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Published online: 04 Sep 2016.

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ABSTRACT

The overall purpose of this study was to create a model of positive youth development (PYD) through sport grounded in the extant qualitative literature. More specifically, the first objective was to review and evaluate qualitative studies of PYD in sport. The second objective was to analyze and synthesize findings from these studies. Following record identification and screening, 63 articles were retained for analysis. Meta-method analysis revealed strengths of studies were the use of multiple data collection and validity techniques, which produced high-quality data. Weaknesses were limited use of 'named' methodologies and inadequate reporting of sampling procedures. Philosophical perspectives were rarely reported, and theory was used sparingly. Results of an inductive meta-data analysis produced three categories: PYD climate (adult relationships, peer relationships, and parental involvement), life skills program focus (life skill building activities and transfer activities), and PYD outcomes (in personal, social, and physical domains). A model that distinguishes between implicit and explicit processes to PYD is presented.

Positive youth development (PYD) is a strength-based conception of development in which children and adolescents are viewed as having 'resources to be developed' rather than 'problems to be solved' (Lerner, Brown, & Kier, 2005). Proponents of PYD search for characteristics of individuals and their social environments that can be harnessed to build strengths and foster positive developmental change (Lerner & Castellino, 2002). PYD has been widely used to study children's and adolescents' involvement in various types of organized and adult-supervised sport programs (Holt & Neely, 2011). Yet scholars question the potential for PYD

through sport. For instance, Coakley (2011) argued that '… the act of sport participation among youth people leads to no regularly identifiable developmental outcomes' (p. 309).

This study addressed four related issues that currently constrain the continued advancement of PYD research in sport. First, there is a need to consolidate the contemporary evidence base to establish the extent to which there are regularly identifiable developmental outcomes associated with sport participation. Second, a greater understanding of the processes that contribute to the attainment of developmental outcomes is needed (Holt, Deal, & Smyth, 2016; Holt & Jones, 2008). Third, there is a significant research-to-practice gap in terms of 'operationalizing' how to deliver PYD in sport settings (cf. Vella, Oades, & Crowe, 2011). For instance, PYD-related training remains largely absent from coach education programs and youth sport programing (Côté & Gilbert, 2009; Vargas-Tonsing, 2007; Vella, Oades, & Crowe, 2013). Finally, there is a lack of sufficient theory in PYD research (Hodge, Danish, & Martin, 2012) which 'practically constrains the field, as practitioners do not have an overarching framework to guide their interventions' (Gould & Carson, 2008, p. 65).

One way to advance theory is to synthesize knowledge to create new models grounded in the literature (Estabrooks, Field, & Morse, 1994). Knowledge synthesis would contribute to addressing the aforementioned constraints to the continued development of the PYD literature. In particular, knowledge synthesis is a crucial step in bridging the research-to-practice gap, as demonstrated in the health care literature (Graham & Tetroe, 2009). In this respect synthesizing knowledge provides a foundation for future knowledge translation efforts by bringing a vast range of literature together into a single source. Syntheses can be invaluable for practitioners (in this case, sport psychologists, coaches, and program administrators) by providing evidence for effective approaches – the processes that produce positive outcomes – and as a source to inform evidence-based practice (see Graham & Tetroe, 2009).

Approaches to positive youth development

Several frameworks for the measurement of PYD have been put forward in the developmental psychology literature. For instance, Lerner's 'Five Cs' model (Lerner et al., 2005) has been influential, whereby the Cs refer to character (respect for societal and cultural norms), caring (a sense of empathy and sympathy), competence (social, academic, cognitive, and vocational skills), confidence (self-efficacy and global self-regard), and connection (positive exchanges between peers, family, school, and community). This approach specifies that when youth develop high levels of the Five Cs, a 'Sixth C' – contribution (to self, family, school, community, and civil society) – will emerge (Lerner, Lerner, Bowers, & Geldhof, 2015). Larson's domains of learning experiences measurement framework has also been used to assess PYD (Dworkin, Larson, & Hansen, 2003; Larson, Hansen, & Moneta, 2006). The domains are: exploration and identity work, development of initiative, emotional self-regulation, developing peer relationships and knowledge, teamwork and social skills, acquiring adult networks and social capital, and negative experiences. Arguably, these domains are a series of dependent variables rather than a coherent theoretical representation.

It is important to note that neither of these approaches to PYD was developed in the context of sport. For instance, Lerner's Five Cs approach was originally developed to conduct an evaluation study of the 4H program in the United States (Lerner et al., 2005). The 4H program is typically provided to children in rural settings and includes initiatives such as animal husbandry and other agriculture-oriented types of activities.

Larson's domains of learning experiences approach was developed in order to compare adolescents' developmental experiences across different contexts, namely faith-based service activities, academic and leadership activities, performance and fine arts, community organizations and vocational clubs, and organized sport (Larson et al., 2006). These broad approaches, while offering ways to compare youth experiences across contexts, may not pay sufficient attention to the unique features of sporting contexts (e.g., the inherent nature of competition and the fact that children 'perform' publicly in front of their parents in ways that do not occur in some other adult-organized youth settings). Indeed, sport psychology researchers have faced some measurement problems in applying PYD frameworks from developmental psychology to sport settings (e.g., Jones, Dunn, Holt, Sullivan, & Bloom, 2011; MacDonald, Côté, Eys, & Deakin, 2012), perhaps reflecting the need to better account for features of sporting contexts.

The features of youth development programs that support PYD have also been examined. For example, the developmental assets profile (Search Institute, 2005) involves assessing the presence of external and internal assets in youth development programs. External assets are grouped in the categories of support, empowerment, boundaries and expectations, and constructive use of time. Internal assets are grouped in the categories of commitment to learning, positive values, social competencies, and positive identity. Other research (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2002; National Research Council and Institute of Medicine, [NRCIM], 2002) has identified eight program characteristics associated with promoting PYD: (1) safe and health-promoting facilities, (2) clear and consistent rules and expectations, (3) warm, supportive relationships, (4) opportunities for meaningful inclusion and belonging, (5) positive social norms, (6) support for efficacy and autonomy, (7) opportunities for skill building, and, (8) coordination among family, school, and community efforts. Finally, based on reviews of literature, the 'Big 3' characteristics of programs that support PYD are positive and sustained adult–youth relations, life skill building activities, and opportunities for youth participation in, and leadership of, community activities (Lerner, 2004). Again, the developmental assets profile (Search Institute, 2015) and program characteristics associated with PYD (Catalano et al., 2002; Lerner, 2004; NRCIM, 2002) are based on adult-supervised youth development programs in general rather than on sport-specific programs. Furthermore, they do not include specific theoretical predictions or provide testable hypotheses.

Sport-specific approaches to PYD do exist. For instance, life skill building activities are an essential feature of programs designed to foster PYD (Lerner, 2004). Sport psychology researchers have defined life skills as the physical, behavioral, or cognitive skills required to deal with the demands and challenges of everyday life (Hodge & Danish, 1999). They must be transferable to other life domains (Papacharisis, Goudas, Danish, & Theodorakis, 2005). Specific instructional programs with educational curricula designed to teach life skills in sport settings have been created, including Teaching Personal and Social Responsibility (TPSR; Hellison & Wright, 2003), Sports United to Promote Education and Recreation (SUPER; Danish, 2002), and sport-specific life skills programs (Petitpas, Cornelius, Van Raalte, & Jones, 2005).

Recognizing the need for approaches that consider contextual features of youth sport, sport psychology researchers have also presented conceptual models of PYD based on narrative reviews of literature. For example, based on a review of best practices from (primarily) the developmental psychology literature, Petitpas et al. (2005) proposed that

positive psychological growth is most likely to occur when young athletes (1) are engaged in a desired activity within an appropriate environment (context), (2) are surrounded by caring adult mentors and a positive group or community (external assets), (3) learn or acquire skills (internal assets) that are important for managing life situations, and (4) benefit from the findings of a comprehensive system of evaluation and research. However, the Petitpas et al. model does not provide explanations about how learning occurs within sport programs, which is a limitation addressed by the current study.

In another important article based on a narrative review of the PYD literature, Gould and Carson (2008) presented a heuristic model explaining how life skills are coached through sport. This model begins with internal and external assets from the developmental assets profile (Search Institute, 2005). The next part of the model focuses on the sport experience, with a particular emphasis on coach competencies, direct teaching of life skills, and indirect teaching of life skills. The middle component of the model focuses on 'possible explanations' (p. 67) for the development of life skills, first in terms of social environment influences and second with respect to the utility of the life skill strategies themselves. The final component of the model focuses on the transferability of life skills developed during the sport experience to nonsporting aspects of life. Notably, the 'possible explanations' presented were speculative suggestions regarding the processes related to PYD, perhaps because Gould and Carson's (2008) review was published at a time when there was relatively little PYD through sport literature available.

More recently, Côté, Turnidge, and Evans (2014) proposed the Personal Assets Framework (PAF) as a set of key elements that should be combined to design and deliver sport programs that positively contribute to youth development. The PAF considers personal factors (i.e., personal engagement in activities), relational factors (i.e., quality relationships), and organizational environments (i.e., appropriate social and physical settings) as the elements necessary to understand the processes through which development occurs in and through sport. The interaction of these three dynamic elements constitutes a specific sport experience (e.g., games, practices) that generates changes in an athlete's personal assets (e.g., confidence, competence, connection, and character) when repeated over time. Eventually, changes in these personal assets influence the long-term outcomes of sport in terms of the individual's participation, performance, and personal development (the '3 Ps'). Again, this model highlights the need to consider some of the unique contextual features of youth sport in examining the potential for PYD through sport (but, it should be noted, it has yet to be extensively tested).

The current study

Sport-specific models of PYD (Gould & Carson, 2008; Petitpas et al., 2005), while making important contributions to the literature, are limited by the fact that there was relatively little sport-based PYD research at the time of their publication. Other reviews and frameworks of the PYD literature have been presented (Camiré, 2014; Côté et al., 2014; Fraser-Thomas, Côté, & Deakin, 2005; Holt, 2008; Holt & Neely, 2011; Turnnidge, Côté, & Hancock, 2014; Weiss & Wiese-Bjornstal, 2009), yet none reported systematic searching strategies combined with analysis and synthesis of research in this area.

In the current study we focused on qualitative studies because they dominate the PYD through sport literature (Weiss, 2016) and have yet to be subjected to systematic review in

their entirety. Furthermore, prior to conducting this review, we knew that qualitative studies of PYD through sport are distributed across a range of academic journals and disciplines (e.g., sport/exercise psychology, developmental psychology, education, physical education, recreation, sport management). Individual qualitative studies published across a range of disciplines, in the absence of systematic review, can inadvertently produce a fragmented body of knowledge (Lee et al., 2015; Yick, 2008). Results of qualitative studies must be combined, integrated, and synthesized, rather than being merely subjected to narrative review, to expand a knowledge base and provide a foundation for informing evidence-based practice (Erwin, Brotherson, & Summers, 2011). Furthermore, because individual qualitative studies are often constrained by small and relatively homogenous samples, synthesis can produce findings with greater generalizability than those arising from individual studies themselves (Estabrooks et al., 1994).

