A qualitative study of research priorities among representatives of Canadian Provincial Sport Organizations

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ABSTRACT

Objectives: The overall purpose of this study was to examine Canadian Provincial Sport Organization representatives’ research priorities in order to provide directions for future research and knowledge translation initiatives in youth sport.

Design: Qualitative description methodology.

Method: Interviews were conducted with 60 representatives of Canadian PSOs from five provinces. Analysis followed the process of data condensation, data display, and drawing conclusions.

Results: The most frequently reported research priorities were athlete development systems, participation and retention, parenting, benefits of sport, and coaching.

Conclusions: Research that addresses the priorities of stakeholders may increase the adoption of research evidence in practice, program, and policy contexts. This study provides directions that may help inform future research agendas in youth sport. Conversely, the study also revealed that extensive previous research exists in several of the priority areas identified. These findings suggest that knowledge translation research is required in these areas. Knowledge tailoring may be a useful strategy for improving knowledge translation in these areas. Ultimately, it appears that efforts to increase connections between researchers and other stakeholders in youth sport are important.

Despite a rich history of research examining various issues associated with participation in youth sport, its policies, programs, and practices are rarely informed by research evidence (Holt, Deal, & Smyth, 2016). In fact, researchers have commented on gaps between research and practice in sport for many years (e.g., Gould, 2016; Holt & Knight, 2014; Martindale, Collins, & Daubney, 2005). Studies have shown that coaches’ lack of awareness and time are barriers to the use of research evidence (Reade, Rodgers, & Hall, 2008a), and coaches tend to obtain new ideas from other coaches or from attending coaching clinics and seminars, rather than from sport scientists and published research (Reade, Rodgers, & Spriggs, 2008b; Williams & Kendall, 2007). Representatives from national sport organizations perceive a general disconnect between research and practice, and a lack of organizational capacity restricts their ability to use research evidence to inform policy decisions (Holt et al., 2018). Whereas research to practice gaps have been lamented, and barriers to using research have been identified, there is a paucity of knowledge translation work in youth sport. Our study was designed to address these issues by examining sport organization representatives’ priorities for future research.

Chalmers et al. (2014) recently discussed areas of ‘waste’ in terms of investment in medical research and potential health dividends for the public. They argued that waste can be caused when potential stakeholders’ needs are ignored, and suggested that “mismatches between research agendas and the needs of research users can be reduced by inviting research users to help shape research agendas” (p. 162). The involvement of stakeholders in the identification of research problems is, in fact, a critical feature of effective knowledge translation (Jacobson, Butterill, & Goering, 2003). The premise here is that the

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involvement of different stakeholders in the generation of research ideas can increase the applicability of studies and translation of research findings into policy, program, and practice contexts (Invaer, Vist, Trommald, & Oxman, 2002). Accordingly, knowledge translation can be facilitated by conducting studies that are directly relevant and applicable to the needs of various stakeholders (Straus, Tetroe, & Graham, 2013). At the same time, the identification of stakeholders’ priorities may highlight that extensive knowledge has already been established about a particular topic, negating the need for ‘wasteful’ additional research (cf. Chalmers et al., 2014).

This study is part of a larger program of knowledge translation research in youth sport. Knowledge translation is a dynamic and iterative process involving interactions between researchers and knowledge users that can improve the application of knowledge to provide more effective policies, programs, and practices (Straus et al., 2013). Knowledge translation is well-established in some fields, most notably in health care where it is an essential feature of the research process. Knowledge translation is becoming an increasing expectation in sport science (Arnold & Schilling, 2017) and sport medicine is one of the more advanced areas of knowledge translation research in sport. Researchers have highlighted that knowledge translation in sport medicine is time-consuming and complex, and requires an understanding of the processes by which research findings might influence future actions (Bekker, Pallielidis, & Finch, 2017).

Knowledge translation frameworks should be used to drive knowledge translation research projects, because they provide frames of reference for organizing thinking, action, and interpretation (Field, Booth, Ilott, & Gerrish, 2014). The larger program of research within which the current study is located is guided by the knowledge to action framework (the KTA framework; Graham et al., 2006). The KTA framework has two distinct, but related, components: (a) knowledge creation and (b) the action cycle. The knowledge creation component begins with primary studies (first generation knowledge), which must be synthesized to make sense of all the relevant knowledge on a subject (second generation knowledge). Third generation knowledge involves the development of knowledge tools or products designed to present knowledge in clear, concise, and user-friendly ways with the intent of influencing stakeholders’ actions.

