures, semi-structured interviews were conducted in this study. Gould and Carson (2008) highlighted that more qualitative research should be conducted to better understand underlying mechanisms as to how and why life skill development occurs through sport. As such, 35 leaders engaged in a one-time interview during the final weeks of each program and after each leader had completed his/her own assessment of the program using the YPQA. All interviews took place at a place and time that was convenient for the participant, which tended to be before or after a practice at the

location of the program (e.g., in a quiet room or hallway; $n = 29$) or at a coffee shop ($n = 2$); however, four interviews took place over the phone at participants' requests. The lead researcher conducted 31 of the interviews while one research assistant conducted four interviews. Purpose sampling procedures (Patton, 2002) were used to recruit participants for the semi-structured interview in order to obtain perspectives from leaders with a variety of experiences (e.g., both males and females, from a variety of programs, and with a variety of coaching experience, assistant coaches and head coaches). The leaders were interviewed to gain an understanding of their experiences implementing the given program, strategies used to facilitate program quality, and their perceptions of the program's influence on youth participants (see Appendix J). Interviews were recorded using a digital audio-recorder. Member checks were completed with program leaders (Patton, 2002). Once the interviews were transcribed, participants were asked if they would be willing to review their transcript to confirm that their answers were an accurate representation of their perspectives related to the issues addressed. Stake (2013) argued that this is a critical process to ensure accuracy of gathered information. The transcript was emailed to participants and returned to the researcher. Minor modifications were made to the transcripts based on participants' feedback including spelling, grammar and clarification of the message that was conveyed.

Validity and trustworthiness. Measures were taken to increase the credibility and trustworthiness of the research with both quantitative and qualitative measures. Prior to data collection, all participants signed a consent form to protect the rights of the participants. Further, during data collection, participants were reminded that study participation was voluntary, and that anonymity would be maintained. To enhance rigour, a triangulation of methods and sources were gathered. In regards to the quantitative data, validated measures were used and the three of

the quantitative measures were triangulated, using Eccles and Gootman's (2002) eight program setting features as foundations for the measures development. Further, internal consistency and model fit were assessed for the self-report measures. During program observations, two observers were present to help with trustworthiness of the data gathered. From this, inter-rater reliability was calculated. The researchers took care to ensure observations were conducted in a manner that did not disturb programs' regular functioning. This included only speaking to the coaches or youth prior to or at the end of the program session, as not to disrupt the flow of programming. Further, the researchers sat or stood off to the side of the practice or playing area to minimize engagement attempts from youth, coaches, and/or parents.

For the qualitative interviews, the interview guide was piloted with two coaches, which resulted in slight modifications to the guide, including adding a few questions and re-arranging the order of some questions (Maxwell, Chmiel, & Rogers, 2015). Triangulation was also employed within this research. First, multiple sources of data (researchers, leaders, youth) were collected. Second, multiple methods (observations, field notes, questionnaires, interviews) were used to gather data at multiple time points. The convergence of evidence between multiple sources and methods helps provide an in-depth, more accurate and convincing account than solely one source or one method (Yin, 2009). As noted above, member checks were completed once the interviews were transcribed (Patton, 2002). Lastly, trustworthiness of the data was assured through a collaborative approach to analysis (Creswell, 2013a). Investigator triangulation (Yin, 2009) was used with the qualitative data (researcher field notes, interview transcripts), which was first analyzed by the lead researcher and reviewed by her supervisor during the second round of analysis. Discrepancies between researchers were discussed until agreement was

reached. This process helped ensure identified themes were consistent with the data collected and verified that themes and sub-themes were accurately represented.

Data Analysis

Various techniques were used to analyze the data gathered within this dissertation. These analyses include structural equation modelling and bootstrapping analysis (Article 1); polynomial regressions with response surface methodology (Article 2); multivariate analyses of variance (MANOVA), regression analyses, and a deductive–inductive thematic analysis (Article 3); MANOVA and multivariate analysis of covariance (Article 4); and inductive qualitative thematic analysis (Article 5). Specific details of these analyses are outlined within each of the five chapters.

Chapter Three

Article One

**Examining the Role of Needs Support in Mediating the Relationship between Program
Quality and Developmental Outcomes in Youth Sport**

Bean, C., & Forneris, T. (2017). Examining the role of needs support in mediating the relationship between program quality and developmental outcomes in youth sport.

International Journal of Sport and Exercise Psychology, 1-17.

doi:10.1080/1612197X.2017.1350825

Abstract

Understanding how program quality and needs support influence youth's psychosocial development within sport programming is critical given the abundance of postulations, yet lack of empirical evidence, that recognize the potential influence program quality and needs support have on the psychosocial development of youth. The purpose of this study was two-fold: (a) to examine the role that program quality and basic needs support played in psychosocial outcomes in youth sport and (b) to investigate if basic needs support mediated the relationship between program quality and psychosocial outcomes. It was hypothesized that program quality and needs support would independently contribute to psychosocial outcomes and that program quality would positively predict psychosocial outcomes and needs support would mediate this relationship. A total of 214 youth ($M_{\text{age}} = 14.26$) completed three questionnaires at two time points that assessed the study variables and were analyzed using structural equation modelling. Program quality and needs support significantly predicted psychosocial outcomes independently. Preacher and Hayes (2008) bootstrapping analysis was used to test if needs support mediated this relationship. Results indicated that needs support partially mediated the relationship between program quality and psychosocial outcomes. Findings provide initial evidence of the importance of delivering high quality programs in order to foster psychosocial development in youth. Applied implications and future research areas are discussed.

Keywords: Positive Youth Development, program quality, basic needs support, psychosocial outcomes, structural equation modelling; mediation

Examining the Role of Needs Support in Mediating the Relationship between Program Quality
and Developmental Outcomes in Youth Sport

Over the past few decades, there has been a rise in youth sport participation within North America (Green, 2011). Specifically, sport is the most popular extra-curricular activity within Canada, with 76% of Canadian youth participating in this context (Guèvremont, Findlay, & Kohen, 2008). Participation in sport programming provides youth with the opportunity to improve physical and motor skills, as well as develop psychosocial skills (Côté & Fraser-Thomas, 2011). As such, sport has been proposed as an ideal context to foster development and as a result, sport researchers have recognized the value of utilizing a positive youth development (PYD) framework (Gould & Carson, 2008; Petitpas, Cornelius, Van Raalte, & Jones, 2005). Theoretically, the PYD framework focuses on building the necessary strengths, qualities, and relationships that assist youth in achieving optimal development (Lerner, 2005; Snyder & Lopez, 2002). To date, the majority of research in sport has focused solely on understanding what PYD outcomes accrue as a result of participation and limited research has been undertaken to understand *how* these PYD outcomes may be best fostered, despite calls for research on this topic (Durlak, Weissberg, & Pachan, 2010; Gould & Carson, 2008; Shernoff & Vandell, 2007).

A major component of psychosocial development is *life skill* development, which has been defined as “skills that enable individuals to succeed in the different environments in which they live, such as school, home and in their neighborhoods” (Danish et al., 2004). Life skills can be classified as intrapersonal (e.g., focus, perseverance, goal setting, emotional regulation) or interpersonal (e.g., friendship, communication, teamwork, respect). Intrapersonal skills refer to skills that are more internal in nature, whereas interpersonal skills refer to skills that are more useful during social interactions. In addition, life skill development does not only refer to the

learning of a skill but also the ability to apply and transfer this skill beyond the context in which it was learned (Danish et al., 2004; Gould & Carson, 2008; Papacharisis, Goudas, Danish, & Theodorakis, 2005; Pierce, Gould, & Camiré, 2017). For example, within the sport environment, youth learn the skill of emotional regulation and are able to apply this skill and manage their emotions at school or with their friends.

When research on PYD programming emerged in the early 2000's, a number of researchers put forth recommendations of how high quality programs should be structured, meaning what features should be integrated into a program to facilitate positive psychosocial development (e.g., Durlak et al., 2010; Eccles & Gootman, 2002; Gould & Carson, 2008; Petitpas, Cornelius, Van Raalte, & Jones, 2005; Shernoff & Vandell, 2007). The most well-accepted and acknowledged set of features are those proposed by Eccles and Gootman (2002) in their work with the National Research Council and Institute of Medicine (NRCIM). These eight program setting features include: (1) physical and psychological safety; (2) appropriate structure; (3) supportive relationships; (4) opportunities to belong; (5) positive social norms; (6) support for efficacy and mattering; (7) opportunities for skill building; and (8) integration of family, school, and community efforts (Eccles & Gootman, 2002). Although these features were initially proposed for youth programs in general, these features have also been identified as having the potential to play an important role in the youth sport context (e.g., Côté, Strachan, & Fraser-Thomas, 2008; Fraser-Thomas et al., 2005). Moreover, it has been purported that these features are the foundation of a high quality youth sport programs (Côté & Abernethy, 2012; Côté & Mallett, 2013).

Although researchers assert that program quality is one of the best predictors of positive psychosocial development in youth programming (Durlak et al., 2010; Yohalem & Wilson-

Ahlstrom, 2010), few empirical studies have tested this relationship. For example, both Yohalem and Wilson-Ahlstrom (2010) and Roth and Brooks-Gunn (2015) contend that empirical evidence linking specific program features to youth outcomes is rare. Moreover, Pittman and colleagues (2003) purport that focusing solely on program outcomes (e.g., skills, behaviors, knowledge) without gaining an understanding of what facilitates these outcomes limits our understanding of evidence-based practices and therefore undermines the potential for success in youth programs. Although some researchers have examined the role of certain program characteristics such as sport type, school vs. non-school programs, and their influence on psychosocial outcomes in youth (e.g., Bean & Forneris, 2016a; Bruner, Hall, & Côté, 2011; Wilkes & Côté, 2010), little work has examined the role of program quality in facilitating these outcomes. As such, research that examines whether or not program quality, and in particular Eccles and Gootman's (2002) eight setting features, predicts psychosocial outcomes in sport programming is warranted.

In addition to identifying the role that program quality plays in fostering PYD outcomes Holt (2016) argued that there is a need for more theoretical research within youth sport. In recent years, one theory that has been more widely used within the context of sport is basic needs theory (BNT; e.g., Adie, Duda & Ntoumanis, 2012; Quested et al., 2013). This theory is a sub-theory of self-determination theory and outlines that humans function and develop as a result of the social environment and its potential for basic needs satisfaction. Ryan and Deci (2000, 2002) argued that humans have three basic psychological needs. These needs include: autonomy (i.e., the ability to make choices and acting in accordance with one's sense of self; Adie, Duda, and Ntoumanis 2008), competence (i.e., feeling a sense of mastery within one's environment and experiencing opportunities to display skills; Deci, Ryan, & Williams, 1996), and relatedness (i.e., a sense of belonging both with other individuals and with one's community; Ryan & Deci,

2002). Environments that foster these three needs have the potential to result in positive psychosocial development and optimal well-being (Ryan & Deci, 2000). To the authors' knowledge, only two studies have examined the relationship between program quality and basic needs support. One comparative study examined the difference between a high and low quality physical activity mentoring program and found that the quality of a program significantly predicted basic psychological needs when perceived as high, but not in the low quality program (Bean & Forneris, 2016). However, this study was limited by its small sample size. In another study of youth volleyball athletes, program quality was significantly ($p < .001$) associated with all domains of program quality (i.e., safe environment, supportive environment, interaction, engagement; Bean, Forneris, & Brunet, 2016). Although this research acts as an important starting point, more research is needed to better understand this relationship.

Sport has been identified as a unique context that can provide youth with opportunities to simultaneously achieve autonomy, skill development, and relatedness. More specifically, research examining BNT in youth sport has shown that when coaches or physical educators use an autonomy-supportive approach, youth score higher on basic needs satisfaction (Adie et al., 2012; Reinboth, Duda, & Ntoumanis, 2004). In addition, needs satisfaction within the context of youth sport has been associated with lower intentions to drop-out of sport and higher levels of well-being (Adie et al., 2012; Quested et al., 2013). However, no research has examined the link between BNT and PYD outcomes within sport. Despite the lack of research, Hodge and colleagues (2016) advocate for the use of BNT to examine mechanisms in which sport-based program foster psychosocial outcomes. Specifically, Hodge and colleagues (2012; 2016) proposed a conceptual model of life skills development, referring to psychosocial outcomes, in which the authors outlined that an intervention or program is first delivered and from that

program leaders facilitate a motivational climate that results in needs satisfaction and ultimately psychosocial development. As such, if basic needs are supported and satisfied, individuals are more likely to learn life skills and subsequently transfer these life skills to other contexts, such as school, home, or community. Life skill development and transfer is the ultimate goal of many sport and youth development programs, and the majority of sport organizations' mission statements outline the importance of youth development (Weiss, 2016)). Because of this, research examining the relationship between BNT and psychosocial outcomes is warranted. However, to date, only one study has examined the relationship between needs support and psychosocial outcomes and this research was in a summer camp context (Bean, Kendellen, & Forneris, 2016). The results indicated that basic needs support made a significant and unique contribution to all subscales of a life skill development measure, including identity experiences, initiative experiences, basic skills, and interpersonal relationships. As a result, there is initial evidence that needs support may predict psychosocial outcomes; however, more research is needed prior to having sufficient evidence to guide practice within the fields of PYD and youth sport. In order to empirically test Hodge et al.'s (2012) model which has been recommended for use within the sport context (Hodge et al., 2016), and to further advance the field of youth sport research theoretically, research is needed to examine all three variables (program quality, basic needs support, psychosocial outcomes) within one study.

The Present Study

As mentioned, numerous researchers have called for studies that examine the role of program quality (e.g., setting features) and the role of theory (e.g., BNT) in facilitating psychosocial outcomes both within and beyond the context of sport (Hodge et al., 2012; Pittman et al., 2003; Yohalem & Wilson-Ahlstrom, 2010). Therefore, examining the relationship between

program quality, needs support, and psychosocial outcomes is warranted for two reasons: (a) the abundance of postulations, yet lack of empirical evidence, that recognize the potential influence program quality and needs support have on psychosocial outcomes and (b) the popularity of the youth sport context across North America (Guèvremont et al., 2008; United States Census Bureau, 2014). Therefore, the overall purpose of this study was three-fold. The first purpose was to examine the roles of program quality and needs support independently in predicting psychosocial outcomes in youth sport programming. As the field lacks theoretical grounding, this was done to initially examine if a relationships existed between these variables. It was hypothesized that program quality and basic psychological needs support would independently play roles in youth fostering psychosocial outcomes. The second purpose was to investigate if needs support mediated the relationship between program quality and psychosocial outcomes. The rationale for this investigation is based on Hodge and colleagues (2012, 2016) conceptual model of life skill development whereby a program (that incorporates the setting features) has to first be delivered before youth experience the motivational climate of the program and perceive their needs as being supported or hindered as a result of the setting features. If these psychological needs are perceived to be supported and satisfied, this will result in life skill outcomes (Hodge et al., 2012). As such, it was hypothesized that program quality would positively predict psychosocial outcomes and that basic needs would mediate this relationship.

Methods

Context and Participants

This study was part of a larger research project that examined program quality across the youth programming context. This study involved collecting data from 23 sport programs within four organizations over the course of 1 year. Specifically, the programs included two sport

programs run by local non-profit organizations that serve at-risk youth ($n = 31$) and 21 community club sport programs ($n = 183$). All 23 programs were part of sport or youth development organizations in which the mission statements supported the psychosocial development of youth through participation. The sport programs included sports such as volleyball, ball hockey, and ice hockey. Program sessions ran between 60 and 120 min in length ($M = 115$, $SD = 17$). There were 214 youth participants (hereafter referred to as ‘youth’; 61 male, 153 female) ranging from 10 to 18 years old ($M = 14.28$, $SD = 1.88$), who had participated within their program between from 1 to 9 years ($M = 2.92$ years, $SD = 1.81$). Youth identified as predominantly Caucasian (78.5%), multiracial (6.1%), Arabic (5.1%), Black (3.3%), Asian (3.7%), Aboriginal (.5%), and 2.8% did not disclose their ethnicity.

Procedure

Following ethical approval from the [blind]’s Office of Research Ethics and Integrity, the lead researcher contacted community youth sport organizations in South-Eastern Ontario. Information about this study was communicated to interested programmers and directors and a total of 23 programs were identified within four organizations for the purpose of this study. The lead researcher provided coaches and parents of youth with a summary of the proposed study, distributed consent forms, and assured confidentiality prior to data collection. At the end of programming (within the last 2 weeks of programming), paper questionnaires were distributed to youth by the researcher. The researcher answered questions youth had related to comprehension.

Measures

Data were collected in two phases. First, youth were asked to complete a measure of program quality and basic psychological needs support midway through their sport program. The researcher returned at the end of the program and during this time youth completed the final

measure pertaining to psychosocial development. Psychometric tests (i.e., confirmatory factor analysis) were conducted for each of the three measures to ensure they aligned with the theoretical constructs. The results of the psychometric tests are outlined at the end of each of the measures' descriptions. For sake of brevity, full psychometric details of these analyses are available from the corresponding author.

Program quality. A modified version of the Youth Program Quality Survey (YPQS; (YPQS; Silliman & Schumm, 2013; Silliman & Shutt, 2010) was used to measure youth's perceptions of program quality within extra-curricular programs (Bean & Forneris, 2016b). This measure is framed from the NRCIM's eight contextual features of youth programs proposed to foster positive development (Eccles & Gootman, 2002). The original YPQS was designed as a 24-item measure. Based on a series of confirmatory and exploratory factor analyses, Silliman and Schumm (2013) adapted the measure to yield two different measures based on age of youth participants (i.e. younger and older youth) involved in programming. Each of these two measures were comprised of five subscales that encompassed all eight setting features. Bean and Forneris (2016b) utilized a similar sample to the current study³ and outlined a poor model fit to Silliman and Schumm's (2013) models. Slight modifications to these models were made and based on the results of an exploratory factor analysis that showed good model fit. The modifications included reducing the number of total items to 19 and presenting a model that was acceptable for all youth between 10 and 18 years of age (see Bean & Forneris, 2016b for full details). The modified YPQS is comprised of four subscales totaling: (a) Appropriate Adult Support and Structure (5 items, e.g., "Adults listened to what I had to say"), (b) Empowered Skill-building (7 items; e.g., "I was challenged to think and build skills"), (c) Expanding Horizons (4 items; e.g., "Activities were related to issues in my club, my family, and my community"), and (d) Negative

³ Some participants involved in the current study were also part of the identified study.

Experiences (3 items, e.g., “I was embarrassed or put down”). The modified measure has demonstrated moderate to strong internal consistency within the sport context (Bean & Forneris, 2016b, 2016c). All of the NRCIM’s eight program setting features are represented within this measure. For example, within the subscale of Empowered Skill-building, items encompass four of the setting features including positive social norms, skill-building opportunities, support for efficacy and mattering, and integration of family, school and community efforts. The measure uses a 4-point Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*). With the current sample, the internal consistency ranged from moderate-to-strong for all subscales ($\alpha = .56$ to $.82$). Negative experiences was the only subscale to fall under acceptable internal consistency ($.70$; Nunnally, 1978), yet is often the case when there are few items and/or heterogeneous constructs within the subscale (Tavakol & Dennick, 2011), which is the case with this subscale. In order to achieve a high quality program, programmers should be striving to incorporate all eight setting features into a program (Eccles & Gootman, 2002). As such, a total score of program quality was calculated through calculating a mean score. A confirmatory factor analysis showed adequate fit of the YPQS for the sample used within the current study ($\chi^2 = 280.93$, CFI = $.89$, TLI = $.86$, SRMR = $.059$, and RMSEA = $.066$ [90% CI = $.054 - .077$]).

Psychological needs support. To assess the degree to which youth perceived their coach as supporting their basic needs of autonomy, competence, and relatedness, the Learning Climate Questionnaire (LCQ) was used (Standage et al., 2005). Previous work using the LCQ with a youth sample has supported the internal reliability (Bean, Kendellen, & Forneris, 2016; Bean, Harlow, & Forneris, 2016; Standage et al., 2005). The LCQ was measured on a 6-point scale anchored by 1 (*strongly disagree*) to 6 (*strongly agree*). Items included: ‘I felt that the coaches provided us with choices and options’ (autonomy support; 15 items), ‘The coaches helped us to

improve' (competence; 4 items), and 'I felt that the coaches were friendly towards us' (relatedness; 5 items). Scores from these three subscales were used as indicators of needs support. With the current sample, all three factors showed good internal consistency ($\alpha = 0.82$ to 0.90). The importance of having a balance of all three basic needs in order to achieve well-being has been outlined within the literature (Deci & Ryan, 2012). The three needs support scales were combined and averaged to create one need support indicator, which has been used in previous research (e.g., Bean et al., 2016; Standage & Vallerand, 2014). Psychological needs support measured by the LCQ showed adequate fit ($\chi^2 = 634.87$, CFI = .89, TLI = .87, SRMR = .063, and RMSEA = .085 [90% CI = .077 – .094]).

Psychosocial development. The PYD inventory-short (PYDI-S) was used to measure youth's perceptions of psychosocial outcomes of youth program participation (Arnold, Nott, & Meinhold, 2012). The PYDI-S is also developed from the NRCIM program setting features proposed by Eccles and Gootman (2002). As such, using this measure allowed for congruence between the measure of program quality and psychosocial outcomes, as both were based on these eight features (Eccles & Gootman, 2002). Moreover, the short form was used to decrease participant burden as the youth in the larger project were asked to complete a number of measures at various points in the programs. The items on the PYDI-S are measured on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*) and uses the stem: "As a result of participating in this program...". Four subscales of PYDI-S were used totaling 20 items that measure youth's perceptions of four areas of psychosocial development. More specifically, this measure examines two intra-personal life skills including: Personal Standards (5 items; e.g., 'It is important to do the right thing') and Emotional Regulation (3 items; e.g., 'I can manage emotions'); and two inter-personal life skills including Friendships (8 items; e.g., 'I make friends easily'), and (d)

Pro-Social Values (4 items; e.g., ‘Other people’s feelings matter’). This instrument is relatively new within the literature, yet psychometric testing with the overall scale of the PYDI was tested with 748 youth. The short version of this measure has also demonstrated relatively strong psychometrics (Bean & Forneris, 2016c). With the current sample, the subscales showed moderate to strong internal consistency ($\alpha = .67$ to $.87$). Emotional regulation was the only subscale that fell under acceptable internal consistency ($.70$; Nunnally, 1978), yet as noted above, is common when few items are within one subscale (Tavakol & Dennick, 2011). Further, other researchers have indicated that alpha’s as low as $.5$ or $.6$ are acceptable (e.g., Peterson, 1994). PYD outcomes measured by four subscales of the PYDI-S showed good fit ($\chi^2 = 311.42$, CFI = $.91$, TLI = $.89$, SRMR = $.063$, RMSEA = $.065$ [90% CI = $.054 - .076$]).

Results

Model Fit Evaluation and Preliminary Analyses

Data were first screened for missing data, univariate, and multivariate normality. Then, structural equation modeling (SEM) analyses were performed in the AMOS 23 software program (Arbuckle, 2014) using a Maximum Likelihood estimation method. To a great extent, previous research has relied on thresholds for Goodness-of-fit (GOF) indices to evaluate the fit of a SEM model (Byrne, 2012; Kline, 2011). For the purpose of this study, model fit was assessed using a combination of indices: Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA combined with its 90% CI; Byrne, 2016; Tabachnick & Fidell, 2013). Specifically, the thresholds values have usually been CFI/TLI = $.90$, RMSEA = $.06$, and SRMR = $.08$ (Byrne, 2016). However, Kline (2010) has encouraged researchers to always report the chi-square statistics, and as such the chi-square (χ^2) is also presented.

Two hundred and fourteen youth were included in the study sample as they met the following inclusion criteria: (a) being between the ages of 10-18, (b) participating regularly in the program (engaging in 75% or more of the program sessions), and (c) completing all three questionnaires outlined in the aforementioned section. From this sample, a total of 1.4% of the data per items were missing and 0.28% of the total data set was missing. When less than 5% of data are missing, influences of missing data are negligible (Tabachnick & Fidell, 2013). Missing data were treated with multiple imputations using an expectation-maximization method (Tabachnick & Fidell, 2013).

Data were then screened for normal distribution. Two variables (autonomy and relatedness) were non-normally distributed (negatively skewed) and, as such, were transformed based on Templeton's (2011) methods. Individual items were standardized. Data with z-scores below -3.29 and above +3.29 were considered to be outliers. Forty-nine individual items (.36% of the total data set) were recoded using the most extreme data points within the item, but still within the normal range (Tabachnick & Fidell, 2013). Once transformed, all variables were standardized; all values fell within the acceptable range of (-3.29 to 3.29). The descriptive statistics of the model variables are shown in Table 1. Statistics for Variance Inflation Factor tolerance ranged fell within the acceptable range (Hair, Black, Babin, & Anderson, 2010) for all variables.

Measurement Model

The three-factor measurement model was estimated using the maximum likelihood function to confirm that the indices were measuring the appropriate latent constructs. One factor represented program quality (4 indicators), one factor represented needs support (3 indicators), and one factor represented psychosocial outcomes (4 indicators). Standard procedures were

employed to establish the parameters in the factor loading, factor variance-covariance, and uniqueness matrices. Latent constructs were free to correlate. The correlations between the three latent variables are as follows: Program quality was positive and significantly ($p < .01$) correlated with basic needs support (.77) and psychosocial outcomes (.53). Further, basic needs and psychosocial outcomes were positive and significantly correlated (.52; $p < .01$). The structural model had good fit ($\chi^2 = 80.88$, CFI = .97, TLI = .96, SRMR = .045, and RMSEA = .068 [90% CI = .046 – .089]). This confirms that latent constructs are measured appropriately by observed variables. Examination of the pattern coefficients revealed that they were all significant and loading on the appropriate factors.

Structural Models

To address the study's first purpose, two structural models were tested; one that examined the relationship between program quality and psychosocial outcomes and one that examined the relationship between basic psychological needs support and psychosocial outcomes. Program quality (model 1) and needs support (model 2) were first tested independently to examine their relationship to psychosocial outcomes (see Figure 1). Results examining the extent to which program quality influenced psychosocial outcomes (model 1) revealed a satisfactory fit of the model to the data. The chi-square value was not significant ($p = .085$) and the other fit indices were outlined as follows: $\chi^2 = 27.94$, CFI = .98, TLI = .98, SRMR = .044, RMSEA = .047 (90% CI = .00 – .082). Perceptions of program quality were significantly and positively related to psychosocial outcomes ($\beta = .53$; Table 2). Within model 1, program quality explained 28% of the variance. Results examining the extent to which psychological needs support influenced psychosocial outcomes (model 2) also revealed a satisfactory fit of the model to the data. The chi-square value was not significant ($p = .363$) and the other fit indices

were outlined as follows: $\chi^2 = 14.15$, CFI = .99, TLI = .99, SRMR = .022, and RMSEA = .020 (90% CI = .000 – .073). Needs support was significantly and positively related to psychosocial outcomes ($\beta = .52$; Table 2). Within model 2, psychological needs support also explained 28% of the variance for PYD outcomes.

Mediation Analysis

Once it was evident that program quality and psychological needs support positively influenced psychosocial outcomes within the current sample, a causal step approach was used to identify if the variables satisfied the mediation criteria (Preacher & Hayes, 2008). This approach outlines that in order to satisfy a mediation relationship in the causal sequence, analysis for direct paths (a, b, and c) must be significant and c' must not be significant. As such, a mediation analysis was conducted (Preacher & Hayes, 2008) to address the second study purpose.

Mediation analysis is a process that identifies if a variable mediates (basic needs support) an effect between an independent variable (program quality) and a dependent variable (psychosocial outcomes) in causal sequence (Preacher & Hayes, 2008; see Figure 2). Mediation was analysed using SPSS v.24 using macro and syntax from Preacher and Hayes with significance set at p value of <0.1 , which has been suggested by Batterham and Hopkins (2006). The indirect effect was analysed via the bootstrap method; the process in which a pre-determined number of random selection of the sample is obtained. For the present study, bootstrap selection was set at 10 000 samples to help reduce bias and likelihood of type 1 errors. It was hypothesized that basic needs support would mediate the relationship between program quality and psychosocial outcomes.

The independent variable, program quality was significantly related to the dependent variable, psychosocial outcomes ($p < .0005$, see Table 2), confirming that there is a relationship between the two variables to be mediated. Program quality was also related to the mediator

variable (basic needs support; $p < .0005$), which establishes the first stage of the mediated effect. Next, basic needs support was significantly related to psychosocial outcomes ($p < .05$) which establishes the second stage of the mediated effect. Finally, it is outlined that in order to have complete mediation, program quality should no longer relate to psychosocial outcomes after basic needs support was controlled, revealing a non-significant result (Preacher & Hayes, 2008); however, results within this analysis indicate that this path remained significant ($p = .0005$). Program quality and basic needs support accounted for 19% of the variance in psychosocial outcomes. As outlined in Table 2, the indirect effect for basic needs support as a mediator was .22. The effect size was calculated using kappa-squared, as recommended by Preacher and Kelley (2011) and was found to be a moderate to large effect size ($k^2 = .15$). In sum these findings indicate that a partial mediation exists within this model (see Figure 2).

Discussion

As mentioned above, the first purpose of this research was to examine the roles of program quality and needs support independently in facilitating psychosocial outcomes in youth sport programming. Results supported that both program quality and needs support significantly relate to PYD outcomes. Related to the second purpose in which mediation was tested using bootstrapping methods, results indicated that needs support partially mediated the role between program quality and PYD outcomes. As a result, this study addresses several gaps in the literature including calls for research that links program quality to psychosocial outcomes (Roth & Brooks-Gunn, 2015; Yohalem & Wilson-Ahlstrom, 2010) and incorporates theory, in this case BNT, into a field of research that has been largely atheoretical (Hodge et al., 2012; Holt, 2008) to understand the mechanisms which facilitate psychosocial development in youth sport (Gould & Carson, 2008; Hodge et al., 2016). In addition, this study extended previous research by: (a)

utilizing SEM rather than traditional analytic approaches (e.g., bivariate correlation, multiple regression analyses), (b) examining needs supports as a mediator of program quality and psychosocial outcomes, and was the first study to empirically contribute to Hodge et al.'s (2012) model within a youth sport context.

Based on the study findings, in order to foster psychosocial outcomes, it is important to consider both program quality and basic needs support. Specifically, the direct association contextual features, meaning program quality, has on psychosocial outcomes needs to be examined, as well as the extent to which program quality influences BNT, and the extent to which coaches' support of youth's needs are associated with psychosocial outcomes. However, it is also acknowledged that this is the first study to explore these relationships; hence future research is needed to replicate such findings. A study conducted by Curran, Hill and Niemiec (2013), conducted a mediation analysis and found that the structure from youth soccer coaches positively related to youth's behavioural engagement and negatively to their behavioral disaffection. These relationships were mediated by athletes' basic psychological needs satisfaction. Although sport structure is not synonymous to program quality, these constructs share similar features and to date, this is the only other study that has utilized self-determination theory as a mediator pertaining to youth sport processes on perceived outcomes.

The following sections discuss how this study relates to previous research as well as outlines limitations, implications, and future research directions. First, findings support previous research in that it is critical to assess the influence of not just the 'content', but also the 'context' surrounding the individuals participating in a given program (Hodge et al., 2012). Not only does the environment of a sport program (e.g. contextual features) play a critical role in fostering outcomes, but so do the individuals responsible for delivering a program (Gould & Carson, 2008;

Petitpas, Cornelius, & Van Raalte, 2008). Previous research has highlighted the critical role coaches can play in youth sport (e.g., Petitpas et al., 2008). Specifically, research has outlined that coaches play an essential role in cultivating many of the necessary features of an environment conducive to psychosocial development (Martin, Ewing, & Gould, 2014; Petitpas et al., 2005), acknowledging their role in delivering or hindering elements of a high quality program. The current study findings also support previous research within the youth sport context outlining the importance of providing a needs-supportive motivational climate for its participants (e.g., Rocchi et al., 2013; Smith, Quested, Appleton, & Duda, 2016). However, many studies within the sport context have specifically examined the influence of autonomy-supportive environments (e.g., Adie et al., 2008; Adie et al., 2012; Conroy & Coatsworth, 2007). Based on the current findings, it is recommended that coaches continue to work towards supporting all three of youth's basic needs as Deci and Ryan (2012) have outlined the importance of having a balance of autonomy, competence, and relatedness in order to achieve well-being. Therefore, information as to the importance of program quality and how coaches can provide support of all three needs may be warranted within coach education programs.

Limitations of this study must be acknowledged. Although this study was not cross-sectional in nature, the predictor and mediating variable were collected at the same time in order to reduce participant burden, which limits the full potential to establish cause and effect relationships. Future research should look at true mediation across an entire program. As data from this study were only collected in four organizations and within South-Eastern Ontario, this may limit generalizability of results. Moreover, all data were based on self-report outlining the potential for common method biases (Van de Mortel, 2008). Some subscales of the study variables (i.e. Negative Experiences of the Youth Program Quality Survey) had internal

consistency values of below the commonly accepted value of .7. Therefore, study findings should be cautioned. The small sample size limits opportunity for a more comprehensive examination of the relationships between these variables within youth sport (i.e., examine particular elements of program quality, the role of the three basic psychological needs, and specific psychosocial outcomes measured by the PYDI). According to Tabachnick and Fidell (2007), a sample size of 300 is ‘comforting’ in order to satisfy concerns surrounding power; however, participation in the study was voluntary and researchers were not able to recruit this many participants. Therefore, as noted above, some caution is needed when interpreting the results. Future research is planned to further examine this structural model with a larger sample. Further, the small sample size limited opportunities for invariance testing, including exploring if the examined relationship was invariant across gender, sport type, program type (i.e. for profit vs. not-for-profit, competitive vs. recreational), as researchers have argued that one should have 200 participants within each group to conduct an invariance test (i.e. Kenny, 2011). However, this is also an area for future research. Lastly, in retrospect, consideration must be taken with regards to possible overlap between the elements of program quality, as outlined by the NRCIM’s eight setting features, and the tenants of BNT. However, the purpose of this study was to test the proposed conceptual model by Hodge and colleagues (2012, 2016), which outlines that the program or intervention is a separate construct that leads to the motivational climate and opportunities for participant needs satisfaction. Despite this, Eccles and Gootman (2002) discuss the importance of program providing a needs supportive environment in order to deliver a high quality program. As such, some constructs within program quality may be inter-related with the support of these three needs. Specifically, within the NRCIM’s eight setting features, supportive relationships aligns with the need for relatedness, support for efficacy and mattering aligns with

the needs for autonomy and competence, and opportunities for skill building aligns with the need for competence. However, based on Table 1, these individual constructs of program quality and needs support were not highly correlated with one another ($<.61$). Future research is needed to further explore the possible overlap between elements of these constructs and whether this relationship influences the process through which PYD outcomes are fostered within youth sport.

With regards to other considerations for future research, it would be useful to separate features of program quality to better understand the relative importance of each setting feature. Moreover, given that there is a large variety of psychosocial outcomes and not all possible outcomes were measured within this study, examining a greater variety of psychosocial outcomes together and separately in the model would also be beneficial. In addition, Holt and Jones (2008) argue that sport is not a singular entity and that differing types and contexts of sport (e.g., not-for-profit vs. for-profit, competitive vs. recreational, individual vs. team) may yield different psychosocial outcomes. Furthermore, it is recommended to conduct further tests of invariance to not only further understand initial findings from the current study, but also related to programs that intentionally and do not intentionally teach life skills, different types of sport programs (i.e., individual vs. team), and type of organization (i.e., not-for-profit vs. for-profit). Finally, although this study showed support for basic needs support contributing to psychosocial outcomes and mediating the relationship between program quality and psychosocial outcomes, future research should look to examine other potential mediating variables such as basic needs satisfaction or youth engagement. Moreover, as the ultimate goal of most youth programs is to facilitate development that youth can transfer to other contexts (Gould & Carson, 2008), a measure of perceived transfer may also be worthwhile to include in future studies, as would a

measure of subjective well-being because researchers purport that support of basic needs can yield psychological well-being.

In sum, the present study is the first known study to examine the relationship between program quality, basic needs support, and psychosocial outcomes. It appears that both program quality and needs support may play a significant role in facilitating psychosocial outcomes and thus should be considered by both researchers and practitioners. Ultimately, it is our hope that the current study findings provide initial evidence to guide future research to further examine the relationship between program quality, basic needs support, and psychosocial outcomes. Replication of such findings could have important practical implications that guide coach education in order to ensure the youth sport context and climate is one that fosters psychosocial development of youth.

Acknowledgements

Support for the writing of this manuscript was given through a doctoral research grant from the Social Sciences and Humanities Research Council of Canada (grant no. 767-2013-2142) and the Ontario Graduate Scholarship.

References

- Adie, J.W., J.L. Duda, and N. Ntoumanis. (2008). Autonomy support, basic need satisfaction and the optimal functioning of adult male and female sport participants: A test of basic needs theory. *Motivation and Emotion* 32, 189-199.
- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2012). Perceived coach-autonomy support, basic need satisfaction and the well- and ill-being of elite youth soccer players: A longitudinal investigation. *Psychology of Sport and Exercise*, 13, 51-59.
- Arbuckle, J. (2014). Amos 23 Reference Guide. *Meadville: Amos Development Corporation*.
- Arnold, M. E., Nott, B. D., & Meinhold, J. L. (2012). *The Positive Youth Development Inventory (PYDI)*. Corvallis, OR: Oregon State University 4-H Youth Development Program.
- Batterham, A. H., & Hopkins, W. G. (2006). Making meaningful inferences about magnitudes. *International Journal of Sports Physiology and Performance*, 1, 50–7.
- Bean, C. N., & Forneris, T. (2016a). Examining program quality and needs support within two physical activity-based mentoring programs. *PHEnex Journal*, 8(2), 1-16.
- Bean, C. N., & Forneris, T. (2016b). Re-examining the Youth Program Quality Survey as a tool to assess quality within youth programming. *Cogent Psychology*, 3(1), 1-14.
doi:10.1080/23311908.2016.1149265
- Bean, C. N., & Forneris, T. (2016c). Examining the importance of intentionally structuring the youth sport context to facilitate psychosocial development. *Journal of Applied Sport Psychology*, 28(4), 410-425. doi:10.1080/10413200.2016.1164764
- Bean, C., Forneris, T., & Brunet, J. (2016). Investigating discrepancies in program quality related to youth volleyball athletes' needs support. *Psychology of Sport and Exercise*, 26, 154-163. doi:10.1016/j.psychsport.2016.07.001

- Bean, C., Harlow, M., & Forneris, T. (2016). Examining the importance of supporting youth's basic needs in one youth leadership program: A case study exploring program quality. *International Journal of Adolescence and Youth*. doi:10.1080/02673843.2016.1152986
- Bean, C., & Kendellen, K. & Forneris, T. (2016). Examining needs support and positive developmental experiences through participation in a residential summer camp. *Leisure/Loisir*, 40(3), 271-295. doi:10.1080/14927713.2016.1252938
- Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. New York: Guilford Press.
- Bruner, M. W., Hall, J., & Côté, J. (2011). Influence of sport type and interdependence on the developmental experiences of youth male athletes. *European Journal of Sport Science*, 11, 131-142.
- Byrne, B. M. (2016). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (Vol. 3rd). New York: Routledge.
- Camiré, M., & Trudel, P. (2010). High school athletes' perspectives on character development through sport participation. *Physical Education and Sport Pedagogy*, 15, 193-207. doi:10.1080/17408980902877617
- Chirkov, V., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination perspective on internalisation of cultural orientations, gender and well being. *Journal of Personality and Social Psychology*, 84, 97-110. doi:10.1037/0022-3514.84.1.97.
- Conroy, D. E., & Coatsworth, J. D. (2007). Assessing autonomy-supportive coaching strategies in youth sport. *Psychology of Sport and Exercise*, 8, 671-684. doi:10.1016/j.psychsport.2006.12.001

- Côté, J., & Abernethy, B. (2012). A developmental approach to sport expertise. In S. M. Murphy (Ed.), *The Oxford handbook of sport and performance psychology* (pp. 435-447). New York: Oxford University Press.
- Côté, J., & Fraser-Thomas, J. (2011). Youth involvement and positive development in sport. In P. Crocker (Ed.), *Sport psychology: A Canadian perspective* (2nd ed., pp. 226–255). Toronto, ON: Pearson.
- Côté, J., & Mallett, C. J. (2013). Review of junior sport framework briefing paper: Positive youth development through sport. Canberra: Australian Sports Commission.
- Côté, J., Strachan, L., & Fraser-Thomas, J. (2008). Participation, personal development and performance through youth sport. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 34-45). New York: Routledge.
- Curran, T., Hill, A. P., & Niemic, C. P. (2013). A conditional process model of children's behavioral engagement and behavioral disaffection in sport based on self-determination theory. *Journal of Sport and Exercise Psychology*, *35*, 30-43.
- Danish, S. J., Forneris, T., Hodge, K., & Heke, I. (2004). Enhancing youth development through sport. *World Leisure Journal*, *46*, 38-49. doi:10.1080/04419057.2004.9674365
- Deci, E. L., & Ryan, R. M. (2012). Self-determination theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology: Vol. 1* (pp. 416-433). Thousand Oaks, CA: Sage. doi:10.4135/9781446201022
- Deci, E. L., Ryan, R. M., & Williams, G. C. (1996). Need satisfaction and the self-regulation of learning. *Learning and Individual Differences*, *8*, 165-183.

- Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology, 45*, 294-309. doi:10.1007/s10464-010-9300-6
- Eccles, J. S., & Gootman, J. A. (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press.
- Fraser-Thomas, J., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy, 10*, 19-40. doi:10.1080/1740898042000334890
- Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology, 1*, 58-78. doi:10.1080/17509840701834573
- Gould, D. R., & Carson, S. (2011). Young athletes perceptions of the relationship between coaching behaviors and developmental experiences. *International Journal of Coaching Science, 5*, 3-29.
- Gould, D. R., Flett, R., & Lauer, L. (2012). The relationship between psychosocial developmental and the sports climate experienced by underserved youth. *Psychology of Sport and Exercise, 13*, 80-87. doi:10.1016/j.psychsport.2011.07.005
- Green, K. (2011). *Key themes in youth sport*. New York: Routledge.
- Guèvremont, A., Findlay, L., & Kohen, D. (2008). Organized extracurricular activities of Canadian children and youth. *Health Reports, 19*, 65-69.
- Hair, J., Black, W., Babin, B., & Anderson, R. (2010). *Multivariate Data Analysis* (7th ed.). Upper Saddle River: Pearson Prentice Hall.