A recent integrative review of (qualitative and quantitative) studies of PYD was published in a sport sociology/leisure studies journal (Jones, Edwards, Bocarro, Bunds, & Smith, 2016), but it did not adequately analyze or synthesize qualitative studies, it focused on trends in the literature at the level of constructs studied (rather than findings), it omitted relevant articles, and it deductively imposed an existing model onto the constructs identified. As a consequence, in this study the vast body of qualitative research in the area was not adequately examined and the deductive approach precluded the development of new theoretical understandings. Hence, there remains a need to *evaluate* qualitative studies of PYD and *synthesize their findings* to further establish the knowledge base. We conducted a qualitative meta-synthesis with the aim of creating a model that could explain the findings from a group of similar qualitative studies; quantitative studies were therefore excluded (Walsh & Downe, 2005). Accordingly, the overall purpose of this study was to create a model of PYD through sport based in the extant qualitative literature. To achieve this purpose, this study addressed two specific objectives: (1) to review and evaluate qualitative studies of PYD in sport, and (2) to analyze and synthesize findings from these studies.

Method

Procedure

Following a procedure informed by previous research (Lee et al., 2015; Tamminen & Holt, 2010) and recommendations from the systematic review literature (Paterson, Thorne, Canam, & Jillings, 2001), a librarian with expertise in advanced database searching, in consultation with the lead investigator, created a search strategy (for complete search information see the Appendix) that combined terms related to PYD with terms related to sport (both controlled vocabulary when available and text-word terms). Databases were initially searched on 20 October 2014. The original search was repeated on 1 October 2015 to ensure no studies published in the intervening period were omitted.

Inclusion and exclusion criteria

First, studies were included if they reported primary data obtained using at least one qualitative data collection technique (e.g., interview, observation). Mixed methods studies were included if qualitative data could be separated and examined independently from

quantitative data. Second, the research must have been conducted with participants in organized and adult-supervised competitive sport, recreational sport, or other settings that included sport activities (e.g., summer camps, school/after-school programs). Third, articles must have made specific reference to PYD in the title or purpose statement, or used PYD research in the literature review or to establish the conceptual context for the study, or within the analysis, or in the results, or in the discussion. Studies of life skills were included, as this research fits in the overall umbrella of PYD (Lerner, 2004). Literature reviews, methodological papers, conceptual/theoretical papers, conference abstracts, theses/dissertations, government/nongovernmental organization, and nonprofit organization reports were excluded from the analysis, because they either did not contain original data or had not been subjected to peer review. Articles that examined health or positive outcomes in the absence of a PYD perspective were also excluded.

Screening and selection of studies

The 20th October 2014 search returned 1,089 records after the removal of duplicates (see Figure 1). Screening was completed by a team of three researchers under the supervision of the lead investigator. The first stage of screening involved reviewing the Endnote file of all the returned records (which included information on the type of report and – typically – a link to the report) and removing the types of papers noted earlier (literature reviews, methodological papers, etc.). Following the initial screening and selection procedure, 455 articles were retained. The abstracts of these articles were obtained, and the inclusion/exclusion criteria were applied. Only those studies that did not meet the inclusion criteria in some clear and uncontestable manner were excluded, to minimize the risk of relevant studies being discarded (Paterson et al., 2001). Abstract screening
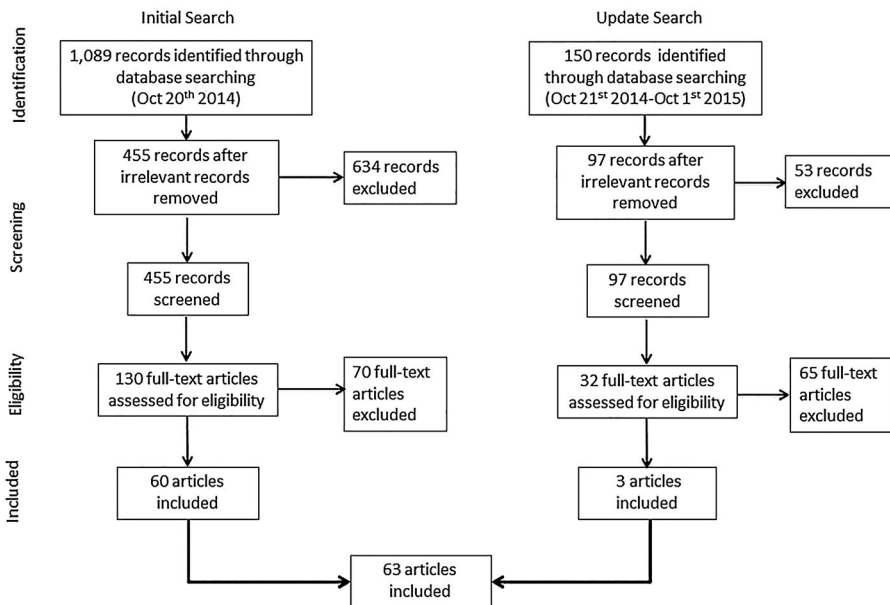

Figure 1. Search strategy.

yielded 130 articles, which were subjected to full-text review. During this step the full text of each article was reviewed and discussed by the lead investigator and three other members of the research team in order to make a final decision on inclusion/exclusion. Following full-text screening, 60 articles were retained for analysis. Finally, results from the second search conducted on 1 October 2015 were subjected to the same procedures (see Figure 1). The second search produced three articles. Therefore, a grand total of 63 articles were analyzed.

Analysis

Following philosophical assumptions consistent with an interpretive paradigm (Corbin & Strauss, 2015), a meta-study approach was used, which has four components: meta-method analysis, meta-theory analysis, and meta-data analysis, which lead to the production of a final meta-synthesis (Paterson et al., 2001). *Meta-method analysis* was used to evaluate the strengths and weaknesses of the methods employed in studies. Based on procedures used in previous qualitative meta-studies (Lee et al., 2015; Tamminen & Holt, 2010) a list of criteria for reviewing the methods was created (see Table 1). These criteria were research question/purpose, setting, theoretical perspective, philosophical perspective, methodology, sample characteristics, sampling strategy, data collection techniques, data analysis techniques, and validity considerations. Table 1 was created by extracting the relevant information from each study and entering the information into the appropriate criterion column in the table. Table 1 contains a summary of the information used for the meta-method analysis. Information in this table was scrutinized for patterns across the literature, which are reported in the meta-method analysis results section. *Meta-theory analysis* was then used to appraise the theoretical and philosophical perspectives reported in the studies detailed in Table 1.

To complete *meta-data analysis,* four researchers reviewed the results of the included studies and extracted main findings along with exemplar quotes and organized them in a database, which was over 29,000 words in length. The main themes identified in each study were entered into this database, along with quotes that the research team determined best-reflected data within each theme. The database provided a rich source of data that were subjected to an inductive open coding procedure (Corbin & Strauss, 2015), similar to the way that interview data from transcripts would be coded in an original study (Noblit & Hare, 1988; Paterson et al., 2001). Coding involved line-by-line analysis of extracted data. Salient 'meaning units' were identified, and themes that shared similar meanings were clustered together. A 'long list' of these themes was created. These themes were inductively coded at the level of the quote (rather than theme label, because theme labels varied considerably across studies). Similar themes in our analysis were collapsed in order to create the most parsimonious list possible. We made the decision to separate themes in terms of the categories of (1) social environment (which included the themes of adult relationships, peer relationships, and parental involvement), (2) activities (life skill building activities, transfer activities), and (3) PYD outcomes (in personal, social, and physical domains). These categories/themes, and each of the studies reporting results that were coded in the themes, are summarized in Table 2. Coding was checked and rechecked throughout the analysis using the constant comparison

Table 1. Meta-method extraction.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Allen, Rhind, and Kosky (2015)	Used the transfer ability program (TAP) to see if under achieving male students can transfer life skills from sports to an educational setting	UK	Life skills frameworks (Gould & Carson, 2008; Petitpas et al., 2005)	Not specified	Not specified	20 males (aged 12–13 years) 2/3 of participants spoke English as a second language	Not specified	Semi-structured interviews	Not clearly specified: appeared to be deductive-inductive thematic analysis	Prolonged engagement Persistent observation Data triangulation Three-person team approach to analysis Use of critical friend
Armour and Sandford (2013)	Four-year evaluation of a corporate-sponsored physical activity intervention to promote PYD through outdoor education activities	UK	Theory of change (Kellogg Foundation, 2004)	Not specified	Grounded theory	~ 440 students (aged 13–14 years)	Participants selected by teachers	Individual student profiles Participant observation Focus groups Individual interviews Reflective journals Open-ended surveys	Thematic analysis	Not clear, but multiple methods may permit triangulation
Armour, Sandford, and Duncombe (2013)	Report findings of two youth sport/ physical activity interventions (1) HSBC/Outward Bound Trust (a 5-year program) and (2) the SSLfS Program (an ongoing national initiative that stands for Sky Sports Living for Sport)	UK	No specific theory Life skills/PYD literature used as conceptual context	Not specified	Grounded theory	486 students (aged 13–14 years) 29 teachers 58 mentors	Participants selected by teachers	Participant observation Focus groups Individual interviews Reflective journals Open-ended surveys	Thematic analysis	Not clear, but multiple methods may permit triangulation

Bean, Forneris, and Halsall (2014)	To evaluate the first year implementation of a female youth program aiming to empower female youth through physical activity	Canada	TPSR (Hellison & Wright, 2003) and SUPER (Danish, 2002)	Not specified	Not specified	10 females (aged 11–14 years) 5 program leaders	Participants recruited from the Boys and Girls clubs in low-income areas	Leader logbook Semi-structured interviews	Inductive thematic analysis	Team approach to analysis Bracketing interview Triangulation of methods Triangulation of data sources
Brown and Fry (2011)	To provide an eight-week long physical activity and life skills program (Strong Girls) intervention for sixth-grade girls through a summer camp	US	Not specified	Not specified	Not specified	20 females, (M_{age} = 11.8 years)	Convenience sample of summer camp attendees	Journals	Not specified	Not specified
Bruening, Dover, and Clark (2009)	Authors hypothesized that research would show improvement in the areas of self-esteem/self-worth, knowledge and improved physical abilities, accountability/ responsibility for the self, connections to community, a sense of belonging, and the ability to apply knowledge and health skills within different environments	US	Theories of engagement and free-choice learning	Not specified	Not specified	5 'preadolescent girls of color' and their parents	Not specified	Journals Interviews	Thematic analysis	Data triangulation Peer debriefing Member checking Team approach to analysis

(*Continued*)