The second component of the KTA framework, the action cycle, is a process leading to implementation or application of knowledge. This cycle is represented by the following phases: (i) identify problems that need addressing, (ii) identify, review, and select knowledge/research relevant to the problems, (iii) adapt the identified knowledge/research to the local context, (iv) monitor knowledge use, (v) evaluate the outcomes of using the knowledge, (vi) sustain ongoing knowledge use. The current study is located at the start of this action cycle and primarily focuses on identifying problems (e.g., research priorities) in youth sport and, secondarily, searching for existing research knowledge that may be relevant to the identified problems. Hence, the overall purpose of this study was to examine Canadian PSO representatives’ research priorities in order to provide directions for future research and knowledge translation initiatives in youth sport. We identified these priorities via interviews, compared findings to existing research in youth sport, and examined implications both in terms of future research directions and knowledge translation initiatives.

To achieve the purpose, we sampled Canadian Provincial Sport Organization [PSO] representatives. PSOs are regional sport organizations, often functioning as an interface between ‘grassroots’ clubs and National Sport Organizations (NSOs). In this sense they are intermediary organizations (Bekker et al., 2017) that can play a role in bridging gaps between research and practice by providing research-based information to their members (e.g., coaches, athletes, parents). For example, one study with youth ice hockey coaches in Canada revealed that regional associations were a valuable source of information about sport concussion research, and the authors concluded that regional organizations may be “an optimal method of knowledge translation at the younger and recreational levels of sport” (Mrazik, Bawani, & Krol, 2011, p. 318). We made two assumptions in sampling PSO representatives. First, we assumed that representatives would be able to identify research priorities that are relevant and meaningful for their organizations. Accordingly, these priorities may help future research agendas in youth sport (cf. Straus et al., 2013). Second, we assumed that if PSO representatives reported a priority for research that has already been extensively examined in the literature, then this would suggest a knowledge translation issue (e.g., that existing research had not adequately been disseminated, at least to the participants in this study).

1. Method

1.1. Qualitative description

Qualitative description methodology was used in this study, which is suited to obtaining “answers to questions of special relevance to practitioners and policy makers” (Sandelowski, 2000, p. 337). Consistent with a pragmatic philosophy, qualitative description is a tradition of research that can be used to describe participants’ perceptions of phenomena and is suitable for problem identification (Neergaard, Olesen, Andersen, & Sondergaard, 2009). Qualitative description focuses on providing ‘straight’ descriptions of events or perceptions with low inference interpretation (Sandelowski, 2000; 2010). Given the purpose of the current study, qualitative description was an appropriate methodological selection because we wanted to depict participants’ views about their priorities for future research.

1.2. Participant sampling and recruitment

In order to purposefully sample participants (Milne & Oberle, 2005; Sandelowski, 2000; 2010), we approached PSOs in five Canadian provinces via an e-mail explaining the purpose of the study. We explained that we wanted to speak with a PSO representative who was primarily responsible for youth sport policies and programming, emphasizing that the focus of our project was to examine issues relating to research priorities and the use of research evidence. We estimated, a priori, that approximately 10 participants per province would enable us to attain adequate data saturation (with the exception of Ontario, which is the province with the largest population, and as such we sought 20 participants from two locations in Ontario).

A total of 60 PSO representatives (39 male, 21 female, M age = 43.5 years, SD = 12.6 years) participated in this study. Twelve participants were from Alberta, nine from Manitoba, 20 from Ontario, 10 from Quebec, and nine from Prince Edward Island. Twenty-one participants were executive directors, 12 were presidents/CEOs, and the remainder were technical directors or held similar roles (e.g., youth program manager, sport program manager). Six participants held a high school diploma, 44 held undergraduate degrees, and 10 held graduate degrees as their highest level of education. They represented a range of team and individual sports, including soccer, football, lacrosse, volleyball, ice hockey, curling, athletics, tennis, gymnastics, and golf. They had, on average, 8.8 years of experience working for the PSO (SD = 8.5 years, range 1–30 years).