- Hodge, K., Danish, S., Forneris, T., & Miles, A. (2016). Life skills and basic psychological needs. In N. L. Holt (Ed.), *Positive youth development through sport* (2nd ed., pp. 45-56). New York: Routledge.
- Hodge, K., Danish, S. J., & Martin, J. (2012). Developing a conceptual framework for life skills interventions. *The Counseling Psychologist, 41*, 1125-1152.
- Holt, N. L., & Jones, M. I. (2008). Future directions for positive youth development and sport research. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 122-132). New York: Routledge.
- Kline, R. B. (2010). *Principles and practice of structural equation modeling* (3rd ed.). New York: The Guilford Press.
- Lerner, R. M. (2005). *Promoting positive youth development: Theoretical and empirical bases*. Paper presented at the Workshop on the Science of Adolescent Health and Development at Washington, DC.
- Lerner, R. M., Lerner, J. V., Almerigi, J. B., Theokas, C., Phelps, E., Gestsdottir, S., ... von Eye, A. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents: Findings from the first wave of the 4-H Study of Positive Youth Development. *Journal of Early Adolescence, 25*, 17-71. doi:10.1177/0272431604272461
- Mahoney, J. L., Larson, R. W., Eccles, J. S., & Lord, H. (2005). Organized activities as developmental contexts for children and adolescents. In J. L. Mahoney, R. W. Larson & J. S. Eccles (Eds.), *Organized activities as contexts of development: Extracurricular activities, after-school and community programs* (pp. 3-22). Mahwah, NJ: Erlbaum.

- Martin, E. M., Ewing, M. E., & Gould, D. (2014). Social agents' influence on self-perceived good and bad behavior of American youth involved in sport: Developmental level, gender, and competitive level effects. *The Sport Psychologist, 28*, 111-123.
doi:10.1123/tsp.2013-0005
- Nunnally, J. C. (1978). *Psychometric Theory* (2nd ed.). New York: McGraw-Hill.
- Pedhazur, E. J. (1997). *Multiple regression in behavioral research: Explanation and prediction*. Fort Worth, TX: Harcourt.
- Peterson, (1994). A meta-analysis of Cronbach's coefficient alpha, *Journal of Consumer Research, 21*, 381-391.
- Petitpas, A. J., Cornelius, A., & Van Raalte, J. (2008). Youth development through sport: It's all about relationships. In N. L. Holt (Ed.), *Positive youth development through sport*, (pp. 61-70). New York: Routledge.
- Petitpas, A. J., Cornelius, A. E., Van Raalte, J. L., & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. *Sport Psychologist, 19*, 63-80.
- Pierce, S., Gould, D., & Camiré, M. (2017). Definition and model of life skills transfer. *International Review of Sport and Exercise Psychology, 10*, 186-211.
doi:10.1080/1750984X.2016.1199727
- Pittman, K. J., Irby, M., Tolman, J., Yohalem, N., & Ferber, T. (2003). Preventing problems, promoting development, encouraging engagement: Competing priorities or inseparable goals?. Based upon K. Pittman & M. Irby (1996) Preventing problems or promoting Development? Washington, DC: The Forum for Youth Investment, Impact Strategies Inc.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and

- comparing indirect effects in multiple mediator models. *Behavior Research Methods*, *40*, 879-891.
- Preacher, K. J. & Kelley, K. (2011). Effect sizes measures for mediation models: Quantitative strategies for communicating indirect effects. *Psychological Methods*, *16*, 93-115.
- Quested, E., Ntoumanis, N., Viladrich, C., Haug, E., Ommundsen, Y., Van Hoye, A., ... & Duda, J. L. (2013). Intentions to drop-out of youth soccer: A test of the basic needs theory among European youth from five countries. *International Journal of Sport and Exercise Psychology*, *11*, 395-407.
- Reinboth, M., Duda, J. L., & Ntoumanis, N. (2004). Dimensions of coaching behavior, need satisfaction, and the psychological and physical welfare of young athletes. *Motivation and Emotion*, *28*, 297-313.
- Rocchi, M., Pelletier, L., & Couture, A. L. (2016). Determinants of coach motivation and autonomy supportive coaching behaviours. *Psychology of Sport and Exercise*, *14*, 852–859. doi:10.1016/j.psychsport.2013.07.002
- Roth, J. L., & Brooks-Gunn, J. (2015). Evaluating youth development programs: Progress and promise. *Applied Developmental Science*, 1-15. doi:10.1080/10888691.2015.1113879
- Ryan, R. M., & Deci, E. L. (2000). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry*, *11*, 319-338.
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: University of Rochester Press.
- Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*, *66*, 507-514.

- Shernoff, D. J., & Vandell, D. L. (2007). Engagement in after-school program activities: Quality of experience from the perspective of participants. *Journal of Youth and Adolescence*, *36*, 891-903. doi:10.1007/s10964-007-9183-5
- Silliman, B., & Schumm, W. R. (2013). Youth program quality survey: Youth assessment of program quality. *Marriage & Family Review*, *49*, 647-670.
doi:10.1080/01494929.2013.803010
- Smith, N., Quested, E., Appleton, P. R., & Duda, J. L. (2016). Observing the coach-created motivational environment across training and competition in youth sport. *Journal of Sport Sciences*, (ahead of print). doi:10.1080/02640414.2016.1159714
- Snyder, C. R., & Lopez, S. J. (2002). *Handbook of positive psychology*. Oxford: Oxford University Press.
- Standage, M., Duda, J. L., & Ntoumanis, N. (2005). A test of self-determination theory in school physical education. *British Journal of Educational Psychology*, *75*, 411-433.
doi:10.1348/000709904X22359
- Standage, M., & Vallerand, R. J. (2014). Motivation in sport and exercise groups. In M. R. Beauchamp & M. A. Eys (Eds.), *Group Dynamics in Exercise and Sport Psychology* (2nd ed., pp. 259-278). New York: Routledge.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (5th ed., Vol. 7). New Jersey: Pearson.
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*, 53-55.

- Templeton, G. F., (2011). *A two-step approach for transforming continuous variables to normal: implications and recommendations for IS research*. Mississippi State, MS: Communications of the Association for Information Systems.
- United States Census Bureau. (2014). *Nearly 6 out of 10 children participate in extracurricular activities, Census Bureau Reports*. Retrieved from <http://www.census.gov/newsroom/press-releases/2014/cb14-224.html>
- Van de Mortel, T. F. (2008). Faking it: Social desirability response bias in self-report research. *Australian Journal of Advanced Nursing*, 25, 40-48.
- Wilkes, S., & Côté, J. (2010). The developmental experiences of adolescent females in structured basketball programs. *Revue phénEPS/PHEnex Journal*, 2, 1-21.
- Yohalem, N., & Wilson-Ahlstrom, A. (2010). Inside the black box: Assessing and improving quality in youth programs. *American Journal of Community Psychology*, 45, 350-357. doi:10.1007/s10464-010-9311-3

Table 1

Descriptive Statistics and Correlations between the Observed Constructs in the Model

	1	2	3	4	5	6	7	8	9	10	11
<i>Program Quality</i>											
1. Appropriate adult support and structure	-										
2. Empowered skill-building opportunities	.648**	-									
3. Expanding horizons	.530**	.583**	-								
4. Negative experiences	-.382**	-.325**	-.223**	-							
<i>Basic Needs Support</i>											
5. Autonomy	.609**	.491**	.450**	-.426**	-						
6. Competence	.613**	.580**	.391**	-.399**	.773**	-					
7. Relatedness	.585**	.481**	.411**	-.459**	.854**	.765**	-				
<i>PYD Outcomes</i>											
8. Personal standards	.305**	.299**	.144*	-.194**	.363**	.344**	.275**	-			

9. Friendships	.345**	.403**	.330**	-.362**	.436**	.390**	.349**	.579**	-		
10. Prosocial values	.300**	.273**	.177**	-.203**	.354**	.343**	.340**	.545**	.618**	-	
11. Emotional regulation	.231**	.305**	.226**	-.231**	.299**	.270**	.232**	.388**	.494**	.411**	-
Mean	3.27	3.33	3.08	1.69	4.40	5.08	4.97	3.42	3.36	3.25	3.08
SD	.45	.46	.53	.56	.69	.72	.73	.43	.51	.56	.59
Skewness	-.018	-.076	-.110	.559	-.033	-.227	-.197	-.042	-.165	-.601	-.428
Kurtosis	-.540	-.506	-.174	-.089	-.388	-.438	-.478	-.760	-.623	.009	.295
Range of scores ^a	1.94-	1.94-	1.50-	1.00-	2.60-	3.03-	3.00-	2.37-	2.06-	1.50-	1.00-
	4.00	4.00	4.00	3.33	6.00	6.00	6.00	4.00	4.00	4.00	4.00

Note: ^a Variables 1-4 and 8-11 range from a possible score of 1 to 4, whereas variables 5-7 ranges from a possible score of 1 to 6.

* $p < .05$.

** $p < .01$.

Table 2

Standardized and unstandardized estimates, standard error, and p-value within the models.

	Std	Unst	SE	t
	β	B		
Model 1	.53***	.37	.068	
Model 2	.52***	.34	.057	
Model 3				
a path (PQ→BNT)		1.01	.065	16.99***
b path (BNT→PYD)		.01	.047	2.03*
c path (PQ→PYD)		.35	.048	7.45***
c' path (PQ→PYD)		.25	.070	3.55***
Bootstrap Results for Indirect Effect	Mean	SE	95% BCa C	
	.11	.064	[-.021, .227]	
	k²	SE	95% BCa C	
Effect Size for Indirect Effect	.15	.036	[.0816, .222]	

Note: $n = 214$; PQ= program quality; BN = basic needs support;

PYD= PYD outcomes; Std = standardized; Unst = unstandardized

* $p < .05$.

*** $p < .0005$.

Bootstrap resamples = 10 000.

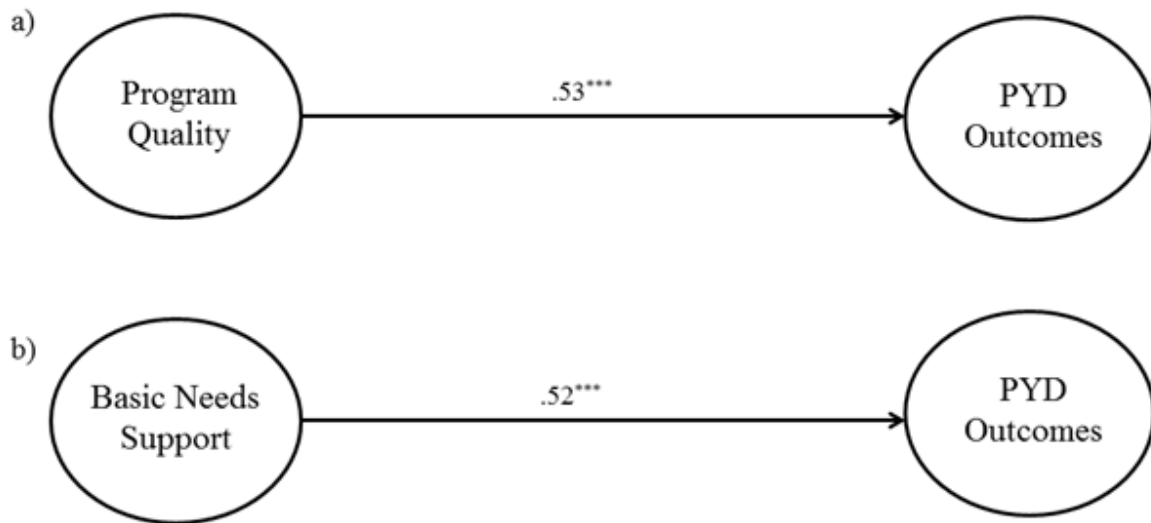


Figure 1.

a) Direct effect of program quality on PYD outcomes; b) Direct effect of basic needs support on PYD outcomes.

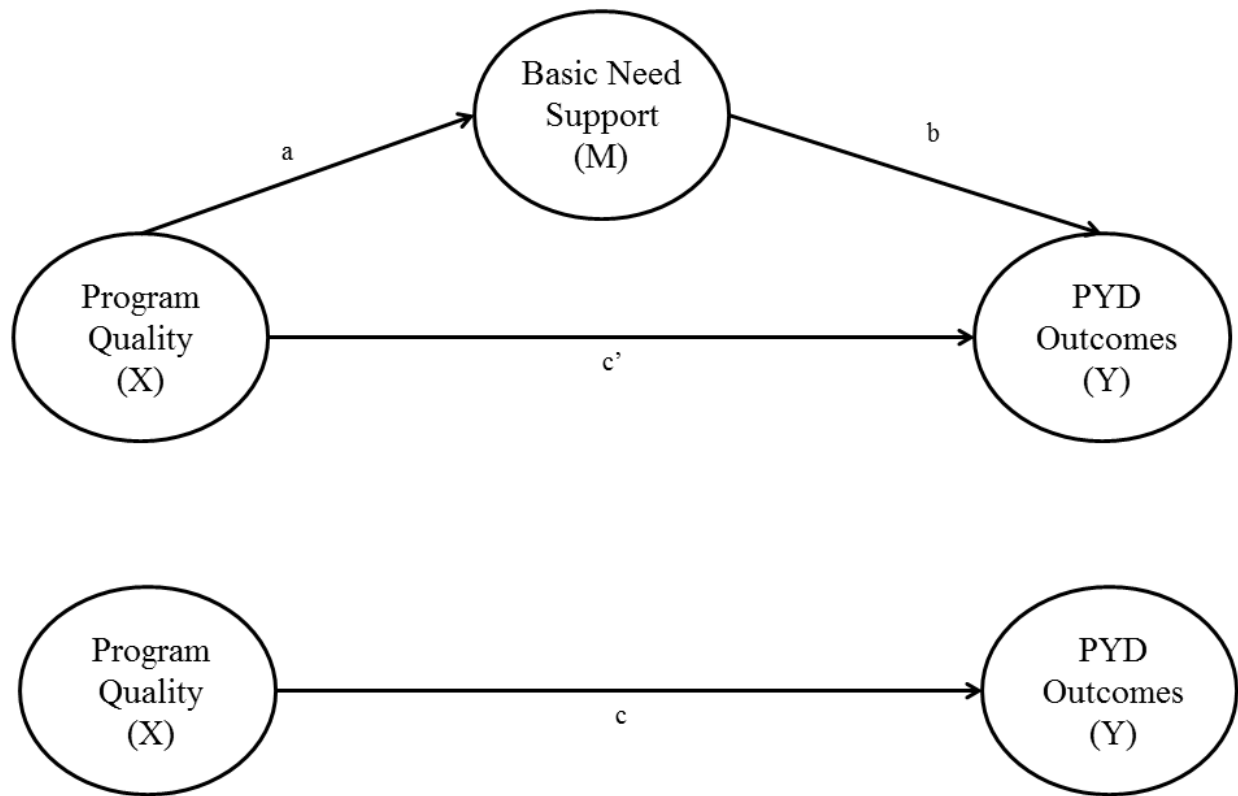


Figure 2.

A graphical representation of the path of simple mediation analysis. X represents the independent variable (program quality), Y represents the dependent variable (PYD outcomes) and M indicates the mediator (basic needs support). The effect of $X \rightarrow M$ is represented by a, the effect of $M \rightarrow Y$ is represented by b. The total effect (c) of program quality (X) on PYD outcomes (Y) is comprised of the sum of the direct (c') and indirect effects ($c - c'$).

Chapter Four

Article Two

Investigating Discrepancies in Program Quality Related to Youth Volleyball Athletes'

Needs Support

Bean, C., Forneris, T., & Brunet, J. (2016). Investigating discrepancies in program quality related to youth volleyball athletes' needs support. *Psychology of Sport and Exercise*, 26, 154-163. doi:10.1016/j.psychsport.2016.07.001

Abstract

Program quality has been outlined as an important predictor of positive outcomes in youth development programs; however, little evidence exists to support this, particularly within sport. Objective: The purpose of this study was to examine the associations between researcher- and coach-assessed program quality scores as they relate to youth volleyball athletes' basic needs support. Design: Observational data and self-report data were gathered from coaches and youth. Researchers completed 84 observations using a measure of program quality across 14 teams. Coaches completed the same measure at the end of the season and 138 athletes ($M_{\text{age}} = 14.50$) from the 14 teams completed a self-report questionnaire pertaining to needs support. Data were analyzed using polynomial regressions with response surface methodology. Results: Athletes' needs support was significantly ($p < 0.001$) associated with all domains of researcher- and coach-assessed program quality (i.e., safe environment, supportive environment, interaction, engagement), and between 20 and 35% of the variance in athletes' needs support was explained by these variables. The degree of discrepancy between researcher- and coach-assessed program quality increased when progressing through three domains of program quality (safe environment, supportive environment, engagement). Response surface methods indicated that as the degree of agreement increased between researchers' and coaches' ratings of the safety of the environment, supportiveness of the environment, and opportunities for engagement, so did athletes' basic needs support scores in a linear fashion. Conclusions: Practical implications surrounding coach education and the importance of knowledge translation between academics and practitioners are noted, and future research directions are discussed.

Keywords: Youth sport; Basic needs theory; Quantitative methods; Polynomial regression; Response surface

Investigating Discrepancies in Program Quality Related to Youth Volleyball Athletes' Needs Support

Program quality has been outlined as a critical predictor of positive psychosocial development in youth programming (Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002; Durlak, Mahoney, Bohnert, & Parente, 2010; Yohalem & Wilson-Ahlstrom, 2010). The National Research Council and Institute of Medicine [NRCIM] within the United States has outlined eight program setting features that may help to foster positive development within youth programs which include: (1) physical and psychological safety; (2) appropriate structure; (3) supportive relationships; (4) opportunities to belong; (5) positive social norms; (6) support for efficacy and mattering; (7) opportunities for skill building; and (8) integration of family, school, and community efforts (Eccles & Gootman, 2002). Since the publication of these setting features, the list has been adopted and utilized to develop youth programs at both academic and applied levels (Bodilly & Beckett, 2005; High/Scope Educational Research Foundation [H/SERF], 2005; Yohalem, Wilson-Ahlstrom, Fischer, & Shinn, 2009). Although there is an emerging consensus that these eight features are what constitute program quality (Granger, Durlak, Yohalem, & Reisner, 2007; Yohalem et al., 2009), little empirical research has been conducted to examine these program setting features within youth sport programs.

Youth sport programs have the potential to offer more comprehensive programming when compared to other extra-curricular activities, as they offer the potential of both physical and psychosocial benefits (Danish, Forneris, Hodge, & Heke, 2004). Program quality should be considered when evaluating sport programs to ensure that youth who participate in such programs are having positive development experiences (Zarrett et al., 2008). Indeed, Roth and Brooks-Gunn (2015) outlined the importance of using program quality in studies to assess

outcomes associated with participation in youth development programs. For these reasons, sport psychology researchers have proposed the integration of the eight aforementioned program setting features within youth sport programs (Côté & Mallett, 2013; Côté, Strachan, & Fraser-Thomas, 2008). For example, Côté and colleagues (2008) contextualized the NRCIM setting features for the sport environment and outlined that youth sport programs should incorporate similar elements. Côté and colleagues further stated that sport programs and coaches should ensure that the physical and psychological safety of youth athletes take priority over performance and success, that respectful peer interactions occur within sport to help ensure enjoyment and build confidence, and that opportunities are provided by coaches that foster autonomy and empowerment – all of which overlap with NRCIM’s eight setting features. Furthermore, Côté and Abernethy (2012) argued the NRCIM’s eight setting features should be the “foundation of any youth sport program and context designed to promote performance, participation, and personal development in sport” (p. 442). Consistent with this perspective, Côté and Mallett (2013) discussed that central to the development of performance within sport is personal development and sustained engagement of youth athletes, which can be attained by integrating the setting features outlined by the NCRIM. When adapted to the sport context, these features may provide a framework for coaches to incorporate a more holistic perspective that focuses on social, emotional, and intellectual components, in addition to the physical development that is inherent within sport.

Despite holding considerable promise as a framework for studying youth sport programs (Eccles & Gootman, 2002; Fraser-Thomas, Côté, & Deakin, 2005; Strachan, Côté, & Deakin, 2011), supporting evidence for the benefits of youth sport programs that possess these eight setting features are lacking because the NRCIM’s setting features have not been empirically

examined within a youth sport context. Because of the perceived value of the NRCIM's eight setting features, Holt and Jones (2008) proposed using the Youth Program Quality Assessment (H/SERF, 2005), an observational measurement tool based on these eight program setting features, to facilitate research within the sport context. Therefore, one goal of this study is to establish links between program quality and basic needs supports—an identified positive outcome in youth sport and physical activity contexts (Adie, Duda, & Ntoumanis, 2012; Coatsworth & Conroy, 2009; Mitchell, Gray, & Inchley, 2015; Standage, Duda, & Ntoumanis, 2005).

Within the context of basic needs theory (BNT), a sub-theory within self-determination theory (Deci & Ryan, 1985), Ryan and Deci (2000; 2002) argued that humans have three basic psychological needs: autonomy (i.e., a person's ability to make choices and act in accordance with one's sense of self; Adie, Duda, & Ntoumanis, 2008), competence (i.e., a person's desire for mastery within one's environment; Deci, Ryan, & Williams, 1996), and relatedness (i.e., a person's sense of belongingness and connectedness to others; Ryan & Deci, 2002). Ryan and Deci (2000) further purport that environments that allow individuals to satisfy these three needs can foster positive psychological development and optimal psychological well-being. Sport programs may provide youth an environment to satisfy these three needs, as it is well-recognized that the coach plays a critical role in the development and experiences of youth athletes (Fraser-Thomas et al., 2005; Strachan et al., 2011) and can play a role in the support of youth athletes' basic needs (Adie et al., 2012; Mitchell et al., 2015). For example, Mitchell et al., (2015) found that youth engagement levels in a physical activity program increased when leaders promoted youth's feelings of autonomy, competence, and relatedness. Further, positive psychosocial outcomes (e.g., increased motivation, well-being) have been reported by youth participating in sport and physical education contexts when basic needs were supported (e.g., Adie et al., 2012;

Coatsworth & Conroy, 2009; Quested & Duda, 2010). Moreover, Hodge et al. (2013) proposed that if basic needs are satisfied, individuals are more likely to transfer the skills developed to other life contexts. This is important because skill transference to other contexts is the ultimate goal of many youth sport programs (Gould & Carson, 2008; Petitpas et al., 2005). As such, examining which aspects of sport programs affect youth's needs support is important. The present study focuses on program quality features within the youth sport context.

The Present Study

The purpose of this study was to examine the associations between program quality and youth volleyball athletes' basic needs support. More specifically, given that coaches may report program quality scores that are discrepant from those reported by an independent observer, this study examined the agreement, discrepancy, and direction of the associations between researcher- and coach-assessed program quality with youth-perceived basic needs support. If youth sport organizations and coaches want to ensure their programs are supporting basic needs and fostering positive outcomes in youth participants, it is imperative that such programs be evaluated for quality, as previous research has shown when stakeholders are not aligned with an organization's mission, it is difficult for an organization to have its intended impact (Baetz & Kenneth, 1998). As such, there is valuable information to be gained from examining program quality discrepancies from different stakeholders and whether these discrepancies relate to youth athletes' perceptions of basic needs support. Examining if discrepancies do exist can help to understand the current sport context and act as a starting point for the development of coach education and training related to delivering high quality programs. This research also has value because assessing program quality in conjunction with basic needs will allow for a greater

understanding of the structure and specific strategies that coaches are utilizing to support or hinder needs support of their athletes.

Method

Research Design and Procedures

This study is part of a larger research project that explored program quality based off the NRCIM's eight setting features within youth programming, particularly as it relates to basic needs support and psychosocial development.⁴ Specifically, the larger project involved working with 26 sport programs and teams over the course of 1 year. The current study examines 14 of these teams that were all within the volleyball context. All teams were part of two volleyball associations, competed at a competitive level, and were part of the same provincial sport association. Following ethical approval from the Office of Research Ethics and Integrity at the University of Ottawa, the lead researcher contacted community youth organizations in South Eastern Ontario, Canada via email, outlining the purpose of the study. The researcher met the 14 coaches who agreed to participate in the study in person and provided them with a summary of the study and answered any questions they had. She also provided information to parents of athletes on each team and obtained written consent.

⁴ There were four studies (including the current study) within the larger sport research project. Each study had unique purposes and research questions related to program quality. In study one, a confirmatory factor analysis was conducted to examine if a youth self-report measure of program quality was a good fit psychometrically for youth within the entire project sample (sport and non-sport programming; Bean & Forneris, 2016a). In study two, a comparative study examined the importance of intentionally teaching life skills within sport programs; researcher observations as well as youth self-report data on program quality and positive youth development outcomes were used (Bean & Forneris, 2016b). In study three, structural equation modelling was used to examine the relationship between program quality, basic needs support and youth developmental outcomes; self-report data only from youth involved in sport programs were used in this study (Bean & Forneris, accepted). The current study uses a sub-sample of youth sport participants who were solely involved in the youth volleyball context. This study used the coach data in combination with researcher observations and youth self-report on basic needs and was the only study that used coach data. The rationale for using the larger project data to answer several research questions is because, as a field, we are only just beginning to understand the role program quality plays on the psychosocial development of youth. As mentioned above, although there is some overlap in participants across the studies, each study had unique research questions and used a different combination of the measures to answer these various research questions.

Data were collected using a combination of observational and self-report methods. With regards to observations, the research design resembled a repeated measures design whereby researchers observed the 14 teams on several occasions over the course of the season and completed a measure of program quality (described below) after each observation. Multiple observations were conducted as it has been encouraged to use this tool at multiple time points throughout a program in order to thoroughly understand quality over the course of a program's entirety. The questionnaire portion was a post-only measure that was completed by the coaches and athletes. At the end of the season, the 14 coaches completed the same measure of program quality that was completed by the researchers (described below). Coaches and researchers completed the same measure to triangulate perceptions of program quality and extend the current field of research by utilizing observational measures to assess program quality within the youth sport context (Holt & Jones, 2008). Finally, all 138 youth completed a self-report questionnaire based on their perceptions of basic needs support provided by the coach (described below).

Context and Participants

Coaches and youth athletes from 14 volleyball teams within two volleyball associations (seven from each association) in South Eastern Ontario, Canada were involved in this study. Both organizations were accredited by the same provincial sport organization and all 14 teams were competitive in nature and were often involved within the same competitions throughout the season. One organization was from a large city and the other was from a moderately-sized city. Generally, the organizations' mission statements were to foster athletic and life skills for youth participants through the involvement in volleyball and interactions with caring and knowledgeable coaches. The seasons ran over the course of 8–9 months (September to April/May) and teams practiced on-court between 2 and 4 times per week for 2 h per session

where the focus was predominantly on physical, as well as technical and tactical skill development. One organization tended to offer more off-court program components (i.e., strength and conditioning and mental skills training) than the other organization, which tended to only have on-court training. As part of the larger study, two of the 14 teams were identified as intentionally teaching life skills within their regular coaching practices.

The 14 coaches (9 men, 5 women) ranged in age from 29 to 54 years ($M_{age} = 47.94$, $SD = 6.92$) with coaching experience ranging from 1 to 30 years. The average length of coaching experience was 8.44 years ($SD = 7.14$). Coaches self-identified as Caucasian (79%) or Asian (21%). The 138 youth volleyball athletes (21 boys, 117 girls) ranged from 12 to 18 years ($M_{age} = 14.50$, $SD = 1.65$) and had been involved in the clubs between 1 and 9 years with the average length of participation 3.20 years ($SD = 2.00$). Youth of the same age and gender made up each team (e.g., boys' and girls' teams between 13U and 18U). The larger number of female athletes in this study was representative of the make-up of both clubs as there were more girls' teams than boys' teams during the specific year in which data were collected. Most athletes self-identified as Caucasian (81.8%), while the others self-identified as Aboriginal (5.4%), Asian (5.4%), Black (2.0%), Arabic (2.7%), multiracial (2.7%), and one participant who did not disclose his/her ethnicity.

Measures

Program quality. The Youth Program Quality Assessment (YPQA) was used to assess program quality within each of the 14 teams (H/SERF, 2012). The YPQA is based off of the NRCIM's eight contextual features within programs that are likely to promote positive psychosocial development (Eccles & Gootman, 2002) and has been found to be a valid and reliable tool in community-based program settings for grades 4 to 12 (Smith & Hohmann, 2005).

Moreover, the YPQA has been used within sport contexts (e.g., Bean & Forneris, 2016b; Flett, Gould, & Lauer, 2012). The YPQA is a 63-item measure that is used to assess four domains of program quality, namely safe environment, supportive environment, interaction, and engagement (H/SERF, 2005). These four domains are systematized as a pyramid, progressing from foundational elements (safe environment) to higher order elements of program quality (engagement). Subscales fall under each of the four domains, with each subscale having multiple items. Specifically, safe environment measures aspects of emotional safety (2), healthy environment (4), emergency preparedness (6), accommodating environment (4), and nourishment (3). Supportive environment measures aspects of warm welcome (3), session flow (5), active engagement (4), skill building (5), encouragement (3), and reframing conflict (4). Interaction measures aspects of belonging (4), collaboration (3), leadership (3), and adult partners (2). Last, engagement measures aspects of planning (2), choice (2), and reflection (4). For example, within the subscale of ‘warm welcome’, questions are asked related to both verbal and non-verbal interactions communicated by program staff, such as whether staff greet youth upon arrival to the program and the tone of voice and body language used by these individuals through the sessions. Moreover, within the ‘choice’ subscale, questions related to opportunities provided to youth for both content (what) and process (how) choices are included. For each question, concrete descriptions are provided to best illustrate what a 1 (*none of something*), 3 (*some of something*), and 5 (*all of something*) would look like within a program context. The YPQA is measured on a 3-point scale; however, within this study a 5-point scale was used to increase variability. Of note, space is provided alongside each item to allow researchers and coaches to qualitatively document supporting evidence.

Prior to collecting data, the lead researcher completed a High/Scope training to learn how to properly use and score the YPQA. After receiving certification, the lead researcher held a training session for the four research assistants involved in data collection. This training included outlining the purpose of the measure, the process related to using the measure, and how to score items within the YPQA. Scenario-based questions and sample case study examples were used as a way to test comprehension. A total of 86 observations were conducted by the five researchers across the 14 teams from beginning to end of the season. The YPQA was completed for every observed program session. An average of 6.14 ($SD = 1.70$, range = 4 to 10) program sessions, lasting 2 h in length, were observed for each team.

Of note, steps were taken to reduce social desirability effects during observations in attempt to reduce coach uneasiness. Researchers made it clear that the purpose of the study was to understand program quality features and that this project was not an assessment of solely coach competence. Although the coach plays a critical role in delivering the quality of a program, there are other elements (e.g., resources, youth-interactions) that also come into play when assessing program quality. Coaches were also made aware that the study was voluntary in nature and assured that YPQA scores would remain confidential. Last, individual coach performance was not provided to the governing sport organization; reports were provided as an organization summary and did not include individual team scores related to observed program quality.

Basic needs support. The Learning Climate Questionnaire (LCQ) was used to measure perceived support for the three basic psychological needs of autonomy, competence, and relatedness by youth athletes. This measure was adapted by Standage and colleagues (2005) from the Health-Care Climate Questionnaire (Williams & Deci, 1996). Specifically, Standage et al.

slightly adapted questions so the wording pertained to the particular situation being studied (e.g., changing ‘instructor’ to ‘coach’), which has been justified by others (Self-Determination Theory, 2016). The LCQ is a 24-item measure that assesses youth’s perceptions of the degree to which their coach(es) supported their sense of autonomy (15 items; e.g., “I felt that the coaches provided us with choices and options”), competence (4 items; e.g., “The coaches helped us to improve”), and relatedness (5 items; e.g., “I felt that the coaches were friendly towards us”). The scale is scored on a 6- point scale from 1 (*strongly disagree*) to 6 (*strongly agree*). The LCQ has been validated with adolescents in research examining needs support in both sport and physical education settings and has good internal consistency (e.g., Standage et al., 2005). Similar to previous research examining basic needs (e.g., Standage, Duda, & Pensgaard, 2005; Standage & Vallerand, 2014), a total score was used for basic needs support as Deci and Ryan (2012) contend the importance of attaining a balance of all three needs for positive psychological development and well-being. With the current sample, the internal consistency for all items was high ($\alpha = 0.96$).

Data Analysis

Data analysis involved multiple sequential steps that were performed in SPSS 23.0. Initially, data were screened for missing values and violations of the assumptions of multiple regression analysis (Tabachnick and Fidell, 2013), the Kappa statistic was performed to test interrater reliability (i.e., determine consistency or agreement among the researchers collecting data using the YPQA), descriptive statistics were computed for study variables, and Pearson correlation coefficients among study variables were examined. Following Edwards’ (2002) and Carfi et al.’s (2010) recommendations, polynomial regressions with response surface analysis was performed to examine the discrepancy between researcher-assessed and coach-assessed

YPQA scores and athletes' basic needs support. This analytical approach is a superior approach to using difference scores when the discrepancy between two variables is of central interest (Edwards, 2002). As outlined by Edwards, using polynomial regressions analysis avoids problems associated with the use of difference scores (i.e., effects of each of the component on the outcome is confounded) because the independent effect of each component is retained. Further, the use of response surface methodology allows for in-depth explorations into: (1) how agreement between assessments of program quality are related to needs support, (2) how the degree of discrepancy between the assessment of program quality are related to needs support, and (3) how the direction of the discrepancy between these assessment of program quality are related to needs support.

Polynomial regressions with response surface values involved several sequential steps. First, researcher-assessed and coach-assessed YPQA scores were mean-centered to facilitate interpretation and reduce issues with multicollinearity. Mean-centering involved subtracting a constant (the mean) from every value of a variable. The slope between that predictor and the response variable does not change; however, the interpretation of the intercept does. Second, for each of the four YPQA domains (i.e., safe environment, support environment, interaction, engagement), three additional variables were created: (1) the square of the mean-centered researcher-assessed YPQA domains, (2) the square of the mean-centered coach-assessed YPQA domains, and (3) the cross-product of the mean-centered researcher-assessed and coach-assessed YPQA domains. Third, four separate polynomial regression models were tested; one for each YPQA domain. Separate models were tested to maintain power and avoid issues of multicollinearity issues between the YPQA domains. In each model, the outcome variable of youth athletes' perceived basic needs support was regressed on the centered independent

variables of researcher-assessed program quality (x_1), coach-assessed program quality (x_2), the square of each of these centered variables ($x_1 \times x_1$ and $x_2 \times x_2$), and the cross-product of centered researcher-assessed and coach-assessed program quality ($x_1 \times x_2$) to assess the linear, nonlinear, and joint relationships between perceptions of program quality and youth athletes' basic needs support. Standardized beta coefficients were calculated using Gelman's (2008) calculation of dividing each independent variable by two standard deviations. For each of the four models, all five independent variables were entered simultaneously in the regression model. The other three program quality domains were not entered into the subsequent regression models as covariates, as this would have required entering 15 additional variables into the regression model, requiring 20 independent variables in the regression of one dependent variable. A much larger sample would have been required for this analysis.

The data set is considered to be hierarchical consisting of two levels, as youth athletes are nested within individual teams. Nesting involves grouping youth who were part of the same team within one group; youth were assigned a number from 1 to 14 based on what team they were a part of. Being on the same team and working with the same coach can have a common effect on perceived levels of needs support, as these youth athletes will be more alike than two randomly selected youth athletes. This can result in biased estimates of standard errors, thereby increasing the risk of an inflated type I error rate (Hayes & Cai, 2007). As such, the Huber/White estimator was used to calculate standard errors during the polynomial regression analysis in order to account for clustering (Hayes & Cai, 2007; Huber, 1967; Whyte, 1980). This method allows for the errors of the within-team clusters to be correlated while assuming independence of the between-team errors.

If the p -value for the F -test of overall significance was less than 0.013, as a Bonferroni adjusted alpha level was used, the model was deemed significant and the estimated regression coefficients were transformed into four surface test values: a_1 to a_4 (Kazén & Kuhl, 2011). The values of a_1 ($\beta_{x_1} + \beta_{x_2}$) reflect the linear relationship between the agreement in researcher-assessed and coach-assessed YPQA scores and LCQ scores. The values of a_2 ($\beta_{x_3} + \beta_{x_4} + \beta_{x_5}$) reflect the nonlinear relationship between the agreement of researcher-assessed and coach-assessed YPQA scores and LCQ scores. The values of a_3 ($\beta_{x_1} - \beta_{x_2}$) reflect how the direction of the discrepancy between researcher-assessed and coach-assessed YPQA scores is related to LCQ scores. The values of a_4 ($\beta_{x_3} - \beta_{x_4} + \beta_{x_5}$) reflect how the degree of discrepancy between researcher-assessed and coach-assessed YPQA scores relate to LCQ scores (Shanock, Baran, Gentry, Pattison, & Heggstad, 2010).

Results

Preliminary Results

Missing data were 3.1% or less for any one variable and were estimated using multiple imputation methods (Yuan, 2010). The distributional properties of all variables suggested that the assumptions of normality, linearity, and homoscedasticity were satisfied (Tabachnick & Fidell, 2013). The Kappa statistic between the different researcher-assessed YPQA scores was 0.61 ($p < 0.001$, 95% CI [0.58, 0.64]; range across subscales = 0.52–0.62), indicating there was substantial agreement between the researchers' ratings of program quality (Landis & Koch, 1977).

Descriptive statistics (mean, standard deviation, range) for the four researcher-assessed and coach-assessed YPQA scores and for youth athletes' perceptions of basic needs support are presented in Table 1. There were small differences in researcher-assessed and coach-assessed

safe environment scores, and larger differences in researcher-assessed and coach-assessed supportive environment, interaction, and engagement scores. Additionally, Pearson bivariate correlations between the nine study variables are also presented in Table 1. Youth athletes' basic needs support scores were significantly and positively correlated with (1) researcher-assessed safe environment, supportive environment, interaction and engagement scores; and (2) coach-assessed safe environment and supportive environment. In contrast, youth athletes' basic needs support scores were significantly and negatively correlated with the coach-assessed interaction scores. Coach-assessed engagement scores were not significantly related to youth athletes' basic needs support scores. Moreover, all four researcher-assessed and coach-assessed YPQA domains were positive and significantly inter-correlated.

Main Results

Results of the polynomial regression analyses using the Huber/White estimate to calculate standard errors are presented in Table 2. Four models are presented based on the four subscales of the YPQA that measure program quality. For each model, the R^2 value, p -value, as well as the unstandardized (including standard error) and standardized beta values are presented. The p -values from the F -tests for each of the four models were significant ($p \leq 0.001$). A total of 27%, 26%, 20%, and 22% of the variance in youth athletes' basic needs support scores was explained by the five variables created with the researcher-assessed and coach-assessed safe environment, supportive environment, interaction, and engagement scores, respectively. Inspection of the regression coefficients within model 1 showed that researcher- and coach-assessed safe environment, as well as the interaction between these two variables, were significantly associated with youth athletes' basic needs support. Researcher-assessed supportive environment and the product of researcher-assessed supportive environment were linearly

associated with youth athletes' needs support scores (model 2). The product of researcher-assessed and coach-assessed supportive environment was also nonlinearly associated with youth athletes' needs support scores (model 2). Researcher-assessed and coach-assessed interaction were associated with needs support of youth athletes (model 3). Last, coach-assessed engagement was linearly associated with youth athletes' needs support scores, whereas researcher-assessed and coach-assessed engagement were nonlinearly associated with youth athletes' needs support scores (model 4).

The response surface values (a_1 to a_4) calculated from the regression parameters are presented in Table 3. These values are presented for each of the four subscales of the YPQA. Results indicated that a_1 values were positive and significant for safe environment, supportive environment, and engagement, demonstrating that as the degree of agreement increased between researchers' and coaches' ratings of the safety of the environment, supportiveness of the environment, and opportunities for engagement, so did athletes' needs support scores in a linear fashion. Similarly, a_2 values were positive and significant for safe environment and engagement, demonstrating that as the degree of agreement increased between researchers' and coaches' ratings of the safety of the environment and opportunities for engagement, so did athletes' needs support scores in a nonlinear fashion (a_2). This means athletes' needs support scores were highest when coaches and researchers' ratings were similar either at the high or low end of the rating scales. As well, a_3 surface values were positive and significant for safe environment and interaction, indicating that athletes' needs support scores were higher when the direction of the discrepancy was such that coaches' ratings were higher than researchers' ratings. Last, a_4 values were significant and positive for supportive environment and engagement, indicating athletes' needs support scores increased as the degree of discrepancy between researchers' and coaches'

ratings increased. In contrast, a_4 values were significant and negative for safe environment indicating athletes' needs support scores decreased as the degree of the discrepancy between researchers' and coaches' ratings increased.

Discussion

The purpose of this study was to examine the associations between program quality and youth athletes' basic needs support within a volleyball context. Specifically, the associations related to agreement, discrepancy, and direction between researcher-assessed and coach-assessed program quality was examined in relation to needs support of youth athletes. Results from the F -tests indicate that all four domains of program quality significantly predicted needs support, outlining that program quality assessed by both researchers and coaches is associated with youth athletes' needs support in this context. Results also outline that examining the degree of agreement and discrepancy between researcher-assessed and coach-assessed domains of program quality aided in understanding needs support with these athletes, specifically as it relates to domains of safe environment, supportive environment, and engagement. Therefore, this study provides merit for having program quality assessed by two perspectives to identify where congruencies and discrepancies exist in order to better understand how to deliver a sport program that facilitates needs support in youth athletes. Specifically, findings from this paper outline that when coaches' ratings of certain elements of program quality were consistent with researchers' observations, then basic needs of athletes appear to be supported, which may lead to psychological well-being (Deci & Ryan, 2012). However, by attaining both perspectives, it was evident that discrepancies did exist on some subscales of program quality, which warrants further consideration in future research. Moreover, as the measure used to assess program quality (YPQA) encompasses all eight program setting features proposed by the NRCIM (Eccles &

Gootman, 2002), this study provides initial empirical evidence of these setting features within youth sport programs.