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Bruening, Clark, and Mudrick (2015)	To demonstrate the enduring impact and positive outcomes a sport-based youth development program (SBYD) for girls can have on participants	US	Social capital theory (Lin, 1999)	Not specified	Not specified	5 female preadolescents 3 of their mothers	Not specified	Semi-structured interviews	Thematic analysis	Triangulation of data sources Team approach to analysis Member checking Peer debriefing
Camiré, Trudel, and Bernard (2013)	A case study examining an existing high school ice hockey program designed to teach life skills and values was conducted to understand the programs strengths and challenges from different perspectives	Canada	Life skills framework (Petitpas et al., 2005)	Not specified	Case study	14 male athletes (aged 16–17 years) 1 school principal 1 program director 6 coaches 7 parents (3 females, 4 males)	Senior year players recruited through program director	Document analysis Semi-structured interviews Nonparticipant observation	Deductive thematic analysis	Bracketing interview Data triangulation Peer review of analysis Member checking
Camiré, Trudel, and Forneris (2014)	Looked to examine how Canadian model youth sport coaches learn to facilitate PYD	Canada	Not specified	Not specified	Basic interpretive qualitative methodology	16 model high school coaches ($M_{age} = 33$ years)	Purposeful sampling to identify model coaches	Semi-structured interviews	Thematic analysis	Peer review of analysis

Camiré, Trudel, and Forneris (2012)	To examine philosophies and strategies used by model high school coaches to coach life skills and to see how the skills transfer into other domains from a coach's and athlete's perspective	Canada	Model of coaching life skills (Gould & Carson, 2008)	Not specified	Not specified	16 student-athletes (M_{age} = 16 years) 9 coaches	Purposeful sampling to identify model coaches	Semi-structured interviews	Thematic Analysis	Peer review of analysis
Camiré and Trudel (2010)	To document the perspectives of high school athletes on the development of character	Canada	Framework of character development in sport participation (Rudd, 2005)	Not specified	Not specified	20 adolescents (10 males and 10 females, aged 13–17 years)	Purposeful sampling based on participation in high school sport	Semi-structured interviews	Deductive thematic analysis	Peer review of analysis
Camiré, Trudel, and Forneris (2009a)	To examine parents' perspectives on the practice of high school sport in a Canadian context	Canada	Life skills framework (Petitpas et al, 2005)	Not specified	Not specified	20 parents (8 fathers, 12 mothers)	Purposeful sampling based on parents having at least one child involved in organized sport	Semi-structured interviews	Inductive and deductive thematic analysis	Peer review of analysis
Camiré, Trudel, and Forneris (2009b)	To document high school athletes' perspectives on support, communication, negotiation, and life skill development	Canada	Life skills framework (Petitpas et al., 2005)	Not specified	Not specified	20 adolescents (10 males and 10 females, aged 13–17 years)	Maximum variation purposeful sampling to identified athletes with a range of experiences	Semi-structured interviews	Deductive-inductive thematic analysis	Not specified

(*Continued*)

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Chinkov and Holt (2015)	To explore the transfer of life skills among adults who participated in Brazilian jiu-jitsu	Canada	Not specified	Interpretive	Qualitative descriptive	16 adults (aged 19–54 years)	Purposeful sample of athletes aged 18 years with at least 2 years' experience. Variation in skill level and age range	Semi-structured interviews	Inductive thematic analysis	Pilot training and interview Team approach to analysis Member checking
Cowan, Taylor, McEwan, and Baker (2012)	To explore the coaching in a soccer program aimed at promoting life skills to disadvantaged youth	UK	Self-determination theory (Deci & Ryan, 2000)	Interpretive	Case study	3 males (aged 17–18 years)	Not specified	Nonparticipant observation Video footage Semi-structured interviews	Abductive (inductive and deductive) thematic analysis	Team approach to analysis
Daud and Carruthers (2008)	To understand the impact of an after-school program for youth residing in a high-risk neighborhood and elements of the program that contributed to or undermined programmatic outcomes	US	Not specified	Not specified	Not specified	25 students (aged 10–15 years) 4 program coordinators	Purposeful sampling (youth had to attend program at least twice per week)	Interviews Focus groups Field observation	Thematic analysis	Peer review Triangulation of data sources Member checking during focus groups

Author (year)	Purpose	Country				Sample	Sampling	Data collection	Data analysis	Trustworthiness
Dinanthompson, Sellwood, and Carless (2008)	To investigate the effectiveness of the Kickstart program in meeting its overall objective of enhancing life skills of Indigenous Australians through participation in the Australian Football League	Australia	Not specified	Not specified	Not specified	38 adolescents (under 16 years) 3 parents 12 teachers	Varied sample (across ages and genders) recruited	Focus groups Semi-structured interviews Document analysis	Thematic analysis	Triangulation of data sources
Escarti, Gutiérrez, Pascual, and Llopis (2010)	Analyzed the application of TPSR model to primary school physical education classes during the academic year	Spain	TPSR (Hellison & Wright, 2003)	Not specified	Not specified	42 students aged 11–12 years (22 males, 20 females)	Not specified	Semi-structured interviews	Not clear Appears to be thematic analysis	Not specified
Flett, Gould, Griffes, and Lauer (2013)	To describe and compare practices and perspectives of more and less effective volunteer coaches in an underserved sport setting	US	Not specified	Not specified	Not specified	12 coaches (6 males, 6 females)	League directors identified coaches who had most/least positive influence on players' character and life skills	Participant observation Semi-structured interviews	Thematic analysis	Pilot interviews Team approach to analysis Journaling
Fraser-Thomas and Côté (2009)	To gain an understanding of adolescents' positive and negative experiences in sport from a developmental perspective	Canada	Not specified	Not specified	Not specified	22 athletes (aged 14–18 years, 5 males, 17 females)	Maximum variation sampling	Semi-structured interview	Content analysis	Participants reviewed transcripts Team approach to analysis Independent researcher checked analysis

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Fuller, Percey, Bruening, and Cotrufo (2013)	Explored (1) what attracted minority boys to participate in youth development programs, (2) what kept them involved, and (3) whether their involvement translated into positive developmental outcomes	US	Positive youth centered framework 5 C's and Sixth C of development (Roth & Brooks-Gunn, 2003)	Not specified	Not specified	8 males (aged 10–14 years) 16 parents	School counselor identified boys who might be interested in participating plus snowball sampling	Two semi-structured interviews and exit interview	Deductive thematic analysis	Data triangulation Member checking
Goudas and Giannoudis (2010)	A qualitative evaluation of the SUPER program in physical education setting	Greece	SUPER (Danish, 2002)	Not specified	Not specified	86 students (grades 6–8, 40 males, 46 females)	Not specified	Field notes Student notebooks Semi-structured interviews	Thematic analysis	Third review of analysis Prolonged engagement Triangulation of sources Reflexive journal Peer debriefing
Gould, Collings, Lauer, and Chung (2007)	Examined how outstanding high school football coaches developed life skills in their players	US	Not specified	Pragmatic qualitative perspective	Not specified	10 coaches (aged 47–68 years)	Purposeful sampling of coaches were finalists for NFL coach of the year program	Survey Semi-structured interviews	Content analysis Creation o coach profiles	Team approach to data analysis

Gould, Voelker, and Griffes (2013)	To gain an understanding of the youth leadership development process in sport through qualitative interviews with high school coaches who have a reputation for cultivating leadership in their captains	US	Not specified	Not specified	Not specified	10 high school coaches (6 males, 4 females)	Purposeful sampling (coaches identified by league administrator)	Semi-structured interviews	Thematic analysis	Participant review of individual profiles Team approach to data analysis
Hardcastle, Tye, Glassey, and Hagger (2015)	Evaluate the experience of, and perceived effectiveness of, a life-skills program	Australia	Life skills framework (Gould & Carson, 2008)	Not specified	Not specified	54 athletes aged 13–18 years 4 program facilitators 4 coaches 8 parents 4 administrators	Opportunistic sampling	Focus groups, semi-structured interviews	Inductive thematic analysis	Triangulation of data sources
Harrist and Witt (2012)	Increase understanding of youth basketball as a positive developmental context	US	Not specified	Not specified	Grounded theory	31 female athletes (M_{age} = 13.4 years) 3 coaches	Coaches purposefully sampled based on team success, experience, and exhibition of positive interactions during prestudy observations	Semi-structured interviews Observation Focus groups	Open and axial coding	Triangulation of data sources Team approach to analysis Member checking

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Harwood (2008)	To present practitioners and applied researchers with specific details of a developmental sport psychology program and coaching intervention at a professional football (soccer) academy.	UK	5Cs of football (Higham, Harwood, & Cale 2005)	Not specified	Quasi-Experimental Design (mixed methods)	6 male coaches (aged 23–42 years)	Purposefully Sampled	Social validation post-intervention interviews	Not specified	Not specified
Harrist and Witt (2014)	To increase our understanding of youth basketball as a positive developmental context	US	Not specified	Not specified	Grounded theory	31 female athletes ($M_{age} = 14$ years) 3 coaches	Team coaches were purposefully sampled based on team success, five years experience, and positive interactions observed during prestudy observation period	Semi-structured interviews with coaches Observation Focus groups with players	Grounded theory analytic techniques	Team approach to analysis Member checking

Hayden et al. (2015)	To examine the life skills developed through sport participation at three international high schools	Malaysia Panama China	Not specified	Constructivist	Not specified	29 high school athletes aged 18 years (16 females, 13 males)	Schools purposefully selected to give international perspective	Semi-structured interviews	Thematic analysis	Team approach to analysis Member checking with six participants
Holt, Kingsley, Tink, and Scherer (2011)	To examine low-income parents' and their children's perceptions of the benefits associated with participation in youth sport	Canada	Ecological systems theory	Interpretive	Interpretive description	17 parents 18 children (7 females, 11 males, M_{age} = 12.5 years)	Families sampled based on annual (low) income, recruited via a non profit	Semi-structured interviews	Thematic analysis	Team approach to analysis Triangulation of data sources Expert feedback
Holt et al. (2013)	Develop, implement and evaluate sport-based after school programs for students in low-income areas	Canada	Not specified	Not specified	Participatory action research (PAR)	Phase 1: 28 children 2 teachers Phase 2: 14 children 3 teachers	Purposefully selected	Semi-structured interviews	Inductive content analysis procedure	Team approach to analysis Categories reviewed by researchers, principals and some teachers for member checking
Holt, Sehn, Spence, Newton, and Ball (2012)	Examined school staff members' and children's perceptions of the physical education program, intramural sports, and sports teams in an attempt to understand the factors that facilitated or impeded PYD	Canada	Theories of PYD to create conceptual context	Not specified	Case study	8 school staff 59 children (28 females, 31 males, M_{age} = 12.4 years)	Purposefully sampled school in low-income neighborhood with approach consistent with PYD and emphasis on sport programs	Fieldwork Interviews	Categorical aggregation (thematic)	Prolonged engagement Team approach to analysis Data triangulation

(*Continued*)