1.3. Interviews

Consistent with qualitative description (e.g., Neergaard et al., 2009), individual semi-structured interviews with open-ended questions were conducted. An interview guide was developed following guidelines proposed by Rubin and Rubin (2012) and piloted via an interview with a former executive from a PSO, which led to very minor modifications. The interview guide commenced with a preamble explaining the study and some demographic questions. The main questions included: What types of research would be most helpful for you/
your organization? What types of research would you like to see people at universities doing? What types of studies in youth sport would be particularly useful for you/your organization? What are the opportunities you see in using research? Participants were also asked some questions about the use of research evidence, data from which were not used in the current study. Finally, in a summary section, participants were asked: If you had total control over research, what project would you like to see us complete?

Trained interviewers (n = 5) completed the interviews in each province. The interviewers attended a three-day qualitative methods workshop conference that included sessions on principles of qualitative interviewing and training specific to the current study. When the five interviewers returned to their home provinces to undertake data collection, they remained in regular contact with each other via e-mail to discuss and debrief after interviews. Interviews in Québec were conducted in French. Other interviews were conducted in English. Interviews lasted, on average, 45 min.

1.4. Data analysis

A professional transcription company transcribed the audio files of the interviews conducted in English. The researcher who conducted the interviews in Québec transcribed those interviews in French and translated them into English. Participants were assigned a number and any identifying information (e.g., names of sport, names of individuals) was removed from the transcript. The principal investigator led data analysis with the assistance of one of the interviewers. Data from one province (Alberta) were analyzed first, and the process was repeated for data collected from each of the other provinces.

Analysis followed the process of data condensation, data display, and drawing conclusions (Miles & Huberman, 1994; Miles, Huberman, & Saldana, 2014). The first step, data condensation, is the process of selecting and simplifying data contained in the transcripts. This involved the principal investigator reading and re-reading transcripts and coding meaningful segments of information (meaning units) and assigning labels (codes). A ‘long list’ of codes was initially produced and rules of inclusion (i.e., descriptions of the meaning of the code and the data coded therein) were written for each code. Then, pattern coding was completed, which is a process of grouping codes into a smaller set of themes. The long list of codes was condensed into themes by comparing and combining data that reflected similar ideas (e.g., codes reflecting different ideas around the notion of athlete development were grouped into the theme of ‘athlete development systems’). Data coded into each theme were checked and re-checked by the principal investigator and one of the interviewers. The themes depict common patterns shared across the ‘cases.’

Data displays are visually formatted representations that systematically portray information and, according to Miles et al. (2014), “are a major avenue to robust qualitative analysis” (p. 13). A content analysis summary table was created (Table 1) depicting specific examples of research topics (i.e., the sub-themes) that were combined to form each theme. A summed indices data matrix was also created to illustrate participants’ responses in each theme (Table 2). This matrix also provided an indication of the extent to which participants’ perspectives were shared and facilitated descriptive conclusion drawing about the patterns in the data (Miles et al., 2014). The numerical reduction and display of data (i.e., Table 2) is an acceptable approach when using qualitative description, but numerical summaries should be considered as a supplement to the textual results of the content analysis (Neergaard et al., 2009; Sandelowski, 2010). Hence, the final step involved creating a written description of themes.

1.5. Methodological rigor

Consistent with Neergaard et al.’s (2009) suggestions, our approach to methodological rigor for this qualitative description study followed guidelines provided by Milne and Oberle (2005), which focus on authenticity and credibility, along with criticality and integrity. Authenticity and credibility require purposefully sampling an adequate number of participants and conducting an analysis that is driven by their responses rather than pre-determined ideas. It is about ensuring participants’ ‘voices’ are reported with relatively low inference (an emic perspective), probing for clarification and depth during interviews, accurate transcription, inductive analysis, and demonstrating an understanding of context. The extensive interviewer training also added to authenticity and credibility. Criticality requires the critical analysis of research decisions, which were discussed during regular meetings. Integrity involves reflecting on the role and influence of the researchers, which was addressed via regular debriefing among the interviewers and the principal investigator maintaining a journal of the research decisions. For instance, one factor that involved extensive reflection was the principal investigator’s previous work in youth sport and the fact that he has conducted several studies on some of the topics identified by participants. It was important his research not unduly influence the focus on providing the participants’ accounts of their priorities for future research (i.e., the emic perspective).

2. Results and discussion

Table 1 provides a summary of the analysis depicting specific examples of research topics (i.e., the sub-themes) that were condensed to form each theme. These sub-themes are identified in italics in the following sections, where we describe the main themes reported by the majority of participants and discuss the pertinent findings in relation to previous research. Table 2 depicts the prevalence of all the themes identified across the cases.