Results outline that needs support was significantly predicted by all four subscales of program quality. As such, it is important to recognize how elements of program quality contribute to supporting these needs. Coaches' efforts to provide an environment that fosters basic needs may benefit from focusing on improving the quality of program delivery. Specifically, research has indicated that higher levels of needs support can lead to psychosocial development and well-being (Deci & Ryan, 2012). Moreover, as previously outlined, it is believed that there is greater likelihood for individuals to transfer the skills in which he/she has developed within a program if basic needs are satisfied (Hodge et al., 2013). This notion of transfer is the ultimate goal of many youth programs, specifically within the sport context (Petitpas et al., 2005). Therefore, if coaches understand not only the importance of, but also how to deliver high quality programming that support these needs, there may be greater likelihood of the development and transfer of life skills.

Within this study, there was little discrepancy between scores for safe and supportive environment with smaller ranges that tended to be at the higher end of the scale for these two domains. This is similar to previous research that has utilized the YPQA within youth programming (Smith & Hohmann, 2005). Larger discrepancies were present between researcher and coach assessments of interaction and engagement, outlining much larger ranges and mean scores. As noted, interaction measured opportunities provided within the program related to belonging, collaboration, leadership, and adult partners and the domain of engagement assessed aspects related to planning, choice, and reflection. This finding also supports previous research in which youth programs tended to score lower on opportunities for interaction and engagement

(Akiva, 2005; Bean & Forneris, 2016b; Flett et al., 2012), as these higher-order items require the delivery of more intentional strategies. It is important to note that the purpose of examining the discrepancies between researchers and coaches was not to determine which stakeholder was more accurate, but to understand whether there were congruencies or incongruences between these two stakeholders' perceptions, as limited research exists on this topic within the field. Results of the current study support findings from a previous study conducted by Camiré et al. (2012) who found that coaches rated themselves higher in their perceived ability to facilitate positive developmental outcomes than what athletes and administrators rated these coaches on. Evidence from this study outlines that there may be discrepancies with coaches rating themselves highly, particularly on aspects program quality related to interaction and engagement which measure various aspects of youth development. Therefore, it is important to understand both why these exist and how to minimize these discrepancies. One potential hypothesis is that there is limited training and education available to youth sport coaches related to program quality (Strachan, McDonald, & Côté, 2016) and therefore coaches may believe they are doing what is expected as they are not aware of what constitutes a high quality program. Many people believe that sport can implicitly support basic needs and foster positive outcomes through the notion of that 'sport builds character' (Docheff, 1997; Fullinwider, 2006). Specifically, McCallister and colleagues (2000) outlined that participants assumed "coaching at the youth sport level required minimal knowledge or preparation" (p. 42). As such, coaches may equate other elements, such as a winning record or the development of talented athletes, to a program of high quality. Such climates are often ego-oriented, where the focus is associated with performance and success over effort (Duda, 2013; Smith et al., 2016) and can ultimately influence whether youth athletes' basic needs are supported.

Integrating information related to program quality such as strategies to foster a high quality program would be useful within coach education programs. Many researchers have highlighted the need to train coaches to deliberately integrate strategies relating to the positive development of youth in sport (Strachan et al., 2016; Vella, Odes, & Crowe, 2011). Moreover, intervention work with coaches would provide opportunities to bridge the gap between research and practice, as the collaboration and feedback attained from coaches would help contribute to understanding best practices within the academic field.

As the degree of agreement increased between researchers' and coaches' ratings of the safety of the environment, supportiveness of the environment, and opportunities for engagement, so did athletes' basic needs support scores. Moreover, athletes' perceptions of needs support were highest when coaches and researchers' ratings were similar either at the high or low end of the rating scales for safe environment and engagement. It is not the congruence of scores that supports the needs of youth, but rather when coaches and researchers are congruent there must be an aspect of the environment created by the coach(es) that lead to higher scores on needs support as reported by the youth, such as great opportunities for engagement or intentional opportunities to foster supportive relationships. However, it should be noted that ceiling effects may have occurred within the safe environment domain, as low scores were still considered relatively high (lower bound range was 4.44 and 4.20 for researcher- and coach-assessments respectively), which is why perceptions of needs support were high at both low and high levels of agreement. Providing a safe environment, both physically and psychologically, has been outlined in the literature as a fundamental element for needs support (Eccles & Gootman, 2002; Smith & Hohmann, 2005). Therefore, youth need to experience a safe environment in order to experience needs support. Research examining program quality and needs support within one youth

leadership program found that providing a safe and supportive environment was more essential for supporting youth's basic needs within the program over opportunities related to interaction and engagement (Bean, Harlow, & Forneris, 2016). As a result, the lower scores and large discrepancies on the domain of engagement may not influence youth athletes' perceptions of basic needs. This also supports an argument by Yohlem and Wilson-Ahlstrom (2010) stating that providing youth with opportunities for higher-order elements (interaction, engagement) tend to influence positive developmental outcomes and therefore may not have as critical of an influence on needs support. However, further research is necessary to tease out the influence of these lower- versus higher-order elements of program quality and youth development.

There is value to conduct external and observational assessments as part of program quality evaluations (Fitzpatrick, Sanders, & Worthen, 2011). The discrepancies observed in this study may be due, in part, to a self-serving bias from coaches completing the YPQA; a common limitation of self-report measures (Van de Mortel, 2008). Conversely, coaches may truly believe they are fostering opportunities for higher-order elements of program quality (interaction and engagement), as previously noted that stakeholders may perceive mere participation in sport allows youth to foster development (Omar-Fauzee et al., 2012; Theokas, Danish, Hodge, Heke, & Forneris, 2008). For example, coaches may rate program quality higher than researchers as they view opportunities for belonging, collaboration, and leadership, which are all subscales within the interaction domain, as inherent in sport. However, many researchers have argued against this outlining that the context of sport must be intentionally structured in order for such opportunities to exist (Bean & Forneris, 2016b; Danish et al., 2004; Gould & Carson, 2008). As a result, when researchers, particularly those who have expertise in youth development programming, conduct observations within the sport context, they may associate higher program

quality scores with strategies delivered by a coach to foster deliberate opportunities for these elements instead of inherently occurring within the sport context. It is important to recognize that these discrepancies exist, highlighting a practical implication related to coach training.

Specifically, training would be valuable for sport coaches to understand how to facilitate high levels of program quality, particularly related to levels of interaction and engagement.

Strengths, Limitations, and Future Directions

This study makes important contributions to youth sport, needs support, and program quality literatures, responding to calls for empirical research conducted on program quality in youth programming (Holt & Jones, 2008; Roth & Brooks-Gunn, 2015), particularly as it relates to the NRCIM eight program setting features (Côté et al., 2008). This study also utilized observational research to assess program quality instead of relying solely on self-report data that addressed calls for research utilizing observational data, and specifically the YPQA within the sport context (Flett et al., 2012; Holt & Jones, 2008). Although there is no way to tell whether researcher or coach perceptions of program quality are more accurate, this extends the field by moving beyond solely self-report measures and utilizing external observational data (Holt & Jones, 2008). Attaining both perspectives allowed for triangulating perceptions and understanding congruencies and discrepancies between stakeholders related to program quality. Moreover, the interrater reliability of researchers was good, indicating an objective measure of program quality. Further, this study provided an account of how program quality can affect basic needs support of youth athletes. Lastly, this is one of the first studies to utilize three different subjects to assess the dependent and independent variables, as previous research using polynomial regression analyses has tended to focus on same-subject or two-subject designs (e.g., Castonguay, Brunet, Ferguson, & Sabiston, 2012; Surya, Eys, & Benson, 2015).

The current study must be considered in light of the limitations. First, two standardized beta scores within safe environment were over the value of 1.0 and therefore should be interpreted with caution. However, Kraha et al. (2012) outline standardized regression coefficients greater than 1.0 can legitimately occur, yet is often due to multicollinearity, as suspected to be the case within this study despite mean-centering the scores to minimize this risk. As researcher and coach scores were quite similar on this domain of program quality, these are preliminary analyses that need to be interpreted cautiously. Second, as this study was conducted solely within the youth volleyball context, study findings may not be generalizable to other youth sport contexts. As such, future research is needed to understand if similar findings exist within other sport types (e.g., ice hockey, basketball, soccer) and contexts (e.g., individual/team; recreational/competitive). Third, the majority of participants within this study were female; however, participation in the study was voluntary and therefore out of the researcher's control. Future research would be useful to examine if such findings differentiate across male and female youth athletes. Fourth, biases common to self-report measures (e.g., social desirability) may play a role in the coach self-assessment as social desirability can have effects on the validity of self-report research (Van de Mortel, 2008). Moreover, coaches provided an assessment of program quality at solely one-time point (season end), thus these scores reflected their overall impression of an entire season. In contrast, researchers completed assessments of program quality at the sessional-level and therefore, the difference in timing of assessment should be acknowledged as a limitation. Last, it should be recognized that researchers did not observe every program session and therefore there is potential for certain elements of program quality to not be observed. Nevertheless, the number of observed hours in this study exceeded recommendations put forward by Yohalem et al. (2009) that raters must observe 4 h of programming to generate sound

data. Within the current study, the average number of observations per team was 6.14, outlining an average of 12 h of programming per team was observed as each session lasted 2 h.

Findings from this study can be used to guide future research. As this was the first study to utilize polynomial regression and response surface analysis to understand the relationship between program quality and youth athletes' needs support, research is needed to further confirm these relationships within other youth athlete samples. Specifically, the large discrepancies between researcher- and coach-assessments of the interaction and engagement subscales of program quality warrant future research to better understand why these exist. Qualitative research may be useful in understanding how and why such discrepancies exist between researchers' and coaches' assessment of program quality, as well as understanding strategies to facilitate program quality in the sport context that supports the basic needs of youth athletes. Although previous research has explored program quality within youth programming from the youth perspective (e.g., Bean & Forneris, 2016a; Silliman & Schumm, 2013), measures completed by youth are quite different from the YPQA making a discrepancy analysis unfeasible. Future research is needed to measure program quality for youth and coaches on the same or similar scales so that coach and youth perceptions can be analyzed using polynomial regression, as youth are critical agents of the youth programming context in which they participate, their perceptions provide valuable insight (Powers & Tiffany, 2006). As this was the first study to use polynomial regression to examine this relationship, researchers should integrate additional dependent variables into the model. Specifically, examining the relationship between program quality and the needs of autonomy, competence, and relatedness individually would be of value to tease out how these three variables are individually influenced by program quality. It would be beneficial for researchers to integrate additional outcome measures (e.g., needs

satisfaction, trust, psychosocial outcomes, engagement) into similar models to provide greater insight into the links between program quality elements and youth development. Specifically, a measure of psychosocial development would be useful to better understand how scores of higher-order program quality elements (e.g., interaction, engagement) influence these outcomes.

There are several practical implications that can be taken from this research, in addition to those discussed previously. As noted, due to the discrepancies between researchers and coaches relating to program quality assessments, there is a need for increased knowledge translation between academia and the applied sport context, namely establishing and/or strengthening collaborations between scholars and sport programmers. Findings from this study further support BNT as an important theoretical framework for both coaches and researchers to utilize within the sport context as it can provide guidance about specific coaching behaviors that can be adopted in order to increase motivation and enhance psychosocial development in the context of youth sport. Moreover, coach training on strategies related to delivering high quality sport programs that also foster basic needs is critical. As such, it is hoped that this research can help inform training for youth sport coaches in regards to strategies to deliver high quality programs that can foster basic needs support.

Acknowledgements

Support for the writing of this manuscript was given through a doctoral research grant from the Social Sciences and Humanities Research Council of Canada (grant no: 767-2013-2142).

References

- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2008). Autonomy support, basic need satisfaction and the optimal functioning of adult male and female sport participants: A test of basic needs theory. *Motivation and Emotion, 32*, 189-199. doi:10.1007/s11031-008-9095-z
- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2012). Perceived coach-autonomy support, basic need satisfaction and the well-and ill-being of elite youth soccer players: A longitudinal investigation. *Psychology of Sport and Exercise, 13*, 51-59.
doi:10.1016/j.psychsport.2011.07.008
- Akiva, T. (2005). Turning training into results: The new Youth Program Quality Assessment. *High/Scope Resource, 24*, 21-24.
- Baetz, B., & Kenneth, C. (1998). The relationship between mission statements and firm performance: An exploratory study. *Journal of Management Studies, 35*, 823-853.
doi:10.1111/1467-6486.00121
- Bean, C. N., & Forneris, T. (2016a). Examining program quality and needs support within two physical activity-based mentoring programs. *PHEnex Journal, 8*, 1-16.
- Bean, C. N., & Forneris, T. (2016b). Re-examining the Youth Program Quality Survey as a tool to assess quality within youth programming. *Cogent Psychology, (2016)*, 1-14.
doi:10.1080/23311908.2016.1149265
- Bean, C. N., & Forneris, T. (2016c). Examining the importance of intentionally structuring the youth sport context to facilitate psychosocial development. *Journal of Applied Sport Psychology, 28*, 410-425. doi:10.1080/10413200.2016.1164764
- Bean, C., Forneris, T., & Brunet, J. (2016). Investigating discrepancies in program quality related to youth volleyball athletes' needs support. *Psychology of Sport and Exercise, 26*,

154-163. doi:10.1016/j.psychsport.2016.07.001

Bean, C., Harlow, M., & Forneris, T. (2016). Examining the importance of supporting youth's basic needs in one youth leadership program: A case study exploring program quality.

International Journal of Adolescence and Youth, 1-15.

doi:10.1080/02673843.2016.1152986

Bean, C., & Kendellen, K. & Forneris, T. (2016). Examining needs support and positive developmental experiences through participation in a residential summer camp.

Leisure/Loisir, 40, 271-295. doi:10.1080/14927713.2016.1252938

Bodilly, S. J., & Beckett, M. K. (2005). *Making out-of-school-time matter: Evidence for an action agenda*: Rand Corporation. Retrieved from

http://www.rand.org/content/dam/rand/pubs/monographs/2005/RAND_MG242.pdf

Cafri, G., van den Berg, P., & Brannick, M. T. (2010). What have the difference scores not been telling us? A critique of the use of self-ideal discrepancy in the assessment of body image and evaluation of an alternative data-analytic framework. *Assessment*, 17, 361-376.

doi:10.1177/1073191109357028

Camiré, M., Forneris, T., & Trudel, P. (2012). High school sport stakeholders' perspectives on coaches' ability to facilitate positive youth development. *Journal of Coaching Education*,

5, 64-82.

Castonguay, A. L., Brunet, J., Ferguson, L., & Sabiston, C. M. (2012). Weight-related actual and ideal self-states, discrepancies, and shame, guilt, and pride: Examining associations within the process model of self-conscious emotions. *Body Image*, 9, 488-494.

doi:10.1016/j.bodyim.2012.07.003

- Coatsworth, J. D., & Conroy, D. E. (2009). The effects of autonomy-supportive coaching, need satisfaction, and self-perceptions on initiative and identity in youth swimmers. *Developmental Psychology, 45*, 320-328. doi:10.1037/a0014027
- Côté, J., & Abernethy, B. (2012). A developmental approach to sport expertise. In S. Murphy (Ed.), *The Oxford handbook of sport and performance psychology* (pp. 435-447). New York: Oxford University Press.
- Côté, J., & Mallett, C. J. (2013). *Review of junior sport framework briefing paper: Positive youth development through sport*. Canberra: Australian Sports Commission.
- Côté, J., Strachan, L., & Fraser-Thomas, J. (2008). Participation, personal development and performance through youth sport. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 34-45). New York: Routledge.
- Danish, S. J., Forneris, T., Hodge, K., & Heke, I. (2004). Enhancing youth development through sport. *World Leisure Journal, 46*, 38-49.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2012). Self-determination theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology: Vol. 1* (pp. 416-433). Thousand Oaks, CA: Sage. doi:10.4135/9781446201022
- Deci, E. L., Ryan, R. M., & Williams, G. C. (1996). Need satisfaction and the self-regulation of learning. *Learning and Individual Differences, 8*, 165-183. doi:10.1016/S1041-6080(96)90013-8
- Docheff, D. (1997). Character in sport and physical education. *Journal of Physical Education, Recreation & Dance, 68*, 34. doi:10.1080/07303084.1997.10605026

- Duda, J. L. (2013). The conceptual and empirical foundations of empowering coaching: Setting the stage for the PAPA project. *International Journal of Sport and Exercise Psychology*, *11*, 311-318. doi:10.1080/1612197X.2013.839414
- Eccles, J. S., & Gootman, J. A. (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press.
- Edwards, J. R. (2002). Alternatives to difference scores: Polynomial regression and response surface methodology. *Advances in Measurement and Data Analysis*, *25*, 350-400.
- Fitzpatrick, J. L., Sanders, J. R., & Worthen, B. R. (2011). *Program evaluation: Alternative approaches and practical guidelines* (4th ed). New York: Pearson Education.
- Flett, M. R., Gould, D. R., & Lauer, L. (2012). A study of an underserved youth sports program using the Youth Program Quality Assessment. *Journal of Applied Sport Psychology*, *24*, 275-289. doi:10.1080/10413200.2011.641061
- Fraser-Thomas, J., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy*, *10*, 19-40. doi:10.1080/1740898042000334890
- Fullinwider, R. K. (2006). Sports, youth, and character: A critical survey. Retrieved from: <http://www.civicyouth.org/PopUps/WorkingPapers/WP44Fullinwider.pdf>
- Gelman, A. (2008). Scaling regression inputs by dividing by two standard deviations. *Statistics in Medicine*, *27*, 2865-2873. doi:10.1002/sim.3107
- Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology*, *1*, 58-78. doi:10.1080/17509840701834573

- Granger, R., Durlak, J. A., Yohalem, N., & Reisner, E. (2007). *Improving after-school program quality*. New York: William T. Grant Foundation.
- Hodge, K., Danish, S. J., & Martin, J. (2013). Developing a conceptual framework for life skills interventions. *The Counseling Psychologist, 41*, 1125-1152.
doi:10.1177/0011000012462073
- Holt, N. L., & Jones, M. I. (2008). Future directions for positive youth development and sport research. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 122-132). New York: Routledge.
- High/Scope Educational Research Foundation. (2005). *Youth program quality assessment*. Ypsilanti, MI: High/Scope Press.
- Kazén, M., & Kuhl, J. (2011). Directional discrepancy between implicit and explicit power motives is related to well-being among managers. *Motivation and Emotion, 35*, 317-327.
doi:10.1007/s11031-011-9219-8
- Kraha, A., Turner, H., Nimon, K., Zientek, L. R., & Henson, R. K. (2012). Tools to support interpreting multiple regression in the face of multicollinearity. *Frontiers in Psychology, 12*, 1-16. doi:10.3389/fpsyg.2012.00044
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*, 159-174. doi:10.2307/2529310
- McCallister, S. G., Blinde, E. M., & Weiss, W. M. (2000). Teaching values and implementing philosophies: Dilemmas of the youth sport coach. *Physical Educator, 57*, 35-45.
- Mitchell, F., Gray, S., & Inchley, J. (2015). 'This choice thing really works...' Changes in experiences and engagement of adolescent girls in physical education classes, during a

- school-based physical activity programme. *Physical Education and Sport Pedagogy*, 20, 593-611. doi:10.1080/17408989.2013.837433
- Omar-Fauzee, M., Nazarudin, M., Saputra, Y., Sutresna, N., Taweasuk, D., Chansem, W., ... Geok, S. K. (2012). The strategies for character building through sports participation. *International Journal of Academic Research in Business and Social Sciences*, 2, 48-58.
- Petitpas, A. J., Cornelius, A. E., Van Raalte, J. L., & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. *Sport Psychologist*, 19, 63-80.
- Powers, J. L., & Tiffany, J. S. (2006). Engaging youth in participatory research and evaluation. *Journal of Public Health Management and Practice*, 12, S79-S87.
- Quested, E., & Duda, J. L. (2010). Exploring the social-environmental determinants of well-and ill-being in dancers: A test of basic needs theory. *Journal of Sport and Exercise Psychology*, 32, 39-60.
- Roth, J. L., & Brooks-Gunn, J. (2015). Evaluating youth development programs: Progress and promise. *Applied Developmental Science*, 1-15. doi:10.1080/10888691.2015.1113879
- Ryan, R. M., & Deci, E. L. (2000). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry*, 11, 319-338. doi:10.1207/S15327965PLI1104_03
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: University of Rochester Press.

Self-Determination Theory. (2016). PAS – learning climate: The learning climate questionnaire (LCQ). Available online from <http://www.selfdeterminationtheory.org/pas-learning-climate/>

Shanock, L. R., Baran, B. E., Gentry, W. A., Pattison, S. C., & Heggstad, E. D. (2010).

Polynomial regression with response surface analysis: A powerful approach for examining moderation and overcoming limitations of difference scores. *Journal of Business and Psychology*, 25, 543-554. doi:10.1007/s10869-010-9183-4

Silliman, B., & Schumm, W. R. (2013). Youth program quality survey: Youth assessment of program quality. *Marriage & Family Review*, 49, 647-670.

doi:10.1080/01494929.2013.803010

Smith, C., & Hohmann, C. (2005). Full findings from the Youth PQA validation study. *Ypsilanti, MI: High/Scope Educational Research Foundation*.

Smith, N., Quested, E., Appleton, P. R., & Duda, J. L. (2016). Development and validation of the multidimensional motivational climate observation system. *Journal of Sport and Exercise Psychology*, 37, 4-22. doi:10.1123/jsep.2014-0059

Standage, M., Duda, J. L., & Ntoumanis, N. (2005). A test of self-determination theory in school physical education. *British Journal of Educational Psychology*, 75, 411-433.

doi:10.1348/000709904X22359

Standage, M., Duda, J. L., & Pensgaard, A. M. (2005). The effect of competitive outcome and task-involving, ego-involving, and cooperative structures on the psychological well-being of individuals engaged in a co-ordination task: A self-determination approach. *Motivation and Emotion*, 29, 41-68. doi:10.1007/s11031-005-4415-z

- Standage, M., & Vallerand, R. J. (2014). Motivation in sport and exercise groups. In M. R. Beauchamp & M. A. Eys (Eds.), *Group Dynamics in Exercise and Sport Psychology* (2nd ed., pp. 259-278). New York: Routledge.
- Strachan, L., Côté, J., & Deakin, J. (2011). A new view: Exploring positive youth development in elite sport contexts. *Qualitative Research in Sport, Exercise & Health, 3*, 9-32.
doi:10.1080/19398441.2010.541483
- Strachan, L., MacDonald, D. J., & Côté, J. (2016). Project SCORE! Coaches' perceptions of an online tool to promote positive youth development in sport. *International journal of Sports Science & Coaching, 11*(1), 108-115. doi:10.1177/1747954115624827
- Surya, M. W., Eys, M. A., & Benson, A. J. (2015). Incongruence in the coach-athlete relationship: Potential consequences from misunderstanding. *Journal of Exercise, Movement, and Sport, 47*, n.p.
- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (5th ed., Vol. 7). New Jersey: Pearson.
- Theokas, C., Danish, S. J., Hodge, K., Heke, I., & Forneris, T. (2008). Enhancing life skills through sport for children and youth. In N. Holt (Ed.), *Positive youth development through sport* (pp. 71-81). New York: Routledge.
- Van de Mortel, T. F. (2008). Faking it: Social desirability response bias in self-report research. *Australian Journal of Advanced Nursing, 25*, 40-48.
- Vella, S., Oades, L., & Crowe, T. (2011). The role of the coach in facilitating positive youth development: Moving from theory to practice. *Journal of Applied Sport Psychology, 23*(1), 33-48.

- Williams, G. C., & Deci, E. L. (1996). Internalization of biopsychosocial values by medical students: A test of self-determination theory. *Journal of Personality and Social Psychology, 70*, 767-779. doi:10.1037/0022-3514.70.4.767
- Yohalem, N., & Wilson-Ahlstrom, A. (2010). Inside the black box: Assessing and improving quality in youth programs. *American Journal of Community Psychology, 45*, 350-357. doi:10.1007/s10464-010-9311-3
- Yohalem, N., Wilson-Ahlstrom, A., Fischer, S., & Shinn, M. (2009). *Measuring youth program quality: A guide to assessment tools* (2nd ed.). Washington, DC: The Forum for Youth Investment.
- Yuan, Y. C. (2010). *Multiple imputation for missing data: Concepts and new development* (Version 9.0). Rockville, MD: SAS Institute Inc.
- Zarrett, N., Lerner, R. M., Carrano, J., Fay, K., Peltz, J. S., & Li, Y. (2008). Variations in adolescent engagement in sports and its influence on positive youth development. In N. Holt (Ed.), *Positive youth development through sport* (pp. 9-81). New York: Routledge.

Table 1

Descriptive Statistics and Correlations of All Study Variables

	1	2	3	4	5	6	7	8	9
1. <i>Researcher-Safe Environment</i>	-								
2. <i>Coach-Safe Environment</i>	.722**	-							
3. <i>Researcher-Supportive Environment</i>	.513**	.324**	-						
4. <i>Coach-Supportive Environment</i>	.520**	.608**	.536**	-					
5. <i>Researcher-Interaction</i>	.235**	-.098	.697**	.456**	-				
6. <i>Coach-Interaction</i>	-.201*	.078	-.278**	.303**	-.127	-			
7. <i>Researcher-Engagement</i>	.231**	.241**	.783**	.291**	.656**	-.373**	-		
8. <i>Coach-Engagement</i>	-.054	-.126	.238**	.458**	.432**	.238**	-.058	-	
9. Youth Reported Basic Needs Support	.267**	.190*	.394**	.338**	.346**	-.298**	.373**	.091	-
Mean	4.88	4.69	4.20	4.45	3.30	4.29	1.86	3.17	4.65
SD	.15	.27	.33	.35	.38	.39	.39	.82	.75
Range of scores ^a	4.44-	4.20-	3.58-	3.78-	2.81-	3.67-	1.34-	1.38-	2.70-
	5.00	5.00	4.81	4.90	4.14	4.75	2.98	4.38	6.00

Note: *Researcher* refers to indicates scores based on observed assessments conducted by researchers of program quality. *Coach* refers to scores based on coach assessments of program quality.

^a Variables 1-8 range from a possible score of 1 to 5, whereas variable 9 ranges from a possible score of 1 to 6.

* $p < .05$.

** $p < .01$.

Table 2

*Heteroscedasticity Regression Analyses between Researcher Assessed and Coach Assessed**Program Quality by Subscale*

	R ²	<i>b</i>	SE	β
Model 1	.27***			
Researcher SE		7.11	1.10	1.44***
Coach SE		-1.76	0.52	-.62***
Researcher SE squared		-7.52	5.40	-.48
Researcher SE x Coach SE		20.82	5.50	1.56***
Coach SE squared		-2.61	1.51	-.25
Model 2	.26***			
Researcher SuE		0.68	.19	.30***
Coach SuE		0.34	.23	.16
Researcher SuE squared		2.15	.54	.39***
Researcher SuE x Coach SuE		-2.42	.95	-.41*
Coach SuE squared		0.56	.91	.09
Model 3	.20***			
Researcher INT		0.65	0.22	.33**
Coach INT		-0.60	0.19	-.31**
Researcher INT squared		0.07	0.51	.02
Researcher INT x Coach INT		-0.17	0.41	-.04
Coach INT squared		-0.73	0.51	-.14
Model 4	.22***			

Researcher ENG	.23	.27	.92
Coach ENG	.29	.10	.32**
Researcher ENG squared	1.13	.32	.48***
Researcher ENG x Coach ENG	.41	.30	.16
Coach ENG squared	.20	.10	.22*

Note. SE is Safe Environment, SuE is Supportive Environment, INT is Interaction, ENG is Engagement; b = unstandardized coefficient; β = standardized coefficient; SE = standard error. To interpret the standardized regression coefficients: for every standard deviation change in the independent variable, the dependent variable changes by “ b ” units.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3

Surface Values of Assessed Program Quality Subscales as Related to Basic Needs Support

	Safe Environment	Supportive Environment	Interaction	Engagement
a_1	5.35(.76)***	1.02(.25)***	.05(.28)	.52(.25)*
a_2	10.69(2.12)***	.29(.64)	-.82(.55)	1.74(.57)**
a_3	8.87(1.53)***	.35(.35)	1.25(.30)***	-.06(.31)
a_4	-30.94(11.28)**	5.13(2.08)*	-.49(.90)	.92(.38)*

Note. $a_1 = b^1 + b^2$, where b^1 is the beta coefficient of researcher assessed program quality and b^2 is the beta coefficient for coach assessed program quality. $a^2 = b^3 + b^4 + b^5$, where b^3 is the beta coefficient of researcher assessed program quality squared, b^4 is the beta coefficient for the cross-product of researcher assessed program quality and coach assessed program quality, and b^5 is the beta coefficient for coach assessed program quality squared. $a^3 = b^1 - b^2$, $a^4 = b^3 - b^4 + b^5$. Significance depends partially on standard errors; as such values of equivalent magnitude may not be significant.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Chapter Five

Article Three

**Examining Differences in Program Quality and Needs Support in two Physical Activity-
based In-School Mentoring Programs**

Bean, C. N., & Forneris, T. (2016). Examining program quality and needs support within two physical activity-based mentoring programs. *PHEnex Journal*, 8(2), 1-16.

Abstract

The purpose of this study was to examine program quality and basic needs support across two physical activity-based in-school mentoring programs (one girls'-only, one boys'-only). Twenty-four youth participated across both programs. A mixed-methods approach was used. Program quality was assessed quantitatively from two perspectives: observations conducted by researchers and youth self-report. Needs support was assessed quantitatively from the youth perspective. Researcher field notes were analyzed qualitatively to further understand the program context. Results revealed a significant difference in observed and self-report program quality. Significant differences were found related to needs support between programs. Moreover, program quality significantly predicted needs support within the girls' program, but not in the boys' program. Four themes emerged from the qualitative data: (a) supportive environment, (b) intentional opportunities for skill-building, (c) supported leadership and mentoring opportunities, and d) planned opportunities for youth choice. Practical implications and future research directions are outlined.

Keywords: basic needs support; program quality; mentoring; physical activity; youth programming; mixed-methods

Examining Differences in Program Quality and Needs Support in two Physical Activity-based
In-School Mentoring Programs

The prevalence of in-school mentoring programs has increased in recent decades as an avenue for youth to engage in constructive leisure as such programs require “effort and provide a forum in which to express one’s identity or passion in sports, performing arts, and leadership activities” (Eccles & Barber, 1999, p. 11-12). Youth spend considerable time within school, suggesting in-school mentoring programs are an attractive environment to foster youth self-esteem and positive relationships (King et al., 2002). Mentoring programs first emerged with at-risk youth (e.g., DuBois, Holloway, Valentine, & Cooper, 2002), yet have recently extended to school communities across North America as a means of increasing the availability of adult support in the lives of youth (Rhodes & Spencer, 2005). Research has outlined the effectiveness of youth mentoring programs related to improving outcomes in social, behavioral, and academic domains (Dubois et al., 2002). Specifically, Dubois and colleagues (2002) found that programs were most effective when there was a strong fit between program goals and mentor’s education, when mentors and youth shared similar interests, and when programs were structured to support mentors acting in a supportive role with youth. A challenge for researchers is to distinguish between effective and ineffective programs and understand the circumstances that give rise to each (Grossman & Tierney, 1998). As mentoring programs continue to assume an important role in today’s society (Rhodes & Spencer, 2005), this study attempts to address this challenge.

Many researchers have advocated for the use of sport and physical activity as hooks to attract and engage youth when facilitating youth development programming (Danish et al., 2004; Gould & Carson, 2008). The effectiveness of in-school mentoring programs that integrate physical activity and sport have recently been examined (e.g., Dowd, Harden, & Beauchamp,

2015). A study conducted within a sport-based mentoring program found youth were attracted to the program because they were able to establish relationships with caring adults and develop sport and life skills (Choi et al., 2015). Such motives were related to the nature of the mentor–mentee relationship.

Given the importance of in-school mentoring programs as an avenue to promote positive experiences for youth, it is necessary to understand features that enhance program quality within this context (Mueller et al., 2011). Although researchers have begun to emphasize the importance of program quality in youth programming (e.g., Yohalem & Wilson-Ahlstrom, 2010; Bean & Forneris, 2016a), limited research has examined how this influences youth. From this limited research, Baldwin and colleagues (2015) investigated programs that had low quality outcomes. Results outlined programs with lower quality outcomes had less choice in activities for youth, suggesting the importance of autonomy related to program success. The study also isolated explanations for lack of program improvement including inconsistent attendance, absence of planned activities, and poor behavioral management practices.

The importance of mentors has been thoroughly examined, as meaningful relationships between youth and non-parental adults are critical and can yield resiliency and positive outcomes for participating youth (DuBois et al., 2002). Although several evaluations have been conducted on in-school mentoring programs, limited research has explored the mentor-mentee relationship within a sport or physical activity in-school mentoring context. One study conducted by Dowd et al. (2015) found that youth believed they developed meaningful relationships with mentors and perceived that mentors had a number of positive personal characteristics, created a positive environment and were effective leaders. Research within other sport and physical activity-based contexts have shown that youth programs are more effective at enhancing development when

youth have the opportunity to build supportive relationships with adult mentors (Ullrich-French & McDonough, 2013; Bean, Forneris, & Fortier, 2015).

It has been argued that defining youth outcomes solely in terms of competencies (e.g., skills, behaviors) and not broader psychosocial characteristics that help prepare them for the future, limits the strategies that can be used and undermines the potential for success in youth programs (Pittman et al., 2011). One theory that has recently been utilized by researchers to examine youth development that extends the typical outcomes is basic needs theory (BNT; Deci & Ryan, 1985). It has been proposed that humans function and effectively develop as a result of the social environment and its potential for basic needs support (Ryan & Deci, 2000). The authors argued that humans have three needs: autonomy, competence, and relatedness. Research indicates that environments that foster these needs will result in positive psychological development and well-being (Ryan & Deci, 2000). Autonomy is an individual's ability to make choices and act in accordance with one's sense of self (Adie, Duda, & Ntoumanis, 2008). Competence is having a sense of mastery and opportunities to display skills (Deci, Ryan, & Williams, 1996). Relatedness is having a sense of belonging both with other individuals and community (Ryan & Deci, 2002). Researchers that examined BNT in physical education found supporting basic needs aided in youth engagement, motivation, and satisfaction (e.g., Mitchell, Gray, & Inchley, 2013; Standage, Duda, & Ntoumanis, 2005). Although research within youth physical activity contexts has indirectly explored constructs of needs support (e.g., establishing meaningful relationships), no research has examined youth perceptions of needs support within mentoring programs.

Despite numerous studies that have yielded significant results suggesting a positive link between in-school mentoring programs and youth development, many studies have focused on

school-related outcomes (e.g., attendance, academic performance). Rhodes and Spencer (2005) have argued that important questions about the effectiveness of mentoring programs remain unresolved. To date, no research has explored needs support within in-school mentoring programs, specifically those that utilize a sport or physical activity context. Further, no research has examined the relative influence of program quality on basic needs support within this context. As such, the purpose of this study was twofold: (a) to use a mixed-methods approach to examine program quality and needs support in two physical activity-based mentoring programs; and (b) to examine how youths' perceptions of program quality influenced basic psychological needs support. Two research questions guided this study. First, do scores of program quality and basic needs support differ across the two physical activity-based in-school mentoring programs? Given that this question was exploratory in nature, no directional hypotheses were proposed. Second, does total program quality predict basic psychological needs support within the two physical activity-based in-school mentoring programs? It was hypothesized that higher scores in program quality would predict higher perceived needs support by youth. The rationale for this hypothesis stems from literature that has outlined that the features and strategies proposed to indicate a high quality program are a precursor for supporting a needs supportive environment (e.g., Bean & Forneris, 2016b; Eccles & Gootman, 2002). Specifically, a program has to first be in place prior to the needs of youth being supported or hindered as a result of the program and its environment, including the mentor.

Methods

This research used a mixed-methods approach. An embedded design was employed whereby both quantitative and qualitative data were collected, yet the qualitative data played a supplemental role into a larger quantitative study (Caracelli & Greene, 1997; Creswell & Plano

Clark, 2011). This type of design is useful, as using a mixed-methods approach allows for greater breadth and depth of understanding and corroboration of the data, while offsetting the weaknesses of each approach. The quantitative data were intended to examine program quality from two perspectives (researcher, youth), as well as needs support from the youth perspective. The qualitative data were intended to provide a greater understanding of the researchers' perceptions of program quality and needs support.

Context and Participants

This project was part of a larger study that focused on examining program quality within youth programming. In the current study, two physical activity-based in-school mentoring programs were involved: one with solely male youth and one with solely female youth. Both programs were designed and delivered as part of the same not-for-profit organization and shared a similar objective: to provide information and foster skills necessary for youth to live healthy and active lifestyles. Specifically, the two programs were designed to incorporate the delivery of life skill activities (e.g., self-esteem, communication, balanced eating) in a physical activity and sport context. Both programs ran concurrently over the course of 3 months at the same school located in Southern Ontario, Canada. The programs ran for 1 hour in length and took place during lunch. The structure of both programs was the same in which the mentors held an informal check-in with youth at the beginning of the program while youth ate their lunch. This provided an opportunity for youth to develop relationships with both mentors and youth. Often, a short relational activity was done during this time. The remainder of the session involved a physically active component and a life skills component. There was flexibility in terms of which component youth did first; this was often left up to youth choice. During the active component, program space was used to engage in a sport or physical activity of the youth's choice (e.g.,

soccer baseball, dodgeball, tag). During the life skills component, a specific life skill activity was facilitated (e.g., communication, balanced eating). This is where the two programs differed most significantly. Although the life skills of focus tended to be very similar, the program curriculums were designed slightly different based on the targeted interests of both male and female youth. Specifically, the organization had developed specific gender-based activities in which they perceived to be effective in mentoring program implementation. For example, craft-based activities were integrated into the girls' program, while the use of technology (e.g., video games, cell phones) and the media were used in the boys' program.

Youth participants (hereafter referred to as 'youth') ranged between 9 and 12 years old. Twelve boys ($M_{\text{age}} = 11.00$, $SD = .85$) and 12 girls ($M_{\text{age}} = 10.5$, $SD = 1.00$) participated in each program. Youth identified as predominantly Caucasian (83%). Three boys and one girl were participating in their respective programs for a second time, while the remaining youth were participating for the first time. Four mentors were involved in program delivery (two male mentors responsible for implementing the boys' program, two female mentors responsible for implementing the girls' program). Mentors were either 20 or 21 years of age ($M = 20.5$, $SD = .58$) and were local college students that facilitated these programs as part of a school internship. The mentors received general safety training upon their commencement as a volunteer in the organization. Additionally, they received a 1-hour informal training session with the program coordinator in which they discussed the programs' goals, outlined the programs' structure and processes, and went through the program manual. During this session, the program coordinator emphasized the importance of taking on a youth-driven approach within these programs.

Procedure

Consent was attained for mentors and through parental consent for youth. All procedures adhered to ethical standards when working with human participants and were approved by the University's Office of Research Ethics and Integrity. Data collection consisted of 18 1-hour program observations (nine with each program) by two researchers. Youth completed two paper-based questionnaires during the final session outlining their perceptions of program quality and basic needs support throughout program participation. Youth were reminded that participation in this study was voluntary and assured that responses to the questionnaires would remain confidential and leaders were ensured their rights to anonymity and confidentiality would be protected. As the age of youth was fairly young, researchers involved in the study worked with youth in small groups and read each question out loud, which provided opportunities for youth to ask questions if needed, optimistically enabling better comprehension.

Measures

For this research study, program quality was measured based on the eight strategies proposed by the National Research Council and Institute of Medicine (NRCIM): (a) physical and psychological safety; (b) appropriate structure; (c) supportive relationships; (d) opportunities to belong; (e) positive social norms; (f) support for efficacy and mattering; (g) opportunities for skill-building; (h) integration of family, school, and community efforts (Eccles & Gootman, 2002). Yohalem and Wilson-Ahlstrom (2010) argued that program quality is best measured using multiple measures from multiple sources over multiple time points throughout the course of a program. As such, two perspectives (researchers, youth) and four data sources were attained for this study.

Youth program quality assessment (YPQA) tool. Observations were conducted utilizing the YPQA; a valid and reliable tool used when conducting evaluations within youth programs

(Smith & Hohmann, 2005). The YPQA is based on the NRCIM's eight contextual features that can promote psychosocial developmental in youth (Eccles & Gootman, 2002). The measure is comprised of a total of 63 items within 18 subscales under four domains: Safe Environment, Supportive Environment, Interaction, and Engagement (High/Scope Educational Research Foundation, 2005). For each question, tangible descriptions are provided for scoring items from 1 (*no evidence*) to 5 (*consistent evidence*). Previous work with this tool used a 3-point scale; however, to allow for greater variance, a 5-point scale was used.

YPQA field notes. Researchers took field notes during the sessions and then coded them under each item allowing for objective and detailed accounts that provided reference to the subsequent item scored within the YPQA. Such field notes are required as part of the comprehensive completion of the YPQA. Within this measure, it is outlined that observers should take factual and objective field notes that are specific and detailed. It is recommended that these notes should also include anecdotal descriptions of interactions, quotations of youth/staff interactions, as well as the sequence of events within the program. For full details of these instructions, see High/Scope Educational Research Foundation (2005).

Youth program quality survey (YPQS). The YPQS examines youth's ratings of their experiences within extra-curricular programs (Silliman & Schumm, 2013). The YPQS is also based off the NRCIM's eight contextual features of youth programs shown to promote positive development (Eccles & Gootman, 2002). Bean and Forneris (2016c) recently found a poor model fit for this measure. As such, modifications were made based on the results of an exploratory factor analysis that showed good model fit. The modified version of the YPQS used in this study is a 19-item, 4-factor measure that includes: (a) Appropriate Adult Support and Structure (5; adults listened), (b) Empowered Skill-building (7; challenged to build skills), (c) Expanding

Horizons (4; activities related to community), and (d) Negative Experiences (3; embarrassed). The measure uses a 4-point Likert scale: 1 (*strongly disagree*) to 4 (*strongly agree*). Utilizing this measure allowed for triangulation of program quality perceptions and opportunity for youth voice in the study (Larson, Hansen, & Moneta, 2006). Internal consistency for all items was high within the current sample ($\alpha = .85-88$).