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Holt, Tamminen, Tink, and Black (2009)	To examine how people may learn life skills through their involvement in regular competitive sport programs	Canada	Not specified	Interpretive	Interpretive interactionism	40 young adults (20 males, 20 females, M_{age} = 22 years)	Purposeful sampling of participants with experience in competitive sport (across a range of different sports)	Semi-structured interviews	Interpretive (thematic) analysis	Reflexivity Team approach to analysis
Holt, Tink, Mandigo, and Fox (2008)	To examine whether and how youth learned life skills through their involvement on a high school soccer team	Canada	Ecological systems perspective 5Cs of PYD Domains of growth experiences	Realist	Ethnography	12 male student athletes (M_{age} = 17.1 years) 1 head coach	Purposefully sampled a school with a good reputation for athletics and a coach who was regarded as a good leader	Participant observation, documentation (national, provincial, policy) Researcher notes, semi-structured interviews	Description interpretation analysis (thematic)	Reflexivity Triangulation of data sources Member checking
Iachini, Beets, Ball, and Lohman (2014)	Examined how one specific physical activity-based positive youth development program (Girls on the Run) was implemented to identify design features that help maximize positive youth outcomes	US	Not specified	Not specified	Not specified	386 girls 13 female coaches (age 18–49 years) provided primary source of qualitative data	Not specified	Site visits and self-report checklists Focus groups	Thematic analysis (inductive)	Debriefing Prolonged engagement Triangulation of data sources Member checking

Johnston, Harwood, and Minniti (2013)	Examined the assets considered necessary to develop in young swimmers to ensure individual and sport-specific development	UK	Gerring's (1999) critical framework of concept formation	Interpretive	Not specified	10 adults (M$_{age}$ = 44.6 years; 4 coaches, 2 administrators, 6 sport psychology practitioners/ academics	Not specified	Document analysis Individual interviews	Thematic analysis	Team approach to analysis Reflexive journal Expert review
Jones and Lavallee (2009a)	To explore how life skills are defined, which life skills British adolescent athletes need, and which life skills are most important	UK	Not specified	Not specified	Not specified	38 participants (including graduate students, experts, coaches, and athletes)	Not specified	Focus groups	Thematic analysis	Triangulation of data sources Interrater reliability checks
Jones, and Lavallee (2009b)	Explore how perceived life skills were developed	UK	Not specified	Not specified	Interpretive Phenomenological Analysis	1 female athlete (aged 22 years)	Purposive sampling to recruit an athlete with 'strong life skills' (p 38)	Semi-structured interviews	Thematic analysis	On-going member checking with participant
Light (2010)	To explore social, personal and cultural development arising from being in a swimming club	Australia	Situated learning perspective (Lave & Wenger, 1991)	Not specified	Ethnography	20 children (6 males, 14 females, aged 9–12 years) 20 parents 4 coaches	Not specified	Semi-structured interviews Photography	Grounded theory analysis	Not specified

(*Continued*)

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Koh, Ong, and Camiré (2014)	To investigate the perspectives of physical education (PE) teachers, sports coaches, PE students and athletes from a Singaporean school taking part in an instructional program designed to teach values through physical education and sport	Singapore	Not specified	Not specified	Not specified	3 PE teachers, 3 sport coaches, 16 PE students (aged 10–12 years) 16 athletes (aged 10–12 years)	Not specified	Semi-structured interviews (adults) Focus groups (children)	Thematic analysis	Triangulation of data sources Peer review
Martinek, Schilling, and Hellison (2006)	To describe how youth leadership evolved into two programs for low-income minority youth	US	TPSR (Hellison & Wright, 2003)	Not Specified	Not specified	Not specified	Not specified	Focus groups, interviews, leaders written reflections, field notes and informal interactions	Not Specified	Not specified

McCallister, Blinde, and Weiss (2000)	To identify the values and life skills that coaches deem important and the manner in which coaches claim to teach these skills To examine the philosophies of youth sport coaches and the degree to which coaches implement such philosophies	US	Not specified	Not specified	Not specified	22 coaches (10 females, 12 males)	Only women coaching girls and men coaching boys were eligible to participate	Semi-structured interviews	Content analysis	Team approach to analysis
Neely and Holt (2014)	To examine parents' perspectives on the benefits of sport participation for their young children	Canada	Not specified	Interpretivist	Interpretive description	22 parents (12 females, 10 males)	Purposeful sampling to recruit parents of children aged 5–8 years who were 'sampling' sport	Semi-structured interviews	Thematic analysis	Concurrent data collection and analysis Team approach to analysis Member checking
Newin, Bloom, and Lougheed (2008)	To explain youth ice hockey coaches' perceptions of the effectiveness of a team-building intervention program	Canada	Team building conceptual model (Carron & Spink, 1993)	Not specified	Not specified	8 coaches of players aged 11–13 years	Not specified	Pre and post intervention survey Observation Semi-structured exit interview	Inductive thematic analysis	Member checking Peer review Prolonged engagement Triangulation of data sources

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Olushola, Jones, Dixon, and Green (2013)	To determine the components of a school-based sports program that creates long-term benefits for African American Girls	US	Not specified	Not specified	Interpretive case study	12 former players 4 parents 7 school administrators 4 player mentors	Snowball Sampling	Semi-structured interviews, group interviews	Thematic Analysis	Not specified
Pascual et al. (2011)	To examine the implementation of a program Teaching Personal and Social Responsibility (TPSR)	Spain	TSPR (Hellison & Wright, 2003)	Not specified	Comparative case study	2 teachers 22 students (7 females, 15 males, M_{age} = 10.8 years)	Purposeful sampling of teachings who identified with program philosophy and were willing to learn and apply program	Observations Semi- structured interviews	Theoretical proposition approach (Yin, 2003). Similar to thematic analysis	Triangulation of data sources Team approach to analysis Peer debriefing Member checking
Peralta, O'Connor, Cotton, and Bennie (2014)	To investigate the effect of a community and school sport program on Indigenous adolescents' life skills and physical activity levels	Australia	Not specified	Not specified	Nonrandomized pre/post-test mixed methods	18 Indigenous adolescents 6 adult stakeholders	Adolescents based on Indigenous status	Focus groups with adolescents Individual interviews with stakeholders	Thematic analysis	Team approach to analysis

Riley and Anderson-Butcher (2012)	To gain a greater understanding of parents' perceptions of the impact of a sport-based summer PYD camp	US	Learning in fitness and Education (LiFE) based on TPSR (Hellison & Wright, 2003)	Not specified	Grounded Theory	10 parents (age range 31–58 years)	Purposeful sampling of parents based on children being in first year of program, receiving free or reduced lunch, and having child 10–12 years	Semi-structured interviews	Grounded theory analytic techniques	Negative case analysis Memos and audit trail Peer debriefing Member checking
Schilling (2001)	To examine underserved youth participants' perceptions of program commitment over a multiyear period to an extended day physical activity program called Project Effort	US	TPSR Hellison & Wright, 2003)	Not specified	Not specified	7 participants (4 females, 3 males, age range 12–15 years)	Purposeful sampling based on participation in program for at least four years, participation in apprentice program, current involvement	Individual interviews Focus groups	Thematic analysis	Member checking External collaborator during data analysis Peer debriefing
Schilling, Martinek, and Carson (2007)	To evaluate both the processes and outcomes of program commitment within the context of a specific responsibility-based physical activity program	US	TPSR (Hellison & Wright, 2003)	Not specified	Not specified	12 adolescents (M_{age} = 16.7 years)	Purposeful sampling of adolescents who had been in program for at least two years	Semi-structured interviews	Inductive and deductive thematic analysis	Peer debriefing Cross case comparison Member checking

(*Continued*)

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Simard, Laberge, and Dusseault (2014)	To explore how participation in a psychosocial program using sport as an intervention tool could foster the process of empowerment in young women at risk of delinquency and school dropout	Canada	Not specified	Interpretive interactionist	Grounded theory ('elements of')	7 female young adults (M_{age} = 19 years)	Purposeful sampling of individuals involved in program for at least one year	Semi-Structured interviews	Open coding, transversal analysis	Team approach to analysis
Strachan and Davies (2015)	Used photo elicitation to explore youth experiences and positive development in sport	Canada	National Research Council and Institute of Medicine features of programs to promote PYD	Constructivist/ realist	Not specified	Study 1: 12 athletes (9 females, 3 males, M_{age} = 11.0 years) Study 2: 14 athletes (2 females, 12 males, M_{age} = 9.4 years)	Purposeful sampling of athletes involved in sport for at least 10 hours per week	Focus groups Photo elicitation	Deductive content analysis	Peer review of coding as reliability check Transcripts checked by participants
Strachan, Côté, and Deakin (2011)	To investigate the presence of setting features within elite youth sport contexts from a coach's perspective.	Canada	NCRIM (2002) setting features	Not specified	Not specified	5 coaches (3 males, 2 females)	Purposeful sampling of coaches based on involvement in sport	Semi-structured interviews Observation	Deductive thematic analysis	Participants checked the accuracy of their transcript Methods triangulation

Trottier and Robitaille (2014)	To gain an understanding of coaches' perceptions of their role in the development of life skills in adolescent athletes in two different sport contexts	Canada	Not specified	Not specified	Case study	24 coaches (6 females, 18 males)	Reputational sampling procedure of coaches who placed emphasis on personal and athletic development	Semi-structured interviews	Deductive and inductive content analysis	Researcher debriefing Participants verified individual summaries of findings
Turnnidge, Vierimaa, and Côté (2012)	To describe the sport experiences of athletes with physical disabilities in a model swim program that has been widely recognized for the development of positive values in athletes.	Canada	PYD (Damon, 2004)	Not specified	Qualitative descriptive	8 athletes (3 males, 5 females, aged 9–19 years)	Program purposefully selected as model program. No information on sampling of athletes specified	Semi-structured interviews	Inductive and deductive content analysis	Team approach to analysis Peer reliability check
Vella et al. (2011)	Explored coaching practitioners' understanding of their leadership role and the outcomes that they desired for their athletes as a result of their coaching	Australia	Not specified	Not specified	Qualitative methodology mentioned, but no specific methodology	22 coaches (16 males, 6 females, M_{age} = 43.14 years)	Purposefully sampled 'participation' level coaches	Semi-structured interviews	Thematic analysis	Team approach to analysis

(Continued)

Table 1. Continued.