2.1. Athlete development systems

A total of 49 of 60 participants (81.7%) reported preferences for more research examining issues related to the athlete development systems for their sport. Examples coded in this theme referred to a desire to understand more about the effectiveness of the long-term athlete development (LTAD) models. Some participants specifically questioned the research evidence-base for the Canadian LTAD model. For example, Alberta PSo#7 (AB, PSo7) argued that “we have our LTAD models but I think a lot of it isn’t really based on research, it’s based on experience, people that are [sport] experts, but based more on their experience. I

| Table 1 | Summary of content analysis for five most frequently reported themes. |
|---------|---------------------------------------------------------------------|
| Theme                                           | Sub-themes                                                      |
| Athlete Development Systems                      | Effectiveness of LTAD models                                   |
|                                                  | Long-term impact of LTAD on athlete development                 |
|                                                  | Long-term impact of LTAD on coach development                   |
| Participation and Retention                      | Track sport participation rates                                 |
|                                                  | Track retention rates                                          |
|                                                  | Identify reasons for dropout                                   |
| Parenting                                       | Target specific demographic groups                             |
|                                                  | Parental pressure                                              |
|                                                  | Parent-coach relationships                                     |
| Benefits of the Sport                           | Personal and social benefits associated with participation in a particular sport |
| Coaching                                         | Coach education                                               |
|                                                  | Effects of particular coaching approaches                      |
|                                                  | Coach motivation and retention                                 |
|                                                  | Parents as coaches                                            |

Note. LTAD = Long Term Athlete Development.
think we need more research.” Similarly, Ontario PSO (site A) #5 (ON_A_PSO5) said:

OK, I'm not a big fan of LTADs. I don't believe that there is any documented evidence for a lot of what we say in LTADs … Where is there evidence that says that you're actually gonna create an Olympian or longevity (of participation)? … I don't know if there are any [research] groups that their sole purpose is to look at LTAD and evaluate it. I don't know if Sport Canada has a team that works with LTAD and evaluates it …

Other participants, while generally having a favorable view of LTAD, also highlighted the need to evaluate its effectiveness. As ON_A_PSO2 said, “I think it's maybe a little too early to know whether or not it's successful but I guess it's good to have a good model that everybody can integrate with.” Manitoba PSO#4 (MB_PSO4) highlighted a need for studies examining the long-term impact of LTAD on athletes and coaches, explaining:

It's been 10 or 12 years since LTAD became a buzzword and it would be interesting to see if that program in and of itself is having any impact on athlete and coach development … I think looking at the impact of LTAD from a longitudinal perspective would be useful. And I think it would be interesting to see if the changes to programs have yielded the results that we anticipated or if it’s just an approach that doesn’t really result in changes in the long term.

There is, of course, a large body of research on the psychological, social, and physiological aspects of talent development in sport (see Gledhill, Harwood, & Forsdyke, 2017; Rees et al., 2016 for reviews) and, to a lesser extent, talent development environments (see Henrikson, Stambuleva, & Roessler, 2010; Martindale et al., 2005 for reviews). However, it is possible that much of this research may not directly address the needs of the participants in the current study because they specifically expressed a desire for research examining LTAD models (which are not based on this body of talent development research). Studies of LTAD are scarce and, of the few published studies, there has been a focus on coaches’ perceptions of LTAD (e.g., Black & Holt, 2009; Chevrier, Roy, Turcotte, Culver, & Cybulski, 2016) and their views of its adoption and implementation (Beaudoin, Callary, & Trudeau, 2015).

Ford et al. (2011) suggested that LTAD models are fundamentally based on physiological principles. However, in reviewing some principles associated with LTAD, specifically in terms of physical literacy, aerobic performance, and anaerobic performance (speed, strength, power), they concluded “there is little evidence to support the LTAD claims” (p. 398). Ford and colleagues further suggested that coaches should be better educated about how to interpret the recommendations of the model. The participants in the current study appeared to appreciate some of the limitations of the LTAD model, and their comments reinforce the need for more empirical examination of the foundational principles contained with LTAD models.