Learning climate questionnaire (LCQ). Adapted by Standage and colleagues (2005), the LCQ is a 24-item measure that examines perceptions of support for the basic psychological needs, including the degree to which mentors supported youth's sense of autonomy (15; choices and options), competence (4; improve skills), and relatedness (5; friendly and approachable). The questionnaire was measured on a 6-point scale: 1 (*strongly disagree*) 6 (*strongly agree*). The LCQ has been validated with youth and has good internal consistency (e.g., Bean, Harlow, & Forneris, 2016; Standage et al., 2005). Factors showed good internal consistency ($\alpha=.85-.88$).

Data Analysis

Quantitative data were analyzed using SPSS 23.0. Descriptive statistics were calculated for all subscales. To examine if significant differences existed between the two programs related to program quality and needs support, two one-way multivariate analysis of variance (MANOVA) tests were conducted. A MANOVA was conducted to examine differences across the two programs between researcher-observed program quality. Program quality was coded for reliability to determine consistency among raters ($k = 0.83$; $p < .001$). To examine differences between youth perceived program quality, a one-way MANOVA was conducted on the YPQS subscales. A one-way ANOVA was conducted utilizing the total score of needs support from the LCQ, which has been utilized in previous studies (Bean, Forneris, & Brunet, 2016; Standage & Vallerand, 2014). Wilks' Lambda was used as the multivariate test. Due to the small sample size

within this study, resulting in low power (.13-.64), effect sizes were calculated using Cohen's *d* (1988). To examine if program quality predicted needs support, two regression analyses were performed, one for each program, using a combined needs support score.

Qualitative data (field notes) were analyzed using a deductive–inductive thematic analysis (Braun & Clarke, 2006) to help further understand if and how program quality strategies were delivered and needs support was fostered. This type of analysis allowed researchers to understand important topics within the literature deductively (e.g., program quality, BNT), while including elements that emerge inductively from field notes. The field notes resulted in 64 pages (girls' program = 38 pages). Data within the field notes were broken into smaller meaning units and organized into themes and categories (Braun & Clarke, 2006). Identification codes were created for each quotation to identify the context (Girls/Boys) and session (date; e.g., G-3/15 indicates the excerpt was written during the Girls' program on March 15th). To further support field note excerpts, quotations from youth and mentors that occurred during the sessions are often provided in brackets.

Results

As an embedded mixed-methods approach was used where quantitative data took on a primary role, these findings are presented first followed by the qualitative findings.

Quantitative Results

Preliminary analyses were performed to ensure assumptions were met. Table 1 outlines descriptive statistics of researcher-observed program quality, youth perceived program quality, and youth perceived needs support from both programs. Results of the first MANOVA revealed a statistically significant difference in observed program quality between the programs ($F(4, 13) = 11.95, p < .0005$; Wilks' Lambda = 0.214). Given the significant finding, dependent variables

were examined separately with a Bonferroni adjusted alpha (.013). Results revealed statistically significant differences for three of the four subscales (supportive environment, interaction, and engagement), with the girls' program scoring higher on these three subscales than the boys' program. Supportive environment had a large effect size ($d = .83$) and interaction and engagement had medium effect sizes (.34, .34 respectively). No differences were found on safe environment indicating both programs provided a physically safe environment. However, although the majority of subscales within this domain focused on the physical safety of the program environment (4 of 5 subscales), emotional safety was measured within safe environment and differences between this subscale were significant ($F(1,17) = 23.612, p < .0001$).

Examining youth's perceived program quality, the MANOVA revealed a statistically significant difference between both programs ($F(4, 19) = 1.41, p = .027$; Wilks' Lambda = .771). Follow-up analyses were conducted whereby dependent variables were examined separately using an adjusted alpha level (.013). No significant differences were found across the programs on the four subscales after the adjusted alpha. However, appropriate adult support and structure approached significance ($p = .030$) with the girls' program scoring higher than the boys' program. It should be noted that the small sample size led to low power to detect a statistical significance and as a result, effect sizes were calculated. Appropriate Adult Support and Structure had a large effect size ($d = .95$) and Empowered Skill-building, Expanding Horizons, and Negative Experience approached medium effect sizes (.46, .42, .36, respectively).

The one-way ANOVA that examined perceived needs support across the two programs showed statistical significance ($F(1, 22) = 5.89, p = .024$) and indicated a large effect size ($d = .99$). The girls' program scored higher on needs support compared to the boys' program. Lastly, two hierarchical regression analyses conducted within each program showed that program

quality significantly predicted needs support for the girls' program ($F(4, 7) = 9.02, p = .007, R^2 = .84$), but not for the boys' program ($F(1, 10) = 0.845, p = .539, R^2 = .33$). Appropriate adult support and structure was the only subscale that significantly contributed to the model within the regression analysis for the girls' program ($p = .019$).

Qualitative Results

Analyses of the field notes resulted in four themes related to program quality strategies: (a) supportive environment, (b) intentional opportunities for skill-building, (c) supported leadership and mentoring opportunities, and d) planned opportunities for youth choice. Within each theme, girls' program findings are presented first, followed by the boys' program.

Supportive environment. Within the girls' program, providing a supportive environment helped foster relatedness and belongingness between youth and between youth and mentors. Mentors were able to achieve this environment by being positive, actively engaged, and encouraging. At the beginning of each session, it was noted: "all youth are greeted individually by first name upon entering the room and are asked personalized questions" (G2-10; e.g., "Hey [name], how was your trip?...It sounds like you had a lot of fun", "[name], how did your dance-a-thon go?") and "mentors make frequent use of youth's name" (e.g., G2-10; "thanks for sharing [name], I appreciate your input"). The girls' mentors were documented: "listening attentively and actively engaged when youth share thoughts, ideas, stories; showing they are engaged and what youth say is important" (G3-31).

Throughout the program, mentors were observed as being engaged which helped foster a supportive environment for youth, providing opportunities for youth to develop a sense of relatedness. Mentors' non-verbal communication was conducive to providing a supportive environment, as "mentors frequently smile, make eye contact with youth, and respond to their

introductions and conversations with interest” (G2-24). Mentors were documented as providing youth encouragement (e.g., “Thanks [name] for explaining, you were thorough in your explanation”; “You have a lot of goals for your life, I can tell you’ve put a lot of thought into this”).

Researchers identified that mentors involved youth in decision-making which appeared to increase a sense of belonging: “youth strongly identify with the program. A list of rules is posted in the room in which both youth and mentors developed together and frequently make reference to during session” (G2-10; e.g., “guys, we’re breaking rule 11, look at our poster”). Moreover, several girls were overheard highlighting their connectedness to the program (e.g., “why is the program so short? I don’t want it to end”; “youth continually used ‘we’ terminology to address the group” [G2-24]). During the last session, mentors gave “youth a structured opportunity to talk about what they liked and did not like about the program. Youth eagerly raised their hands and listed various activities they enjoyed” (G3-31; e.g., picking games, mentors, just being with girls). One girl was overheard stating: “This is the favorite program I was ever in, I liked [program] better than other programs I’ve been in” (G3-31).

Not only did mentors attempt to facilitate a positive emotional climate, they also engaged youth in activities that further encouraged this climate. The first activity the group did as a whole was create a contract (coined the *FUNtract*), where “mentors created a contract with youth so they were accountable; helped make rules they believed were important... Youth took turns suggesting rules and mentors supported their ideas” (G2-3). Mentors “encouraged a positive emotional climate by highlighting the importance of treating everyone well in the program” (G2-24; e.g., “respect, respect, respect; we are going to respect everyone and treat everyone as

equals”). Lastly, mentors provided a psychologically safe environment by encouraging youth to “take risks” and “there are no such things as mistakes, just try your best” (G2-24).

In contrast, the emotional climate of the boys’ program was characterized as “largely neutral with both positive and negative behaviors; youth and mentors are all quiet and only a few engage with each other.” At the beginning of several sessions youth “show up at different times (some late) and are casually greeted by staff: ‘hey’” (B2-12), “Staff are pretty quiet—small hello to youth, but not enthusiastic” (B2-5), “Some youth that come in late are not greeted; mentor is writing something down and appears busy” (B2-12), and “mentors are sitting with their coats still on when youth arrive—not welcoming” (B3-12). Moreover, “only one mentor verbally greets or engages with youth at the beginning of session” (B3-12), while “other mentor sat in silence” (B2-12) or was documented as “sitting by himself at a separate table than the group; was asked by other mentor to join group” (B4-2). While waiting for other youth to arrive, “everyone sits in silence for a few minutes waiting (quiet). Mentors do not facilitate a check-in or discussion for youth or mentors to get to know each other” (B2-5). Within one session, “mentors sometimes use a warm tone of voice (e.g., asking how youth’s day was) and sometimes use disinterested tone (e.g., “we need to get through this”). Moreover, “mentor tries to re-focus group and quickly curtails speaking out” (e.g., “we don’t need to hear about your video games”). Throughout the program, it was “rare that mentors or boys addressed each other by name”. Youth were observed “pointing or referring to mentors as ‘him’” (B4-2) and “mentor addresses youth as a group, not individually; very rare to hear youth names” (B3-12).

The level of mentor engagement within the boys’ program was also observed as much lower than those involved in the girls’ program. As noted, one mentor “sat on his own, away from youth and did not engage in conversations with them.” During the sport component,

mentors “didn’t participate in the games in the gym[nasium] (dragon tails, dodgeball) and either sat or stood off to the side” (B2-5). During the second session, “mentors were not playing games with youth, and youth asked mentors to play on several occasions” (B2-5; e.g., “no, we’re not playing this one”). During the fourth session, “youth ask mentors if they can join in for dodgeball to make the teams bigger and more fun. Mentors agreed and joined in” (B2-17). From this session onwards, mentors engaged in various activities within the gymnasium and it was “evident youth have more fun playing with and against mentors and with a larger group” (B2-17).

The boys’ program struggled with participation rates throughout the program, which may have been due to the neutral emotional climate. At the beginning of three sessions “some youth were called down to the room to start the program—mentors had to page the office” and “mentors had to send other boys to ask the absent boys if they were planning on attending today’s session”. It was evident that competing alternatives played a role in the lack of commitment towards the program; however, youth chose based on preference as to which program they attend. One boy stated: “I’m going to attend every other week because chess club conflicts and I’m on the team”. It was repeatedly noted that those who attended the program regularly “do not always identify with activities” (B2-12) and “do not strongly identify with program” (B2-26). Some youth “appear bored during dodgeball” (B2-26; e.g., “I’m going to just walk out the gym now—bye!”). Lastly, near the end of one session, mentor stated there was time to play one last round of dodgeball in which youth declined” (B3-5; e.g., “no, let’s just go back”).

Intentional opportunities for skill-building. Based on mean scores and effect sizes of youth-perceived quality, there were small discrepancies between programs related to skill-building opportunities, which was supported by the field notes within supportive environment

and interaction domains. Within the girls' program, mentors intentionally integrated activities that aligned with program goals. Specifically, one activity, 'Inside Me, Outside Me', focused on self-confidence and self-reflection, as one mentor highlighted "I think what we're learning today is related to [program]; learning to love yourself and being yourself. The outside is going to represent what people know about you and the inside is about what people might not know about you". Throughout this activity "youth are provided opportunities to draw and use magazine cut outs" and mentors encouraged opportunities for autonomy: (e.g., 'If you can explain yourself better with words, that's definitely okay'). One of the activities involved a relay where youth brainstormed healthy-active living topics and drew them. Mentors explain the purpose of the activity: "this activity involves all parts of healthy-active living we focus on—we're going to discuss why it's important and think of different ways we can be physically active within our lives". Lastly, after finishing a game of broken telephone, mentors talked to the group about how this was connected to life: "explained miscommunications occurred and needed to go through several rounds before the message was clear from start to finish. Mentors outline the importance of communication and discuss the realities of mixed messages" (G3-10; e.g., "how you say something can get lost in translation and that's how rumors spread...we have to be careful with what we say and how we hear because it might not always be true"). These examples reinforce the importance of providing opportunities for skill-building and explicitly reinforcing why activities are important to youth beyond the program.

Mentors reinforced program goals to youth by explaining the link between different activities and program goals: "To give everyone a chance to learn together, grow as a group, and to learn about healthy-active living, we are going to do [activity]" (G3-3). Mentors also draw connections to program goals in informal ways. During check-ins, youth shared how their week

was going: “When asking check in questions to youth, mentors tie in lessons from the program to daily life” (G2-17; e.g., “when asked about her weekend, one girl noted she was sick. The mentor replied: “balanced eating that we talk about is really important and sometimes prevents us from getting sick or makes us better when we are sick).” Additionally, mentors “draw links between life and (program) and how the lessons learned in both are connected” (G3-10; e.g., “what you’re learning at school is related to what the program because here you’re learning about loving yourself and being confident”).

In contrast, in only three of the boys’ sessions, did mentors facilitate a life skill activity in addition to a sport/physical activity within the gymnasium. It was often noted: “the focus is not clearly linked to the activity”. During one activity, there was a discussion about Canada’s Food Guide: “activity focuses almost exclusively on concrete experience. Youth briefly talk about the Food Guide before moving into gym[nasium]. Connections are not drawn between the importance of these topics (healthy-balanced eating, physical activity) or beyond program context.” During another session, “mentor introduces session topic (technology); however, no link is communicated between activity and program goals.” Although the activity “seemed useful as the group talks about pros and cons of technology that youth use, no link explained for youth beyond program context.” Activities also tended to be “similar to school environment—sedentary, pen and paper, raising hand before talking—youth appear bored” (B3-5; e.g., “why are we doing this, it’s boring”, “can we actually *do* something now”). Moreover, how mentors presented these activities to youth may have affected the way youth perceived them: “Mentor starts session by implying (life skill) activity is not as fun as participating in gym[nasium] activities” (B2-5; e.g., “Do you guys want to get through this quickly to have more time in the gym[nasium]?...Okay, let’s get this over with”).

Supported leadership and mentoring opportunities. There was evidence of leadership opportunities within both programs; however, a main difference between programs was fostering an environment where youth felt supported in these roles. Within the girls' program, youth were working on 'Inside me, Outside me' activity described above (craft-based self-reflection project). Once youth were done "mentors provided youth with the option of presenting their final product" (G3-31; "Who is comfortable with sharing their Inside Me, Outside Me products? If you don't want to share that's okay, whatever you're comfortable with"). In another activity, youth were creating and reading out questions: "mentors provide all youth opportunities to practice group-process skills. All youth contribute ideas during question game and mentors ensure all youth have a chance to read the questions aloud to the group" (G2-10; e.g., "Make sure everyone gets to answer each question and have their question answered"). Moreover, it was documented "mentors shared control of the activities—participating in games with youth, but also letting them take the lead". Further, mentors provided opportunities for youth to take on a leadership role: "mentors encourage youth to explain a game she wants to play to youth (youth leadership). Youth respect her as she explains game...During game, girl reminds other youth of some rules; mentors encourage and support this" (G3-3; "don't forget, you have to freeze every time someone looks at you", "you're doing a great job [name], you should be proud"). In another session, "all girls are given an opportunity to share thoughts and make presentations during charades—mentors make sure each girl is provided with the opportunity to lead" (G2-17).

During the boys' program, leadership opportunities occurred for some youth, particularly when explaining games. During one session, "one youth asks if they can play a certain game. Mentor agrees and asks him to explain rules: 'I don't know that activity, so can you explain it? While you do that, I'll go put the balls away'." Although the opportunity was provided, the

individual was not supported in this role: “provided youth with an opportunity to make presentation, yet no one listening and other youth talk over him. Staff are not present (in equipment room); should be there to support and ensure youth are listening”. However, there were times when a mentor provided support. During a similar situation, it was documented: “youth exhibit some evidence of exclusion as one youth tries to explain how to play a game, but other youth do not appear interested. Mentor steps in after about 30 seconds and attempts to make youth pay attention by redirecting focus” (B3-12).

Planned opportunities for youth choice. Youth in both programs were afforded with opportunities for content (what) and process (how) choices. However, it was documented these opportunities within the girls’ program tended to be initiated by mentors and were afforded in both session components (in-class, in-gym), whereas within the boys’ program, a more reactive approach to youth choice was taken where youth tended to initiate such opportunities. These opportunities tended to occur in the gymnasium during the active part of the session as opposed to the entire session. Within the girls’ program, opportunities were provided to youth that were initiated by mentors including asking: “what would be a fair way to choose who goes first?” (G2-17), “we’re trying to organize different activities so that everyone tries something new and make sure everyone does something they like” (G2-24), “if you have an idea, let us know because everything you have to say is important” (G2-24), and “we have two options: we can play a healthy-active living game or make name tags together as [name] suggested” (G2-3).

Within the boys’ program, youth tended to initiate opportunities for choice, although this initiative was welcomed by mentors (e.g., modifying game rules, activity order). However, these choices tended to be afforded solely in the gymnasium. When one youth approached mentors with a game he wanted to play, mentor suggested the idea to the group: “Someone else had a

suggested game for us so we thought we'd give it a chance. Does that sound good to everyone?" As youth often asked to play various games, mentors "provide youth opportunity to make plans for how to spend their time; no one shout anything out, put up your hand and suggest what we should play" (B4-9). Youth also initiated process choices involving how to play games ('can we do teams?', 'can we make the court bigger', 'can we have a doctor this time for dodgeball?'), to which mentors supported their sense of autonomy.

Discussion

The purpose of this study was to use a mixed-methods approach to examine program quality and needs support across two in-school physical activity-based mentoring programs. Results indicated the girls' program was rated significantly higher than the boys' program on observed program quality for providing a supportive environment, and opportunities for interaction and engagement. No differences were found for safe environment which was not surprising given this domain focuses predominantly on physical safety and both programs were delivered within the same school setting. A large effect was found for appropriate adult support and structure, whereby girls perceived their program to be higher than the boys' program. Overall support for basic needs was rated higher by the girls' program than the boys' program. Lastly, youth perceptions of program quality predicted needs support in the girls' program, but not the boys' program. Field note evidence supported the quantitative findings, outlining the girls' mentors facilitated a higher quality program by providing a supportive environment, intentional opportunities for skill-building, leadership and mentoring opportunities, and choice while the boys' mentors may have had a neutral effect or hindered program quality. This study responds to calls to empirically explore the effectiveness of mentoring programs (Rhodes & Spencer, 2005) and examine program quality in youth programming (Roth & Brooks-Gunn,

2015), specifically related to the NRCIM eight program setting features (Côté, Strachan, & Fraser-Thomas, 2008).

Youth are more likely to thrive within a social environment that supports their basic psychological needs, and program leaders can play a role in supporting or hindering these needs (Armour, Sandford, & Duncombe, 2013; Deci & Ryan, 2000). The current findings speak to the notion that it may not be the content of a program that is important, but the mentors, and how these individuals facilitate the program, that are critical (Rhodes & Spencer, 2005). Moreover, Little and colleagues (2008) argue staff quality is a critical feature of high-quality afterschool programs. Current findings support this assertion as the quality of program delivery experienced by youth, and from the researchers' perspectives, found that mentors in the girls' program supported basic psychological needs. The leaders did this by providing a supportive environment which fostered the need of relatedness, intentional opportunities for skill-building and leadership which supported the need for competence, and planned opportunities for youth choice which promoted a sense of autonomy. Research has provided support for these strategies within youth programming contexts (e.g., Eccles & Gootman, 2002; Mitchell et al., 2013), yet this study provides initial evidence in these specific strategies helping to foster needs support in youth, and specifically within a mentoring context. In contrast, the boys' program experienced lower program quality based on both youth and researcher-perspectives. Such findings mirror previous research that examined youth programs in which youth participants experienced lower quality outcomes, as they had fewer opportunities for choice, inconsistent attendance, and an absence of planned activities (Baldwin et al., 2015); all of which were relevant to the boys' program. Understanding the relationship between program quality and basic needs is critical as mentors can adapt and improve implementation strategies to support, rather than hinder these needs. In

this study, quantitative results indicated program quality, specifically providing appropriate adult support and structure, predicted needs support in the girls' program. In contrast, leaders within the boys' program did not use the same strategies or to the same extent which may explain why the program quality and needs support scores were lower and why program quality did not predict needs support within this context. When examining the prediction of program quality related to needs support, appropriate adult support and structure (relatedness) was the only subscale that contributed to fostering needs support. This further speaks to the importance of establishing relationships between mentors and youth as a necessary precursor to implementation of developmental strategies. Further having a foundational program structure within youth programming that may affect fostering needs support is critical (Eccles & Gootman, 2002).

Despite not finding significant differences for three subscales of perceived program quality, small to moderate effect sizes emerged, outlining that differences did exist between programs related to these subscales. However, of note, questions related to empowered skill-building outlined if general skills were learned; inclusive of sport skills, and may be one reason significant differences were not found between programs. Based on researchers' observations, youth in both programs had opportunities to develop a sense of competence through different physical activities.

Although differences in gender were not the main focus of this study, it is critical to consider gender as the two programs examined were of differing genders. Previous research has outlined gender differences between girls and boys (e.g., Barber, Eccles, & Stone, 2001), particularly related to the importance of providing socially safe contexts for girls to develop close relationships with peers and mentors (Armour, Sandford, & Duncombe, 2013; Bean et al., 2015). In one meta-analysis, DuBois et al. (2002) found the magnitude of positive gains on

outcome measures for youth (e.g., emotional/psychological, problem/high-risk behavior, social competence, academic/educational, and career/employment) to be modest, with small effect sizes; however, larger effects were found when youth had frequent contact with mentors, more emotional closeness and longer lasting relationships. As both programs in this study lasted the same amount of time and the same frequency of interaction with mentors, findings speak to the importance of the emotional closeness of mentors, which is reinforced by both the quantitative and qualitative findings. Nevertheless, future research is needed to further investigate whether there are differences across male and female mentors or whether female and male programs are structured differently due to gender.

Limitations, Practical Applications, and Future Directions

These findings offer valuable insight, but must be considered in light of their limitations. First, some data were based on youth self-report through the completion of questionnaires; however, observational data gathered by researchers supported youths' perceptions. Second, a small sample size limited statistical analyses; therefore, caution needs to be used when interpreting these findings. The small sample size can also limit generalizability of findings to other program contexts, highlighting a need for further research to examine program quality and basic needs in youth mentoring contexts. Additionally, as mentors play a large role in facilitating program quality and needs support, it should be noted that personal characteristics and previous experiences were not controlled for in this study. However, all mentors outlined in interviews that were conducted as part of the larger study, that they did not have any previous experience working in youth programming beyond interacting with younger family members (e.g., cousins). Despite one study that recently explored characteristics of being an effective camp counsellor and strategies for youth engagement within the camp context (Halsall, Kendellen, Bean, &

Forneris, 2016), future research is needed to explore the influence of personality in the facilitation of program quality and needs support in youth programming. The findings also provide practical implications. It is critical to ensure both mentors and program administrators involved in mentoring programs complete appropriate training that includes strategies on how to deliver high quality programs that support youth's basic needs. Such training would provide staff with more strategies to intentionally shape programs and activities to maximize development (Bean & Forneris, 2016a). As the ultimate goal of many youth programs is psychosocial development, future research could incorporate a youth development measure in combination with program quality assessment to examine this relationship. Lastly, because this study took on an inductive approach and did not intentionally explore differing program quality strategies pertaining to gender, research should explore if different strategies and perceptions of program quality or needs support exist across gender.

Conclusion

This study highlights the critical role of mentors in facilitating program quality and needs support within youth mentoring program. Additionally, this study provides initial evidence that high program quality programs that use strategies such as providing a supportive environment, intentional opportunities for skill-building, supported leadership and mentoring opportunities, and planned opportunities for youth choice can positively influence needs support. Conducting this study responded to calls for increased understanding of the circumstances under which such efforts can ensure mentoring programs have the most meaningful influences on youth development (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). Moreover, this study helped address the gap identified by Grossman and Tierney's (1998) outlining the need to

understand the circumstances between effective and ineffective programs. As such, findings can provide valuable information for practitioners on how to structure youth mentoring programs.

Acknowledgements

Support for the writing of this manuscript was given through a doctoral research grant from the Social Sciences and Humanities Research Council of Canada.

References

- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2008). Autonomy support, basic need satisfaction and the optimal functioning of adult male and female sport participants: A test of basic needs theory. *Motivation and Emotion, 32*(3), 189-199.
- Armour, K., Sandford, R., & Duncombe, R. (2013). Positive youth development and physical activity/sport interventions: Mechanisms leading to sustained impact. *Physical Education and Sport Pedagogy, 18*(3), 256-281.
- Baldwin, C. K., Stromwall, K., & Wilder, Q. (2015). Afterschool youth program design and structural quality: Implications for quality improvement. *Child & Youth Services, 36*(3), 226-247.
- Barber, B. L., Eccles, J. S., & Stone, M. R. (2001). Whatever happened to the jock, the brain, and the princess? Young adult pathways linked to adolescent activity involvement and social identity. *Journal of Adolescent Research, 16*(5), 429-455.
- Bean, C., & Forneris, T. (2016a). Examining the importance of intentionally structuring the youth sport context to facilitate psychosocial development. *Journal of Applied Sport Psychology, 28*(4), 410-425. doi:10.1080/10413200.2016.1164764
- Bean, C., & Forneris, T. (2016b). Examining the role of basic needs support in mediating the relationship between program quality and positive developmental outcomes in the youth sport context. *Journal of Exercise, Movement, and Sport, 48*(1), n.p.
- Bean, C. N., & Forneris, T. (2016c). Re-examining the Youth Program Quality Survey as a tool to assess quality within youth programming. *Cogent Psychology, 3*(1), 1-14. doi:10.1080/23311908.2016.1149265
- Bean, C., Forneris, T., & Brunet, J. (2016). Investigating discrepancies in program quality

- related to youth volleyball athletes' needs support. *Psychology of Sport and Exercise*, 26, 154-163. doi:10.1016/j.psychsport.2016.07.001
- Bean, C., Harlow, M., & Forneris, T. (2016). Examining the importance of supporting youth's basic needs in one youth leadership program: A case study exploring program quality. *International Journal of Adolescence and Youth*. doi:10.1080/02673843.2016.1152986
- Bean, C. N., Forneris, T., & Fortier, M. (2015). Girls Just Wanna Have Fun: Understanding perceptions of effective strategies and outcomes in a female youth-driven physical activity-based life skills programme. *Journal of Sport for Development*, 3(4), 28-40.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Caracelli, J. and Greene, V. (1997). Crafting mixed-method evaluation designs. In J. Greene & V. Caracelli (Eds.), *Advances in mixed method evaluation: The challenges and benefits of integrating diverse paradigms* (pp. 19-32). San Francisco: Jossey-Bass.
- Choi, E., Park, J. J., Jo, K., & Lee, O. (2015). The influence of a sports mentoring program on children's life skills development. *Journal of Physical Education and Sport*, 15(2), 264-272.
- Cohen, J. (1988). *Statistical power analysis: A computer program*. New York: Routledge.
- Côté, J., Strachan, L., & Fraser-Thomas, J. (2008). Participation, personal development and performance through youth sport. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 34-45). New York: Routledge.
- Creswell, J. W., & Plano Clark, V. L. (2011). *Designing and conducting mixed methods research* (2nd ed.). Thousand Oaks, CA: Sage.

- Danish, S. J., Forneris, T., Hodge, K., & Heke, I. (2004). Enhancing youth development through sport. *World Leisure Journal*, 46(3), 38-49.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11(4), 227-268.
- Deci, E. L., Ryan, R. M., & Williams, G. C. (1996). Need satisfaction and the self-regulation of learning. *Learning and Individual Differences*, 8(3), 165-183.
- Diener, E., Diener, M., & Diener, C. (1995). Factors predicting the subjective well-being of nations. *Journal of Personality and Social Psychology*, 69(5), 851-864.
- Dowd, A. J., Harden, S. M., & Beauchamp, M. R. (2015). Adolescent girls' experiences in the Go Girls! group-based lifestyle mentoring program. *American Journal of Health Behavior*, 39(2), 267-276.
- DuBois, D. L., Holloway, B. E., Valentine, J. C., & Cooper, H. (2002). Effectiveness of mentoring programs for youth: A meta-analytic review. *American Journal of Community Psychology*, 30(2), 157-197.
- DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychological Science in the Public Interest*, 12(2), 57-91.
- Eccles, J. S., & Gootman, J. A. (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press.
- Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology*, 1(1), 58-78.

- Grossman, J. B., & Tierney, J. P. (1998). Does mentoring work? An impact study of the Big Brothers Big Sisters program. *Evaluation Review*, 22(3), 403-426.
- Halsall, T., Kendellen, K., Bean, C. N., & Forneris, T. (2016). Facilitating positive youth development through residential camp: Exploring perceived characteristics of effective camp counsellors and strategies for youth engagement. *Journal of Park and Recreation Administration*, 34(4), 20-25.
- High/Scope Educational Research Foundation. (2005). *Youth program quality assessment*. Ypsilanti, MI: High/Scope Press.
- King, K. A., Vidourek, R., Davis, B., & McClellan, W. (2002). Increasing self-esteem and school connectedness through a multidimensional mentoring program. *Journal of School Health*, 72(7), 294-299.
- Larson, R. W., Hansen, D. M., & Moneta, G. (2006). Differing profiles of developmental experiences across types of organized youth activities. *Developmental Psychology*, 42(5), 849-863.
- Little, P. M. D., Wimer, C., & Weiss, H. B. (2008). After school programs in the 21st century: Their potential and what it takes to achieve it. *Issues and Opportunities in Out-of-School Time Evaluation Brief No. 10*. Cambridge, MA: Harvard Family Research Project.
- Mitchell, F., Gray, S., & Inchley, J. (2015). 'This choice thing really works...' Changes in experiences and engagement of adolescent girls in physical education classes, during a school-based physical activity programme. *Physical Education and Sport Pedagogy*, 20(6), 593-611.
- Mueller, M. K., Phelps, E., Bowers, E. P., Agans, J. P., Urban, J. B., & Lerner, R. M. (2011). Youth development program participation and intentional self-regulation skills:

- Contextual and individual bases of pathways to positive youth development. *Journal of Adolescence*, 34(6), 1115-1125.
- Pittman, K. J., Irby, M., Tolman, J., Yohalem, N., & Ferber, T. (2011). *Preventing problems, promoting development, encouraging engagement*. Washington, DC: The Forum for Youth Investment, Impact Strategies, Inc.
- Rhodes, J., & Spencer, R. (2005). Someone to watch over me: Mentoring programs in the after-school lives of children and adolescents. In J. L. Mahoney, R. W. Larson, & J. S. Eccles (Eds.), *Organized activities as contexts of development: Extracurricular activities, after-school and community programs* (pp. 419-435). Mahwah, NJ: Erlbaum.
- Roth, J. L., & Brooks-Gunn, J. (2015). Evaluating youth development programs: Progress and promise. *Applied Developmental Science*, 20(3), 188-202.
- Ryan, R. M., & Deci, E. L. (2000). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry*, 11(4), 319-338.
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: University of Rochester Press.
- Silliman, B., & Schumm, W. R. (2013). Youth program quality survey: Youth assessment of program quality. *Marriage & Family Review*, 49(7), 647-670.
- Smith, C., & Hohmann, C. (2005). *Full findings from the Youth PQA validation study*. Ypsilanti, MI: High/Scope Educational Research Foundation.
- Standage, M., Duda, J. L., & Ntoumanis, N. (2005). A test of self-determination theory in school physical education. *British Journal of Educational Psychology*, 75(3), 411-433.

- Standage, M., & Vallerand, R. J. (2014). Motivation in sport and exercise groups. In M. R. Beauchamp & M. A. Eyes (Eds.), *Group Dynamics in Exercise and Sport Psychology*, (2nd ed, pp. 259-278). New York: Routledge.
- Ullrich-French, S., McDonough, M. H. (2013). Correlates of long-term participation in a physical activity-based positive youth development program for low-income youth: Sustained involvement and psychosocial outcomes. *Journal of Adolescence*, 36(2), 279-88.
- Vandell, D. L., Shumow, L., & Posner, J. (2005). After-school programs for low-income children: Differences in program quality. In J. Mahoney, R. W. Larson & J. S. Eccles (Eds.), *Organized activities as contexts of development: Extracurricular activities, after-school and community programs*. Mahwah, NJ: Erlbaum.
- Williams, G. C., & Deci, E. L. (1996). Internalization of biopsychosocial values by medical students: a test of self-determination theory. *Journal of Personality and Social Psychology*, 70(4), 767-779.
- Yohalem, N., & Wilson-Ahlstrom, A. (2010). Inside the black box: Assessing and improving quality in youth programs. *American Journal of Community Psychology*, 45(3-4), 350-357.

Table 1.

Observed program quality researcher scores (YPQA), youth perceived program quality (YPQS), and youth perceived needs support (LCQ) outlining differences between programs.

		Girls'		Boys'		F	sig	d
		Program		Program				
		M	SD	M	SD			
YPQA	Safe Environment	4.41	.96	4.36	1.23	.13	.726	.05
	Supportive Environment	4.53	.99	3.57	1.31	41.96	.000**	.83
	Interaction	3.38	1.41	2.92	1.28	12.05	.003*	.34
	Engagement	3.42	1.23	2.93	1.46	10.21	.006*	.34
YPQS	Appropriate Adult	3.83	.31	3.56	.27	5.41	.030*	.95
	Support and Structure							
	Empowered Skill-building	3.57	.77	3.29	.40	1.29	.268	.46
	Expanding Horizons	3.42	.66	3.15	.64	1.04	.320	.42
	Negative Experiences	1.11	.26	1.22	.36	.76	.393	.36
LCQ	Basic Needs Support	5.65	.42	5.28	.31	5.89	.024*	.99

* $p < .05$.

** $p < .01$.

Chapter Six**Article Four****Examining the Importance of Intentionally Structuring the Youth Sport Context to
Facilitate Positive Youth Development**

Bean, C., & Forneris, T. (2016). Examining the importance of intentionally structuring the youth sport context to facilitate positive youth development. *Journal of Applied Sport Psychology*, 28(4), 410-425. doi:10.1080/10413200.2016.1164764

Abstract

Researchers argue that sport must be deliberately structured to teach life skills. The purpose of this study was to examine differences in program quality and psychosocial development across three youth programming contexts (intentional sport, non-intentional sport, intentional leadership) pertaining to the importance of intentionally teaching life skills. Researchers conducted 184 observations and 377 youth completed two questionnaires. Results indicated intentionally structured programs scored higher on program quality and psychosocial outcomes than non-intentionally structured programs, with intentional sport scoring significantly higher on some measures of program quality and psychosocial outcomes than leadership programs. Practical implications and future research areas are discussed.

Keywords: Positive Youth Development, life skills, program quality, intentionality, quantitative methods

Examining the Importance of Intentionally Structuring the Youth Sport Context to Facilitate
Positive Youth Development

Positive youth development (PYD) is a framework that emerged within the field of positive psychology as an alternative approach to the reactive and reductionist methods that have historically been used when working with youth (Catalano, Hawkins, Berglund, Pollard, & Arthur, 2002; Damon, 2004). The framework of PYD takes on a proactive approach and has been defined as the “development of personal skills or assets, including cognitive, social, emotional, and intellectual qualities necessary for youth to become successfully functioning members of society” (Weiss & Wiese-Bjornstal, 2009, p. 1). Consequently, the ultimate goal of PYD is to prepare and engage youth in opportunities that will provide them with the necessary strengths and qualities to flourish in the future (Snyder & Lopez, 2002).

Sport has been identified as a favourable environment in which to promote psychosocial outcomes as it is the most popular extra-curricular activity for youth across North America (Guèvremont, Findlay, & Kohen, 2008; United States Census Bureau, 2014). Sport is a highly valued social activity that youth are motivated to engage in, acting as an ideal vehicle to attract youth (Le Menestrel, Bruno, & Christian, 2002). Researchers have found that youth who engage in sport or a combination of sport and other extra-curricular activities yield higher levels of positive development experiences and outcomes compared to youth involved in other non-sport extra-curricular activities, suggesting that sport participation may be associated with a greater number of positive psychosocial outcomes (Forneris, Camiré, & Williamson, 2015; Larson, Hansen, & Moneta, 2006; Linver, Roth, & Brooks-Gunn, 2009; Zarrett et al., 2008). For example, Linver and colleagues (2009) compared youth activity patterns in combination with youth development outcomes and found that youth who participated only in sports had more

positive outcomes compared with those who had little or no involvement in organized activities, but less positive outcomes compared with those who participated in sports plus other activities. Similar results were found by Forneris et al. (2015) whereby youth who participated in a combination of both sport and non-sport activities, as well as sport-only activities, scored higher on several developmental assets compared to youth not involved in extracurricular activities.

For decades, it has been assumed that youth sport fosters positive outcomes; however, research has not fully supported such claims. Although an extensive body of literature has shown that positive physical and psychosocial outcomes (e.g., increased self-esteem, confidence, citizenship, academic achievement, decreased delinquency) can accrue from regular participation in sport (Camiré, Trudel, & Forneris, 2009; Fraser-Thomas, Côté, & Deakin, 2005; Holt & Neely, 2011), there is also research to indicate sport participation can lead to negative outcomes (e.g., injury, increased anxiety, stress and burnout, alcohol and drug use; Bean, Fortier, Post, & Chima, 2014). One reason for the possible differences in outcomes may be because the philosophies and goals of youth sport programs and the specific coaches in those programs vary significantly (Feldman & Matjasko, 2005). As a result, researchers have recognized that psychosocial outcomes may not be facilitated through mere participation (Gould & Carson, 2008; Turnnidge, Côté, & Hancock, 2014) and assert that sport programs should be intentionally structured to enhance development (Fraser-Thomas et al., 2005; Gould & Carson, 2008; Petitpas, Cornelius, Van Raalte, & Jones, 2005). The notion of intentionality has been identified in youth programs as deliberate, strategic decisions to create opportunities that maximize psychosocial outcomes (Walker, Marczak, Blyth, & Borden, 2005). Fostering life skills is a critical component of intentionality that can aid in the enhancement youth development within sport (Danish & Nellen, 1997; Gould & Carson, 2008; Petitpas et al., 2005). Life skills are defined as “abilities

for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life” (World Health Organization, 1999, n.p.). The intentional teaching of life skills in sport involves coaches deliberately teaching youth skills such as goal setting, managing emotions, and how to develop effective relationships. Despite this, research has demonstrated youth can develop life skills even when coaches do not intentionally teach such skills (e.g., Camiré & Trudel, 2010; Holt, Tink, Mandigo, & Fox, 2008; Jones & Lavalley, 2009). No research to date has examined if differences exist between these two program contexts (sport where coaches intentionally teach and do not intentionally teach life skills). The current research responds to this gap and additionally calls to examine the notion of intentionality within youth programming (Walker et al., 2005).

Over the past decade, researchers and practitioners have been working to understand key strategies that facilitate psychosocial outcomes, including life skill development in youth programs (Durlak, Weissberg, & Pachan, 2010; Gould & Carson, 2008; Shernoff & Vandell, 2007). For example, the National Research Council and Institute of Medicine (NRCIM) proposed eight program features that are believed to be linked with positive psychosocial development: (1) physical and psychological safety; (2) appropriate structure; (3) supportive relationships; (4) opportunities to belong; (5) positive social norms; (6) support for efficacy and mattering; (7) opportunities for skill building; (8) integration of family, school, and community efforts (Eccles & Gootman, 2002). These eight features have also been recognized as important in youth sport programs, as Côté, Strachan, and Fraser-Thomas (2008) provided sport-specific examples of these eight features, which include ensuring physical and psychological safety of youth athletes are priority over performance and success and that respectful peer interactions occur within sport to help ensure enjoyment and build confidence. Several models and

frameworks also exist surrounding sport-based PYD programs, such as Danish's (2002) Sports United to Promote Education and Recreation (SUPER) program, Petitpas et al.'s (2005) framework for planning youth sport programs that foster youth development, Gould and Carson's (2008) model of coaching life skills through sport, and Fraser-Thomas et al.'s (2005) applied sport-programming model. Although these models and frameworks vary, there are a number of common features such as providing a psychologically safe context, having responsible and caring adult mentors, and providing intentional opportunities for life skill development.

Yohalem and Wilson-Ahlstrom (2010) highlighted there has not only been an increasing emphasis placed on the importance of program quality, but there is also growing evidence that high quality programs can affect a range of important youth outcomes. Empirical research examining contextual features within youth programming has drawn important conclusions in which to build a foundation on when examining program quality. For example, Hansen and Larson (2007) examined elements that moderated the relationship between activity participation and developmental experiences in youth programming and found that youth that had a higher frequency of positive experiences were those who were motivated by enjoyment and future goals, spent substantial time in the program context, had opportunities to be leaders, and were involved in programs that had higher adult-to-youth ratios. Moreover, a study conducted by Mahoney and Stattin (2000) compared low-structured (lacks conventional social relations, irregularity of meetings) and high-structured (involves social agents who influence participation, high social complexity, peer cooperation) sport and leisure activities for youth and found that it was the structure rather than the type of activity that determined whether outcomes from participation were positive or negative. Specifically, participation in high-structured activities was related to lower levels of antisocial behavior, whereas participation in low-structured

activities yielded higher levels of antisocial behavior, which was characterized by more deviant peer relations and low support from activity leaders. Last, Flett, Gould, and Lauer (2012) conducted the only known study to use an observational measure of program quality within the sport context and found that coaches scored higher on providing a physically safe and psychologically supportive environment compared to higher-order program quality elements related to interaction and engagement.