Study	Purpose	Setting	Theoretical Model/ Conceptual Framework	Philosophical Perspective	Methodology	Sample	Sampling Strategy	Data Collection	Data Analysis	Validity
Ward and Parker (2013)	Purpose was to examine the atmosphere of a PYD program grounded in self-determination theory (SDT) through the eyes of participants	US	Self-determination theory (Deci & Ryan, 2008)	Not specified	Case study (with some elements of ethnography)	23 children (14 males, 9 females) 4th and 5th grade	Children enrolled in after-school program. No other specific sampling criteria reported	Focus groups Individual interviews Field notes Artifacts (documents)	Inductive thematic analysis	Team approach to analysis Prolonged engagement Member checking Peer debriefing
Weiss, Stuntz, Bhalla, Bolter, and Price (2013)	To assess effectiveness and impact of The First Tee life skills program in achieving its goals of positive youth development	US	PYD framework (Petitpas et al., 2005)	Not specified	Qualitative Research design	95 youth (33 females, 62 males, M_{age} = 13.6 years) 36 coaches (14 males, 12 females) 24 parents	Not specified	Individual interviews Focus groups	Deductive and inductive content analysis	Training of researchers Team approach to analysis Triangulation of data sources Member checking
Whitley, Wright, and Gould (2013)	Interviewed coaches in South Africa an attempt to gain a better understanding of the realities of the sport setting, the experiences of coaches and young people in these underserved communities, and what approach to take when designing, implementing, and evaluating Sport for Development (SfD) programs	South Africa	Not specified	Constructivist	Phenomenology	19 coaches	Purposefully sampled South African citizens at least 18 years, who could converse in English, and have at least two years experience coaching children	Focus groups	Inductive content analysis	Team approach to analysis (multiple codes, consensus validation) Peer debrief

Study	Purpose	Country	Framework	Paradigm	Methodology	Participants	Sampling	Data collection	Analysis	Trustworthiness
Whitley, Hayden, and Gould (2015)	To understand the nature of sport and sport-based youth development in the community of Kayamandi Township in South Africa	South Africa	No specific framework, but sport for development and PYD used for conceptual context	Constructivist	Phenomenology	10 coaches 11 community members 19 athletes (aged 9–20 years, M_{age} = 16.2 years)	Snowball sampling	Semi-structured interviews	Inductive content analysis	Triangulation of data sources Team approach to analysis (multiple codes, consensus validation) Peer review
Wright and Burton (2008)	To explore implementation and short-term outcomes of a responsibility-based physical activity program that was integrated into an intact high school physical education class	US	TSPR (Hellison & Wright, 2003)	Not specified	Not specified	23 high school students (14 females, 9 males, M_{age} = 14.8 years)	Participants enrolled in the wellness program (no other sampling criteria reported)	Individual interviews Observations Lesson plans Student logs Student written reflections Learner assessments Open-ended program evaluation survey	Deductive and inductive thematic analysis	Triangulation of data sources Peer debriefing Member checking Peer debrief
Walsh (2007)	To compare youth development outcomes for participants in a TPSR program to the same outcomes of their school day	US	TPSR (Hellison & Wright, 2003)	Not specified	Mixed-methodology	10 students (9 males, 1 female, grades 4–5)	Children who attended program and resided in school's local low-income housing	Interviews	Content analysis	Not specified
Walsh, Ozaeta, and Wright (2010)	To examine the degree of transference of the four primary TPSR goals from a coaching club program to a participants school environment	US	TPSR (Hellison & Wright, 2003)	Interpretive/ constructivist	Qualitative approach	13 students (11 males, 2 females from grades K-5)	Not specified	Semi-structured Interviews Observation Document analysis Participant journals	Inductive and deductive analysis	Follow up interviews Member checking Peer debriefing Triangulation of data sources Audit trail

Table 2. Overview of meta-analysis results.

Category	Theme	Explanation	Studies
Social Environment			
	Adult relationships	Strong relationships between youth and adult program leaders and coaches	Armour et al. (2013), Camiré, Trudel, and Bernard (2013), Camiré et al. (2009a), Flett et al. (2013), Fraser-Thomas and Côté (2009), Gould et al. (2007), Harrist and Witt (2012), Holt et al. (2009), Iachini et al. (2014), Light (2010), Olushola et al. (2013), Schilling et al. (2007), Strachan and Davies (2015), Strachan et al. (2011), Turnnidge et al. (2012), Ward and Parker (2013), Walsh (2007), Martinek et al. (2006), Riley and Anderson-Butcher (2012)
	Peer relationships	Strong relationships among youth, including opportunities for peer leadership (including sense of community)	Allen et al. (2015), Armour et al. (2013), Bean et al. (2014), Whitley et al. (2015), Fraser-Thomas and Côté (2009), Goudas and Giannoudis (2010), Harrist and Witt (2012), Harrist and Witt (2014), Hayden et al. (2015), Holt et al. (2013), Holt et al. (2009), Johnston et al. (2013), Olushola et al. (2013), Schilling et al. (2007), Strachan and Davies (2015), Strachan et al. (2011), Turnnidge et al. (2012), Ward and Parker (2013), Weiss et al. (2013)
	Parental involvement	Parents supporting youth involvement in positive ways	Camiré et al. (2009a), Camiré et al. (2009b), Fraser-Thomas and Côté (2009), Gould et al. (2007), Holt et al. (2009), Neely and Holt (2014), Strachan et al. (2011), Turnnidge et al. (2012), Riley and Anderson-Butcher (2012)
Activities			
	Life skill building activities	Use of specific pedagogical strategies focused on teaching life skills.	Armour et al. (2013), Bean et al. (2014), Brown and Fry (2011), Camiré and Trudel (2010), Camiré et al. (2009a), Camiré et al. (2012), Camiré et al. (2013), Cowan et al. (2012), Daud and Carruthers (2008), Dinanthompson et al. (2008), Escarti et al. (2010), Flett et al. (2013), Fraser-Thomas and Côté (2009), Goudas and Giannoudis (2010), Gould et al. (2007), Hardcastle et al. (2015), Harrist and Witt (2012), Harwood (2008), Neely and Holt (2014), Holt et al. (2008), Holt et al. (2012), Holt et al. (2013), Iachini et al. (2014), Light (2010), Olushola et al. (2013), Strachan et al. (2011), Trottier and Robitaille (2014), Turnnidge et al. (2012), Walsh (2007), Walsh et al. (2010), Weiss et al. (2013), Wright and Burton (2008)
	Transfer activities	Ways in which transfer of personal and social skills learned in sport to other life situations may occur.	Allen et al. (2015), Bruening et al. (2009), Koh et al. (2014), Camiré et al. (2009a), Camiré et al. (2012), Chinkov and Holt (2015), Flett et al. (2013), Goudas and Giannoudis (2010), Gould et al. (2007), Holt et al. (2013), Jones and Lavallee (2009a, 2009b), Newin et al. (2008), Simard et al. (2014), Trottier and Robitaille (2014), Wright and Burton (2008), Weiss et al. (2013)

(Continued)

Table 2. Continued.

Category	Theme	Explanation	Studies
PYD Outcomes	Personal domain	PYD outcomes related to personal development	Allen et al. (2015), Armour and Sandford (2013), Bruening et al. (2009), Camiré and Trudel (2010), Camiré et al. (2009a), Camiré et al. (2009b), Chinkov and Holt (2015), Daud and Carruthers (2008), Dinanthompson et al. (2008), Fraser-Thomas and Côté (2009), Fuller et al. (2013), Goudas and Giannoudis (2010), Hardcastle et al. (2015), Harrist and Witt (2014), Hayden et al. (2015), Holt et al. (2011), Holt et al. (2013), Holt et al. (2008), Johnston et al. (2013), Jones and Lavallee (2009a), Neely and Holt (2014), Newin et al. (2008), Peralta et al. (2014), Riley and Anderson-Butcher (2012), Simard et al. (2014), Turnnidge et al. (2012), Vella et al. (2011), Walsh et al. (2010), Weiss et al. (2013), Whitley et al. (2015)
	Social domain	PYD outcomes related to improved social relationships and skills	Armour and Sandford (2013), Bean et al. (2014), Bruening et al. (2009), Camiré and Trudel (2010), Camiré et al. (2009a), Camiré et al. (2009b), Chinkov and Holt (2015), Dinanthompson et al. (2008), Flett et al. (2013), Fraser-Thomas and Côté (2009), Fuller et al. (2013) , Gould et al. (2013), Harwood (2008) , Holt et al. (2011), Holt et al. (2013), Holt et al. (2009), Johnston et al. (2013), Jones and Lavallee (2009a), Light (2010), Martinek et al. (2006), Neely and Holt (2014) , Newin et al. (2008), Olushola et al. (2013), Riley and Anderson-Butcher (2012), Schilling et al. (2007), Strachan et al. (2011), Turnnidge et al. (2012), Vella et al. (2011), Walsh (2007) , Walsh et al. (2010), Weiss et al. (2013), Wright and Burton (2008)
	Physical domain	PYD outcomes related to physical skill development	Bruening et al. (2009) , Camiré et al. (2009a), Chinkov and Holt (2015), Fuller et al. (2015), Holt et al. (2013), Neely and Holt (2014), Vella et al. (2011)

technique (Glaser & Strauss, 1967) during which themes were compared with each other to ensure uniqueness.

The final *meta-synthesis* involved the integration of findings from the meta-data, meta-method, and meta-theory analyses. The purpose of a meta-synthesis is to move beyond the descriptive presentation of findings and build an interpretive account of the key findings, and how they may fit together, to extend beyond what is currently known (Paterson et al., 2001). The steps of meta-synthesis involved a process of interpreting, theorizing, reflecting, and reviewing the previous analyses. The meta-synthesis was completed using analytic techniques from grounded theory (Corbin & Strauss, 2015); it began during the meta-data analysis phase and continued until the final presentation of the model presented herein.

Following Corbin and Strauss (2015), during the coding process memos were written to depict statements of relationships between themes. Diagraming was used to visually

depict schematic representations of the emerging ideas and linkages between themes. These diagrams were reviewed and revised regularly as the analysis advanced. Initial iterations of the model were scrutinized by members of the research team and modified accordingly. These reviews led to the implementation of an additional analytic step, which involved returning to the theoretical PYD literature (i.e., work not included in the meta-synthesis) to ensure that statements of relationships were logically connected to previous theory. This return to existing theory is an established technique from grounded theory methodology, referred to as a 'delayed literature review' (Corbin & Strauss, 2015). It was appropriate for the current study because we used extracted data from the studies reviewed as the original data for our analysis. Going back to the broader theoretical literature during the final stages of theorizing enabled us to fill 'gaps' in the emerging model. For instance, individual–PYD climate links and interactions with distal ecological systems are clearly important features of PYD but to date have yet to be thoroughly addressed in qualitative studies. Therefore, contextualizing the new model in the broader theoretical literature strengthened its relevance. Within this broader framework we focused on creating a parsimonious explanation of the implicit and explicit process and outcomes associated with PYD through sport, which were based on the original data we (re)analyzed.

Results

Meta-method analysis (see Table 1)

Setting
Studies drew samples from the United States ($n = 22$), Canada ($n = 21$), United Kingdom ($n = 8$), Australia ($n = 5$), Spain ($n = 2$), South Africa ($n = 2$), Greece ($n = 1$), Panama ($n = 1$), China ($n = 1$), Malaysia ($n = 1$), and Singapore ($n = 1$). The total number of studies listed here equals 65 because one study (Hayden et al., 2015) drew participants from three countries.