Although it has been argued that intentionally teaching life skills is critical to facilitating psychosocial outcomes, few studies have provided sufficient empirical evidence and no studies have directly compared youth programs that do and do not intentionally structure the youth programming context. Therefore, it is necessary for researchers to understand how youth programs can be best structured to facilitate psychosocial outcomes. This study responds to a call for future research to examine differences in the quality of sport programs (Zarrett et al., 2008). Although some research has begun to examine the relationship between quality and outcomes within youth programming, further research examining program quality is critical in order to maximize the benefits of participation. Within this study, we examined program quality differences across community youth sport programs in which coaches intentionally taught life skills with those in which coaches did not intentionally teach life skills. Furthermore, research has suggested that the sport environment may be unique in relation to life skills development and as a result researchers have called for studies examining the youth sport context with other types of non-sport programming (Barber, Eccles, & Stone, 2001; Guèvremont et al., 2014). Therefore, community-based programs that were not sport-based, but were designed to intentionally teach life skills, were included in this study. It can be argued the best comparison for youth programs that intentionally teach life skills are leadership programs as the main program goal is to foster

such skills in youth participants. Therefore, the purpose of this study was to gain an understanding of differences in program quality and psychosocial outcomes that may exist between three youth programming contexts: (a) sport programs that intentionally taught life skills, (b) leadership programs that intentionally taught life skills, and (c) sport programs in which life skills were not intentionally taught. It was hypothesized that programs that were intentionally structured would yield higher program quality scores by both researchers and youth and higher scores of psychosocial outcomes than non-intentionally structured programs.

Method

Participants and Procedure

This study was part of a larger project that aimed to examine program quality across youth programming. This study involved collecting data from 26 programs over the course of 1 year. Specifically, the programs included three sport programs run by local non-profit organizations that serve at-risk youth ($n = 70$), 15 community club sport programs ($n = 211$), two in-school sport and physical activity-based mentoring programs ($n = 24$), and six community-based leadership programs ($n = 72$). Programs ran between 60 and 180 min in length ($M = 110$). Three hundred and seventy-seven youth participants (hereafter referred to as 'youth'; 152 male, 225 female) were involved in the 26 programs. Youth ranged from 9 to 18 years old ($M_{\text{age}} = 14.19$, $SD = 2.15$), were in grades 4 to 12, and ranged from 1 to 5 years of involvement in their program with the average length of participation 2.57 years ($SD = 1.46$). Youth identified as: White (68.7%), Black (6.9%), Aboriginal (2.1%), Arabic (6.6%), Asian (6.9%), multiracial (6.4%) and 2.4% did not disclose their ethnicity. Participation within a given program ranged from 7 to 29 youth, with the average program having 12.2 ($SD = 5.02$) youth involved.

For the purposes of this study, programs were categorized into three groups: (a) sport programs that intentionally taught life skills ($n = 3$), (b) non-sport programs that intentionally taught life skills ($n = 6$), and (c) sport programs in which life skills were not intentionally taught ($n = 17$; see Table 1 for more information). Whether a program was classified as being intentional or non-intentional was based on an examination of both program goals and objectives and extensive program observation and corresponding field notes. A program was deemed intentional if the coach or leader (hereafter referred to as ‘coach’) intentionally took time to integrate life skills, such as discussing one or more life skill and incorporating it into his/her program. For example, the following excerpt was taken from an observational field note from a program that intentionally integrated life skills within sport:

‘This session we’re focusing on our listening skills and communicating with others.

During this activity, when you get the question ball thrown to you, you have to repeat the last person’s answer before answering a new question.’ Leaders draw links between [name of program] and life and how lessons learned in both contexts are connected.

A program was deemed non-intentional when the program’s primary focus was on the development of physical and sport-specific skills and there was no evidence of the coach taking time to discuss or having youth practice life skills. For example:

Team is divided on two courts. One court focuses on serving and spiking and second court is working on plays and systems. Coach states: ‘The focus of practice is on fixing the little things to make our game better. We’re going to work on our approaches, getting the foot work down and timing of the arm swing.’ Sole focus is on sport-specific skill development.

Following ethical approval from the affiliated institution's Office of Research Ethics and Integrity, the lead researcher contacted community youth organizations in South-Eastern Ontario. Information about this study was communicated to interested community programmers and directors. Six organizations agreed to participate in the study, providing a letter of support, and a total of 26 programs were identified within these six organizations. The lead researcher attended each program and provided coaches and parents of youth with a summary of the proposed study, distributed coach and parental consent forms, as well as youth assent forms, and assured confidentiality prior to data collection. At the end of programming, paper questionnaires were distributed to youth. Researchers answered questions youth had related to comprehension of items within the questionnaires. For younger youth (e.g., 12 years old and under), researchers worked with these individuals in small groups and read each question out loud, which provided further opportunities for youth to ask questions if needed, optimistically enabling better comprehension.

Measures

Three measures were used in this study: an observational tool completed by researchers and two self-report measures completed by youth. All measures were developed based on the eight program setting features from the NRCIM outlined above (Eccles & Gootman, 2002) that are widely used and researched program quality setting features within the PYD literature. Using such an approach aided in triangulation and congruency of the data collected.

Youth program quality assessment (YPQA). There is an over-reliance on self-report measures (Flett et al., 2012; Holt & Jones, 2008), highlighting the need for more direct observational data collection. Specifically, Holt and Jones (2008) argued that using the YPQA within the sport context has the potential to expand the literature in sport psychology and the

instruments used to conduct research. The YPQA is an observational tool based on Maslow's (1954) hierarchy of needs and can be used to assess program quality when conducting process evaluations within community programs (High/Scope Educational Research Foundation [HSERF], 2005; Smith & Hohmann, 2005). The YPQA has been identified as a valid and reliable measure (Akiva, 2005; Smith & Hohmann, 2005). Developed for use in out-of-school contexts, the YPQA has also been used within sport (e.g., Flett et al., 2012). Within Flett et al.'s study, the authors outline issues related to internal consistency when using the YPQA. However, several researchers have outlined issues surrounding the use of Cronbach's alpha for internal consistency (e.g., Dunn, Baguley, & Brunnsden, 2014; Sijtsma, 2009). Within the current study the Cronbach's alphas were as follows: Safe environment = .53, Supportive environment = .86, Interaction = .62, Engagement = .87. Based on how the YPQA was constructed, there are various constructs measured within one domain of program quality (e.g., Safe environment measures both physical and psychological safety, Interaction measures Belonging and Leadership). Therefore, it would not be uncommon for researchers using the tool to rate a program high on one item and lower on another item within the same subscale. Within this study, the authors used several strategies to minimize the potential of replicating issues present within Flett et al.'s study. First, a 5-pt rather than 3-pt scale was used to increase variability. Second, extensive field notes were taken to allow for greater discussion of scoring with items of concern within the research team. Last, when using an observational measure, the inter-rater reliability is of great importance and therefore was used within this study instead of Cronbach's alpha to assess reliability and is presented within the results section.

The YPQA is based off the NRCIM's eight contextual setting features (Eccles & Gootman, 2002) and is divided into four domains: (a) Safe Environment, (b) Supportive

Environment, (c) Interaction, and (d) Engagement (HSERF, 2005). There are 18 subscales and 63 items within these domains. Concrete descriptions are provided for each item ranging from a 1 (*no evidence*) to a 5 (*consistent evidence*). Previous work within this study has used a 3-point scale; however, to allow for greater variance, a 5-point scale was used. Space is provided to write down evidence (field notes) that provided support for the score noted. It is recommended the YPQA be used for observations at multiple time points, allowing for a thorough understanding of quality over the course of a program's entirety (HSERF, 2005).

The lead researcher completed a High/Scope training related to proper use and scoring of the YPQA and upon receiving certification, held a training session for four research assistants. The five researchers completed 184 observations across the 26 programs over the course of 1 year and completed the YPQA for every observed program session (22 for intentional sport, 38 for intentional leadership, and 124 for non-intentional sport).

An average of 7.17 ($SD = 2.10$, range = 4 to 12) program sessions were observed for each program, lasting between 1 and 3 hrs depending on individual program length. Steps were taken to reduce social desirability effects during observations, with the goal of reducing coach uneasiness. First, researchers made it clear that the objective of the study was to understand program quality features and coach behavior or competence was not being assessed. Second, coaches were made aware the study was voluntary in nature and assured that observations and YPQA scores would remain confidential. Individual coach performance was not communicated to the governing sport organization, as reports were provided as an organization summary and did not include individual coach observational scores.

Youth program quality survey (YPQS). The YPQS was used as a post-only measure that examines youth's ratings of their experiences within extra-curricular programs (Silliman &

Schumm, 2013). The YPQS is based off the NRCIM's eight contextual features of youth programs shown to promote positive youth development (Eccles & Gootman, 2002). As this tool is quite new, few studies have been conducted utilizing this measure; however, those findings have indicated moderate to high instrument reliability with Cronbach's alphas (1951) ranging from .60 to .96 (Silliman & Schumm, 2013). A recent study (Bean & Forneris, 2016) utilizing a similar sample to the current study (some of the participants involved in the current study were also part of this study), outlined a poor model fit for this measure. As such, modifications were made and based on the results of an exploratory factor analysis that showed good model fit. These modifications included reducing the number of total items and presenting a model was acceptable for youth between 10 and 18 years of age. The modified version of the YPQS used in this study is comprised of 19-items within four subscales including (a) Appropriate Adult Support and Structure (5 items, e.g., "Adults listened to what I had to say"), (b) Empowered Skill-building (7 items; e.g., "I was challenges to think and build skills"), (c) Expanding Horizons (4 items; e.g., "Activities were related to issues in my club, my family, and my community"), and (d) Negative Experiences (3 items, e.g., "I was embarrassed or put down") in which all eight program setting features are represented. The measure uses a 4-point Likert scale from 1 (*strongly disagree*) to 4 (*strongly agree*). Utilizing this measure not only allowed for triangulation of program quality perceptions, but also the opportunity for youth voice, a critical element when assessing program quality (Hamilton, Hamilton, & Pittman, 2004). Within the current study Cronbach's alphas ranged from .63 to .84 showing moderate to good internal consistency. Negative Experiences was the only subscale that fell under the acceptable reliability coefficient (.70); however, reliability is often lower when there are fewer items within a subscale, as is the case with this subscale.

Positive youth development inventory-short (PYDI-S). The PYDI was developed to measure perceptions of psychosocial outcomes of youth program participation (Arnold, Nott, & Meinhold, 2012). Arnold et al. (2012) stated: “the more criteria that are met through youth programs, the better the PYDI will serve as an appropriate instrument for measuring program outcomes” (p. 2). These criteria are comprised of the NRCIM program setting features proposed by Eccles and Gootman (2002). This measure was chosen for this study not only because it was based on these eight features, allowing for congruence between all utilized measures, but also because this study was part of a larger project, youth were asked to complete additional measures at post-test and therefore a short-form was used to reduce participant burden. The PYDI-S uses the stem “As a result of participating in this program” and is measured on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*). For the purposes of this paper, four subscales of PYDI-S were used totalling 20 items which include: Personal Standards (5 items; e.g., important to do the right thing), Friendships (8 items; e.g., make friends easily), Emotional Regulation (3 items; e.g., manage emotions), and Pro-Social Values (4 items; e.g., Other people’s feelings matter). As this is a new instrument, psychometric testing for the short version of this measure is ongoing and not yet available (Arnold et al., 2012); however, the overall scale of the PYDI was tested with 748 youth between 11 and 19 years of age. Psychometric testing was .97 and confirmatory factor analysis revealed adequate convergent validity with the instrument (Arnold et al., 2012). With the current sample, all four subscales showed moderate to good internal consistency, with Cronbach’s alphas ranging from .68 to .88.

Control variables. Demographics were gathered from all youth. Gender, grade, years of program involvement, and ethnicity were assessed. Additionally, program duration measured in months was included as a covariate, as Catalano et al. (2004) argued that program duration is one

variable that can contribute to program success. Ethnicity was dichotomized as youth who reported being White versus being non-White because of the small proportion of several groups of non-White youth. In the main analysis, gender, grade, and ethnicity were controlled for based on previous research that have indicated the important effects of demographics on examined outcomes (Larson, 2000). Length of program participation measured in years was included to control for youth's past program participation. Gender and ethnicity were specified as categorical variables and grade, length of program involvement, and program duration were specified as continuous variables.

Data Analysis

The data were analyzed using SPSS 23.0. Descriptive statistics were calculated for the subscales of all three measures. An inter-rater reliability analysis using the Kappa statistic was performed to determine consistency among raters when examining the observed program quality measured by the YPQA. Subsequently, two multivariate analysis of variance (MANOVA) tests were conducted to examine if there were significant differences between the three program contexts related to (a) researchers' observed program quality and b) youth perceived program quality. A multivariate analysis of covariance (MANCOVA) test was then conducted to examine youth perceived psychosocial outcomes using the aforementioned control variables. A Bonferroni correction was used as this method has been purported as the best option when the number of comparisons are small (Field, 2009), as is the case within the present study. Pillai's trace was used as the multivariate test as it has been identified as more rigorous and has been recommended for use when there are issues with unequal samples across groups (Tabachnick & Fidell, 2013), as the case in this study. Measures of effect size were reported with eta-squared (η^2). Games-Howell multiple comparison procedure was used for post-hoc analyses, as this

method is especially useful when there are small or unequal sample sizes or variances (Field, 2009; Games & Howell, 1976).

Results

Prior to analyses, preliminary checks were conducted on the data to ensure there were no violation of the assumptions of normality, linearity, homogeneity of variances, multicollinearity and singularity, and homogeneity of regression slopes, and reliable measurement of the covariate. There were some missing data, but this was less than 3% of the complete data set. When less than 5% of data are missing, influences of missing data are negligible (Tabachnick & Fidell, 2013). Missing data were replaced with multiple imputations (Yuan, 2010).

Descriptive statistics for the YPQA are outlined in Table 2. Overall, results indicated relatively high scores on observed Safe Environment and Supportive Environment across all three program types and lower scores for opportunities for Interaction and Engagement. A MANOVA was conducted to determine whether there were significant differences for the four subscales of observed program quality between three different types of programs. As noted, Kappa measure of agreement was run to determine if there was agreement between researchers' observations of program quality. Results indicated that there was substantial agreement between the researchers' ratings of program quality; $\kappa = .66$ ($p < 0.0005$), 95% CI (.48, .83) indicating near perfect agreement (Landis & Koch, 1977). Results of the MANOVA revealed a statistically significant difference between program types on the combined dependent variables, $F(8, 358) = 30.28$, $p = .0005$; Pillai's trace = .807; $\eta^2 = .404$. Using a Bonferroni adjusted alpha level of .013, variables were examined separately. Results revealed statistically significant differences for three subscales (Supportive Environment, Interaction, and Engagement) and large effect sizes for these subscales (see Table 2). Post-hoc analyses were conducted and indicated significant differences

across all three program types on Supportive Environment, Interaction, and Engagement. From Table 2, it is evident these significant differences existed whereby Supportive Environment was scored significantly higher in intentional sport programs compared to intentional leadership programs, yet leadership programs were still significantly higher than non-intentional sport programs. Conversely, Interaction and Engagement were scored significantly higher in leadership programs compared to intentional and non-intentional sport programs, yet intentional sport programs were significantly higher on these two subscales than non-intentional sport programs. No significant differences were found across program types for Safe Environment.

A MANOVA was also conducted to determine whether there were significant differences in youth perceptions of program quality between the three different types of programs. There was a statistically significant difference between program types on the combined dependent variables, $F(8, 744) = 7.90, p = .0005$; Pillai's trace = .157; $\eta^2 = .078$. When the results for the dependent variables were considered separately, there were statistically significant scores for all four subscales across program types (see Table 2), using a Bonferroni adjusted alpha level of .013. The effect sizes revealed a medium to large effect size for Appropriate Adult Support and Structure, and small to medium effect sizes for Empowering Skill-building, Expanding Horizons, and Negative Experiences. Post-hoc comparisons indicated that there were significant differences between all three groups for Appropriate Adult Structure and Support with intentional sport having the highest scores, followed by non-intentional sport, and then intentional leadership. For Empowered Skill-building, intentional sport had significantly higher scores than intentional leadership and non-intentional sport, yet there were no differences between intentional leadership and non-intentional sport programs. There were significant differences between intentional sport and non-intentional sport programs for Expanding

Horizons with intentional sport having higher scores than non-intentional sport. When examining Negative Experiences, there were significant differences between intentional sport and intentional leadership and non-intentional sport, but not between intentional leadership and non-intentional sport. Specifically, intentional sport programs had the lowest perceived Negative Experiences, followed by intentional leadership programs, and non-intentional sport programs.

Lastly, a MANCOVA was conducted to determine whether the type of youth program influenced youth-reported psychosocial outcomes after controlling for gender, ethnicity, grade, length of program involvement, and program duration. There was a statistically significant difference between program types on the combined dependent variables of psychosocial outcomes, $F(8, 565) = 4.33, p = .0005$; Pillai's trace = .115; $\eta^2 = .058$, indicating a medium effect size. When the results for the dependent variables were considered separately, and after using adjusted the alpha level to .013 (Bonferroni), Personal Standards and Friendship were identified as significantly different across the three program types and Emotional Regulation and Prosocial Values approached significance. Calculated effect sizes revealed a medium effect size for Friendship and small to medium effect sizes for Personal Standards, Emotional Regulation, and Prosocial Values. Post hoc comparisons were conducted for subscales identified as significant or approaching significance. Significant differences were found for Personal Standards and Friendships between intentional sport and intentional leadership and between intentional sport and non-intentional sport. From Table 2, it is evident that these significant differences existed whereby youth within intentional sport programs scored these two subscales the highest, followed by youth within non-intentional sport programs, and youth within intentional leadership programs. No significant differences were found between intentional leadership and non-intentional sport. When examining Emotional Regulation, differences existed

between intentional leadership and non-intentional sport programs, with leadership programs scoring higher on this subscale. No significant differences existed between intentional sport and intentional leadership or between intentional sport and non-intentional sport programs; however, youth within intentional sport programs rated this subscale higher than the other two program types. Significant differences found for Prosocial Values indicated intentional sport were highest and significantly different from both leadership and non-intentional sport programs. There were no differences found between intentional leadership and non-intentional sport programs.

Discussion

The purpose of this study was to examine differences in program quality and psychosocial outcomes that may exist between three youth programming contexts: (a) sport programs that intentionally taught life skills, (b) leadership programs that intentionally taught life skills, and (c) sport programs in which life skills were not intentionally taught. Findings supported our hypothesis indicating that differences were present across these three contexts, whereby intentionally structured programs (sport and leadership) scored significantly higher on program quality from both the researchers' and youth's perspectives, as well as on psychosocial outcomes than non-intentionally structured sport programs. This speaks to the importance of intentionally teaching life skills within youth programming as findings provide evidence that doing so enables youth to have higher opportunities for a Supportive Environment (e.g., active engagement, skill-building), Interaction (e.g., collaboration, leadership), and Engagement (e.g., planning, reflection), as well as the fostering of psychosocial outcomes.

Within this study, all programs were reported as supporting youth's basic needs by providing a Safe Environment (with means ranging from 4.66 to 4.73 on a 5-point scale) with no significant differences across program contexts. Within the study, ceiling effects may have

occurred within this domain, as low scores were still considered relatively high (range = 3.10-5.00). Researchers assert that if these basic physical and emotional needs are met, youth are able to have growth experiences (Akiva, 2005; Eccles & Gootman, 2002). However, it has been proposed that it is only when coaches meet the higher-order needs, such as those measured under the subscales of Supportive Environment, Interaction and Engagement, that psychosocial outcomes will be fostered (Akiva & Jones, 2007; Simpkins, 2003). Results from this study provide initial support for this claim, as there were significant differences between intentionally structured (sport and leadership) and non-intentionally structured sport programs pertaining to the levels of Supportive Environment, Interaction, and Engagement and psychosocial outcomes. Previous research that utilized the YPQA found that “it is only the outstanding youth programs that provide superior opportunities for interaction and engagement” (Akiva, 2005, p. 22). In addition, items on the YPQA pertaining to Interaction and Engagement have been found to have a stronger association with positive youth reports than other items (e.g., physical safety; Akiva, 2005). Findings from this study also support Mahoney and Stattin’s (2000) research in that it sheds light on the criticalness of structure within youth programming. Therefore, it is important that coaches integrate opportunities to enhance higher order elements of program quality such as opportunities for leadership, voice, and initiative that facilitate greater Interaction and Engagement.

Walker et al. (2005) argued that intentionality speaks to deliberate learning opportunities provided within a program, such as developing and implementing strategies to engage youth in order to foster psychosocial outcomes. Within the sport context, researchers contend that although life skills can be acquired through sport participation, intentionally teaching life skills is more effective (Theokas et al., 2008). Findings from this research provide further support for

intentionally teaching life skills within sport. Our results also align with Camiré et al.'s (2011) recommendations for coaches to intentionally plan developmental strategies into one's coaching practice and to ensure youth have enough opportunities to practice these life skills.

Researchers have argued that there is nothing about sport itself that is magical and it is how sport is structured that matters (Danish, Forneris, Hodge, & Heke, 2004; Papacharisis, Goudas, Danish, & Theodorakis, 2005). The results of this study support this assertion, however, this study also provides initial evidence that if structured appropriately (e.g., intentionally teaching life skills), the sport context may be unique and have greater potential to foster psychosocial outcomes compared to intentionally structured leadership programs. Specifically, youth within the intentional sport programs perceived the programs to be of higher quality on all four subscales of program quality compared to youth within the leadership programs. In addition, when examining differences across groups on psychosocial outcomes, youth within the intentionally structured sport programs perceived their development of Personal Standards, Friendship, and Prosocial Values to be significantly higher compared to the other two program types. Moreover, many of the subscales related to program quality and psychosocial outcomes yielded no significant differences between leadership and non-intentional sport programs. The potential for the sport context to have an additive positive influence on youth, at least from the youth perspective, is supported by previous research that has examined psychosocial outcomes in various extra-curricular contexts (e.g., Larson et al., 2006; Zarrett et al., 2008). One potential reason for the higher scores in intentionally structured sport programs compared to leadership programs may be due to other program elements such as intensity and continuity (Linver et al., 2009; Zarrett et al., 2008). For example, Zarrett and colleagues (2008) found that intensity, duration, and activity patterns all played a role in how sport participation was linked to youth

development. While length of program involvement and program duration was controlled for, program intensity was not accounted for (e.g., number of hr and/or sessions youth were involved in per week). In general, youth within sport programs often spend more time together practicing more than once per week compared to leadership programs that often only have one session per week. Additionally, youth involved in sport, particularly at the competitive level, often engage in this context for several years; however, leadership programs are often offered to youth at later years. For example, leadership programs in this study allowed for youth to be involved for 4 years, but only once they reached high school age.

Lastly, it is important to recognize that the teaching of life skills may fall on a continuum of intentionality and should not be considered as an all or nothing principle. For example, previous research has shown that youth have learned life skills through their sport experiences even when coaches did not set aside time to discuss life skills (Camiré & Trudel, 2010; Holt et al., 2008). Using terminology by Turnnidge et al. (2014) in discussing life skills transfer, this may represent an implicit approach. Recently, Holt et al. (2017) proposed a series of hypotheses in which future research can test. One of these include: “the combined effects of a PYD climate and a life skills focus will produce more PYD outcomes than a PYD climate alone” (p.38). The implicit approach is non-intentional but may encompass a variety of ways in which youth learn life skills through sport such as those skills that may be somewhat inherent within the sport context (e.g., teamwork, communication, perseverance; Brunelle, Danish, & Forneris, 2007; Jones & Lavalley, 2009) or through other mechanisms such as the coach’s philosophy, rules, and expectations or opportunities the coach provides to allow youth to be active agents of own development (e.g., decision making; Camiré & Trudel, 2010; Holt et al., 2008) and could represent the left side of a continuum.

Using further terminology by Turnnidge et al. (2014), the right side of the continuum may represent an explicit approach where coaches develop and implement strategies to intentionally teach life skills. Given this was the first study to examine intentionality it was important to dichotomize in order to examine differences between the two contexts. However, there is a need for further research to explore this potential continuum to gain a more in-depth understanding of the role intentionality plays in fostering program quality and psychosocial outcomes (e.g., the amount of life skills material required to be intentionally taught, strategies that are most effective, understanding if the combination of implicit and explicit processes allows sport to be an ideal context to foster psychosocial development).

Limitations and Future Directions

Limitations of this study must be noted. The small sample size of intentionally-structured sport programs should be recognized. It was quite difficult for researchers to find sport programs that used an intentional approach to teaching life skills within sport; however, this is a reality of current youth programming in sport. Given these results and the fact that the majority of youth sport organizations have mission statements that purport to foster holistic development (e.g., by including life skills development as part of their mission), what is actually being carried out is often quite different (Camiré, Werthner, & Trudel, 2009; Forneris, Camiré, & Trudel, 2012). This again speaks to the importance of conducting observational research to understand firsthand what is being delivered within such programs. More importantly, further work is needed to help youth sport organizations prepare and train coaches to use an intentional approach to teach life skills, particularly if their aim is to achieve their mission statements.

The lack of valid and reliable psychosocial outcome measures is also recognized as a limitation within the sport psychology field (Holt & Jones, 2008). Although the PYDI-S is a

measure that is new to the field, it was chosen as it was developed from the NRCIM's eight program setting features and could be administered in both sport and non-sport settings. Little research has examined the validity and reliability of the PYDI-S, although it did show good reliability within this study. Moreover, the PYDI-S is not reflective of all life skills in which youth can develop through sport participation. Due to the inclusion of non-sport programs (e.g., leadership) within this study, a validated tool for the sport environment (i.e., Youth Experiences Survey for Sport; MacDonald, Côté, Eys, & Deakin, 2012) could not be used. Future researchers are encouraged to utilize validated instruments for measuring psychosocial outcomes.

In conclusion, findings from this research have a number of academic and applied implications. This was the first study to examine differences across programs that intentionally or did not intentionally teach life skills. Second, this research provides initial evidence that intentionally teaching life skills may be important for enhancing program quality and psychosocial outcomes. Third, the findings suggest that there may be something unique about the sport context, as when structured appropriately, it can foster psychosocial outcomes. It is hoped that this research can aid academics in the advancement of models and theories to explain what factors, as well as their relative importance, can facilitate psychosocial outcomes in youth sport. From an applied perspective this research provides a strong argument for bridging the gap between research and practice to ensure the youth sport context facilitates the holistic development of youth. The knowledge derived from this research provides evidence that it is important for coaches to be trained to intentionally teach life skills. Therefore, there is a need for increased knowledge translation between academia and the sport context and the establishment and/or strengthening of collaborations between scholars and sport administrators.

References

- Akiva, T. (2005). Turning training into results: The new Youth Program Quality Assessment. *High/Scope Resource, 24*, 21-24.
- Akiva, T., & Jones, M. I. (2007). *Youth Program Quality Assessment handbook*. Ypsilanti, MI: High/Scope Press.
- Arnold, M. E., Nott, B. D., & Meinhold, J. L. (2012). *The Positive Youth Development Inventory*. Corvallis, OR: Oregon State University 4-H Youth Development Program.
- Barber, B. L., Eccles, J. S., & Stone, M. R. (2001). Whatever happened to the jock, the brain, and the princess? Young adult pathways linked to adolescent activity involvement and social identity. *Journal of Adolescent Research, 16*, 429-455. doi:10.1177/0743558401165002
- Bean, C. N., Fortier, M., Post, C., & Chima, K. (2014). Understanding how organized youth sport may be harming individual players within the family unit: A literature review. *International Journal of Environmental Research and Public Health, 11*, 10226-10268. doi:10.3390/ijerph111010226
- Brunelle, J., Danish, S. J., & Forneris, T. (2007). The impact of a sport-based life skill program on adolescent prosocial values. *Applied Developmental Science, 11*, 43-55. doi:10.1080/10888690709336722
- Camiré, M., Forneris, T., Trudel, P., & Bernard, D. (2011). Strategies for helping coaches facilitate positive youth development through sport. *Journal of Sport Psychology in Action, 2*, 92-99. doi:10.1080/21520704.2011.584246
- Camiré, M., & Trudel, P. (2010). High school athletes' perspectives on character development through sport participation. *Physical Education and Sport Pedagogy, 15*, 193-207. doi:10.1080/17408980902877617

- Camiré, M., Trudel, P., & Forneris, T. (2009). High school athletes' perspectives on support, communication, negotiation and life skill development. *Qualitative Research in Sport and Exercise, 1*, 72-88. doi:10.1080/19398440802673275
- Camiré, M., Werthner, P., & Trudel, P. (2009). Mission statements in sport and their ethical messages: Are they being communicated to practitioners. *Athletic Insight, 11*, 75-85.
- Catalano, R. F., Berglund, M. L., Ryan, J. A. M., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The ANNALS of the American Academy of Political and Social Science, 591*, 98-124. doi:10.1177/0002716203260102
- Catalano, R. F., Hawkins, J. D., Berglund, M. L., Pollard, J. A., & Arthur, M. W. (2002). Prevention science and positive youth development: Competitive or cooperative frameworks? *Journal of Adolescent Health, 31*, 230-239. doi:10.1016/S1054-139X(02)00496-2
- Côté, J., Strachan, L., & Fraser-Thomas, J. (2008). Participation, personal development and performance through youth sport. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 34-45). New York: Routledge.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297-334.
- Damon, W. (2004). What is positive youth development? *The ANNALS of the American Academy of Political and Social Science, 59*, 13-24. doi:10.1177/0002716203260092
- Danish, S. J. (2002). *SUPER program: Leader manual* (3rd ed.). Richmond, VA: Lifeskills Center, Virginia Commonwealth University.

- Danish, S. J., Forneris, T., Hodge, K., & Heke, I. (2004). Enhancing youth development through sport. *World Leisure Journal*, *46*, 38-49. doi:10.1080/04419057.2004.9674365
- Danish, S. J., & Nellen, V. C. (1997). New roles for sport psychologists: Teaching life skills through sport to at-risk youth. *Quest*, *49*, 100-113. doi:10.1080/00336297.1997.10484226
- Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology*, *45*, 294-309. doi:10.1007/s10464-010-9300-6
- Dunn, T. J., Baguley, T., & Brunsden, V. (2014). From alpha to omega: A practical solution to pervasive problem of internal consistency estimation. *British Journal of Psychology*, *105*(5), 399-412. doi: 10.1111/bjop.12046
- Eccles, J., & Gootman, J. A. (Eds.). (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press.
- Feldman, A. F., & Matjasko, J. L. (2005). The role of school-based extracurricular activities in adolescent development: A comprehensive review and future directions. *Review of Educational Research*, *75*, 159-210. doi:10.3102/00346543075002159
- Field, A. (2009). *Discovering statistics using SPSS*. London: Sage Publications.
- Flett, M. R., Gould, D. R., & Lauer, L. (2012). A study of an underserved youth sports program using the Youth Program Quality Assessment. *Journal of Applied Sport Psychology*, *24*, 275-289. doi:10.1080/10413200.2011.641061
- Forneris, T., Camiré, M., & Trudel, P. (2012). The development of life skills and values in high school sport: Is there a gap between stakeholder's expectations and perceived experiences? *International Journal of Sport and Exercise Psychology*, *10*, 9-23. doi:10.1080/1612197X.2012.645128

- Forneris, T., Camiré, M., & Williamson, R. (2015). Extracurricular activity participation and the acquisition of developmental assets: Differences between involved and noninvolved Canadian high school students. *Applied Developmental Science, 19*(1), 47-55.
- Fraser-Thomas, J., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy, 10*, 19-40.
doi:10.1080/1740898042000334890
- Games, P. A., & Howell, J. F. (1976). Pairwise multiple comparison procedures with unequal n's and/or variances: a Monte Carlo study. *Journal of Educational and Behavioral Statistics, 1*, 113-125. doi:10.3102/10769986001002113
- Gould, D. R., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology, 1*, 58-78.
doi:10.1080/17509840701834573
- Guèvremont, A., Findlay, L., & Kohen, D. (2008). Organized extracurricular activities of Canadian children and youth. *Health Reports - Statistics Canada, 19*, Catalogue no. 82-003-XPE.
- Hamilton, S. F., Hamilton, M. A., & Pittman, K. (2004). Principles for youth development. In S. F. Hamilton & M. A. Hamilton (Eds.), *The youth development handbook: Coming of age in American communities* (pp. 3-22). Thousand Oaks, CA: Sage Publications.
- High/Scope Educational Research Foundation. (2005). *Youth Program Quality Assessment*. Ypsilanti, MI: High/Scope Press.
- Holt, N. L., & Jones, M. I. (2008). Future directions for positive youth development and sport research. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 122-132). New York: Routledge.

- Holt, N. L., & Neely, K. C. (2011). Positive youth development through sport: A review. *Revista iberoamericana de psicología del ejercicio y el deporte*, 6, 299-316.
- Holt, N. L., & Neely, K. C., Slater, L. G., Camiré, M., Côté, J., Fraser-Thomas, J., ... & Tamminen, K. A. (2017). A grounded theory of positive youth development through sport based on results from a qualitative meta-study. *International Review of Sport and Exercise Psychology*, 10, 1-49. doi:10.1080/1750984X.2016.1180704
- Holt, N. L., Tink, L. N., Mandigo, J. L., & Fox, K. R. (2008). Do youth learn life skills through their involvement in high school sport? A case study. *Canadian Journal of Education*, 31, 281-304. doi:10.2307/2046670
- Jones, M. I., & Lavalley, D. (2009). Exploring perceived life skills development and participation in sport. *Qualitative Research in Sport and Exercise*, 1, 36-50. doi:10.1080/19398440802567931
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33, 159-174. doi:10.2307/2529310
- Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist*, 55, 170-183. doi:10.1037/0003-066X.55.1.170
- Larson, R. W., Hansen, D. M., & Moneta, G. (2006). Differing profiles of developmental experiences across types of organized youth activities. *Developmental Psychology*, 42, 849-863. doi:10.1037/0012-1649.42.5.849
- Le Menestrel, S., Bruno, M. L., & Christian, D. (2002). *Sports as a hook: An exploratory study of developmental focused youth sports programs*. Washington, DC: Center for Youth Development and Policy Research at the Academy for Educational Development.

- Linver, M. R., Roth, J. L., & Brooks-Gunn, J. (2009). Patterns of adolescents' participation in organized activities: Are sports best when combined with other activities? *Developmental Psychology, 45*, 354-367. doi:10.1037/a0014133
- MacDonald, D.J., Côté, J., Eys, M. and Deakin, J. (2012) Psychometric Properties of the Youth Experience Survey with Young Athletes. *Psychology of Sport and Exercise, 13*, 332-340. doi:10.1016/j.psychsport.2011.09.001
- Mahoney, J. L., & Stattin, H. (2000). Leisure activities and adolescent antisocial behavior: The role of structure and social context. *Journal of Adolescence, 23*, 113-127. doi:10.1006/jado.2000.0302
- Maslow, A. (1954). *Motivation and personality*. New York: Harper.
- Papacharisis, V., Goudas, M., Danish, S. J., & Theodorakis, Y. (2005). The effectiveness of teaching a life skills program in a sport context. *Journal of Applied Sport Psychology, 17*, 247-254. doi:10.1080/10413200591010139
- Petitpas, A. J., Cornelius, A. E., Van Raalte, J. L., & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. *Sport Psychologist, 19*, 63-80.
- Shernoff, D. J., & Vandell, D. L. (2007). Engagement in after-school program activities: Quality of experience from the perspective of participants. *Journal of Youth and Adolescence, 36*, 891-903. doi:10.1007/s10964-007-9183-5
- Silliman, B., & Schumm, W. R. (2013). Youth program quality survey: Youth assessment of program quality. *Marriage & Family Review, 49*, 647-670. doi:10.1080/01494929.2013.803010

Simpkins, S. (2003). Does youth participation in out-of-school time activities make a difference?

The Evaluation Exchange, 9, 2-3.

Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach's alpha.

Psychometrika, 74(1), 107-120.

Smith, C., & Hohmann, C. (2005). Full findings from the Youth PQA validation study. *Ypsilanti,*

MI: High/Scope Educational Research Foundation. Retrieved on 10 October 2015 from

<http://www.cypq.org/sites/cypq.org/files/publications/YPQA%20Interrater%2006.pdf>

Snyder, C. R., & Lopez, S. J. (2002). *Handbook of positive psychology*. Oxford: Oxford

University Press.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (5th ed., Vol. 7). Upper

Saddle River, New Jersey: Pearson.

Theokas, C., Danish, S., Hodge, K., Heke, U., & Forneris, T. (2008). Enhancing life skills

through sport for children and youth. In N. L. Holt (Ed.), *Positive youth development*

through sport (pp. 71-81). New York: Routledge.

Turnnidge, J., Côté, J., & Hancock, D. J. (2014). Positive youth development from sport to life:

Explicit or implicit transfer? *Quest*, 66, 203-217. doi:10.1080/00336297.2013.867275

United States Census Bureau. (2014). Nearly 6 out of 10 children participate in extracurricular

activities. *Census Bureau Reports*. Retrieved from

<http://www.census.gov/newsroom/pressreleases/2014/cb14-224.html>

Walker, J., Marczak, M., Blyth, D., & Borden, L. (2005). Designing youth development

programs: Toward a theory of developmental intentionality. In J. L. Mahoney, R. W.

Larson, & J. S. Eccles (Eds.), *Organized activities as contexts of development:*

Extracurricular activities, after-school and community programs (pp. 399-418).

Mahwah, New Jersey: Lawrence Erlbaum Associates.

Weiss, M. R., & Wiese-Bjornstal, D. M. (2009). Promoting positive youth development through physical activity. *President's Council on Physical Fitness and Sports Research Digest*, 3.

World Health Organization. (1999). *Partners in life skills education*. Retrieved 21 February 2014, from http://www.asksource.info/pdf/31181_lifeskillsed_1999.pdf

Yohalem, N., & Wilson-Ahlstrom, A. (2010). Inside the black box: Assessing and improving quality in youth programs. *American Journal of Community Psychology*, 45, 350-357. doi:10.1007/s10464-010-9311-3

Yuan, Y. C. (2010). *Multiple imputation for missing data: Concepts and new development (Version 9.0)*. Rockville, MD: SAS Institute Inc.

Zarrett, N., Lerner, R. M., Carrano, J., Fay, K., Peltz, J. S., & Li, Y. (2008). Variations in adolescent engagement in sports and its influence on positive youth development. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 9-23). New York: Routledge.

Table 1.

Program Characteristics Across Three Program Types

Programs Characteristics		Intentional Sport Programs	Intentional Leadership Programs	Non-Intentional Sport Programs
Type of Site	For-profit	2	0	13
	Not-for-profit	1	6	4
Type of Program	Leadership	0	6	0
	Sport/PA	3	0	17
	Competitive	2	0	12
	Recreational	1	0	5
Program Session Length (in hours)				
	M(SD)	1.67(.58)	2.5(.55)	1.80(.41)
	(Range)	(1-2)	(2-3)	(1-2)
Program Duration (in months)				
	M(SD)	7.00 (3.46)	8.00 (1.10)	8.20(1.93)
	Range	(3-9)	(7-9)	(2-9)

Table 2.

Descriptive Statistics and Differences of Researchers' Observed Program Quality Scores (YPQA), Youth Perceived Program Quality (YPQS), and Youth Perceived Psychosocial Outcomes (PYDI-S) across Programs Contexts

		Intentional Sport		Intentional Leadership		Non-intentional Sport				
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i>	<i>P</i>	η^2
Observed	Safe Environment	4.72	.34	4.73	.25	4.66	.37	.64	.530	.007
Program Quality	Supportive Environment	4.59	.31	4.27	.34	3.86	.50	31.06	.000***	.255
	Interaction	3.48	.36	3.78	.43	3.04	.41	52.41	.000***	.367
	Engagement	2.98	.67	3.44	.49	1.67	.54	179.42	.000***	.665
Youth Perceived Program Quality	Appropriate Support and Structure	3.76	.34	3.10	.59	3.30	.48	17.72	.000***	.087
	Empowering Skill-building	3.61	.60	3.20	.58	3.31	.47	6.62	.001**	.034
	Expanding Horizons	3.43	.59	3.23	.54	3.10	.52	5.91	.003**	.031
	Negative Experiences	1.20	.33	1.69	.64	1.71	.63	8.67	.000***	.044
Psychosocial Outcomes	Personal Standards	3.70	.34	3.36	.57	3.41	.42	7.17	.001**	.048
	Friendship	3.78	.43	3.20	.62	3.33	.50	9.38	.000***	.062
	Emotional Regulation	3.35	.49	3.29	.63	3.07	.58	4.21	.016*	.029
	Prosocial Values	3.66	.45	3.32	.59	3.22	.54	4.20	.016*	.028

* $p < .05$, ** $p < .01$, *** $p < .001$

Chapter Seven

Article Five

**Is Life Skill Development a By-Product of Sport Participation? Perceptions of Youth Sport
Coaches**

Bean, C., & Forneris, T. (2017). Is life skill development a by-product of sport participation?

Perceptions of youth sport coaches. *Journal of Applied Sport Psychology*, 29(2), 234-250.

doi:10.1080/10413200.2016.1231723

Abstract

The purpose of this study was to understand youth sport coaches' perceptions of life skill development. Semi-structured interviews were conducted with 23 youth sport coaches across five organizations. Analyses revealed four themes based on coaches' perceptions: (a) life skills are a by-product of sport participation, and transfer "just happens"; (b) if intentionally addressed, it's reactive; (c) coaches recognize the value of intentionally teaching life skills; and (d) coaches identify challenges associated with using an explicit approach to teaching life skills. Results provide evidence for the state of the current sport context and highlight areas for coach education related to life skills integration.

Keywords: Positive Youth Development; life skills, sport; coaches; intentionality; qualitative methods

Is Life Skill Development a By-Product of Sport Participation? Perceptions of Youth Sport
Coaches

Sport has been identified as the most popular extracurricular activity for youth (Guèvremont, Findlay, & Kohen, 2008). As such, the sport context can provide a valuable opportunity to foster youth's personal and social development (Fraser-Thomas, Côté, & Deakin, 2005; Gould & Carson, 2008). Psychosocial development within sport is commonly referred to as life skill development, which has been defined as "internal personal assets, characteristics, and skills such as goal setting, emotional control, self-esteem, and hard work ethic that can be facilitated or developed in sport and are transferred for use in non-sport settings" (Gould, Carson, & Blanton, 2013, p. 259). Based on Gould and colleagues' (2013) definition, a major component of life skills includes the necessity of skill transfer and application to other contexts outside of where it was learned (e.g., school, home, work), to help youth develop the capacity to successfully cope with various life situations (Gould & Carson, 2008; Papacharisis, Goudas, Danish, & Theodorakis, 2005).