Methodology
'Named' qualitative methodologies were not widely used. Of those studies that did refer to a specific named methodology, case study was cited seven times, grounded theory was cited six times, phenomenology was cited three times, mixed methods three times, ethnography twice, and interpretive description twice. Participatory action research and interpretive interactionism were each cited once. More use of named methodologies may improve the overall methodological coherence and rigor of studies by providing 'guides' for appropriately building and combining the different components of a study (Holt & Tamminen, 2010; Mayan, 2009).

Sample
It was not possible to calculate precisely the total number of participants who had provided data, because two studies (Armour & Sandford, 2013; Armour et al., 2013) appeared to draw participants from the same sample (of 486 students), one study (Weiss et al., 2013) reported 95 youth and 36 coaches in the total sample, but it was not clear which individuals provided qualitative data, and one study (Martinek et al., 2006) did not clearly specify the sample size. Additionally, the specific breakdown of age range of youth was not always

clearly reported. Nonetheless, we were able to conservatively estimate that data had been provided by at least 730 children (aged 6–12 years), 1,000 adolescents (aged 13–18 years), and 76 adult athletes (aged 19+ years), along with 200 parents and 397 adult leaders (coaches, teachers, mentors, program leaders, administrators). We were not able to compile accurate statistics on social and demographic factors (e.g., socioeconomic states, gender, ethnicity) because these data were not reported with sufficient clarity across the studies.

Sampling strategy

Sampling procedures were not reported in 15 studies. When sampling procedures were reported (e.g., recruiting participants via a third party, such as a teacher or coach; Armour & Sandford, 2013), they often failed to include information about the criteria according to which participants had been selected. Other studies recruited participants from a specific context (e.g., clubs in low-income areas; Bean et al., 2014) but again failed to provide the criteria that had been used to select participants from within the specific context. There were some examples of clear sampling procedures, such as the use of purposeful sampling to identify model coaches (Camiré et al., 2012; Gould et al., 2007).

Data collection

Some form of individual interviews was used in 28 studies. More than one data collection technique (e.g., interviews, document analysis, and observation) was used in 32 studies. Furthermore, 27 studies included data collected from multiple samples, such as athletes and coaches/program leaders/teachers (e.g., Armour et al., 2013; Koh et al., 2014) or athletes and parents (e.g., Bruening et al., 2009; Fuller et al., 2013). The use of multiple data collection techniques can provide opportunities for data triangulation (Patton, 2014) and was a strength of the studies reviewed.

Data analysis

Some form of thematic or content analysis was used in 55 studies. The specific analytic logic used (inductive, deductive, abductive) was not explained with sufficient clarity for us to establish how many studies used which particular analytic logic. Analytic techniques based on grounded theory were reported in three studies.

Validity

The use of multiple researchers to conduct data analysis (team approach to analysis, peer review, peer debrief, interrater reliability check) was reported in 46 studies. A form of member checking was reported in 26 studies. The completeness of member-checking protocols varied. For instance, Jones and Lavallee (2009b) used an on-going member-checking protocol, whereas other studies involved returning transcripts to participants for verification (e.g., Strachan et al., 2011; Trottier & Robitaille, 2014). Again, studies that included multiple data collection techniques offered opportunities for the triangulation of methods and data sources (Patton, 2014). Details about techniques to assess validity were not specified in only eight studies.

Meta-theory analysis (Table 1)

Theoretical model/conceptual framework

No theoretical model or conceptual framework was specified clearly in 26 studies. Of the 37 studies that did include some form of model/framework, the most frequently used was Hellison and Wright's (2003) TPSR, which was cited in 10 studies. Sport-specific frameworks of life skills (Gould & Carson, 2008; Petitpas et al., 2005) were the next most widely used perspective, cited in seven studies. The NRCIM list of setting features was used twice (Strachan et al., 2011; Strachan & Davies, 2015). Ecological theory (Holt, Tink, Mandigo, & Fox, 2008; Holt et al., 2008) and self-determination theory (Cowan et al., 2012; Ward & Parker, 2013) were also used. Sandelowski (1993) explained that, in qualitative studies, theory may inform the conceptual context and research questions and may be used during the analysis or in the interpretation/discussion of results. It is incumbent on researchers to articulate clearly their use of theory within a qualitative study, and there is clearly a need for more theoretically informed studies of PYD through sport (cf. Hodge et al., 2012).

Philosophical perspective

Philosophical perspectives were not specified in 49 studies. Of the 14 studies that did refer to a philosophical perspective, the interpretive perspective was used in seven studies, and a constructivist perspective was used in four studies (plus one study claimed a combined interpretive/constructivist perspective; Walsh et al., 2010). Pragmatic (Gould et al., 2007) and realist (Holt et al., 2008) perspectives were also reported. Stating epistemological and ontological assumptions is important because the philosophical perspective shapes the way a study is conducted and how knowledge is generated (Culver, Gilbert, & Sparkes, 2012). Establishing philosophical perspectives also enables researchers to demonstrate methodological coherence (Mayan, 2009).

Meta-data analysis (Table 2)

Results of the meta-data analysis were organized around the main themes of PYD climate, life skills program focus, and PYD outcomes (see Table 2).

Positive youth development climate

Positive youth development climate referred to social contextual features within a sporting context. More specifically, we defined PYD climate as a social environment that enables youth to gain experiences that will contribute to PYD outcomes. The features of the PYD climate were adult (leader/coach) relationships, peer relationships, and parental involvement.

Adult (leader/coach) relationships

This theme referred to the notion that strong relationships between youth and adults (e.g., program leaders, coaches, teachers) could create a social environment for the promotion of PYD. Data included in this theme were drawn from 19 studies (Table 2). For instance, a participant in Armour et al.'s (2013) study highlighted the importance of creating positive

relationships between youth and adults, explaining that youth 'appear to get so much from interaction … it enables them to see the human side of adults, and enables them to engage with the adults on an "adult" level, rather than just as authority figures' (p. 270). A high school student-athlete in another study highlighted the importance of relationships with coaches, explaining 'We spend the whole year together at practice and on the bus during weekends. They [coaches] are sort of like our fathers on the road … ' (Camiré et al., 2013, p. 193). A coach in another study explained his approach to building relationships when he said that athletes 'have to believe I care about them … I really do have their best interest at heart' (Flett et al., 2013, p. 330).

Peer relationships

This theme was defined as strong peer relationships among youth leading to the creation of a PYD climate, and it included opportunities for peer leadership and feelings of belonging to a wider community. Data included in this theme were reported in 19 studies (Table 2). We viewed peer relationships as a feature of programs rather than a PYD outcome (improved social skills were PYD outcomes, as reported later). A key feature of peer relationships was their enduring nature. A participant in Fraser-Thomas and Côté's (2009) study explained that 'They've been in your group forever. You've gone on trips with them. You know their families. They encourage you to do well … you work hard together, and then you celebrate together' (p. 13). Similarly, a participant in Olushola et al.'s (2013) study highlighted that athletes have a 'fellowship with one another in ways I don't think other programs allow … they [teammates] are able to connect on another level besides practice and games. It's a wide, wide spectrum that ends up into a big hug' (p. 215). Through these peer relationships youth get to feel 'part of a team, having training partners or groups and the ability to have friends of different age groups' (Strachan & Davies, 2015, pp. 178–179).

Parental involvement

This theme referred to parents supporting youth involvement in sport programs in positive ways to promote PYD. Data included in this theme were reported in nine studies (Table 2). For instance, studies reported that 'parental involvement is vital to the continuous delivery of their programs (Strachan et al., 2011, p. 25) and parents 'should be a part of the team' (Turnnidge et al., 2012, p. 1135). Camiré et al. (2013) found that coaches emphasized the importance of engaging parents. One coach said, 'I tell parents at the start of the year, our interventions with your child have to complement yours. Our common goal must be the optimal development of your child' (p. 195). Parents could reinforce the messages youth were being given within a program. A parent in Neely and Holt's (2014) study explained, 'We can and do use analogies between something that they're learning in sport to how they deal with something at home. And they seem to relate really well to that' (p. 263). In another study a program leader reflected on giving a parent

> … the parent manual and all so she could follow along; and now when she picks her daughter up, she stays up with us and asks me how to go over the lesson again at the house to reintegrate what she learned (Iachini et al., 2014, p. 4).

Life skills program focus

Life skills focus refers to the specific activities and techniques designed to promote life skills and, in turn, PYD. A life skills focus involves providing opportunities to engage in life skill building activities and transfer activities.

Life skill building activities

This theme referred to the use of specific pedagogical strategies focused on teaching life skills. A range of life skill building activities associated with promoting PYD were reported in a total of 32 studies (Table 2). Given the range of findings here, we report the activity and relevant citations only, rather than providing quotes, due to space limitations. Personal life skill building activities associated with success included strategies to establish high expectations and accountability for behavior (Brown & Fry, 2011; Flett et al., 2013; Harwood, 2008; Holt et al., 2012; Olushola et al., 2013; Trottier & Robitaille, 2014; Walsh, 2007), role modeling of desired behaviors (Camiré et al., 2012; Trottier & Robitaille, 2014; Turnnidge et al., 2012), use of keywords/phrases (Brown & Fry, 2011; Camiré et al., 2012; Flett et al., 2013), autonomy-building (Armour et al., 2013; Flett et al., 2013), goal setting (Camiré et al., 2013; Trottier & Robitaille, 2014), and emphasizing academic performance (Gould et al., 2007; Harrist & Witt, 2012). Social life skill building activities included team building (Brown & Fry, 2011; Newin et al., 2008; Olushola et al., 2013), volunteer work (Camiré et al., 2013; Olushola et al., 2013), and mentoring (Olushola et al., 2013). Other pedagogical strategies designed to foster life skills included having discussions about life skills (Bean et al., 2014; Brown & Fry, 2011; Trottier & Robitaille, 2014), taking advantage of teachable moments (Camiré et al., 2012; Trottier & Robitaille, 2014; Wright & Burton, 2008), and following a life skills curriculum (Holt et al., 2013; Iachini et al., 2014; Wright & Burton, 2008).

Transfer activities

This theme referred to activities that were perceived to promote the transfer of personal and social skills learned in sport to other life situations. Transfer was reported in 17 studies (Table 2). They primarily involved coaches reinforcing the importance of transfer and having discussions with their athletes. In the study by Goudas and Giannoudis (2010) a coach is reported as saying, 'We talk a lot about how it's not just something you want to learn to do on the football team but it's a way to lead your life' (p. 28). It should be noted that there was relatively little information about explicit pedagogical strategies designed to promote transfer. In fact, there were several examples that showed that transfer could occur implicitly, without deliberate attempts to focus on how skills learned in sport transfer to other areas in life (e.g., Chinkov & Holt, 2015). A coach in Wright and Burton's (2008) study said,

> I don't tell my athletes that basketball, with its stressful situations, will help them in their future life. But I think that by developing the ability to cope with these stressful situations in basketball, they'll be able to apply that later (p. 17).

Similarly, reflecting the notion of implicit transfer, the idea that skills could 'easily' transfer from sport to life was reported: 'Everything about the ability to manage stress and

emotions, I think that athletes can easily transfer to their life' (Trottier & Robitaille, 2014, p. 16).

Positive youth development outcomes

Results in this category refer to the reported PYD outcomes. A range of outcomes were reported, coded into the personal, social, and physical domains.

Personal domain

Outcomes in the personal domain (indicated by italics below) were reported in 30 studies (Table 2). The most frequently reported positive outcome was labeled *positive self-perceptions* (referring to improve confidence and self-esteem). For instance, one athlete said, 'I'm more confident because I realized I could accomplish things; sports allow you to be someone. You tell yourself, I play volleyball and I'm good at it' (Camiré et al., 2009b, p. 81). A participant in Armour and Sandford's (2013) study said, 'I have learnt that I am braver, more confident and more courageous than I have ever thought in my life' (p. 99).

Academic benefits were widely reported. A student in Daud and Carruthers (2008) study said, 'I used to be the kind of guy that didn't want to study and didn't want to do their homework … now since I've been in this, I only have, like A's and B's in all of my classes and now I have honors classes' (p. 106). Other main themes reported in the category of personal outcomes were learning about *perseverance* and *working hard* (e.g., Armour & Sandford, 2013; Bruening et al., 2009; Harrist & Witt, 2014; Jones & Lavallee, 2009a). For instance, a participant in Harrist and Witt's (2014) study said participation in sport had taught him to 'work harder for what I want and that I have to choose what I want to do more, and work hard at that' (p. 17). *Respect* was also widely reported (Camiré & Trudel, 2010; Harrist & Witt, 2014; Holt et al., 2008; Jones & Lavallee, 2009a; Vella et al., 2011; Walsh et al., 2010). An athlete in Holt et al.'s (2008) study reported learning about the importance of showing 'respect [to] other student-athletes … . After the game when we go out and shake their hands even if we lost, we still have to shake their hands and be respectful' (p. 294).

Learning about *independence* and taking *personal responsibility* was reported. For example, an athlete in Turnnidge et al.'s (2012) study said, 'I've learned a lot of independence. Beforehand, I was very dependent on other people, but I've learned to stay away from that' (p. 1135). Participants in several studies discussed how their involvement in sport helped them to make *good life decisions*. For example, a participant in Harrist and Witt's (2014) study said,

> Basketball helps me make better decisions, smarter decisions … I think about the consequences and how that affects basketball, that's why I don't do it. Like drugs, like I know that's going to mess me up and that's going to mess up basketball (p. 16).

Maintaining a *positive attitude* was reported in several studies (Fuller et al., 2013; Goudas & Giannoudis, 2010; Hardcastle et al., 2015; Weiss et al., 2013), as well as learning *problem-solving skills* (Goudas & Giannoudis, 2010; Hardcastle et al., 2015; Jones & Lavallee, 2009a; Newin et al., 2008), *stress management* (Fraser-Thomas & Côté, 2009; Hayden et al., 2015), and *goal setting* (Hardcastle et al., 2015; Jones & Lavallee, 2009a).
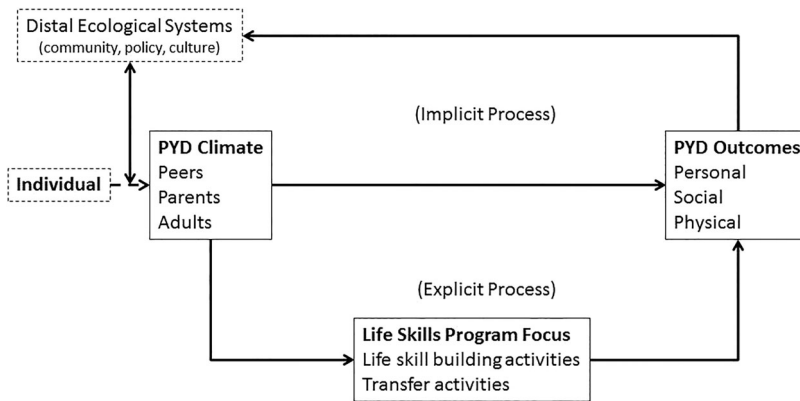
Figure 2. Model of PYD through sport.

Social domain

Outcomes in the social domain were reported in 32 studies (Table 2). That is, through their involvement in sport programs, youth could meet new people and develop new friendships. For example, a young female athlete said, 'through sports, you meet other girls that share your passion, it helps you create friendships; I think it allowed me to develop … to be less shy, to socialize more, and to open myself' (Camiré et al., 2009a, p. 81). *Teamwork* referred more specifically to learning to work with others as a team. For example, participants in Turnnidge et al.'s (2012) study ' … stressed that they had learned about the importance of encouraging and helping their teammates both during practices and competitions' (p. 1135). Similarly, a participant in Armour and Sandford's (2013) study said, 'I learnt that you have to work as a team and you can't be independent of each other in order to reach your goal' (p. 99).

Participants learned about *leadership*. For instance, a participant in Gould et al.'s (2013) study said

> I'm the captain, but we're all kinda leaders. That's what happens when you play sports. You're all leaders because you have to lead each other. I want to be a successful businessman so I'm going to use what I've learned as a captain. (p. 10).

Communication skills were also reported. In one study, parents talked about how their children's involvement in a summer camp program helped with communication (Riley & Anderson-Butcher, 2012) and in another study children spoke of learning 'how to encourage other people' (Armour & Sandford, 2013, p. 99). Coaches also discussed how they focused on communication skills. For example, a coach in Harwood's (2008) study said, 'I think communication has been the biggest improvement personally for this age group … I hear positive communication … It's good to see a 9-year-old coming out with things like that' (pp. 126–127).

Physical domain

Outcomes in the physical domain were reported in seven studies (Table 2). Participants reported improvements in *fundamental movement skills* (Holt et al., 2013; Neely & Holt, 2014; Vella et al., 2011). For example, one parent said that as a result of being involved

in a multi-sport program her young child had 'learned specific skills of whatever it is he's learning so I mean whatever the sport is he's gonna learn better coordination and better timing of how to move his arms and legs around' (Neely & Holt, 2014, p. 262). *Skills for healthy active living* were also reported (Bruening et al., 2009; Camiré et al., 2009a; Fuller et al., 2013). For example, a participant in Bruening et al.'s (2009a) study reported learning about nutrition and that this knowledge of what to eat 'keeps you healthy. You live a longer life' (p. 476).

Meta-Synthesis: a model of positive youth development through sport (Figure 1)

By synthesizing the findings, we present a model of PYD through sport (see Figure 2). Models can vary in terms of their parsimony versus scope, but they should have explanatory power, possess logical internal consistency, and have practical utility (Corbin & Strauss, 2015; Merriam, 1998; Wacker, 1998; Willis, 2007). Furthermore, models created by synthesizing individual qualitative studies provide more generalizability than would be possible from the original studies alone (Estabrooks et al., 1994). That is, as Estabrooks and her colleagues noted, individual qualitative studies are often criticized for having relatively homogenous and small sample sizes, which mitigates generalizability. This can be addressed by analysis and synthesis of qualitative findings drawn from a large number of participants (over 2,400 individuals in the case of the current study) to identify commonalities across studies at a higher level of abstraction and generalizability. In creating this model, we adopted a parsimonious approach and focused on identifying testable relationships with a practical focus specific to the *program delivery level* of sport. That is, it refers to the delivery of specific youth sport programs (e.g., those provided by a team, club, or youth sport organization) rather than a systems-level framework for the organization of an entire sport system or an athlete development pathway. This specificity is important because it focuses the model on a particular 'moment of analysis' (Overton, 2013).

The main components of this model are directly based on the results of the meta-data analysis, while some conceptual linkages are drawn from the broader PYD literature. The broader theoretical literature clearly and consistently highlights that social-ecological systems influence, and are influenced by, behavior (Lerner, Bowers, Geldhof, Gestsdóttir, & DeSouza, 2012). Sport programs are a microsystem (García Bengoechea, 2002), and interactions in this microsystem can be influenced by features of the broader macrosystems within which sport programs (and those who participate in sport programs) are located. Hence, the entire model is framed within the context of *distal ecological systems*. Second, it is important to consider the characteristics of *individuals* who enter sport programs. Not only may socio-demographic factors (e.g., gender, ethnicity, and socioeconomic status) be important, individual difference variables (e.g., traits and dispositions) may also have an influence on the ways in which individuals acquire PYD outcomes through their involvement in sport. Therefore, whereas the qualitative studies reviewed rarely assessed these issues, it was fundamentally important to include them in the model to ensure that it was synthesized with the broader literature.

The *PYD climate* is directly based on the results of this meta-data analysis. Within the microsystem of youth sport, we propose that empathetic relationships with *adults* (leaders/coaches), positive interactions with *peers*, and the supportive involvement of *parents* will create a 'PYD climate.' This PYD climate is the social environment – based

on relationships with and between adults, peers, and parents – that enables youth to gain experiences that will contribute to PYD outcomes. It has some conceptual similarities to mastery-oriented motivational climate, which has consistently been associated with positive outcomes in youth sport (for a review, see Harwood, Keegan, Smith, & Raine, 2015). Whereas motivational climate refers to contextual factors that influence motivation and conceptions of ability, PYD climate refers to contextual factors that influence PYD outcomes. Core concepts in terms of *life skills program focus* are also directly based on the findings of this meta-study. *Life skill building activities* include establishing high expectations and accountability for behavior and role modeling desired behaviors. *Transfer activities* involve coaches reinforcing the importance of transfer and having discussions with their athletes. Finally, *personal, social, and physical outcomes* are benefits associated with youth sport programs.

Based on our meta-synthesis, we propose that it is possible for PYD outcomes to be gained through *implicit learning* in sport programs if a suitable PYD climate is in place (the arrow between PYD climate and PYD outcomes; e.g., Chinkov & Holt, 2015). We also propose a mechanism for *explicit learning* of PYD outcomes. That is, PYD outcomes can be achieved if, within the context of a PYD climate, there is a life skills program focus (i.e., life skill building activities and transfer activities). This is represented by the arrows linking PYD climate to life skills program focus to PYD outcomes in Figure 2 (also see Turnnidge et al., 2014). By gaining PYD outcomes, we propose that youth will be able to thrive and contribute to their communities (the arrow linking PYD outcomes back to distal ecological systems).

This model of PYD through sport provides testable relationships that may guide future research. Five hypotheses are proposed:

(1) Distal ecological systems and individual factors influence PYD through sport.
(2) A PYD climate (based on relationships between athletes and peers, parents, and other adults) can produce PYD outcomes (i.e., through implicit processes).
(3) PYD outcomes can be attained if a life skills program focus (involving life skill building activities and transfer activities) is in place (i.e., through explicit processes) and in the presence of a PYD climate.
(4) The combined effects of a PYD climate *and* a life skills focus will produce more PYD outcomes than a PYD climate alone.
(5) Gaining PYD outcomes in and through sport will facilitate transfer and enable youth to thrive and contribute to their communities.