However, researchers have questioned the notion that character and life skill development is an automatic outcome of sport participation (Coakley, 2017; Hodge, 1989; Weiss & Smith, 2002). Hodge (1989) outlined that life skills must be specifically "taught" versus "caught." More recently, researchers have argued that the sport context must be purposefully structured to provide youth with opportunities to foster psychosocial development of youth (Fraser-Thomas et al., 2005; Gould & Carson, 2008). However, such research has yielded mixed findings, as sport programs have been found to yield positive outcomes both when intentionally and unintentionally structured. Specifically, findings from two studies indicated that youth perceived the development of life skills through their sport experiences even when coaches did not set

aside time to discuss these skills (e.g., Holt, Tink, Mandigo, & Fox, 2008; Jones & Lavallee, 2009). In contrast, having life skills intentionally integrated into youth sport has also yielded positive results for youth (e.g., Camiré, Trudel, & Forneris, 2012; Weiss, Stuntz, Bhalla, Bolter, & Price, 2013).

Whether youth develop such skills in sport is heavily influenced by coaches, as they have been identified as adults who play a critical role in structuring the youth sport context (Camiré, Forneris, Trudel, & Bernard, 2011; Collins, Gould, Lauer, & Chung, 2009). As a result, researchers have explored coaches' perceptions of youth sport, the impact it can have on youth development, and how coaches integrate life skills (e.g., Camiré, Trudel, & Forneris, 2014; Gould, Collins, Lauer, & Chung, 2007). These studies investigated model sport coaches who already intentionally taught life skills or used an athlete-centered approach to determine effective strategies for teaching life skills (e.g., Camiré et al., 2014; Collins et al., 2009; Gould et al., 2007). Trottier and Robitaille (2014) found that coaches who intended to develop life skills used multiple strategies to foster their athletes' development. Although these studies have provided valuable insight, a major limitation was that participants were model coaches who already intentionally integrated life skill development into their sport. Few studies have focused on a greater diversity of coaches. Yet studies by McCallister, Blinde, and Weiss (2000) and Vella, Oades, and Crowe (2011) have shown that coaches recognize the importance of having a coaching philosophy and want their athletes to succeed beyond sport. However, neither study focused specifically on life skill development and did not address life skill transfer, which is critical for consideration in order to classify a skill developed to be a life skill (Danish, Petitpas, & Hale, 1993). Moreover, many of the studies that have examined coaches' perceptions of life skill development in sport have been based on self-report perceptions, and therefore research that

incorporates observational methods is warranted (Forneris, Camiré, & Trudel, 2012; Vella et al., 2011).

The current study was part of a larger, mixed-methods explanatory sequential design (Ivankova, Creswell, & Stick, 2006) that examined program quality and youth development within sport programming. First, a quantitative study was conducted in which differences in life skill development across youth programs were examined. Specifically, sport programs were dichotomized into two categories based on whether or not coaches intentionally integrated life skills into their sport program (Bean & Forneris, 2016). Leadership programs were included within this study and served as a comparison group, as the main goals of such programs are to foster life skills in youth. There were 184 observations conducted across 26 programs over the course of 1 year using the Youth Program Quality Assessment tool to assess program quality (High/Scope Educational Research Foundation, 2005). There are specific questions within this tool that assess whether coaches intentionally teach life skills. Results indicated that programs that intentionally taught life skills scored higher on youth perceptions of life skill development than programs that did not teach life skills (Bean & Forneris, 2016). The second study (the present study) used a qualitative approach to gain an understanding of youth sport coaches' perceptions of life skill development, particularly those who did not intentionally integrate the teaching of life skills.

As such, sport coaches identified as being intentional in their approach to teaching life skills were not included in the current study sample. Previous research has provided evidence of how model coaches integrate life skills, but limited research has explored the more "typical" coaches' experiences and perceptions related to life skill development in youth sport.

Methods

Participants

The current study involved 23 sport coaches from both not-for-profit youth organizations that serve at-risk youth ($n = 3$) and community club sport organizations ($n = 2$) across South Eastern Ontario, Canada. There were 11 participants that coached volleyball, seven that coached ice hockey, and five that coached ball hockey. Coaches in this study were involved in delivering programs for youth between 10 and 18 years of age and were responsible for coaching all boys' ($n = 2$), all girls' ($n = 9$), and co-ed ($n = 12$) programs. Participation in a given program ranged from nine to 29 youth, with the average program having 11.94 ($SD = 5.18$) youth involved. Program duration was between 3 and 9 months ($M = 6.17$, $SD = 2.46$), with program sessions delivered between 1 and 4 times per week ($M = 1.61$, $SD = .72$). The 23 coaches (16 male, 7 female) ranged in age from 21 to 61 years ($M = 38.61$, $SD = 13.44$) and had 1 to 30 years of coaching experience ($M = 6.04$, $SD = 6.38$). Coaches self-identified as Caucasian (78%), Black (9%), Asian (9%), or Persian (4%). See Table 1 for complete demographic information of participants.

Procedure

Upon receiving ethical approval from the affiliated institution's Office of Research Ethics and Integrity, the lead researcher contacted a number of program directors and coaches from youth sport organizations. Individuals who were interested in participating in the project contacted the lead researcher, who met with the coaches and their team to outline information related to the study (e.g., purpose, involvement opportunities). Informed consent was obtained in writing from each coach prior to commencement in the project. As noted, this study was part of a larger project, and participation in the interview was voluntary; however, the majority of coaches

expressed interest in participating in an interview. As such, a maximum variation purposeful sampling technique (Patton, 2002) was used to recruit coaches, whereby the researchers attained perspectives from coaches of different genders, ages, and amount of coaching experience. As well, coaches from different organizations involved in the study were recruited, making up a diverse sample. Interviews were conducted with coaches at the end of the season after all observations were completed. Although more male coaches were interviewed, this was reflective of the coaching demographic within the organizations at the time of the study. The lead researcher (first author) conducted 19 of the interviews, and a research assistant conducted the remaining four interviews. The lead researcher has been conducting qualitative research using interviews as the primary tool for more than 6 years and has published several peer-reviewed qualitative manuscripts. The research assistant is a graduate student within a research laboratory that focuses on qualitative research methods. Although both researchers had experience in facilitating semi-structured interviews, the first author worked closely with the research assistant to ensure that the interviews were conducted using the same procedures.

Futch Ehrlich (2016) outlined the potential theoretical and methodological benefits of using qualitative research within the field of positive youth development. As such, semi-structured interviews were chosen, as this method permits flexibility in the interview conversation, broadens the scope of the interview, and allows concepts to emerge from the dialogue between the participant and researcher (Lincoln & Guba, 1985). The interview guide was piloted with two coaches, which aided in slight modifications to the guide (e.g., content, question order). Interviews were audio-recorded using a digital audio-recorder and conducted at a time and location (i.e., program location, coffee shop) that was chosen by and was convenient for the participant. The majority of interviews were conducted in person ($n = 21$), and some were

conducted by phone ($n = 2$) based on coach request. Prior to interview commencement, coaches were reminded of the voluntary nature of the study, their rights to confidentiality, and that what they discussed would not affect their involvement in the program or organization. Interviews lasted between 23 and 111 min ($M = 54$ min 18 s). Interviews were transcribed verbatim, reviewed by the lead researcher, and sent to coaches for member checking in order to confirm the accuracy of their transcript (Patton, 2002). Minor changes were made based on participants' responses (e.g., spelling and grammatical errors that occurred during transcription).

Interview guide. An interview guide was developed for coaches based on extensive review of positive youth development and youth sport literature (e.g., Camiré et al., 2011; Fraser-Thomas et al., 2005). Initial questions were general (“What is your coaching philosophy?”; “What was your overall experience coaching this season?”), followed by more specific questions related to coaches' perceptions of life skill development and integration within their current sport (e.g., “As a result of participating in the program, do you believe youth are developing life skills?”; “Would you say these skills were intentionally taught?”; “If no, for what reasons did you choose not to integrate life skills?”). If coaches identified life skills they believed the youth developed within the program, follow-up questions related to life skill transfer were asked (e.g., “Do you feel the youth are developing life skills that they can use in other areas of their life, whether it be at school, home, or with their friends?”; “Did you find there were opportunities to discuss transfer?”). In addition, coaches were asked if they had experienced any challenges related to life skill integration within their sport. Probes were used to explore participants' experiences further (e.g., “Can you provide me with an example of what you mean?”).

Data Analysis and Results

Data Analysis

An iterative inductive thematic analysis was used based on the recommendations of Braun and Clarke (2006). The six-phase method allowed for identifying, analyzing, and reporting themes within the data: (a) familiarizing oneself with the transcripts, (b) generating initial codes, (c) searching relevant themes, (d) reviewing themes with the other coder, and (f) producing findings for the manuscript. Once the initial coding procedures were completed by the first author, the second author reviewed the higher order themes and codes during Step 4 of this process. During this phase, researcher triangulation occurred where the researchers took on an iterative collaborative approach to analysis (Creswell, 2013). The authors, who both had experience in qualitative data analysis, engaged in this collaborative analytic approach to refine the themes to ensure that the data were presented in a comprehensive manner. Once preliminary themes emerged from the inductive analysis process, the authors defined relevant terms related to these themes. The goal of this process was to help with clarity and provide support for the selection of certain quotations within a given theme.

Two main terms were defined: “by-product” and “reactive.” First, a by-product of sport participation was defined as when a coach does not use intentional strategies to foster life skills and the development of such skills occurs as a secondary result; unintended but inevitably produced. For example, if a youth athlete develops skills related to teamwork by engaging in the sport of volleyball; however, the coach does not talk about this skill or its importance throughout the sport program. This would be considered a skill developed as a by-product of sport participation. Second, the term “reactive” stems from the use of teachable moments, as this strategy is reactive in nature rather than intentionally planned. For example, a conflict arises

between two youth athletes during a practice and the coach takes the moment to talk about effective communication and conflict resolution. It is reactive in that it was not intentional for the coach to talk about conflict resolution during that practice, but an event occurred that led to this discussion.

Once these key terms were defined, the authors selected the most relevant quotations for each theme and ensured that the quotations were indicative of the participants' perceptions. Coding discrepancies were discussed until agreement was reached (e.g., theme labels, placement of quotes under themes). Minor changes were made to the initial analyses that resulted in moving some quotations under different themes, as it was deemed that the quotations provided stronger support for the alternative theme. The authors agreed that data saturation had occurred when core themes were well-established and no new constructs were emerging from the data (Guest et al., 2006). The results were written by the first author and then both authors read the results on multiple occasions until agreement was reached with regard to the presentation of the results. This helped to ensure trustworthiness of the data.

Results

The results are organized in four themes: (a) life skills are a by-product of sport participation, and transfer "just happens"; (b) if intentionally addressed, it's reactive; (c) coaches recognize the value of intentionally teaching life skills; and (d) coaches identify challenges associated with using an explicit approach to teaching life skills. Pseudonyms were created to protect participants' anonymity and are used with the supporting quotations throughout the following sections.

Life skills are a by-product of sport participation, and transfer "just happens". As previously outlined, a life skill by-product is defined as a skill that is fostered as a secondary

result and intentional strategies were not used by a coach to teach this skill. The belief that life skills were a by-product of youth sport participation was at the forefront of most coaches' interviews. Mike, who had coached volleyball for 11 years, stated, "Learning about teamwork, that kind of thing ... I think it's a by-product of the sport because we're playing a sport and trying to work together as a group, I think it's a by-product." Similarly, Tim, who had also been a volleyball coach for 11 years, identified life skill development as a by-product of sport and acknowledged using a reactive approach to discuss life skills:

More so just a by-product of how you are coaching your sport. We do mention it at times and encourage that if there is conflict to work through those conflicts. I think it is also showing how we respect [athletes]. ... I think life skills are more just a by-product often and, throughout the whole organization, [life skill development] happens a lot when you interact with people— other coaches, umpires.

Ryan, a ball hockey coach, seconded this notion by using a metaphor comparing sport to a machine. He reinforced that participation in sport should allow youth to learn basic life skills: "The by-product of the program, the life skills by-product, is what we're shooting for. ... We set the machine up and let it run. All the positives that come from it, we just let that happen." When asked if he believed that youth had developed life skills from program participation, Anthony, an assistant coach of a co-ed ice hockey program, reinforced the notion of implicit development:

I think [life skills] were all intermeshed. ... I don't think they were the predominant focus, but were worked on subjectively, whether the kids knew it or not. Something as simple as blowing your whistle and having kids come in so you can explain the next drill is a prime example of listening and discipline.

Jeremy, a ball hockey coach, discussed how he believed that engaging in team sports can help foster life skills through an organic process:

You have to be able to play on a team. That's one of the most important life skills you can learn. Anywhere you go, you're going to be working with people, knowing group dynamics, when to speak up or stand back. ... These are all things that go hand in hand with sports.... So yeah, [life skills] are definitely present, it's inevitable. Whether I do them intentionally, I'm not too sure about that, but I think it's an organic process.

Karen, an assistant coach for girls' volleyball, commented on how she believed her coaching philosophy was using sport as a catalyst for life skill development:

My philosophy is about using the game as a catalyst to give kids important life skills. Building passion for their sport, so the catalyst meaning—the outliers are: fitness, team building, setting and reaching those goals, how to deal with difficult situations, how to communicate properly. All these things are by-products of the game and if along the way, [youth] win a few games and achieve their goals, that's awesome, but that's not so much the goal. For me, it's about them learning good life skills.

However, Karen went on to discuss that when life skills were integrated into volleyball, the skills were discussed and addressed in solely a sport context. Therefore, acknowledging that these skills were important in volleyball, yet not expanding on why they were important resulted in them being classified as a by-product of sport participation as Karen stated: “Not a lot. ... Things like communication always comes up at practice ... and focus and working hard while in a drill. So I guess indirectly it's there, but it's not something we specifically discuss.”

When coaches were asked about life skill transfer, many perceived the process to be automatic or implicit. Little to no intentional opportunities for transfer were outlined within their

coaching practices. This was similar to that of a by-product discussed earlier related to life skill development. Andrew, a ball hockey coach, said: “For sports in general, I think they develop a lot of life skills just playing sports, right? ... So [sport] puts the kids in these moments where they’re tested, and if they can succeed in these moments, they can succeed outside, I firmly think so.” Similarly, Anthony, an ice hockey coach, shared:

The thing about sports is that it’s something fun, but at the end of the day I find those that are involved with sports definitely take what they learn in terms of character building because, especially in hockey, it’s a team or collaborative effort amongst most. So they can definitely apply that outside to other areas of their life.

Many coaches outlined the assumption that skills learned in the sport context could transfer automatically to other life domains. For example, two coaches discussed whether youth were developing life skills that could be used in other areas of their life: “I think those [life skills] are skills that can transfer into any aspect of your life, whether you are in school and you have to work on a group project to work, to starting your first job and having to work on a team”

(Rachel, ice hockey coach) and

Everything you do [in sport, youth] will be able to take to university and to work later on because that’s how life will be in a real high performance situation. As soon as they’re done [volleyball] it’s going to be the same thing and you’ll have a boss and goals and you’ll need a job to be done ... so all the things they practice they can big time bring later to real life afterwards. (Kevin, volleyball coach)

Several coaches were hopeful that the process of transfer occurred but acknowledged that nothing was done to explicitly foster life skill transference. Dave, a volleyball coach of 12 years, noted: “I’m hoping that the big thing is understanding your teammates, respecting your

teammates, being able to work with somebody else outside of the sport.” Rachel mentioned how she felt a sense of responsibility related to fostering life skills yet believed transference was more of an implicit process: “It’s our job to instill the importance and the impact that the different values have. Hopefully that goes back into their everyday lives at school and at home so they remember to listen and to be respectful.” Last, Scott, an ice hockey coach, outlined the values of the hockey program and discussed how he was hopeful that youth would draw connections from the program to other life contexts:

I’m hoping they are getting more than just understanding where to be on the ice ... and understanding that it is a team concept and that team is almost society in itself ... and what you have to do in society. I don’t speak in that language to the kids, but hope somewhere down the line, whether today, tomorrow or 2 years from now, something clicks.

If life skills are addressed, it’s reactive. As previously discussed, the term “reactive” describes the action of a coach responding to a situation rather than creating the situation. Due to beliefs about life skills being a by-product, many coaches acknowledged that any time a life skill was addressed it was done so by taking on a reactive approach. Jeremy identified how few to no intentional opportunities were utilized: “Me personally? I wouldn’t say so. If [life skills] come up then yeah, but I wouldn’t say I look for opportunities to teach life skills.” In line with this, Anthony outlined how life skills were not explicitly taught within the program; however, if youth did not follow the four program values (learning, respect, discipline, and fun), he used this as an opportunity to discuss them on an individual level: “I don’t think [life skills] were explained in-depth, but the kids were reminded if they didn’t pull through on one of the values, but it was more so on individual events, like if a kid was misbehaving.” Similarly, a few coaches outlined

that opportunities for discussion surrounding life skill transfer occurred during informal conversations with youth and often occurred as a reactive approach. When asked if she used any strategies to discuss life skill transfer with youth, Melissa, an ice hockey coach, explained how she took on a reactive approach yet drew in connections to youth's school lives:

Not really, I'll sometimes use examples, but that's it. ... We had an incident where a kid wanted to do his own thing. I was like: "think about it, when you go to math class, are you going to tell your math teacher 'I want to practice playing piano during math?'" And he's like "well no". I'm like "it's the same thing here; we're here to play hockey, it's not time to play badminton." Sometimes we make those comparisons, but it's not explicit. ... I often compare it to school because they can relate to it and see the connection.

This reactive approach was particularly true for life skills related to emotional regulation. When youth struggled with managing their emotions, coaches outlined how they took these opportunities to teach youth. Gary discussed: "The technical things and emotional things— you can't necessarily train somebody emotionally, but you're trying to point out their emotional behaviors as destructive and ... mostly I try to educate them."

Coaches spoke of using these situations as teachable moments. Andrew discussed using situations in which youth could learn about emotional regulation as one of these moments:

We focus on these moments even more as learning moments, right? If I have a kid that will lash out at someone else in a game, it's about taking that kid outside of that moment and discussing it with them. It's looking at what barriers led to that happening, what were they feeling at that moment, and discussing what happens if we start to feel like that again. How can we make a game plan to get around that?

Kevin discussed how emotional regulation was tied into decision making within his team:

Decision making is a big part of it. I have to stop them and ask why they are making stupid decisions and how decision making can be an important part of the game. ... If they get frustrated, I generally take them aside and talk to them. So I try to get them to take a deep breath, calm down and help with strategies. ... I just give a light tap and say ‘You’re doing it again’ and then they lighten up on themselves.

Similarly, after outlining the importance of being able to control one’s emotions, Brandon, a ball hockey coach, was asked if this is something that is explicitly talked about within his team. He used examples that extended beyond the sport context: I always bring it up, like in the last game, one kid got emotional. At the end of the game, I took him aside. ... I explained the situation and I told him, “Listen, if this was to happen outside, say you’re in a car. You can’t get out and yell at a pedestrian.” I explain the scenario and what they should do to prevent that break out. They understand that’s one of the big things—know how to control their emotions and act in certain scenarios.

Coaches recognize the value of intentionally teaching life skills. Despite coaches outlining that life skill development was a by-product of sport participation and addressing it in a reactive way, many coaches recognized and alluded to the value of intentionally integrating life skills into their coaching practices. When asked about his approach to teaching life skills, Andrew acknowledged the approach as reactive but outlined the value of taking on an intentional approach: “It is definitely reactive, which is something that’s not great, I don’t think, but that’s something that I’d want to build on next year.” Gary, a volleyball coach, outlined, “I want to get back to my teacher mentality and try to develop lifelong volleyball people rather than kids who are set on winning national championships and stuff like that.” One of the coaches discussed how his program had four overarching values that were important, but he also recognized that simply

having the values was not sufficient. The values needed to be taught to the youth. This was noted by an ice hockey coach named Brian:

The main problem was that the four values were never explained. For instance, listening, who are you listening to? ... Discipline, what does that mean? Probably if you asked the kids what the word “discipline” means they wouldn’t even know, but none of these were explained How do you respect each other, your leaders, your parents, your friends?... The biggest shortcoming was that it wasn’t emphasized other than just repeating [the values] over and over. ... Need to elaborate and drive home how to live out those values.

When discussing the value of life skills, several coaches referred to sport as much more than a game. For example, Gail said, “I always say to them ‘this is just a game, win or lose, it doesn’t matter. It just matters what you take from this at the end of the day.’” Similarly, Adam stated how non-sport-skill development was one goal he had for his team, with the ultimate goal for youth to learn how to use these skills beyond the sport context:

The biggest expectation for my athletes is respect your opponent—and teamwork. ... My biggest thing is to promote social skills with the kids so they’re able to interact with other people. A lot of what they learn here is respect and how to be around other people.

Challenges associated with intentionally teaching life skills. Coaches identified several challenges related to intentionally teaching life skills within their sport practices. Specifically, coaches tended to outline challenges related to time and the current education and training available to them. Some coaches identified time as a barrier for integrating life skills into their programming. An ice hockey coach named Laura discussed how time was a barrier and explained what she would do if she had more time with youth involved in the program: “Talking about [life skills] a little bit more of the time, having more time to actually spend with the youth

and teaching them how they can relate these values would be better.” When asked if she experienced any challenges associated with integrating life skills into the program, Laura suggested the addition of a separate program component:

I do [teach life skills] with some youth because some come back to the clubhouse so I use that time to work with them a little bit more. But it would be more beneficial if all youth could come back to the clubhouse and we could have like a [program name] Tuesday, more or less, to have more of a class session to teach both life and sport skills.

Similarly, two ice hockey coaches outlined that offering an off-ice component would be helpful in using an explicit approach to life skill integration:

My recommendation would be to incorporate those [life skills].... I think increasing the time frame that they're here. Having another room dedicated for afterwards that we'd go in ... for half an hour or so and discuss some of those life skills that we're trying to promote and make that connection between practice and life. (Paul)

We almost need off-ice time ... that is where we can work on those values, and put them in different perspectives. I think it allows for a better understanding. ... It is something that we as coaches could mimic more. In addition to spending time off-ice talking about values, we can also start implementing more in just the way we speak. (Rachel)

In line with this, Andrew discussed how, if he had more time, he would like to take on a more youth-driven focus within practice to foster leadership skills in youth:

My philosophy is different from how I practice it. I would like to have time to integrate youth decisions and choices, but being in this time crunch ... it's just drill, drill, drill. I wish we did a better job of it. ... I definitely didn't have time for youth to run drills because of the time crunch. If we had youth set up drills, it would've been awesome for

fostering leadership. I would have loved to do that. But in 45 minutes, it's not always feasible ... that's one side that we could definitely improve on.

Upon reflecting on the program practices, Laura discussed that she perceived both time and training to be barriers to teaching life skills: "There's definitely things that I would do next year differently for sure ... more [training] for the [coaches] and related to that ... more time to focus with the youth on coaching life skills." As noted in Laura's quotation, a common challenge that many coaches identified was the lack of education or training they had related to life skill integration within sport. Specifically, Janet, an assistant volleyball coach, noted that she lacked awareness and education surrounding how to integrate this in an intentional manner:

That's really interesting that you mentioned that [intentionally teaching life skills].... I'm glad you did. That's not something I've ever really thought of before—integrating those life skills into actual practices and games. ... I think that's a really good idea that I've really never thought of integrating into regular sessions.... I would like to learn more about that process.

Also, Andrew talked about the usefulness of life skills education for coaches within his organization. He outlined that this could be done during a coaches' meeting held by the organization at the beginning of the season:

What could be important instead of outlining what drills we can use to teach sport skills is learning about emotional management, and those kind of life skills. That's more what we should be talking about. When are the moments we can teach those lessons? Because that's something not a lot of coaches know and is something coaches struggle more with than the actual [sport] skills.

Last, Ryan, who believed integrating life skills would be important within his sport, vocalized his concern that such integration would result in a loss of participation or engagement by youth:

I think it would be difficult [to integrate life skills]; we would have to be very strategic and it would need to be very subtle. We don't want it to feel like a traditional leadership program. We want it to be what it is in terms of the league and learning about sports. So not necessarily knowing that they are learning about life skills. We like that kind of subliminal, maybe that's not a good word to put on tape, but that kind of unconscious type learning. ... They get a lot of that intentional stuff everywhere else.

Discussion

Prior research suggests that sport is an ideal context to foster life skill development in youth (Gould & Carson, 2008; Petitpas, Cornelius, Van Raalte, & Jones, 2005). However, there are mixed findings about whether an intentional or implicit approach should be taken to foster youth development (Fraser-Thomas et al., 2005; Gould & Carson, 2008; Turnnidge, Côté, & Hancock, 2014). The purpose of this study was to understand youth sport coaches' perceptions of life skill development. Results from an inductive thematic analysis of 23 coaches led to the development of four themes: (a) life skills are a by-product of sport participation, and transfer "just happens"; (b) if intentionally addressed, it's reactive; (c) coaches recognize the value of intentionally teaching life skills; and (d) coaches identify challenges associated with using an explicit approach to teaching life skills. Findings from this study align with previous research that outline coaches recognize the value of life skill integration within the youth sport context (Gould et al., 2007; McCallister et al., 2000; Trottier & Robitaille, 2014), yet there is a disconnect between recognizing the value and having the necessary skills to explicitly integrate such skills into their coaching practices. Although coaches in this study believed there was value

in teaching life skills, many also believed that the process of life skill development, including the transference of such skills to other context, occurred through mere participation. Such findings resonate with the work of Collins and colleagues (2009), whereby some coaches believed the sport of football, or sport participation in general, developed people. It is evident that there is a disconnect between the current research findings and academic recommendations, as findings from the present study suggest that what is happening in youth sport is not consistent with the majority of researchers' propositions related to life skill integration in sport (Fraser-Thomas et al., 2005; Gould & Carson, 2008; Petitpas et al., 2005).

For a skill to be classified as a "life skill," youth must be able to transfer the skill from the sport context, where it was learned, to other contexts (e.g., school, home, work, or community; Danish et al., 1993; Gould & Carson, 2008). Being able to successfully transfer the skills to other contexts helps youth to develop the capacity to successfully cope with various life situations (Papacharisis et al., 2005). As Camiré and colleagues (2011) discussed, teaching life skills and teaching how such skills transfer to different domains "should not be left to chance" (p. 258). It is critical for coaches to integrate such strategies in an intentional and systematic manner to promote the positive development of athletes (Camiré et al., 2011). Particularly, previous studies have advocated for this intentional process of life skills transfer (Bean, Kendellen, & Forneris, 2015; Camiré et al., 2012; Trottier & Robitaille, 2014). However, based on some of the challenges identified by coaches, there is a need for formal education and/or training surrounding the intentional integration and transfer of life skills within one's coaching practice. Such skills are not always developed through an implicit process, and many coaches in this study felt that they did not have the necessary tools to explicitly teach these skills within the sport context.

Previous researchers have discussed the difference between implicit and explicit approaches to life skill development and transfer (e.g., Bean & Forneris 2016; Turnnidge et al., 2014). Many coaches within the current study took on an implicit approach to teaching life skills, whereby life skill development and transfer were seen as by-products of sport participation. Recently, Bean and Forneris (2016) outlined the notion that life skill integration can fall along a continuum and should not be dichotomized. For practitioners and policymakers, it is critical to recognize that while life skill development can occur implicitly within sport, there is also value in moving toward an explicit approach, particularly as it relates to coach education. This aligns with a hypothesis made by Holt and colleagues` (2017) which outlines that: “the combined effects of a PYD climate and a life skills focus will produce more PYD outcomes than a PYD climate alone” (p. 38). Coaches within this study discussed the use of teachable moments to facilitate life skill development, which supports previous research (Camiré et al., 2012; Walsh, Ozaeta, & Wright, 2010). Using such a strategy is a first step toward moving from an implicit to an explicit approach. However, the importance for coaches to recognize and capitalize on opportunities to use teachable moments should be reinforced. Moreover, teachable moments should not solely occur when a negative behavior is observed (such as an athlete’s inability to regulate his or her emotions), but also when athletes exhibit positive behaviors or skills. Future research is needed to better understand this continuum of life skill integration. For example, exploring additional strategies that coaches can use to adopt a more explicit and intentional approach is needed within youth sport. From this, additional training would be useful for coaches related to how to incorporate more explicit approaches to teaching life skills into their coach practices.

As noted, results from the current study reinforce previous research findings, whereby coaches do recognize the value of life skill development within sport (McCallister et al., 2000; Trottier & Robitaille, 2014), yet when probed coaches outlined limited strategies to intentionally teach these skills (Holt et al., 2008; Lacroix, Camiré, & Trudel, 2008; McCallister et al., 2000). Research has shown that sport stakeholders (i.e., athletes, coaches, administrators, and parents) often have higher expectations or beliefs related to the potential for life skill development compared to their reported experiences (Forneris et al., 2012). Stakeholders within Forneris et al.'s study scored significantly higher on their beliefs or expectations for life skill development compared to their experiences related to the actual development and teaching of life skills. These results, along with those from the current study, reinforce that sport stakeholders believe more can be done to foster life skill development within youth sport.

Although intentionality in the youth sport context has been identified as critical for life skill development, barriers were outlined by coaches that should be considered at a practical level. Such barriers may be particularly important given that researchers have found that coaches who deliver deliberate and effective strategies for youth development tended to be highly experienced and well trained (Camiré, 2014). However, an important finding from the current study reinforces that even coaches who have several years (i.e., 30) of coaching experience still believe that life skills are a by-product of sport participation or experience challenges related to adopting explicit approaches. As noted, this study was part of a larger project, and for the purpose of this study only coaches who did not intentionally integrate life skills into their coaching practices were included in the sample. However, it should be noted that challenges were still acknowledged by coaches who did intentionally teach life skills in their sport. For example, a volleyball coach who adopted an intentional approach to life skill development

recognized the value of life skill integration and believed that such responsibilities fall on the coach; however, coaches require the knowledge to know how to incorporate life skills into their sport:

It's definitely feasible. I think to a certain extent it's the responsibility of a coach to make sure that playing the right way is working hard and respecting others and persevering—all those life skills ... that's all part of the positive experience—you don't just focus on volleyball. There's more transferable skills, but we need to bring them to the forefront and talk a lot about them; it gets lost. (personal communication, March 30, 2015)

Similarly, a female volleyball coach who adopted an explicit approach to teaching life skills outlined a limitation of the current formalized training available for coaches:

Clinics and certifications never teach you how to incorporate life skills into your sport. They say fun is the most important aspect and they teach you how to do a fun practice, but they don't teach you strategies to teach life skills.... A lot of coaches need guidance to teach more than just sport skills...there's value in having clinics include this element. (personal communication, March 31, 2015)

Therefore, not only is more work needed to eliminate such barriers, findings from the current study have practical implications related to the importance of coach education and training. Specifically, coaches lack the knowledge related to understanding what and how to intentionally integrate life skills into their regular coaching practice.

An important finding from this study underlines the lack of knowledge that coaches have related to explicit life skill integration. Formal coach education programs do not incorporate methods for promoting positive youth development, as they tend to focus primarily on sport-specific elements (e.g., technical and tactical knowledge; Camiré et al., 2014). To improve

coaches' skills in promoting life skill development, formal courses should provide specific training on how to achieve positive youth outcomes (Camiré et al., 2014). For example, Forneris and colleagues (2012) found that coaches who participated in a coach education program believed they had greater abilities to facilitate positive youth development compared to coaches with no coach education. Findings from the current study also reinforce Camiré et al.'s (2014) findings within the high school sport context and extend to the community youth sport context. Youth sport coaches tend to be volunteers. As such, investing additional time tends to hinder any involvement in training or education (Lacroix et al., 2008; Vargas-Tonsing, 2007). Thus, integrating life skill development into a coach training program (e.g., National Coaching Certification Program; Coaching Association of Canada, 2016) would be beneficial in reaching a vast number of coaches while eliminating the need for additional training time. In line with this, regardless of the implicit or reactive approach taken by coaches, participants within this study reinforced the relevance of emotional regulation within the sport context. Youth tended to struggle within this skill and as such was one coaches frequently encountered. Therefore, proactive strategies related to emotional regulation should be integrated into coach training and education, as this seems to be a prominent skill closely ingrained within youth sport.

A predominant theme outlined by participants in this study was the additional time required in order to integrate life skills. Many coaches believed a separate life skills session was needed instead of explicitly incorporating life skills discussion and activities into already existing programming. This barrier has been identified by other sport coaches, who outlined that a lack of time constrained the integration of life skills into sport practices, as this was thought to impede the development of sport-specific skills (Camiré & Trudel, 2014). This has critical practical implications for coach education and training because teaching life skills are not and should not

be a separate component of youth sport. Thus, additional collaboration is needed between researchers and practitioners to work on how to integrate life skills into regular sport practices. Past research has shown that effective coaching requires coaches to have well-developed philosophies and strategies to facilitate life skills (Collins et al., 2009; Gould et al., 2007). Award-winning coaches acknowledged that integration of life skills was not separate from their general coaching strategies for performance enhancement (Gould et al., 2007). Furthermore, Gould and Carson (2008) outlined that strategies for teaching life skills should not be considered as an isolated activity. Similarly, Kendellen and colleagues (2016) recommended four steps to integrate life skills into regular sport coaching practices: (a) focus on one life skill per lesson, (b) introduce the life skill at the beginning of the lesson, (c) integrate strategies to teach the life skill throughout the lesson, and (d) debrief the life skills at the end of the lesson and discuss transfer. Throughout this process, it is critical to educate coaches on how they can discuss and allow time for youth to develop these life skills while practicing sport-specific skills. For example, coaches can teach youth to be aware of and practice emotional regulation skills by encouraging the use of breathing when striking out at the plate in baseball or reinforcing the importance of communication when learning a new tactical strategy in volleyball. Such an approach has been applied to two curriculums within a national sport organization within Canada, reinforcing the feasibility of integrating life skills congruently with physical and sport-related skills (Kendellen et al., 2016). Through greater understanding of the life skill integration process, including how life skills can simultaneously and congruently be integrated into sport programming without being seen as an isolated construct, coaches may recognize that time may not be a barrier to life skill integration.

Over the past few years, researchers within the field of sport psychology have made important and necessary steps to address these gaps by translating knowledge to sport practitioners. Initial case studies have been done with coaches surrounding the intentional integration of youth development strategies into youth sport (e.g., Camiré et al., 2011; Camiré & Trudel, 2014; Falcão, Bloom, & Gilbert, 2012). More recently, in-person (e.g., Detroit Police Athlete League, 2016) and online coach training and resources (e.g., Strachan, McDonald, & Côté, 2016; Kendellen et al., 2016) have been made available to practitioners integrating a positive youth development framework. For example, Strachan and colleagues (2016) developed the SCORE (Sport COnnect and REspect) project, an online coach education program on how to intentionally integrate life skills within their coaching practices. As such, the field seems to be progressing in a positive direction through working to bridge the knowledge gap between research and practice by minimizing the disconnect youth sport coaches' experience related to the perceived value and ability to integrate life skills. However, the current findings support the need for the development and provision of pedagogical tools for coaches to promote life skill development that have also been advocated for by other researchers (e.g., Camiré, 2014; McCallister et al., 2000; Strachan et al., 2016; Vella et al., 2011). Continuing the translation process will provide coaches with information and resources related to best practices to foster positive youth development within sport.

Limitations

Findings from this study should be inferred with the following limitations in mind. First, this study represents one sample of youth sport coaches, and it should not be assumed that all youth sport coaches have similar perspectives related to life skills integration within sport. In addition, the small sample size and limited types of sport contexts explored restrict the

generalizability of the results. Last, as is often the case in program evaluation, there is the potential for social desirability during the semi-structured interviews. However, the researchers conducted a minimum of four observations with each team's coach ($M = 7.17$, range = 4– 12; Bean & Forneris, 2016) as part of the larger project; therefore, the researchers were confident that coaches' perceptions and experiences were in line with what was carried out during their sport practices.

Conclusion

Camiré and colleagues (2012) outlined that coaches who invest in coaching more than technical and tactical skills can have a powerful and lasting influence on the development of youth. Findings from the current study outline a disconnect between academic-proposed best practices and practitioners' (e.g., coaches) behaviors within the youth sport domain related to life skill development. Despite the potential for youth involved in the sport context to yield positive outcomes, researchers note that outcomes could be improved if a positive youth development framework was better implemented in program design (Coatsworth & Conroy, 2007). Although participants within the current study recognized the value of intentionally teaching life skills, few did so in their regular coaching practice. Therefore, this study provides practical recommendations for coach education and training. Specifically, education surrounding the importance of intentionally teaching life skills would help bridge the gap between the belief that life skill development and transfer occur implicitly from mere participation in sport and help to recognize the value of deliberately integrating skill development and transfer. Providing strategies, including recognizing teachable moments that result from positive and negative behaviors, can also help minimize the reactive approach taken to teach life skills. Moreover, adopting an approach in which life skills can simultaneously and congruently integrate into

regular sport programming would be useful to coaches. Making such opportunities available for coaches could minimize the perceived barriers of time and education related to life skill integration, which would help youth athletes thrive both in and out of sport. This study offers important findings and adds to the emerging literature on youth development within the sport context.

Acknowledgements

The authors wish to acknowledge Sara Kramers for her assistance in some of the data collection within this study.

Funding

Support for the writing of this article was given through a doctoral research grant from the Social Sciences and Humanities Research Council of Canada.

References

- Bean, C. N., & Forneris, T. (2016). Examining the importance of intentionally structuring the youth sport context to facilitate psychosocial development. *Journal of Applied Sport Psychology, 28*, 410–425. doi:10.1080/10413200.2016.1164764
- Bean, C. N., Kendellen, K., & Forneris, T. (2015). Moving beyond the gym: Exploring life skills transfer within a female physical activity based life skills program. *Journal of Applied Sport Psychology, 28*, 274–290. doi:10.1080/10413200.2015.1124155
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77–101.
- Camiré, M. (2014). Youth development in North American high school sport: Review and recommendations. *Quest, 66*, 495-511.
- Camiré, M., Forneris, T., Trudel, P., & Bernard, D. (2011). Strategies for helping coaches facilitate positive youth development through sport. *Journal of Sport Psychology in Action, 2*, 92-99. doi:10.1080/21520704.2011.584246
- Camiré, M., & Trudel, P. (2014). Helping youth sport coaches integrate psychological skills in their coaching practice. *Qualitative Research in Sport, Exercise and Health, 6*, 617-634. doi:10.1080/2159676X.2013.841281
- Camiré, M., Trudel, P., & Forneris, T. (2012). Coaching and transferring life skills: Philosophies and strategies used by model high school coaches. *The Sport Psychologist, 26*, 243-260.

Camiré, M., Trudel, P., & Forneris, T. (2014). Examining how model youth sport coaches learn to facilitate positive youth development. *Physical Education and Sport Pedagogy, 19*, 1-17. doi:10.1080/17408989.2012.726975

Coaching Association of Canada. (2016). *The national coaching certification program*.

Retrieved on 4 May 2016 from <http://www.coach.ca/coach-training-in-canada-s15408>

Coakley, J. (2017). *Sport in society: Issues and controversies* (12th ed.). Boston, MA: McGraw-Hill.

Coatsworth, J. D., & Conroy, D. E. (2007). Youth sport as a component of organized afterschool programs. *New Directions for Youth Development, 2007*, 57-74. doi:10.1002/yd.223

Collins, K., Gould, D., Lauer, L., & Chung, Y. (2009). Coaching life skills through football: Philosophical beliefs of outstanding high school football coaches. *International Journal of Coaching Science, 3*, 16-37. doi:10.1080/10413200601113786

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.

Danish, S. J., Petitpas, A. J., & Hale, B. D. (1993). Life development intervention for athletes life skills through sports. *The Counseling Psychologist, 21*, 352-385.
doi:10.1177/0011000093213002

Detroit Police Athletic League. (2016). *IMPACT training*. Retrieved on 2 May 2016 from <http://detroitpal.org/volunteer/impact-training/>

Falcão, W. R., Bloom, G. A., & Gilbert, W. D. (2012). Coaches' perceptions of a coach training program designed to promote youth developmental outcomes. *Journal of Applied Sport Psychology, 24*, 429-444. doi:10.1080/10413200.2012.692452

- Forneris, T., Camiré, M., & Trudel, P. (2012). The development of life skills and values in high school sport: Is there a gap between stakeholder's expectations and perceived experiences? *International Journal of Sport and Exercise Psychology, 10*, 9-23.
doi:10.1080/1612197X.2012.645128
- Fraser-Thomas, J., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy, 10*, 19-40.
doi:10.1080/1740898042000334890
- Futch Ehrlich, V. A. (2016). The promise of qualitative methods for expanding theories of positive youth development. *Qualitative Psychology, 3*, 2-6.
- Gould, D., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology, 1*, 58-78.
doi:10.1080/17509840701834573
- Gould, D. R., Carson, S., & Blanton, J. (2013). Coaching life skills. In P. Protrac, W. Gilbert & J. Denison (Eds.), *Routledge handbook of sports coaching* (pp.259–270). London: Routledge.
- Gould, D. R., Collins, K., Lauer, L., & Chung, Y. (2007). Coaching life skills through football: A study of award winning high school coaches. *Journal of Applied Sport Psychology, 19*, 16-37. doi:10.1080/10413200601113786
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough? An experiment with data saturation and variability. *Field Methods, 18*, 59-82.
doi:10.1177/1525822X05279903
- Guèvremont, A., Findlay, L., & Kohen, D. (2008). Organized extracurricular activities of Canadian children and youth. *Health Reports, 19*, 65-69.