Discussion

This was the first systematic qualitative review conducted to produce a model of PYD through sport. Meta-method analysis revealed that strengths of reviewed studies included the use of multiple data collection and validity techniques, which facilitated the production of high-quality data. Weaknesses included the lack of named methodologies and reporting of sampling procedures. Meta-theory analysis showed that philosophical perspectives were rarely reported, and theoretical models/conceptual frameworks were used sparingly. These results highlight methodological issues that should be addressed

in future qualitative studies of PYD. The synthesis of the evidence provided in this study shows that sport participation can lead to regularly identifiable PYD outcomes (cf. Coakley, 2011) and depicts ways in which these outcomes can be accrued (cf. Holt et al., 2016; Holt & Jones, 2008).

The model of PYD through sport presented herein is unique but is also logically consistent with program characteristics associated with PYD proposed in other reviews. Lerner (2004) highlighted that positive and sustained adult–youth relations, life skill building activities for youth, and opportunities for youth participation in and leadership of valued community activities are the 'Big 3' necessary components of youth development programs to support PYD. The personal and social outcomes also reflect ways in which PYD outcomes have been assessed in existing measurement frameworks. For instance, in Lerner's Five Cs model the 'Cs' of caring/compassion and connection reflect social outcomes, while character, confidence, and competence reflect personal outcomes (Lerner et al., 2005). Similarly, Larson's domains of growth experiences can be separated in terms of personal and social outcomes (Larson et al., 2006). Our new model of PYD through sport advances the literature beyond these measurement frameworks by more specifically accounting for the social features of sport and linking them with personal, social, and physical outcomes. The new model also provides a series of predictions that are more exhaustive than those provided in other approaches. For example, Larson's approach is essentially a list of variables, while other models (NRCIM, 2002; Search Institute, 2005) are checklist-style approaches with little theoretical underpinning.

The new model of PYD through sport bears some logical similarities to previous sport-specific models. For instance, the notion of PYD climate reflects, to some extent, the 'context' and 'external assets' components of the framework put forward by Petitpas et al. (2005), as well as the internal and external assets and social environmental influences that feature in Gould and Carson's (2008) model. Similarly, Côté et al.'s (2014) PAF model includes personal, relational, and organizational factors that contribute to the processes through which development occurs in and through sport. Together, the new model and previous work highlight the critical importance of creating an appropriate social environment (primarily based on relationships with peers, adults/coaches, and parents) for promoting PYD.

We consider PYD climate as a concept distinct from motivational climate because motivational climate arises from conceptualizations of the attainment of competence in achievement settings and ways in which ability may be judged; motivational climate is the situational/contextual level of analysis for such assessment of competence (for a review, see Harwood et al., 2015). PYD climate refers to features of the social environment – based on relationships with and between adults, peers, and parents – that enables youth to gain experiences that will contribute to *PYD outcomes*. However, we recognize that some of the features of a task-oriented motivational climate may, in practice, facilitate the development of a PYD climate (e.g., focusing on self-referenced goals and mastery may be a feature of strong relationships between youth and adult program leaders and coaches).

Gould and Carson's (2008) model also refers to 'direct' and 'indirect' teaching of life skills. The 'possible explanations' that they provided were limited by the evidence base at the time. Nonetheless, the principles of indirect and direct life skills teaching parallel the implicit and explicit pathways depicted in the current model. Here the new model

of PYD through sport provides some important evidence and clarity that extends the literature. That is, it depicts an implicit process whereby PYD outcomes can be obtained in the presence of a PYD climate and *in the absence of* a specific life skills curriculum per se. The implicit pathway is also an important finding from a practical perspective, because it shows that coaches may promote PYD through their regular 'everyday' interactions with athletes. This is important in the case of, for example, a youth sport team coached by a volunteer, because fostering PYD may not require specific additional time and resources. As Harwood and Johnston (2016) recently suggested, coaches could plan to emphasize particular social relationships within training sessions or in communicating their expectations for parents. Practically, this may be an important contribution to PYD because coaches – especially volunteer coaches – may feel overwhelmed by the need to *add* PYD (such as a life skills training program) to their activities. Indeed, Cushion, Armour, and Jones (2003) argued that PYD-related goals may be 'divorced' from the reality of coaching and that some coaches may think that being responsible for PYD is yet another thing to add to their list of responsibilities. In this respect, evidence for the implicit PYD process, arising from the PYD climate, offers an important practical application.

The explicit process pathway (via a life skills program focus) remains a valuable component of PYD. The new model of PYD specifies the need for both life skill building activities and transfer activities within the explicit process, which provides guidance for the development and delivery of life skills programs (specifically that transfer activities must be included). There remains, however, a need for more research to identify explicit pedagogical strategies that promote transfer. Another potential contribution arising from the distinction between implicit and explicit processes is that sport programs may, in the future, be classified by the type of approach they take. Some youth sport programs may make 'PYD-outcome' type claims in the absence of life skills curricula (MacDonald & Côté, 2007). This leaves such programs open to criticism. The new model of PYD through sport provides, therefore, a tool for administrators to accurately frame the types of programs they deliver (i.e., with an implicit or explicit focus on PYD).

The model of PYD through sport is a beginning, and future research may include clarifying definitions of variables, relationship (model) building, and testing predictions (Wacker, 1998). Research will be required to test the falsifiability of the statements provided (Popper, 1957). Qualitative approaches remain important for answering certain types of research questions relating to this model, particularly concerning the role of parents in promoting PYD and explicit transfer activities. The model is designed in a manner that also permits the use of quantitative assessments in the future. In particular, longitudinal and experimental studies are needed to study the predictions associated with PYD (cf. Holt et al., 2016; Weiss, 2016) and to compare the extent to which different types of youth sport programs (e.g., those based on implicit or explicit processes) may contribute to PYD.

The quality of this meta-study can be judged on its adherence to principles of research design and the rigor of the search, selection, and analytic procedures presented. Although an exhaustive search of the literature was completed, it is difficult to ensure that every relevant study is found within a specific field of study (Cooper & Lindsay, 1998). This is a potential limitation of all systematic reviews (Paterson et al., 2001), which we sought to proactively address by working with a librarian (Sandelowski & Barroso, 2004). An obvious limitation was the fact that we did not review quantitative studies. This did not

prevent us from achieving the purpose and objectives of this study, but there remains a need to systematically review quantitative studies of PYD through sport to further consolidate the evidence base. Our model does not account for developmental change (e.g., how PYD may be fostered in children versus adolescents), and this remains an important area for future research. We did not include findings related to negative outcomes associated with sport participation. Finally, more testing and theory-building is required. These limitations notwithstanding, the findings of this study are a step toward bridging the research-to-practice knowledge gap by comprehensively synthesizing a previously fragmented body of literature to establish a solid knowledge base and set an agenda for future research, while simultaneously informing practice.

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APPENDIX

Search Strategy
EBSCO Sport Discus, 1975–Current

'positive youth development' OR PYD OR 'youth development' OR ('life skill*' and (youth or teen* or adolescen* or 'young adult*' or 'young person' or 'young people' or student*))
AND
sport* or 'physical* activ*' or exercise or athlet* or 'physical education'

Limiters: Publication Type: Academic Journal, Conference Proceeding, Government Document, Proceeding, Report, Thesis or Dissertation

EBSCO Child Development & Adolescent Studies, Inception–Current

sport* or exercise or 'physical* activ*' or 'physical education' or athlet*
AND
'positive youth development' OR PYD OR ('life skill*' and (youth or teen* or adolescen* or 'young adult*' or 'young person' or 'young people' or student*))

EBSCO MEDLINE, 1946–Current

'positive youth development' OR PYD OR ('life skill*' and (youth or teen* or adolescen* or 'young adult*' or 'young person' or 'young people' or student*))
AND
(MH 'Sports+') OR (MH 'Exercise+') OR (MH 'Motor Activity+') or sport* or exercise or 'physical* activ*' or 'physical education' or 'athlet*'

EBSCO CINAHL Plus with Full-text, 1937–Current

'positive youth development' OR PYD OR ('life skill*' and (youth or teen* or adolescen* or 'young adult*' or 'young person' or 'young people' or student*))
AND
((MH 'Sports+') OR (MH 'Exercise+') OR (MH 'Physical Activity') OR (MH 'Education, Physical Education') OR (MH 'Physical Education and Training+')) OR (sport* or exercise or 'physical* activ*')

Ovid ERIC, 1965-Current

(1) (positive youth development or pyd or youth development).mp.
(2) exp Daily Living Skills/
(3) life skill*.ti,ab.
(4) 2 or 3
(5) (youth or adolescen* or teen* or youth or young adult* or young people or young person* or student*).mp.
(6) 4 and 5
(7) 1 or 6
(8) exp Athletics/
(9) exp Physical Activities/
(10) exp Exercise/
(11) exp Physical Education/
(12) (sport* or physical* activ* or exercise or physical education or athlet*).mp. [mp = title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier]
(13) 8 or 9 or 10 or 11 or 12
(14) 7 and 13

Ovid PsycInfo 1806–Present

(1) (positive youth development or pyd or youth development).mp.

(2) (life skills* and (youth or adolescen* or teen* or youth or young adult* or young people or young person* or student*)).mp.
(3) 1 or 2
(4) exp Sports/
(5) exp Physical Activity/
(6) exp Exercise/
(7) exp Physical Education/
(8) (sport* or physical* activ* or exercise or physical education or athlet*).mp.
(9) 4 or 5 or 6 or 7 or 8
(10) 3 and 9

ProQuest Physical Education Index, Inception–current
ProQuest Australian Education Index, Inception–current
ProQuest Sociological Abstracts, 1952–current
('positive youth development' OR PYD OR 'youth development' OR ('life skill*' AND (youth OR teen* OR adolescen* OR 'young adult*' OR 'young person' OR 'young people' OR student*))) AND (sport* or 'physical* activ*' or exercise or athlet* or 'physical education')

ProQuest Dissertations & Theses Full-text, 1861–Current
('positive youth development' OR PYD OR 'youth development' OR ('life skill*' AND (youth OR teen* OR adolescen* OR 'young adult*' OR 'young person' OR 'young people' OR student*))) **[Anywhere except full-text]**
   AND
   (sport* or 'physical* activ*' or exercise or athlet* or 'physical education') **[Anywhere except full-text]**

Elsevier Scopus 1960–Current
(TITLE-ABS-KEY ({positive youth development} OR pyd OR {youth development} OR {life skill*} AND (youth OR teen* OR adolescen* OR {young adult*} OR {young person} OR {young people} OR student*)) AND TITLE-ABS-KEY ((sport* OR {physical* activ*} OR exercise OR athlet* OR {physical education}))

Web of Science Core Collection 1900–Current
'positive youth development' OR PYD OR 'youth development' OR 'life skill*' AND (youth OR teen* OR adolescen* OR 'young adult*' OR 'young person' OR 'young people' OR student*)
AND
sport* or 'physical* activ*' or exercise or athlet* or 'physical education'