- High/Scope Educational Research Foundation. (2005). *Youth Program Quality Assessment*. Ypsilanti, MI: High/Scope Press.
- Hodge, K. (1989). Character-building in sport: Fact or fiction. *New Zealand Journal of Sports Medicine, 17*, 23-25.
- Holt, N. L., Tink, L. N., Mandigo, J. L., & Fox, K. R. (2008). Do youth learn life skills through their involvement in high school sport? A case study. *Canadian Journal of Education, 31*, 281-304. doi:10.2307/2046670
- Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods, 18*, 3-20. doi:10.1177/1525822X05282260
- Jones, M. I., & Lavallee, D. (2009). Exploring the life skills needs of British adolescent athletes. *Psychology of Sport and Exercise, 10*, 159-167. doi:10.1016/j.psychsport.2008.06.005
- Kendellen, K., Camiré, M., Bean, C., Forneris, T., & Thompson, J. (2016). Integrating life skills into Golf Canada's youth programs: Insights into a successful research to practice partnership. *Sport Psychology in Action, 8*, 34-46. doi:10.1080/21520704.2016.1205699
- Lacroix, C., Camiré, M., & Trudel, P. (2008). High school coaches' characteristics and their perspectives on the purpose of school sport participation. *International Journal of Coaching Science, 2*, 23-42.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Newbury Park, CA: Sage.
- McCallister, S. G., Blinde, E. M., & Weiss, W. M. (2000). Teaching values and implementing philosophies: Dilemmas of the youth sport coach. *Physical Educator, 57*, 35-45.

- Papacharisis, V., Goudas, M., Danish, S. J., & Theodorakis, Y. (2005). The effectiveness of teaching a life skills program in a sport context. *Journal of Applied Sport Psychology, 17*, 247-254. doi:10.1080/10413200591010139
- Patton, M. Q. (2002). *Qualitative research & evaluation methods*. Thousand Oaks: Sage.
- Petitpas, A. J., Cornelius, A. E., Van Raalte, J. L., & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. *Sport Psychologist, 19*, 63-80.
- Strachan, L., MacDonald, D. J., & Côté, J. (2016). Project SCORE! Coaches' perceptions of an online tool to promote positive youth development in sport. *International Journal of Sports Science & Coaching, 11*, 108-115. doi:10.1177/1747954115624827
- Trottier, C., & Robitaille, S. (2014). Fostering life skills development in high school and community sport: A comparative analysis of the coach's role. *Sport Psychologist, 28*, 10-21.
- Turnnidge, J., Côté, J., & Hancock, D. J. (2014). Positive youth development from sport to life: Explicit or implicit transfer? *Quest, 66*, 203-217. doi:10.1080/00336297.2013.867275
- Vargas-Tonsing, T. M. (2007). Coaches' preferences for continuing coaching education. *International Journal of Sports Science & Coaching, 2*, 25-35. doi:10.1260/174795407780367186
- Vella, S., Oades, L., & Crowe, T. (2011). The role of the coach in facilitating positive youth development: Moving from theory to practice. *Journal of Applied Sport Psychology, 23*, 33-48. doi:10.1080/10413200.2010.511423
- Walsh, D. S., Ozaeta, J., & Wright, P. M. (2010). Transference of responsibility model goals to the school environment: Exploring the impact of a coaching club program. *Physical Education & Sport Pedagogy, 15*, 15-28. doi:10.1080/17408980802401252

Weiss, M. R., & Smith, A. L. (2002). Moral development in sport and physical activity: theory, research and intervention. In T. S. Horn (Ed.) *Advances in Sport Psychology* (pp. 243-280). Champaign, IL: Human Kinetics.

Weiss, M. R., Stuntz, C. P., Bhalla, J. A., Bolter, N. D., & Price, M. S. (2013). 'More than a game': Impact of The First Tee life skills programme on positive youth development: Project introduction and Year 1 findings. *Qualitative Research in Sport, Exercise and Health*, 5, 214-244. doi:10.1080/2159676X.2012.712997

Table 1.

Participants' Gender, Age, Ethnicity, Years of Experience, and Type of Sport Coached

(including sport type, level of competition, and gender of youth athletes).

Pseudonym	Gender	Age	Ethnicity	Years of Coaching Experience	Sport Coached	Competitive or Recreational	Gender of Athletes' Coached
Karen	Female	44	Caucasian	8	Volleyball	Competitive	Female
Dave	Male	55	Caucasian	12	Volleyball	Competitive	Female
Gary	Male	56	Caucasian	30	Volleyball	Competitive	Male
Janet	Female	52	Caucasian	2	Volleyball	Competitive	Female
Barb	Female	48	Caucasian	1	Volleyball	Competitive	Female
Gail	Female	50	Asian	9	Volleyball	Competitive	Female
Kevin	Male	29	Caucasian	6	Volleyball	Competitive	Female
Mike	Male	43	Caucasian	11	Volleyball	Competitive	Female
Jeff	Male	43	Caucasian	3	Volleyball	Competitive	Female
Tim	Male	54	Asian	11	Volleyball	Competitive	Female
Kevin	Male	54	Caucasian	10	Volleyball	Competitive	Male
Ryan	Male	22	Caucasian	1	Ball Hockey	Recreational	Co-ed
Andrew	Male	22	Caucasian	4	Ball Hockey	Recreational	Co-ed
Adam	Male	40	Caucasian	5	Ball Hockey	Recreational	Co-ed
Jeremy	Male	21	Black	2	Ball Hockey	Recreational	Co-ed
Brandon	Male	25	Persian	7	Ball Hockey	Recreational	Co-ed
Scott	Male	51	Caucasian	6	Ice Hockey	Recreational	Co-ed

Paul	Male	27	Caucasian	1	Ice Hockey	Recreational	Co-ed
Melissa	Female	25	Black	3	Ice Hockey	Recreational	Co-ed
Laura	Female	25	Caucasian	1	Ice Hockey	Recreational	Co-ed
Anthony	Male	22	Caucasian	1	Ice Hockey	Recreational	Co-ed
Rachel	Female	29	Caucasian	3	Ice Hockey	Recreational	Co-ed
Brian	Male	61	Caucasian	2	Ice Hockey	Recreational	Co-ed

Chapter Eight

General Discussion

General Discussion

Sport programming has the potential to offer a critical developmental context for youth across Canada, as 77% of youth aged 5 to 19 years old participate in sport (ParticipACTION, 2016). However, for the potential of sport programs to become a reality, it is necessary to offer quality programs that foster both physical and psychosocial development (Danish et al., 2004). The general purpose of this doctoral dissertation was to examine the role of program quality across youth sport programming and understand the relationships between program quality, basic psychological needs support, and psychosocial development. Moreover, this research aimed to examine whether there are particular strategies valuable for fostering psychosocial outcomes, such as intentionally teaching life skills and providing a supportive environment.

This doctoral research made several important contributions to the field of positive youth development and youth sport. First, it was one of the first studies to comprehensively examine program quality within youth sport using a mixed-methods approach and respond to calls to empirically examine the NRCIM eight program setting features within this context (Côté & Hancock, 2014; Côté & Mallett, 2013). Second, this research answered novel research questions and utilized novel data collection methods and analyses to contribute to the academic literature and build a foundation for future research in this area. Third, triangulation of methods (e.g., observations, field notes, questionnaires, and interviews) was used in this dissertation, responding to calls to use observational methods to better understand program processes and characteristics (Flett et al., 2012; Holt & Jones, 2008). Fourth, this research triangulated data sources through attaining researchers', coaches', and youth's perspectives through qualitative and quantitative methods (Articles 1, 2, 3, and 4; Creswell, 2013b). Fifth, this research incorporated theory (e.g., BNT) into a field of research that has been identified as largely

atheoretical (Hodge et al., 2016; Hodge, Danish, & Martin, 2012; Holt & Jones, 2008). Finally, this research was the first to quantitatively examine the notion of intentionality with regards to life skills in youth sport by dichotomizing coaches' approaches to life skills and understand the perceptions of youth sport coaches who do not take on an intentional approach to life skill development. Utilizing an approach that adopted multiple methods and analyses within different contexts to examine a similar question helps develop a consensus and confidence in the results, particularly when little empirical research exists on this topic. As a result, this dissertation was able to provide initial evidence linking program quality and psychosocial development as well as initial evidence related to the mechanisms which facilitate psychosocial outcomes in sport, both of which have been identified gaps in the literature (Gould & Carson, 2008; Hodge et al., 2016; Roth & Brooks-Gunn, 2015; Yohalem & Wilson-Ahlstrom, 2010).

The general discussion begins with summarizing the findings from the five articles outlining how they relate to one another and the current academic literature as well as the practical and academic implications of the findings. The limitations of this dissertation and future directions to overcome these limitations are then outlined. Finally, a conclusion to the dissertation is presented. The first article presented a study that examined the role that program quality and basic needs support played in the development of psychosocial outcomes. Structural equation modelling was used to answer the study's research questions. Results indicated that program quality and needs support significantly predicted psychosocial outcomes independently and needs support partially mediated the relationship between program quality and psychosocial outcomes. As such, in order to foster psychosocial outcomes within youth sport, it is important to consider both program quality and basic needs support. Findings support previous insights surrounding considerations for both the 'content' and 'context' that surrounds youth participating

in sport (Hodge et al., 2012), which reinforces the importance of those responsible for program delivery (Gould & Carson, 2008; Petitpas, Cornelius, & Van Raalte, 2008). As this was the first study to test this relationship, future research is needed to replicate these findings.

The second study built off the first study as once there was evidence for the relationship between program quality and psychosocial outcomes and that basic needs support mediated this relationship, it was important to investigate whether there are differences in observed and perceived program quality and how such differences may impact psychological needs support. As such, the purpose of this study was to examine the associations between researcher- and coach-assessed program quality scores related to youth volleyball athletes' basic needs support. This study utilized polynomial regression with response surface analysis to assess the agreement, discrepancy, and direction of the associations between researcher- and coach-assessed program quality and basic needs support. From these analyses, athletes' needs support was significantly associated with the domains of researcher- and coach-assessed program quality. Further, the degree of discrepancy between researcher- and coach-assessed program quality increased when progressing through three domains of program quality (safe environment, supportive environment, engagement). Such results indicate that discrepancies exist between researcher and coach perceptions on three of the subscales, reinforcing that although coaches may aim to provide an environment that fosters basic needs, these individuals may not always be providing a quality program that is supporting the psychological needs of the youth. In addition, response surface methods indicated that as the degree of agreement increased between researchers' and coaches' ratings of the safety of the environment, supportiveness of the environment, and opportunities for engagement, so did athletes' basic needs support scores in a linear fashion. This further indicates the importance of working with coaches to ensure high program quality.

Overall, these results help to understand the current sport context and may act as a starting point for the development of coach education and training related to delivering high quality programs based on identified discrepancies.

Article 1 and Article 2 helped establish the relationships between program quality, needs support and psychosocial outcomes; in other words the “what” question. The third article builds off these studies as it focused on beginning to understand the “how” question. During data collection of two physical activity-based mentoring programs, it became evident there were differences in the program quality. As such, it was recognized as an ideal opportunity to compare a program of lower quality with one of higher quality that did not differ in host organization, location, timing and overall structure. Moreover, comparing these programs allowed for an in-depth exploration of the *how* pertaining to program delivery (i.e., mechanisms and strategies used by program leaders) that may lead to differences in program quality and support for psychological needs. The first aim of this study was to establish if there were differences in program quality scores and needs support between the two programs. Upon finding statistically significant differences between the two programs on both program quality and basic needs support, and that program quality significantly predicted needs support within the girls’ program and not the boys’ program, a qualitative approach was taken to better understand potential reasons for why this was the case. Strategies used by the program leaders were examined through observations. Researcher field notes were analyzed using thematic analysis to further understand these strategies and four themes emerged including providing a supportive environment, intentional opportunities for skill-building, supported leadership and mentoring opportunities, and planned opportunities for youth choice can positively influence needs support. This study highlights the critical role of mentors in facilitating program quality and supporting needs within

youth mentoring program and responded to calls for increased understanding of the circumstances and strategies that have the most meaningful influences on youth development (DuBois, Portillo, Rhodes, Silverthorn, & Valentine, 2011). Finally, this study has important practical implications for stakeholders involved in youth programming as results provide concrete data around strategies that should be incorporated into best practices for program leader training.

The fourth study provided initial empirical evidence on the importance of teaching life skills within youth sport. Many researchers advocate that intentionally teaching life skills in youth sport is critical to facilitating psychosocial development, yet no research has directly compared youth programs that do and do not intentionally teach life skills. Therefore, this research examined if there were differences in program quality and psychosocial outcomes in youth programs across three different program contexts: (a) sport programs that intentionally taught life skills, (b) leadership programs that intentionally taught life skills, and (c) sport programs that did not intentionally teach life skills. Leadership programs were used as a comparison group for this research as these programs tend to focus mainly on life skill development. Quantitative data were analyzed and significant differences between the three program contexts related to researcher-observed program quality, youth-perceived program quality, and youth-perceived life skill development emerged. Specifically, programs that intentionally taught life skills (sport and leadership) scored significantly higher than sport programs that were not intentionally structured to teach life skills on researchers' and youth's perceptions of program quality, as well as on psychosocial outcomes. Interestingly, youth who engaged in sport programming that intentionally taught life skills reported higher levels of psychosocial development compared to the youth in the leadership programs that intentionally

taught life skills. Hence, this study provides quantitative evidence to help reinforce many researcher assertions (Camiré, Forneris, Trudel, & Bernard, 2011; Fraser-Thomas et al., 2005; Gould, Carson, & Blanton, 2013; Petitpas et al., 2005) and qualitative empirical evidence (e.g., Camiré & Trudel, 2014; Camiré, Trudel, & Forneris, 2014; Gould, Collins, Lauer, & Chung, 2007) that leaders within youth sport should adopt an explicit approach to life skill development. This research also suggests that sport may be a unique context that can facilitate enhanced psychosocial outcomes for youth over and above other types of extra-curricular programs.

Article 5 built off Article 4 as those participants that were identified as not using an intentional approach to life skill development were interviewed to gain insight into their perceptions of life skill development through sport. This study was novel in its participant sample. The majority of literature that has adopted a qualitative approach to understanding perceptions life skill development has collected data from coaches who were already teaching life skills in an intentional manner (Camiré et al., 2014; Collins, Gould, Lauer, & Chung, 2009; Gould et al., 2007). This study focused on coaches that have not adopted an intentional approach to teaching life skills to understand why this may be the case. Thematic analyses revealed four themes based on coaches' perceptions, which included the belief that life skill development, hence psychosocial development, is a by-product of sport participation and transfer 'just happens'. Moreover, although coaches recognized the value of intentionally teaching life skills, they tended to take on a reactive approach rather than a planned intentional approach, and coaches identified challenges associated with using an explicit approach to teaching life skills pertaining to time and knowledge capacity. This research uncovered a disconnect between recognizing the value and having the necessary skills to explicitly integrate such skills into one's coaching practices. Such findings have important practical implications for both researchers and

stakeholders involved in youth sport. More specifically, work is needed to eliminate these identified barriers and provide increased opportunities for coach education and training related to integrating the teaching of life skills in youth development. Such training should include emphasizing the importance of life skill development within youth sport and provide strategies for how coaches can adopt an explicit life skill approach seamlessly into their current sport practices (Camiré et al., 2014).

When reflected upon as a whole, findings from all five articles support a number of assertions that have been present in the field of PYD and youth sport. More specifically, this research either provided initial empirical evidence or helped to strengthen the empirical evidence to support these assertions. This dissertation extended the work of Strachan et al., (2011) who qualitatively explored Eccles and Gootman's (2002) setting features in a competitive youth sport context whereby these authors found an appropriate training environment, the provision of opportunities for physical, personal and social skill development, and the presence of supportive interactions to be critical elements for fostering youth development within competitive youth sport. Further, researchers have argued that the development of psychosocial outcomes in youth sport does not automatically result from participation, as success is often dependent on non-sport components such as quality of instruction and environmental conditions and the intentional teaching of life skills (Anderson-Butcher et al., 2013; Gould & Carson, 2008; Petitpas et al., 2005; Turnnidge et al., 2014). Another assertion has been that central to the overall effectiveness of sport-based youth programs is the role of adult staff, who often serve as role models, mentors, coaches and educators (Anderson-Butcher, Cash, Saltzburg, Midle, & Pace, 2004; Gould et al., 2007). This research reinforced the importance of adult staff in program planning and delivery, as well as ongoing interactions with youth within the program. By providing a positive

environment through the support of psychological needs, staff can positively affect youth's experiences within sport and physical activity contexts (Camiré et al., 2012; Gould, Flett, & Lauer, 2012). This was evident across the first four studies of this research through understanding the importance of program quality and in particular, the relationship that emerged between program quality, basic psychological needs, and psychosocial outcomes.

Findings from this research also shed light on the need and importance of coach/staff education pertaining to the processes and strategies on how to facilitate a high-quality program. There is both qualitative and quantitative evidence to support that some coaches may believe that they are providing a higher quality program than what is observed and/or coaches believe the development of life skills is predominantly solely an implicit process (Articles 2 and 5). Furthermore, based on findings from Article 3, it should be recognized that lower quality programs were found not to contribute to psychological needs support. Based on the findings of these articles, it is necessary that more opportunities be provided to coaches and program staff to build capacity around how processes and strategies related to program quality are planned for and delivered. This call has been echoed within other literature as well (Camiré et al., 2014; Strachan, MacDonald, & Côté, 2016; Vella, Oades, & Crowe, 2011)

Finally, this research answered the call to incorporate and examine theory in relation to program quality and psychosocial development in youth programming (Roth & Brooks-Gunn, 2015), and specifically youth sport (Hodge et al., 2016; Holt, Deal, & Smyth, 2016). Self-determination theory proposes that youth motivation and psychological needs support, including the need for relatedness, competence, and autonomy, are significantly influenced by the environment created by coaches and other program staff (Deci & Ryan, 1985; Mageau & Vallerand, 2003; Ryan & Deci, 2002). From this research, it was recognized that the support of

the three psychological needs is important and may mediate program quality and psychosocial development. Together, the current research, in combination with other studies within the youth sport literature (e.g., Amorose, Anderson-Butcher, & Cooper, 2009; Iachini, Beets, Ball, & Lohman, 2014; Inoue, Wegner, Jordan, & Funk, 2015; McDonough, Ullrich-French, Anderson-Butcher, Amorose, & Riley, 2013) suggest that attempts to support youth's needs for competence, autonomy, and relatedness by coaches may ultimately contribute to needs satisfaction and are conducive for fostering psychosocial outcomes in youth athletes (Langan, Blake, & Lonsdale, 2013; Ntoumanis, Taylor, & Thøgersen-Ntoumani, 2012). These findings also provide theoretical support for the LDI/BNT model proposed by Hodge and colleagues (2012, 2016) within the sport context. Furthermore, this research provides initial support for Hodge and colleagues postulation that the incorporation of the intentional teaching of life skills may inherently support the three psychological needs in its goal of fostering psychosocial development.

Limitations and Future Research

Despite the strengths of this project, it is not without its limitations. First, although this research was novel in that it used an observational measure to assess program quality there were limitations with the YPQA observational tool. The YPQA was designed for all youth programming in general, which covers numerous contexts (e.g., art, music, leadership, sport) and was shown to be valid and reliable within such contexts (Akiva, 2005). However, the current project revealed that the YPQA in its current form may not be best suited for the sport context. Sport is unique because of the opportunities to develop both physical and psychosocial skills along with the competitive nature of its environment (Danish et al., 2004; Fraser-Thomas et al., 2005). It was noted that the items within the YPQA did not fully capture all of these unique

aspects. As such, a sport-specific observational measure to examine program quality has now been developed (Bean, Kramers, Camiré, Fraser-Thomas, & Forneris, under review) and research is underway to further test this measure and replicate the findings of this research. In line with this, although researchers conducted an average of seven observations with each of the 33 programs, this allows for only a ‘snapshot’ of the program in its entirety. Researchers may have missed elements of program quality through the delivery of other program sessions.

Second, a limitation of this research is supported by Weiss’ (2016) statement, in which she outlines: “many youth sport programs claim in their mission statement that they focus on teaching life skills, but most lack the essential ingredients of a youth development program (p. 13-14). Within this dissertation initial recruitment was based on reviewing programs and organizations based on their mission statements; however, upon commencing data collection, the researchers acknowledged that many of these programs lacked these essential ingredients, particularly as it related to teaching life skills. Third, a limitation that affected this dissertation as well as the larger PYD field, was valid and reliable measures that assess psychosocial development in youth sport (Holt & Jones, 2008; MacDonald & McIsaac, 2016). For example, the PYDI-S measure used in this study is not reflective of all psychosocial outcomes that youth may develop through sport participation; however, currently there are few alternative valid and reliable measures that assess psychosocial development in youth sport. Therefore, future research is needed to continue to develop and test valid and reliable sport specific self-report measures that assess psychosocial development. Fourth, some data collected was cross-sectional in nature. Therefore, future research in this area is encouraged to adopt a longitudinal approach as this may be useful in further understanding the potential strategies/process and outcomes that can lead to positive psychosocial development in youth sport. Fifth, biases common to self-report measures,

such as social desirability, may play a role in this research (Van de Mortel, 2008). Sixth, selection bias may also be a limitation of this research. Coaches and organizations that were involved in this study voluntarily agreed based on their own interest in the study's purpose, which could further limit generalizability of the results. Similarly, based on the voluntary nature of this study, only team sports were involved in this project. In addition, although there was a mix of community-based and not-for-profit youth sport programs involved in this research, these 33 programs are not reflective of all youth sport programming and may be considered somewhat homogenous. Hence, future research is required to continue to understand program quality across the youth sport context including a variety of samples, such as various youth program types (e.g., team/group vs. individual), contexts (e.g., competitive vs. non-competitive, mixed-gender vs. single gender), and organization types (not-for-profit, for-profit), as well as programs that target youth of various ages, genders, ethnicities, and from differing socio-economic backgrounds and geographic locations. Such research would make it possible to better understand program quality within diverse contexts of youth sport.

Finally, a limitation that overshadows much of the PYD literature as well as this research is the variable effects each program has on youth participants. It is commonly understood that youth do not initiate engagement in a program as a blank slate. As such, the wide range of internal assets youth bring with them upon entering a program, as well as the varying abilities and opportunities that youth have to engage with program material, build relationships with others, and to apply the ideas from the program in their own lives following program completion influence the way youth reflect on their development experiences (Gould & Carson, 2008). Therefore, future research should try to take these variables into consideration and examine how a program is developed and delivered may have a differential influence on different groups of

youth (e.g., youth with low internal assets at the start of a program compared to youth who may already have a number of internal assets at the start of the program).

In pursuit of adding an original contribution to the youth programming and youth sport literatures, there are a number of other areas for future research based on the findings of this dissertation. As Gould and colleagues (2012) suggest, there continues to be a lack of understanding regarding the relationship among coach practice and youth outcomes. Therefore, researchers should continue to focus attention on understanding the relative importance of certain program quality elements within youth sport. Moreover, although this research found that intentionally teaching life skills and supporting youth's basic psychological needs were important (Articles 1, 2, 3, and 4), more research is needed to understand if other features are as important or more important than others when delivering a youth sport program. Further, although the importance of coaches has been identified, the specific behavioural mechanisms used by these individuals within their program delivery (i.e. instructional practices) remain unclear (Anderson-Butcher et al., 2004; Gould, Lauer, Rolo, Jannes, & Pennisi, 2008). As outlined in Article 3, providing an appropriate structure and positive adult support contributed to supporting basic psychological needs; however, the interpretation of such findings needs to be cautioned due to the small sample size. Using the Coach-Athlete Interaction Coding System state space grid observational methodology (Erickson, Côté, Hollenstein, & Deakin, 2011; Hollenstein, 2007) may be useful in further understanding these specific behavioural mechanisms and interactions. Furthermore, research is needed to better understand the relationship between these constructs, including the possible overlap of features of program quality and whether this relationship influences the process through which psychosocial outcomes are fostered within youth sport. Similarly, investigating the relationship between

program quality and other constructs that were not explored in this study such as psychological needs satisfaction, enjoyment, engagement, and well-being outcome measures is warranted to advance the field. In summary, although program quality is important holistically, further investigation of individual program quality constructs will help advance the academic literature and aid in structuring future coach and leader education and training.

Researchers also need to continue to explore theories such as SDT, BNT, along with other relevant theories to PYD in youth sport. Further, methodological considerations are needed when planning future research. This research utilized unique methods and analyses, including structural equation modelling and polynomial regression with response surface analyses which provides an area of future research as replication of findings can further strengthen the empirical evidence within the field. It is also encouraged that future research use additional types of measures, as well as multiple perspectives and sources of data related to program quality in order to further contribute to the field methodologically and scientifically. It is believed that continuing to adopt a multi-dimensional approach to understand program quality will allow researchers to capture the complex issues within youth sport programming.

Further, there may be something unique about the sport context. Findings from Article 4, in combination with past research (e.g., Forneris et al., 2015; Jones et al., 2016; Zarrett et al., 2008), indicate that when appropriately structured, sport may foster more psychosocial outcomes than engagement in other extra-curricular programs. Thus, future research is warranted to continue to explore this uniqueness surrounding youth sport as an avenue to foster psychosocial outcomes. Moreover, Articles 4 and 5 discuss the notion of a life skills continuum that spans when coaches adopt an implicit or explicit approach to life skill integration. Future research is needed to better understand this continuum, which will help to gain a more in-depth

understanding of the role intentionality plays in fostering program quality and psychosocial outcomes. In addition, research on interventions with coaches would provide opportunities to bridge research and practice, and would help coaches and programmers build capacity around program implementation and incorporate more explicit approaches to teaching life skills into their coaching practices and also contribute to understanding best practices within the academic field. Such interventions could include a quasi-experiment or experimental design that includes a control group, as this would allow for examination of causal relationships between sport participation, program quality, and psychosocial outcomes. Although this type of research design can be difficult within community-based research, it is feasible and the benefits can help advance the academic field. In contrast to extending the above research designs towards control-group, there is also value in utilizing a case study methodology to adopt an in-depth understanding of coach and youth experiences related to program quality. The potential benefits of case studies might include further understanding high quality and low quality experiences within a program and aid in practical implications related to PYD-based sport programming.

Conclusion

Sport is a popular extra-curricular activity in Canada and in many other countries around the world. Engagement in extra-curricular programming, such as sport, is one form of leisure. Because of leisure's unique characteristic of being intrinsically chosen, it is important to structure the environment in such a way that youth feel motivated to meaningfully engage. This doctoral dissertation contributes to the scientific literature on positive youth development through sport conceptually, theoretically, methodologically, and practically and suggests that both program quality and basic psychological needs support may be important for enhancing psychosocial development in youth sport.

Many youth sport organizations' mission statements claim that their programming will lead to the holistic development of youth and often cite psychosocial outcomes that will be fostered as a result of participation. However, this research suggests that such mission statements may be best fulfilled when leaders support the basic psychological needs of youth and incorporate an explicit approach to life skills teaching. Although it is promising to see that a number of leaders in this study supported youth's needs, it was evident that there is still work to be done. More concerning was the challenge in finding programs that intentionally taught life skills. It was expected that we would have had a much higher number at the outset of the study however we found that the majority of leaders were not using an explicit approach to teaching life skills. Therefore, if youth sport is to reach its goal and potential in fostering psychosocial outcomes, further attention is needed in the areas of program quality and support the three basic psychological needs. It is hoped that this research will aid academics in understanding best practices in youth sport and prompt stakeholders in youth sport to begin to integrate the strategies that will foster the psychosocial development of youth in both coach education and coach practice.

Statement of Contribution

I, Corliss Bean, was responsible for the conceptualization of the study, as well as the gathering and analyzing of data for this project. I was responsible for writing the five articles as part of this doctoral dissertation. Dr. Tanya Forneris reviewed all articles and provided valuable feedback pertaining to the overall organisation and conceptualization of each article. In Article 2, Dr. Jennifer Brunet assisted with the data analyses, discussed the results, and revised the final manuscript by providing suggestions to ensure clarity and improve the quality of the manuscript.

References

- Adie, J. W., Duda, J. L., & Ntoumanis, N. (2008). Autonomy support, basic need satisfaction and the optimal functioning of adult male and female sport participants: A test of basic needs theory. *Motivation and Emotion, 32*(3), 189-199.
- Agans, J. P., Champine, R. B., DeSouza, L. M., Mueller, M. K., Johnson, S. K., & Lerner, R. M. (2014). Activity involvement as an ecological asset: Profiles of participation and youth outcomes. *Journal of Youth and Adolescence, 43*(6), 919-32. doi:10.1007/s10964-014-0091-1.
- Akiva, T. (2005). Turning training into results: The new youth program quality assessment. *High/Scope Resource, 24*(2), 21-24.
- Allen, G., Rhind, D., & Koshy, V. (2015). Enablers and barriers for male students transferring life skills from the sports hall into the classroom. *Qualitative Research in Sport, Exercise and Health, 7*(1), 53-67. doi:10.1080/2159676X.2014.893898
- Amorose, A. J., Anderson-Butcher, D., & Cooper, J. (2009). Predicting changes in athletes' well being from changes in need satisfaction over the course of a competitive season. *Research Quarterly for Exercise and Sport, 80*(2), 386-392. doi:10.1080/02701367.2009.10599575
- Anderson-Butcher, D., Cash, S. J., Saltzburg, S., Midle, T., & Pace, D. (2004). Institutions of youth development: The significance of supportive staff-youth relationships. *Journal of Human Behavior in the Social Environment, 9*(1-2), 83-99.
- Apsler, R. (2009). After-school programs for adolescents: A review of evaluation research. *Adolescence, 44*(173), 1-19.

- Armour, K., Sandford, R., & Duncombe, R. (2013). Positive youth development and physical activity/sport interventions: mechanisms leading to sustained impact. *Physical Education and Sport Pedagogy, 18*(3), 256-281.
- Arnold, M. E., Nott, B. D., & Meinhold, J. L. (2012). *The Positive Youth Development Inventory (PYDI)*. Corvallis, OR: Oregon State University 4-H Youth Development Program.
Retrieved from <http://oregon.4h.oregonstate.edu/about/pre/instruments/pydi>
- Barber, B., Abbott, B., Neira, C., & Eccles, J. (2014). Meaningful activity participation and positive youth development. In *Handbook of positive psychology in the schools* (2nd ed., pp. 227–244). United States: Routledge.
- Barber, B. L., Eccles, J. S., & Stone, M. R. (2001). Whatever happened to the jock, the brain, and the princess? Young adult pathways linked to adolescent activity involvement and social identity. *Journal of Adolescent Research, 16*(5), 429-455.
doi:10.1177/0743558401165002
- Bartko, W. T., & Eccles, J. S. (2003). Adolescent participation in structured and unstructured activities: A person-oriented analysis. *Journal of Youth and Adolescence, 32*(4), 233-241.
doi:10.1023/A:1023056425648
- Bean, C. N., Forneris, T., & Halsall, T. (2014). Girls Just Wanna Have Fun: A process evaluation of a female youth-driven physical activity-based life skills program. *SpringerPlus, 3*, 401-415. doi:10.1186/2193-1801-3-401
- Bean, C. N., Fortier, M., Post, C., & Chima, K. (2014). Understanding how organized youth sport may be harming individual players within the family unit: A literature review. *International Journal of Environmental Research and Public Health, 11*(10), 10226-10268. doi:10.3390/ijerph111010226

- Bean, C., Harlow, M., & Forneris, T. (2016). Examining the importance of supporting youth's basic needs in one youth leadership program: A case study exploring program quality. *International Journal of Adolescence and Youth, 22*(2), 195-209.
doi:10.1080/02673843.2016.1152986
- Bean, C., & Kendellen, K. & Forneris, T. (2016). Examining needs support and positive developmental experiences through participation in a residential summer camp. *Leisure/Loisir, 40*(3), 271-295. doi:10.1080/14927713.2016.1252938
- Bean, C., Kramers, S., Camiré, M., Fraser-Thomas, J., & Forneris, T. (under review). The Program Quality Assessment in Youth Sport (PQAYS) measure development: Initial validity and reliability evidence. *Measurement in Exercise Science and Physical Education, 35* pages.
- Bean, C., Rocchi, M., & Forneris, T. (under review). Validating the Learning Climate Questionnaire as a tool to measure basic psychological needs support in youth sport. *Measurement in Exercise Science and Physical Education, 32* pages.
- Benson, P. L., Scales, P. C., & Syvertsen, A. K. (2010). The contribution of the developmental assets framework to positive youth development theory and practice. *Advances in Child Development and Behavior, 41*, 197-230.
- Biddle, S. J. H., Brown, H. E., & Lavalley, D. (2008). The development of life skills in children through golf (pp. 1-64): Institute of Youth Sport.
- Blomfield, C. J., & Barber, B. L. (2009). Brief report: Performing on the stage, the field, or both? Australian adolescent extracurricular activity participation and self-concept. *Journal of Adolescence, 32*(3), 733-739.

- Bridge, M. W., & Toms, M. R. (2013). The specialising or sampling debate: a retrospective analysis of adolescent sports participation in the UK. *Journal of Sports Sciences, 31*(1), 87-96. doi:10.1080/02640414.2012.721560
- Broh, B. A. (2002). Linking extracurricular programming to academic achievement: Who benefits and why? *Sociology of Education, 75*(January), 69-95.
- Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. In W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Theoretical models of human development* (5th ed., Vol. 1, pp. 993-1028). Hoboken, NJ: John Wiley & Sons Inc.
- Bruce, J. A., Nicola, S., & Menke, T. (2006). Listening to the youth voice in planning leadership development programs. *Journal of Extension, 44*(6), 1-4.
- Camiré, M., Forneris, T., Trudel, P., & Bernard, D. (2011). Strategies for helping coaches facilitate positive youth development through sport. *Journal of Sport Psychology in Action, 2*(2), 92-99. doi:10.1080/21520704.2011.584246
- Camiré, M., & Trudel, P. (2014). Helping youth sport coaches integrate psychological skills in their coaching practice. *Qualitative Research in Sport, Exercise and Health, 6*(4), 617-634. doi:10.1080/2159676X.2013.841281
- Camiré, M., Trudel, P., & Forneris, T. (2012). Coaching and transferring life skills: Philosophies and strategies used by model high school coaches. *Sport Psychologist, 26*(2), 243-260. doi:10.1123/tsp.26.2.243
- Camiré, M., Trudel, P., & Forneris, T. (2014). Examining how model youth sport coaches learn to facilitate positive youth development. *Physical Education and Sport Pedagogy, 19*(1), 1-17. doi:10.1080/17408989.2012.726975

- Catalano, R. F., Berglund, M. L., Ryan, J. A., Lonczak, H. S., & Hawkins, J. D. (2004). Positive youth development in the United States: Research findings on evaluations of positive youth development programs. *The annals of the American academy of political and social science*, 591(1), 98-124.
- Coakley, J. (2011). Youth Sports: What Counts as “Positive Development?”. *Journal of Sport & Social Issues*, 35(3), 306-324.
- Collins, K., Gould, D., Lauer, L., & Chung, Y. (2009). Coaching life skills through football: Philosophical beliefs of outstanding high school football coaches. *International Journal of Coaching Science*, 3(1), 29-54.
- Conroy, D. E., & Coatsworth, D. J. (2007). Assessing autonomy-supportive coaching strategies in youth sport. *Psychology of Sport and Exercise*, 8(5), 671-684.
- Côté, J., & Hancock, D. J. (2014). Evidence-based policies for youth sport programmes. *International Journal of Sport Policy and Politics*, 8(1), 51-65.
doi:10.1080/19406940.2014.919338
- Côté, J., & Mallett, C. J. (2013). *Review of junior sport framework briefing paper: Positive youth development through sport*. Canberra: Australian Sports Commission.
- Côté, J., Strachan, L., & Fraser-Thomas, J. (2008). Participation, personal development and performance through youth sport. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 34-45). New York: Routledge.
- Creswell, J. W. (2013a). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Creswell, J. W. (2013b). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.

- Damon, W. (2004). What is positive youth development? *The ANNALS of the American Academy of Political and Social Science*, 59(13), 13-24.
- Danish, S. J. (1996). Interventions for enhancing adolescents' life skills. *The Humanistic Psychologist*, 24(3), 365-381. doi:10.1080/08873267.1996.9986864
- Danish, S. J., & D'Augelli, A. R. (1983). *Helping skills II: Life development intervention*. New York: Human Sciences Press.
- Danish, S. J., Forneris, T., Hodge, K., & Heke, I. (2004). Enhancing youth development through sport. *World Leisure Journal*, 46(3), 38-49.
- Danish, S. J., Petitpas, A. J., & Hale, B. D. (1993). Life development intervention for athletes life skills through sports. *The Counseling Psychologist*, 21(3), 352-385.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Deci, E. L., Ryan, R. M., & Williams, G. C. (1996). Need satisfaction and the self-regulation of learning. *Learning and Individual Differences*, 8(3), 165-183.
- DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychological Science in the Public Interest*, 12(2), 57-91.
- Duda, J. L. (2013). The conceptual and empirical foundations of Empowering Coaching™: Setting the stage for the PAPA project. *International Journal of Sport and Exercise Psychology*, 11(4), 311-318.
- Duerden, M. D., & Gillard, A. (2008). Promoting supportive relationships in youth programs: A self-determination theory perspective. *Journal of Youth Development*, 3(3), 49-64.

- Durlak, J. A., & DuPre, E. P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. *American Journal of Community Psychology, 41*(3-4), 327-350.
- Durlak, J. A., Weissberg, R. P., & Pachan, M. (2010). A meta-analysis of after-school programs that seek to promote personal and social skills in children and adolescents. *American Journal of Community Psychology, 45*(3-4), 294-309. doi:10.1007/s10464-010-9300-6
- Eccles, J. S., & Barber, B. L. (1999). Student council, volunteering, basketball, or marching band what kind of extracurricular involvement matters? *Journal of Adolescent Research, 14*(1), 10-43. doi:10.1177/0743558499141003
- Eccles, J. S., Barber, B. L., Stone, M., & Hunt, J. (2003). Extracurricular activities and adolescent development. *Journal of Social Issues, 59*(4), 865-889. doi:10.1046/j.0022-4537.2003.00095.x
- Eccles, J. S., & Gootman, J. A. (Eds.), (2002). *Community programs to promote youth development*. Washington, DC: National Academy Press.
- Eccles, J. S., & Templeton, J. (2002). Extracurricular and other after-school activities for youth. *Review of Research in Education, 26*, 113-180.
- Erickson, K., Côté, J., Hollenstein, T., & Deakin, J. (2011). Examining coach–athlete interactions using state space grids: An observational analysis in competitive youth sport. *Psychology of Sport and Exercise, 12*(6), 645-654. doi:10.1016/j.psychsport.2011.06.006
- Employment and Social Development Canada. (2014). Leisure – active leisure time. Retrieved 19 June 2015, from <http://www4.hrsdc.gc.ca/.3ndic.1t.4r@-eng.jsp?iid=51>

- Feilzer, Y. M. (2010). Doing mixed methods research pragmatically: Implications for the rediscovery of pragmatism as a research paradigm. *Journal of Mixed Methods Research*, 4(1), 6-16. doi:10.1177/1558689809349691
- Feldman, A. F., & Matjasko, J. L. (2007). Profiles and portfolios of adolescent school-based extracurricular activity participation. *Journal of Adolescence*, 30(2), 313-332.
- Flett, M. R., Gould, D., & Lauer, L. (2012). A study of an underserved youth sports program using the youth program quality assessment. *Journal of Applied Sport Psychology*, 24(3), 275-289.
- Forneris, T., Camiré, M., & Trudel, P. (2012). The development of life skills and values in high school sport: Is there a gap between stakeholder's expectations and perceived experiences? *International Journal of Sport and Exercise Psychology*, 10(1), 9-23. doi:10.1080/1612197X.2012.645128
- Forneris, T., Camiré, M., & Williamson, R. (2015). Extracurricular activity participation and the acquisition of developmental assets: Differences between involved and noninvolved Canadian high school students. *Applied Developmental Science*, 19(1), 47-55. doi:10.1080/10888691.2014.980580
- Fraser-Thomas, J., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy*, 10(1), 19-40. doi:10.1080/1740898042000334890
- Gould, D. R. (2010). Early sport specialization: A psychological perspective. *Journal of Physical Education, Recreation & Dance*, 81(8), 33-37.
- Gould, D. R., & Carson, S. (2008). Life skills development through sport: Current status and future directions. *International Review of Sport and Exercise Psychology*, 1(1), 58-78.

- Gould, D. R., Carson, S., & Blanton, J. (2013). Coaching life skills. In P. Protrac, W. Gilbert & J. Denison (Eds.), *Routledge handbook of sports coaching* (pp. 259–270). London, England: Routledge.
- Gould, D. R., Collins, K., Lauer, L., & Chung, Y. (2007). Coaching life skills through football: A study of award winning high school coaches. *Journal of Applied Sport Psychology*, *19*(1), 16-37.
- Gould, D. R., Flett, R., & Lauer, L. (2012). The relationship between psychosocial developmental and the sports climate experienced by underserved youth. *Psychology of Sport and Exercise*, *13*(1), 80-87.
- Gould, D. R., Lauer, L., Rolo, C., Jannes, C., & Pennisi, N. (2008). The role of parents in tennis success: Focus group interviews with junior coaches. *Sport Psychologist*, *22*(1), 18-37.
doi:10.1123/tsp.22.1.18
- Gould, D. R., Voelker, D. K., & Griffes, K. R. (2013). Best coaching practices for developing team captains. *Sport Psychologist*, *27*(1), 13-26.
- Granger, R., Durlak, J. A., Yohalem, N., & Reisner, E. (2007). *Improving after-school program quality*. New York: William T. Grant Foundation.
- Greene, J. C., & Caracelli, V. J. (1997). *Advances in mixed-method evaluation: The challenges and benefits of integrating diverse paradigms*: Jossey-Bass.
- Guèvremont, A., Findlay, L., & Kohen, D. (2008). Organized extracurricular activities of Canadian children and youth. *Health Reports - Statistics Canada*, *19*, Catalogue no. 82-003-XPE.

- Guèvremont, A., Findlay, L., & Kohen, D. (2014). Organized extracurricular activities: Are in-school and out-of-school activities associated with different outcomes for Canadian youth? *Journal of School Health, 84*(5), 317-325.
- Hamburg, D. A. (1997). Toward a strategy for healthy adolescent development. *American Journal of Psychiatry, 154*(6S), 7-12.
- Hellison, D. R. (1995). *Teaching responsibility through physical activity*. Champaign, IL: Human Kinetics.
- Hellison, D. R. (2011). *Teaching personal and social responsibility through physical activity*. Champaign, IL: Human Kinetics.
- Hellison, D. R., Martinek, T., Walsh, D., & Holt, N. (2008). Sport and responsible leadership among youth. In N. Holt (Eds.), *Positive youth development through sport*. (pp. 49-60). New York: Routledge.
- Hellison, D., & Walsh, D. (2002). Responsibility-based youth programs evaluation: Investigating the investigations. *Quest, 54*(4), 292-307. doi:10.1080/00336297.2002.10491780
- High/Scope Educational Research Foundation. (2005). *Youth program quality assessment*. Ypsilanti, MI: High/Scope Press.
- Hodge, K., Danish, S. J., & Martin, J. (2012). Developing a conceptual framework for life skills interventions. *The Counseling Psychologist, 41*(8), 1125-1152.
doi:10.1177/0011000012462073
- Hodge, K., Danish, S., Forneris, T., & Miles, A. (2016). Life Skills and Basic Psychological Needs. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 45-56). New York: Routledge.

- Hollenstein, T. (2007). State space grids: Analyzing dynamics across development. *International Journal of Behavioral Development*, 31, 384-396.
- Holt, N. L., Deal, C. J., & Smyth, C. L. (2016). Future directions for positive youth development through sport. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 229-239). New York: Routledge.
- Holt, N. L., & Neely, K. C. (2011). Positive youth development through sport: A review. *Revista iberoamericana de psicología del ejercicio y el deporte*, 6, 299-316.
- Holt, N. L., & Jones, M. I. (2008). Future directions for positive youth development and sport research. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 122-132). New York: Routledge.
- Hopper, T. D., & Iwasaki, Y. (2017). Engagement of " at-risk" youth through meaningful leisure. *Journal of Park & Recreation Administration*, 35(1), 20-33. doi:10.18666/JPRA-2017-V35-I1-7289
- Iachini, A. L., Beets, M. W., Ball, A., & Lohman, M. (2014). Process evaluation of "Girls on the Run": Exploring implementation in a physical activity-based positive youth development program. *Evaluation and Program Planning*, 46, 1-9.
doi:10.1016/j.evalprogplan.2014.05.001
- Inoue, Y., Wegner, C. E., Jordan, J. S., & Funk, D. C. (2015). Relationships between self-determined motivation and developmental outcomes in sport-based positive youth development. *Journal of Applied Sport Psychology*, 27(4), 371-383.
doi:10.1080/10413200.2015.1010662

- Ivankova, N. V., Creswell, J. W., & Stick, S. L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods, 18*(1), 3-20.
doi:10.1177/1525822X05282260
- Jayanthi, N., Pinkham, C., Dugas, L., Patrick, B., & LaBella, C. (2013). Sports specialization in young athletes evidence-based recommendations. *Sports Health: A Multidisciplinary Approach, 5*(3), 251-257. doi:10.1177/1941738112464626.
- Jayanthi, N., Pinkham, C., Luke, A., & Jayanthi, N. (2011). The risks of sports specialization and rapid growth in young athletes. *Clinical Journal of Sport Medicine, 21*(2), 157.
- Jones, G. J., Edwards, M. B., Bocarro, J. N., Bunds, K. S., & Smith, J. W. (2017). An integrative review of sport-based youth development literature. *Sport in Society, 20*, 1, 161-179.
doi:10.1080/17430437.2015.1124569
- Kahn, J., Bronte-Tinkew, J., & Theokas, C. (2008). How can I assess the quality of my program? Tools for out-of-school time program practitioners: *Research-to-Results Brief, Child Trends*. Retrived from <https://www.childtrends.org/wp-content/uploads/01/Program-Quality-OST.pdf>
- Langan, E., Blake, C., & Lonsdale, C. (2013). Systematic review of the effectiveness of interpersonal coach education interventions on athlete outcomes. *Psychology of Sport and Exercise, 14*(1), 37-49. doi:10.1016/j.psychsport.2012.06.007
- Larson, R., & Seepersad, S. (2003). Adolescents' leisure time in the United States: Partying, sports, and the American experiment. *New Directions for Child and Adolescent Development, 2003*(99), 53-64. doi:10.1002/cd.66
- Lerner, R. M. (2004). *Liberty: Thriving and civic engagement among American youth*. Thousand Oaks, CA: Sage.

- Lerner, R. M. (2012). Developmental science: Past, present, and future. *International Journal of Developmental Science*, 6(1), 29-36. doi:10.3233/DEV-2012-12102
- Lerner, R. M., & Castellino, D. R. (2002). Contemporary developmental theory and adolescence: Developmental systems and applied developmental science. *Journal of Adolescent Health*, 31(6), 122-135. doi:10.1016/S1054-139X(02)00495-0
- Lerner, R. M., Lerner, J. V., Almerigi, J. B., Theokas, C., Phelps, E., Gestsdottir, S., . . . Ma, L. (2005). Positive youth development, participation in community youth development programs, and community contributions of fifth-grade adolescents findings from the first wave of the 4-H study of positive youth development. *The Journal of Early Adolescence*, 25(1), 17-71. doi:10.1177/0272431604272461
- Lerner, R. M., Lerner, J. V., Lewin-Bizan, S., Bowers, E. P., Boyd, M. J., Mueller, M. K., . . . Napolitano, C. M. (2011). Positive youth development: Processes, programs, and problematics. *Journal of Youth Development*, 6(3), 38-62.
- Lerner, R. M., & Overton, W. F. (2008). Exemplifying the integrations of the relational developmental system: Synthesizing theory, research, and application to promote positive development and social justice. *Journal of Adolescent Research*, 23(3), 245-255. doi:10.1177/0743558408314385
- Lerner, R. M., Wang, J., Chase, P. A., Gutierrez, A. S., Harris, E. M., Rubin, R. O., & Yalin, C. (2014). Using relational developmental systems theory to link program goals, activities, and outcomes: The sample case of the 4-H Study of Positive Youth Development. *New directions for youth development*, 2014(144), 17-30. doi:10.1002/yd.20110

- Lonsdale, C., Hodge, K., & Rose, E. (2009). Athlete burnout in elite sport: A self-determination perspective. *Journal of Sports Sciences, 27*(8), 785-795.
doi:10.1080/02640410902929366.
- MacDonald, D. J., & McIsaac, T. (2016). Quantitative assessment of positive youth development in sport. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 83-96). New York: Routledge.
- Mageau, G. A., & Vallerand, R. J. (2003). The coach-athlete relationship: A motivational model. *Journal of sports science, 21*(11), 883-904.
- Mahoney, J. L., Cairns, B. D., & Farmer, T. W. (2003). Promoting interpersonal competence and educational success through extracurricular activity participation. *Journal of Educational Psychology, 95*(2), 409-418. doi:10.1037/0022-0663.95.2.409
- Mahoney, J. L., Larson, R. W., Eccles, J. S., & Lord, H. (2005). Organized activities as developmental contexts for children and adolescents. In J. L. Mahoney, R. W. Larson, & J. S. Eccles (Eds.), *Extracurricular activities, after-school and community programs*, (pp. 3-22). London: Psychology Press
- Mahoney, J. L., & Stattin, H. (2000). Leisure activities and adolescent antisocial behavior: The role of structure and social context. *Journal of Adolescence, 23*(2), 113-127.
- Markowitz, E. (2012). Exploring self-esteem in a girls' sports program: Competencies and connections create change. *Afterschool Matters, 11-20*.
- Martinek, T., & Hellison, D. (2016). Learning responsibility through sport and physical activity. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 180-190): Routledge
- Maxwell, J. A., Chmiel, M., & Rogers, S. E. (2015). Designing integration in multimethod and mixed methods research. In S. N. Hesse-Biber & R. B. Johnson (Eds.), *Oxford handbook*

- of multimethod and mixed methods research inquiry* (pp. 688–706). New York, NY: Oxford University Press.
- McDonough, M. H., Ullrich-French, S., Anderson-Butcher, D., Amorose, A. J., & Riley, A. (2013). Social responsibility among low-income youth in Pphysical activity-based positive youth development programs: Scale development and associations with social relationships. *Journal of Applied Sport Psychology, 25*(4), 431-447.
doi:<http://dx.doi.org/10.1080/10413200.2012.751563>
- Merglen, A., Flatz, A., Bélanger, R. E., Michaud, P.-A., & Suris, J.-C. (2014). Weekly sport practice and adolescent well-being. *Archives of Disease in Childhood, 99*(3), 208-210.
doi:[10.1136/archdischild-2013-303729](https://doi.org/10.1136/archdischild-2013-303729)
- Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative Inquiry, 20*(8), 1045-1053.
- Mueller, M. K., Phelps, E., Bowers, E. P., Agans, J. P., Urban, J. B., & Lerner, R. M. (2011). Youth development program participation and intentional self-regulation skills: Contextual and individual bases of pathways to positive youth development. *Journal of Adolescence, 34*(6), 1115-1125. doi:[10.1016/j.adolescence.2011.07.010](https://doi.org/10.1016/j.adolescence.2011.07.010)
- Ntoumanis, N., Taylor, I. M., & Thøgersen-Ntoumani, C. (2012). A longitudinal examination of coach and peer motivational climates in youth sport: Implications for moral attitudes, well-being, and behavioral investment. *Developmental Psychology, 48*(1), 213-223.
- O'Brien, K., Blackie, J. M., & Hunter, J. A. (2005). Hazardous drinking in elite New Zealand sportspeople. *Alcohol and Alcoholism, 40*(3), 239-241. doi:[10.1093/alcalc/agh145](https://doi.org/10.1093/alcalc/agh145)

- Overton, W. F. (2015). Processes, relations, and relational-developmental-systems. In R. M. Lerner (Ed.), *Handbook of child psychology and developmental science* (pp. 1-54). New jersey: John Wiley & Sons, Inc.
- Patton, M. Q. (2002). Two decades of developments in qualitative inquiry a personal, experiential perspective. *Qualitative Social Work, 1*(3), 261-283.
doi:10.1177/1473325002001003636
- ParticipACTION. (2016). *Are kids too tired to move?* Retrived on 13 January 2017, from <https://www.participaction.com/en-ca/thought-leadership/report-card/2016>
- Peck, S. C., Roeser, R. W., Zarrett, N., & Eccles, J. S. (2008). Exploring the roles of extracurricular activity quantity and quality in the educational resilience of vulnerable adolescents: Variable-and pattern-centered approaches. *Journal of Social Issues, 64*(1), 135-156. doi:10.1111/j.1540-4560.2008.00552.x
- Petitpas, A. J., Cornelius, A. E., Van Raalte, J. L., & Jones, T. (2005). A framework for planning youth sport programs that foster psychosocial development. *Sport Psychologist, 19*, 63-80.
- Pierce, S., Gould, D., & Camiré, M. (2017). Definition and model of life skills transfer. *International Review of Sport and Exercise Psychology, 10*(1), 186-211.
- Povilaitis, V., & Tamminen, K. A. (2017). Delivering positive youth development at a residential summer sport camp. *Journal of Adolescent Research, 1*-26.
doi:10.1177/0743558417702478.
- Public Health Agency of Canada. (2007). *Integrated pan-Canadian healthy living strategy*. Retrieved from <http://www.phac-aspc.gc.ca/hl-vs-strat/index.html>

- Public Health Agency of Canada. (2011). What determine health. Retrieved on 15 January 2015 from <http://www.phac-aspc.gc.ca/ph-sp/determinants/index-eng.php>
- Quested, E., & Duda, J. L. (2010). Exploring the social-environmental determinants of well-and ill-being in dancers: A test of basic needs theory. *Journal of Sport and Exercise Psychology, 32*(1), 39-60.
- Quested, E., Ntoumanis, N., Viladrich, C., Haug, E., Ommundsen, Y., Van Hoye, A., . . . Duda, J. L. (2013). Intentions to drop-out of youth soccer: A test of the basic needs theory among European youth from five countries. *International Journal of Sport and Exercise Psychology, 11*(4), 395-407. doi:10.1080/1612197X.2013.830431
- Redding, S. (2014). *The something other*. Center on innovations in learning. Retrieved from http://www.centeril.org/publications/The_Something_Other.pdf
- Roth, J. L., & Brooks-Gunn, J. (2003). What exactly is a youth development program? Answers from research and practice. *Applied Developmental Science, 7*(2), 94-111. doi:10.1207/S1532480XADS0702_6
- Roth, J. L., & Brooks-Gunn, J. (2015). Evaluating youth development programs: Progress and promise. *Applied Developmental Science, 1*-15. doi:10.1080/10888691.2015.1113879
- Rutten, E. A., Stams, G. J. J., Biesta, G. J., Schuengel, C., Dirks, E., & Hoeksma, J. B. (2007). The contribution of organized youth sport to antisocial and prosocial behavior in adolescent athletes. *Journal of Youth and Adolescence, 36*(3), 255-264. doi:10.1007/s10964-006-9085-y
- Ryan, R. M., & Deci, E. L. (2000a). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68-78.

- Ryan, R. M., & Deci, E. L. (2000b). The darker and brighter sides of human existence: Basic psychological needs as a unifying concept. *Psychological Inquiry, 11*(4), 319-338.
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3-33). Rochester, NY: University of Rochester Press.
- Samek, D. R., Elkins, I. J., Keyes, M. A., Iacono, W. G., & McGue, M. (2015). High school sports involvement diminishes the association between childhood conduct disorder and adult antisocial behavior. *Journal of Adolescent Health, 57*(1), 107-112.
doi:10.1016/j.jadohealth.2015.03.009
- Scales, P. C., Benson, P. L., & Roehlkepartain, E. C. (2011). Adolescent thriving: The role of sparks, relationships, and empowerment. *Journal of Youth and Adolescence, 40*(3), 263-277. doi:10.1007/s10964-010-9578-6
- Scales, P. C., Roehlkepartain, E. C., & Benson, P. L. (2009). *Teen voice 2009: The untapped strengths of 15-year-olds*. Minneapolis, MN: Best Buy Children's Foundation, and Search Institute.
- Scott-Little, C., Hamann, M. S., & Jurs, S. G. (2002). Evaluations of after-school programs: A meta-evaluation of methodologies and narrative synthesis of findings. *American Journal of Evaluation, 23*(4), 387-419. doi:10.1177/109821400202300403
- Shernoff, D. J., & Vandell, D. L. (2007). Engagement in after-school program activities: Quality of experience from the perspective of participants. *Journal of Youth and Adolescence, 36*(7), 891-903. doi:10.1007/s10964-007-9183-5

- Shields, D. L., & Bredemeier, B. (2001). Moral development and behavior in sport. In R. N. Singer, H.A. Huseblas, & C. M. Janelle (Eds.), *Handbook of sport psychology* (2nd ed., pp. 585-603). New York: Wiley & Sons.
- Silliman, B. (2008). *Youth program climate survey*. Raleigh, NC: North Carolina Cooperative Extension Service.
- Silliman, B., & Schumm, W. R. (2013). Youth program quality survey: Youth assessment of program quality. *Marriage & Family Review, 49*(7), 647-670.
doi:10.1080/01494929.2013.803010
- Silliman, B., & Shutt, R. E. (2010). Weaving evaluation into the fabric of youth development. *Journal of Youth Development, 5*(Article 100503FA003).
- Smith, C., & Hohmann, C. (2005). Full findings from the Youth PQA validation study. *Ypsilanti, MI: High/Scope Educational Research Foundation*.
- Snyder, C. R., & Lopez, S. J. (2002). *Handbook of positive psychology*. Oxford: Oxford University Press.
- Somekh, B., & Lewin, C. (2005). *Research methods in the social sciences*. Thousand Oaks, CA: Sage.
- Stake, R. E. (2013). *Multiple case study analysis*. New York: Guilford Press.
- Standage, M., Duda, J. L., & Ntoumanis, N. (2005). A test of self-determination theory in school physical education. *British Journal of Educational Psychology, 75*(3), 411-433.
doi:10.1348/000709904X22359
- Stirling, A. E., Bridges, E. J., Cruz, E. L., & Mountjoy, M. L. (2011). Canadian Academy of Sport and Exercise Medicine position paper: Abuse, harassment, and bullying in sport. *Clinical Journal of Sport Medicine, 21*(5), 385-391.

- Strachan, L., Côté, J., & Deakin, J. (2011). A new view: Exploring positive youth development in elite sport contexts. *Qualitative Research in Sport, Exercise and Health*, 3(1), 9-32.
doi:10.1080/19398441.2010.541483
- Strachan, L., MacDonald, D. J., & Côté, J. (2016). Project SCORE! Coaches' perceptions of an online tool to promote positive youth development in sport. *International Journal of Sports Science & Coaching*, 11(1), 108-115.
- Teddle, C., & Tashakkori, A. (2003). Major issues and controversies in the use of mixed methods in the social and behavioral sciences. *Handbook of mixed methods in social & behavioral research*, 3-50.
- Turnidge, J., Côté, J., & Hancock, D. J. (2014). Positive Youth Development From Sport to Life: Explicit or Implicit Transfer? *Quest*, 66(2), 203-217.
doi:10.1080/00336297.2013.867275
- Van de Mortel, T. F. (2008). Faking it: social desirability response bias in self-report research. *Australian Journal of Advanced Nursing*, 25(4), 40-48.
- Vandell, D. L., Pierce, K. M., & Dadisman, K. (2004). Out-of-school settings as a developmental context for children and youth. *Advances in Child Development and Behavior*, 33, 43-77.
- Vella, S., Oades, L., & Crowe, T. (2011). The role of the coach in facilitating positive youth development: Moving from theory to practice. *Journal of Applied Sport Psychology*, 23(1), 33-48.
- Wallace, I. J., Forneris, T., & Danish, S. J. (2008). Exercise and sport psychology. In F. T. L. Leong & E. M. Altmaier (Eds.), *Encyclopedia of counseling* (pp. 194–196). Thousand Oaks, CA: Sage.

- Weiss, M. R., Stuntz, C. P., Bhalla, J. A., Bolter, N. D., & Price, M. S. (2013). 'More than a game': Impact of The First Tee life skills programme on positive youth development: project introduction and Year 1 findings. *Qualitative Research in Sport, Exercise and Health*, 5(2), 214-244. doi:10.1080/2159676X.2012.712997
- Williams, G. C., & Deci, E. L. (1996). Internalization of biopsychosocial values by medical students: A test of self-determination theory. *Journal of Personality and Social Psychology*, 70(4), 767-779.
- World Health Organization. (1999). *Partners in life skills education*. Retrieved 21 February 2015, from http://www.asksource.info/pdf/31181_lifeskillsed_1999.pdf
- World Health Organization. (2014). *Adolescent development*. Retrieved 4 May 2014 from http://www.who.int/maternal_child_adolescent/topics/adolescence/dev/en/
- Yin, R. K. (2009). *Case study research: Design and methods* (4 ed.). Los Angeles, CA: Sage.
- Yohalem, N., & Wilson-Ahlstrom, A. (2009). *Measuring youth program quality: A guide to assessment tools* (2nd ed.). The Forum of Youth Investment.
- Yohalem, N., & Wilson-Ahlstrom, A. (2010). Inside the black box: Assessing and improving quality in youth programs. *American Journal of Community Psychology*, 45(3-4), 350-357. doi:10.1007/s10464-010-9311-3
- Zaff, J. F., Moore, K. A., Papillo, A. R., & Williams, S. (2003). Implications of extracurricular activity participation during adolescence on positive outcomes. *Journal of Adolescent Research*, 18(6), 599-630. doi:10.1177/0743558403254779
- Zarrett, N., Fay, K., Li, Y., Carrano, J., Phelps, E., & Lerner, R. M. (2009). More than child's play: variable-and pattern-centered approaches for examining effects of sports

participation on youth development. *Developmental Psychology*, 45(2), 368-382.

doi:10.1037/a0014577

Zarrett, N., Lerner, R. M., Carrano, J., Fay, K., Peltz, J. S., & Li, Y. (2008). Variations in adolescent engagement in sports and its influence on positive youth development. In N. L. Holt (Ed.), *Positive youth development through sport* (pp. 9-23). New York: Routledge.

Figure 1.

A graphical illustration of the five articles presented within the dissertation.

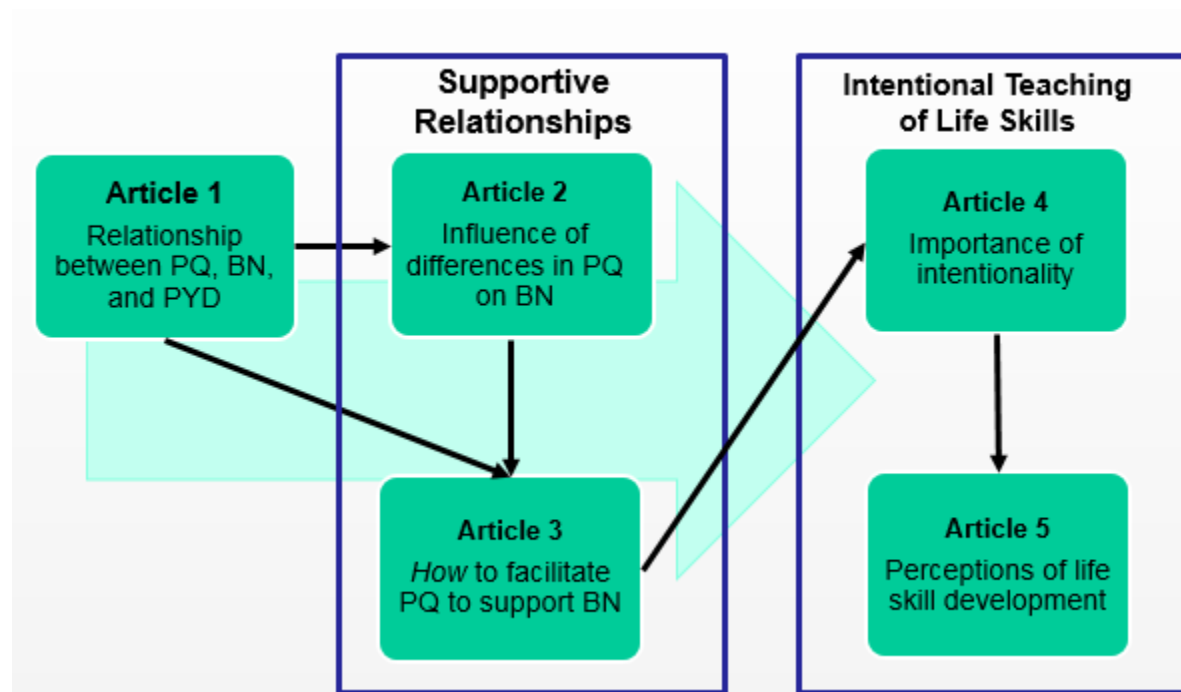


Table 1.

Program setting features proposed to foster youth development

Program Setting Feature	Definition
Physical and Psychological Safety	An environment that allows youth to feel both free from being physically harmed and accepted and respected
Appropriate Structure	Clear and consistent rules and expectations, including behavioral guidelines and age-appropriate monitoring
Supportive Relationships	The presence of adults and peers who demonstrate concern and support for youth
Opportunities to Belong	Providing experiences that allow youth to develop a sense of belonging; feelings of value as an individual and part of a group
Positive Social Norms	Fostering clear, healthy, ethical standards, beliefs, and behavior guidelines that promote prosocial behavior and minimize health risks
Support for Efficacy and Mattering	Providing opportunities for youth to develop leadership, efficacy, autonomy, mattering, and responsibility
Opportunities for Skill-building	Opportunities for youth to develop physical, intellectual, psychological, emotional, and social skills that will prepare them for the future
Integration of Family, School, and Community Efforts	Incorporating family, school, and community to increase opportunities for synergy and positive relationships

Source: Adapted from *Community Programs to Promote Youth Development*, by the National Research Council and Institute of Medicine, 2002, Washington, DC: National Academy Press.

Table 2.

Overview of the associated domains, subscales, and item numbers of each subscale for the YPQA

Domains	Subscales	Number of items
Safe	Emotional Safety	2
Environment	Healthy Environment	4
	Emergency Preparedness	6
	Accommodating Environment	4
	Nourishment	3
Supportive	Warm Welcome	3
Environment	Session Flow	5
	Active Engagement	4
	Skill-building	5
	Encouragement	3
	Reframing Conflict	4
Interaction	Belonging	4
	Collaboration	3
	Leadership	3
	Adult Partners	2
Engagement	Planning	2
	Choice	2
	Reflection	4
Total		63

Appendices

Appendix A: Demographic Information for Participants

1. Name: _____
 2. Age: _____
 3. Grade: _____
 4. Gender: _____
 5. How would you classify yourself? (check one)
 - a. Caucasian/White
 - b. Arab
 - c. Asian/Pacific Islander
 - d. Black
 - e. Hispanic
 - f. Aboriginal/Indigenous
 - g. Latino
 - h. Multiracial
 - i. Other: _____
 - j. Prefer not to disclose
 6. Living with: Both Parents _____
 Mother _____
 Father _____
 Legal Guardian _____
 Other (please specify) _____
 7. Mom's Job: _____
 8. Dad's Job: _____
 9. Neighbourhood you live in: _____
 10. Name of Program: _____
 11. # of years you've been involved in [name of program]: _____
 12. On average how often do you attend [name of program] per week? _____
 13. Are you involved in out-of-school activities ____ Yes ____ No
 14. What other activities do you participate in addition to [name of program] (Check all that apply).
 ____ Arts (music, drama, art, band, choir)
 ____ Clubs (e.g., chess, computer, yearbook, debate)
 ____ Church/Religious
 ____ Leadership (e.g. student council)
 ____ Volunteer
 ____ Other (please list: _____)
 ____ Sports (list all that you participate in)
-

Appendix B: Sample Information Sheet for Coaches

Purpose: The purpose of this study is to evaluate program quality across a number of youth programs. A second purpose of this research is to examine whether there are particular key strategies that may be important for fostering psychosocial outcomes in youth participants. This research will help gain a better understanding of how youth programs should be structured to best foster psychosocial development.

Commitment at Program Level:

• Coaches

- o Coordination with lead researcher to organize three on site observational visits (e.g. 5-6 observation sessions from now until end of season)
- o Aid in the distribution and collection of parental consent forms
- o Completion of one questionnaire (15-20 minutes) at the end of the season
- o Completion of one interview (30-60 minutes) at the end of the program

• Youth

- o Completion of demographic questionnaire (5 minute total) at first on-site visit (Jan2015)
- o Completion of two questionnaires (20 minutes total) at the end of season (Jan 2015, mid-May)
- o Potential completion of one interview (20-40 minutes) at the end of season (mid-May)

Researcher Deliverables to Mavericks Volleyball

- Opportunities for professional development for coaches
- An evaluation report will be provided that can help with fulfilling internal or external evaluation requirements as well as for feedback to your administration and/or the board of your organization
- Can sit down with Board of Directors mid-way through season and at the end of the project to discuss results and identify strengths and recommendations for future programming
- Work with Maverick's Volleyball evaluation committee

Proposed Timeline

January, 2015: First visit to program for data collection

- Collect parental consent forms (coach to email out to parents beforehand)
- Completion of demographic information by youth and coach
- Completion of Round 1 of questionnaires by youth
- Program quality assessment 1

January 10th-April 30th, 2015: Visits to program for data collection

Measures:

- Program quality assessment 2, 3, 4, 5

May 1th –May 30th, 2015 or TBD: Third visit to program for data collection and Post-program data collection

Measures:

- Program quality assessment 6
- Completion of Round 2 of questionnaires by youth
- Completion of Questionnaire 1 by coach
- Completion of interview by youth (3-4/team)
- Coaches complete one interview (30-40 minutes)

Please do not hesitate to contact me if you have any questions.

Corliss Bean

Appendix C: Parental Consent Form

Title of Project: Examining the Role of Program Quality in Youth Programming.

Researcher: Corliss Bean, Researcher, PhD Candidate (Sport Psychology), University of Ottawa

Supervisor: Dr. Tanya Forneris, assistant professor, School of Human Kinetics, University of Ottawa

Purpose of the Study: The purpose of this study is to examine program quality in youth programs. Additionally, this study aims to examine whether there are particular key strategies that may be important for fostering psychosocial outcomes.

Participation: There are two copies of this form: one of which is for you to keep for your reference and one for you to return to us. If you provide consent for your child to participate in this research she/he will be asked to complete two questionnaires about his/her participation in (name of program). In addition, she/he may be randomly selected among of number of youth to participate in an interview. The questionnaires will ask questions about the types of skills being taught in the program as well as the type of support she/her receives from the leaders. The goal of the interview is to gain a more in-depth understanding of the youths' overall experiences in (name of program). The interviews will take place at the location in which (name of program) occurs and will be approximately 20-30 minutes in length.

Risks: I do not anticipate any negative effects during or following participation in this project. However, it may be possible that your child has had negative experiences in the program. If this occurs we will ask the youth if they want to further discuss their concerns with someone other than the interviewer. If they want to speak with someone, we will provide them options (e.g., anonymous kids help line, camp director, parents, peer) and will help support them by helping your child connect with who they would like to discuss these concerns with.

Benefits: The participation of your child in this project will help contribute to scientific knowledge. In particular, this project will help us better understand how program quality influences positive youth outcomes, such as life skill development. Participation in this study will help provide an internal evaluation report to the program organization to work to improve the youths' experiences within the program in the future.

Confidentiality and Anonymity: The confidentiality of your child will be protected. Apart from the consent form and the assent form completed by your child, the name of your child will not be written on any documents. It is important to note that the online questionnaires are being hosted on an American server (Survey Monkey); therefore, data collected through this site is subject to the US Patriot Act. This consent form and your child's assent form will be placed in a locked filing cabinet within a locked office and filed separately from the questionnaires and interviews. Also, the questionnaires and audio-recordings of the interviews will be placed in a locked filing cabinet in a locked office. At the end of the project the data will be kept secure for a period of five years, after which all of the data will be destroyed.

Recording Procedures: The interviews will be recorded using a digital voice recorder. No identifying information (e.g., name) will be recorded. However, if you prefer not to have the interview recorded, handwritten notes will be taken.

Voluntary Participation and Withdrawal: The participation of your child is completely voluntary. He/She may withdraw from the project at any time without penalty. Also, your decision to allow your child to participate or not will not impact his/her access to (name of program) in any way. If your child chooses to withdraw from the study, he/she will also be given the opportunity to withdraw his/her data.

If you have any questions regarding this research project you can contact me (removed).

For any questions regarding the ethical conduct of this project, you can contact the Office of Research Ethics and Integrity at the University of Ottawa in person at 550 rue Cumberland, Room 154, Ottawa, ON, K1N 6N5, by phone (613) 562-5387 or by email ethics@uottawa.ca

Consent:

I have read this consent form and I understand the procedures of this research project. Also, I understand that the participation of my child is completely voluntary and she/he may withdraw from the study at any time without penalty. My signature indicates my consent for my child to participate.

- I permit my child to participate in this project (**both the questionnaires and interview**)
- I permit my child to participate in **just** the **questionnaire** portion of the project
- I permit my child to participate in **just** the **interview** portion of the project
- I permit my child to participate in this project **but do not permit the interview** to be audio-taped.

Name of Child (Please Print)

Name of Parent (Please Print)

Date

Signature of Parent/Guardian

Signature of Second Parent/Guardian (if applicable)

Signature of Researcher

Appendix D: Leader Consent Form**TITLE: Examining the Role of Program Quality in Youth Programming**

Researcher: Corliss Bean, Researcher, PhD Candidate (Sport Psychology), University of Ottawa

Supervisor: Dr. Tanya Forneris, assistant professor, School of Human Kinetics, University of Ottawa

Purpose of the Study: The purpose of this study is to examine program quality in youth programs. Additionally, this study aims to examine whether there are particular key strategies that may be important for fostering psychosocial outcomes.

Participation: There are two copies of this form: one of which is for you to keep for your reference and one for you to return to us. If you consent to be in this study you will be asked to complete one program quality assessment observational assessment on three different occasions throughout your time leading (name of program). The assessment will take about 15 minutes to complete and will involve answering short questions about how you structure and lead your program. You will also be asked to participate in an individual interview. The purpose of the interview is to gain a more in-depth understanding of your involvement as a leader in (name of program). The interview will take about 30-40 minutes to complete and will be recorded. Finally, I will be conducting three observations of (name of program) to gain an understanding of what strategies you are using to implement your program. The timing of these observational sessions will be decided on by you and the purpose is to gain a comprehensive understanding of what actually occurs in the program at a practical level.

You do not have to answer any question you do not want to answer and can stop the assessment, interview, or observations at any time. If you choose to withdraw, you will also be given the opportunity to withdraw their data. You will also be given the opportunity to review their transcripts.

Risks: I do not anticipate any negative effects during or following participation in this project. However, it may be possible that you have had negative experiences leading the program. If so, and you would like to discuss your concerns with someone other than the interviewer we will discuss with you different options (e.g., counselor, organizational director, colleague) and will help support youth by connecting you with the person you believe would be most helpful.

Benefits: Your participation in this project will help contribute to scientific knowledge. In particular, this project will help us better understand how program quality influences positive youth outcomes, such as life skill development. Participation in this study will help provide an internal evaluation report to the program organization to work to improve the youths' experiences within the program in the future.

Confidentiality and Anonymity: Your confidentiality will be protected. Apart from the consent form your name will not be written on any documents. Your responses from the questionnaires and the interview will be grouped with responses from other program leaders from a variety of programs and therefore, all responses will remain completely confidential. Program directors will receive a specialized report that will be divided by program structure (e.g., intentional/non-intentional, sport/non-sport); therefore, confidentiality will be maintained and no responses specific to your program will be identified.

This consent form will be placed in a locked filing cabinet within a locked office and filed separately from the questionnaires and interviews. Also, the questionnaires and audio-recordings of the interviews will be placed in a locked filing cabinet in a locked office. At the end of the project the data will be kept secure for a period of five years, after which all of the data will be destroyed.

Voluntary Participation and Withdrawal: Your participation is completely voluntary. You may withdraw from the project at any time without penalty. Also, your decision to withdraw will not impact your involvement in (name of program) in any way.

If you have any questions regarding this research project you can contact me (removed).

For any questions regarding the ethical conduct of this project, you can contact the Office of Research Ethics and Integrity at the University of Ottawa in person at 550 rue Cumberland, Room 154, Ottawa, ON, K1N 6N5, by phone (613) 562-5387 or by email ethics@uottawa.ca

Consent: I have read this consent form and I understand the procedures of this research project. Also, I understand that my participation is completely voluntary and I may withdraw from the study at any time without penalty. My signature indicates my consent to participate.

I agree to participate in this project

I agree to participate in this project **but do not permit the interview** to be audio-taped.

Name _____

Date _____

Signature of person conducting informed consent

Date _____

Appendix E: Youth Assent Form

TITLE: Examining the Role of Program Quality in Youth Programming

There are two copies of this form, one of which is for the participant to keep. This form may have some words that you do not know. Please ask the researcher or your leaders to explain any words that you do not know.

What is this study about?

The purpose of this study is to evaluate program quality across a number of different youth programs. Additionally, this study aims to examine whether there are particular key strategies that may be important for fostering psychosocial outcomes.

What happens to me if I choose to be in this study?

If you are in this study you will be asked to complete two different questionnaires about your involvement in (name of program). The surveys will take about 10 minutes to complete.

You do not have to answer any question you do not want to answer and can stop whenever you would like. If you choose to stop completing the questionnaires, you can also choose to remove your responses from the study.

Will you tell anyone what I say?

We will not tell anyone the answers you give us. We will not share your answers with your parents, teachers, friends, or anyone else. Also, when talking about or writing about this research, we will never use your name.

Questions?

If you have any questions about being in this study, you, or your parent, can contact me or my supervisor Dr. Tanya Forneris.

For any questions about this project, you can contact the Protocol Officer for Ethics in Research, University of Ottawa, 550 rue Cumberland, Room 159, Ottawa, ON, K1N 6N5, (613)-562-5387 or ethics@uottawa.ca

Consent:

I have read this form and I understand the information about this study. I am willing to be in this study.

Youth name printed	Youth signature	Date
--------------------	-----------------	------

Signature of person conducting informed consent	Date
-------------------------------------------------	------

Appendix F: Youth Program Quality Assessment

Please visit <http://www.cypq.org/assessment> for full Youth Program Quality Assessment[®] tool

Appendix G: Youth Program Quality Survey**Adult Support and Structure**

1. Activities promoted healthy habits
2. Adults listened to what I had to say
3. I felt comfortable going to adults for advice
4. Rules and expectations were clear
5. Activities were just right for my age

Empowered Skill-building

6. I learned to work with others as a team
7. Activities taught me to develop a plan to reach my goals
8. I was challenged to think and build skills
9. There were opportunities to learn new subjects
10. I felt that I could make a difference
11. I was encouraged to take responsibility
12. I gained a broader view of [name of program]

Expanding Horizons

13. Serving others and volunteering was important
14. I learned to accept differences in others
15. I gained a broader view of the world beyond my community
16. Activities were related to issues in my club, my family and my community

Negative Experiences

17. I was embarrassed or put down
18. Conflicts between people were a problem
19. I felt like I didn't belong

* indicates the items that were used within this dissertation based on Bean and Forneris (2016) study
YPQS variables were measured on a scale of 1–4.

Appendix H: Learning Climate Questionnaire

For the following questions circle the response that best fits how you feel about the leaders in the [name of program]:

- | Very
Strongly
Disagree
1 | Strongly
Disagree
2 | Disagree
3 | Agree
4 | Strongly
Agree
5 | Very
Strongly
Agree
6 |
|-----------------------------------|---------------------------|---------------|------------|------------------------|--------------------------------|
|-----------------------------------|---------------------------|---------------|------------|------------------------|--------------------------------|
1. I felt that the leaders provided us with choices and options.
 2. I felt understood by the leaders.
 3. I was able to be open with the leaders during the sessions.
 4. The leaders showed confidence in our abilities to do well.
 5. I feel that the leaders accepted us.
 6. The leaders helped us to really understand the goals of the session and what we need to do.
 7. The leaders encouraged us to ask questions.
 8. I feel a lot of trust in our leaders.
 9. The leaders answered our questions fully and carefully.
 10. The leaders handled our emotions very well.
 11. I felt that the leaders care about us as people.
 12. I don't feel very good about the way the leaders talked to us.
 13. The leaders tried to understand how we see things before suggesting new ways to do things.
 14. I felt that I could share my feelings with the leaders.
 15. The leaders listened to how we would like to do things.
 16. The leaders helped us to improve.
 17. The leaders made us feel like we are good at physical activity.
 18. I felt that the leaders liked us to do well.
 19. The leaders made us feel like we are able to do the activities in the program.
 20. The leaders supported us.
 21. The leaders encouraged us to work together in practice.
 22. The leaders had respect for us.
 23. The leaders were interested in us.
 24. I felt that the leaders were friendly towards us.

Appendix I: Positive Youth Development Inventory-Short Version

We would like to gather some information about the things you learned while participating in this program. Your responses are completely anonymous (no one will know it is you who completed this form) and voluntary (you don't have to complete this form if you do not want to).

Please rate your agreement using: 1) Strongly Disagree; 2) Disagree; 3) Agree; 4) Strongly Agree

* indicates the items that were used within this dissertation

As a result of participating in this program:

1. I make good decisions*
2. I make friends easily*
3. I feel comfortable in social situations*
4. I can handle problems that come up in my life*
5. I can manage my emotions*
6. I can handle being disappointed*
7. I am aware of other people's needs in social situations*
8. I have goals for my life
9. I know what I want to do for a career
10. I am interested in learning about careers I could have
11. It is important for me to do the right thing*
12. I try to do the right thing, even when I know that no one will know if I do or not*
13. It is important for me to do my best*
14. If I promise to do something I can be counted on to do it*
15. I am able to stand up to peer pressure when I feel something is not right to do*
16. I have a wide circle of friends*
17. I think it is important to be involved with other people*
18. My friends care about me*
19. I feel connected to my teachers
20. Having friends is important to me*
21. I feel connected to others in my community
22. I have adults in my life who are interested in me
23. I feel connected to my parents
24. It is easy for me to consider the feelings of others*
25. Other people's feelings matter to me*
26. I feel accepted by my friends*
27. I have close friendships*
28. I take an active role in my community
29. I am someone who gives to benefit others
30. I like to work with others to solve problems
31. I have things I can offer to others
32. I believe I can make a difference in the world
33. I care about contributing to make the world a better place for everyone
34. It is important for me to try and make a difference in the world

Appendix J: Leader Interview Guide

Section A: Introduction, review of purpose of interview, assurance of confidentiality

Section B: Demographics – Age, gender, length of involvement, etc.

Section C: Interview Questions

Program Quality

1. Overall what was your experience of being a leader of [name of program]?
2. As a leader/coach of this program, what kind of training did you have?
3. What would you consider to be the main goal of the program?
4. What is your coaching philosophy/philosophy as a leader?
5. Would you say that the staff within [name of program] intentionally taught/fostered life skill development to youth participants? In what ways? Can you provide specific examples within your program?
6. Would you describe your practice as one that focuses on learning skills? What types of skills? How?
7. How do you ensure program quality when delivering the program (e.g., safety, supportive environment, interaction, engagement, youth-centred, high expectations for youth and staff)? (use results from individual YPQA self-report tool to probe)
 - a. How do you ensure a safe and supportive environment for the youth?
 - b. How do you encourage youth engagement?
 - c. Is the program youth-driven? How so?
8. What strategies did you use to keep the youth engaged? Which strategies did you find were the most effective?

Outcomes

9. How do you believe [name of program] was perceived by the youth?
10. How do you believe [name of program] had an effect on the youth? In what ways?
Examples.
11. Did you see any changes in the youth over the course of the program?
12. Have you been impacted by this project and being a leader/coach in this program? How?
13. Given what we have discussed today is there anything else you would like to add?

Appendix K: Research Assistant Confidentiality Form

Université d'Ottawa • University of Ottawa

Faculté des sciences de la santé Faculty of Health Sciences
École des sciences de l'activité physique School of Human Kinetics

RESEARCH ASSISTANT CONFIDENTIALITY AGREEMENT

I (name of research assistant) agree to keep confidential all information that I learn as a result of my participation in Corliss Bean and Dr. Tanya Forneris' research project.

Name (print): _____

Signature: _____

Date: _____

Witness

Name (print): _____

Signature: _____

Date: _____