It may be that sport organizations themselves could conduct (or commission) LTAD research. In fact, we did find some examples of sport organizations conducting their own evaluations of LTAD (in the absence of partnerships with university researchers). ON_A_PSO9 explained:

What’s happening right now is our NSO is rolling out an LTAD program. A year ago, they were rolling out a pilot for the LTAD program and they invited clubs across the country to volunteer to be part of the pilot program. So in terms of evaluation and ongoing assessment, they definitely are trying to do it in a very deliberate manner and make sure they’re collecting all that information.

We suspect that perhaps it is neither the sole responsibility of a PSO or NSO, nor that of research teams, to evaluate LTAD models. Rather, partnerships between sport organizations and researchers would seem to be a fruitful avenue for examining the effectiveness of LTAD models.

### 2.2. Participation and retention

A total of 42 participants (70%) reported preferences for research examining athlete participation and retention. There was a need for research to track athlete participation rates. A participant from Prince Edward Island, PSO#3 (PEI_PSO3) highlighted some of the challenges in this respect:

I don’t think we have a very good handle on participation rates in this province. We have self-reporting from our member sport organizations but you've got overlap with that because there's kids that play multiple sports that you're duplicating the count … From our perspective, I would love a robust way of truly tackling our participation rates.

In a similar vein, participants highlighted a need for research tracking athlete retention rates. AB_PSO6 said:

I don’t think we've done a lot on retention on any sport. No one can really tell you what their retention rates are … why are they quitting? Stuff like that would be beneficial, if you knew your population. You [can] just do it by postal code, you know if you're hitting those guys or not … No one can really tell you what their retention rates are.

Some sport participation tracking data are available. For example, one national survey in Canada showed that 51% of children aged 5–14 years (approximately 2 million children) regularly took part in sport in the previous 12 months in 2005, compared to 57% of children in 1992.
Another Canadian survey showed that an estimated 77% of 5–19 year olds participated in organized sport or physical activity programs, and participation rates were relatively stable compared to the previous eight years in which this survey had been conducted (CANPLAY, 2015). A recent Australian survey showed that the participation of Australian children aged 5–14 years remained relatively stable at 64% participation in 2000 to 62% participation 2012 (Vella et al., 2016). However, as Both, Rowlands, and Dollman (2015) observed, sport participation research is littered with methodological issues such as differences in questionnaire design, sample age, study period, and definition of participation that make it difficult to compare participation trends over time. Nonetheless, the key issue for participants in the current study was not sport participation trends at a national level, but rather participation trends in their own sport and/or province. Presumably this issue could be addressed by building tracking mechanisms into their registration systems (e.g., assigning participants an identification number which is used each time they register for a program). In fact, while it would present a logistical challenge, all children in a province could be assigned a ‘sport identification number’ that would produce data regarding their movement between different sports, which would eliminate “duplicating the count” as PEI_PSO3 put it.

As the quote from AB_PSO6 (above) alluded to, participants also highlighted the need to understand more about participation and retention of individuals from specific demographic sections of the population. For instance, ON_B_PSO8 said:

Yeah, I think dwindling participation. I would say to try to figure out why. I think most sports are experiencing a bit of atrophy. I would say you wanna figure out what motivates each age and stage of the general population to participate in sport so that I would have more appropriate information to know how to target certain demographics. So I would say that would be very useful, something that our general membership could learn from, and we could learn how to adapt and innovate as a sport to remain viable.

Functionally, sport participation requires two intertwined types of resources: opportunities to engage in sport and motivation to engage in those opportunities (Balish, McLaren, Rainham, & Blanchard, 2014). However, individuals from various demographic groups face numerous barriers that restrict their opportunities to engage in sport. For instance, in countries that use a ‘pay-to-play’ privatized model of youth sport, financial costs are a barrier to participation among children from low-income families (e.g., Holt, Kingsley, Tink, & Scherer, 2011).

Further reflecting the idea of targeting particular groups, MB_PSO8 commented on two primary (related) issues:

First of all, I think because the majority of our high performing athletes in Manitoba are male. And I think the second reason is because I think girls are up to six times more likely to drop out of sport than are boys in Canada. I think that there’s a lot of reasons for it, but definitely some psychological issues that are attached to that, or some social stigmas that are attached to being a female athlete. And so it would be nice to see what we could do to combat that.

Girls are generally less likely than boys to participate in sport (Clark, 2008). Reasons associated with reduced participation and dropout among girls are multifaceted. For example, Eime et al. (2015) showed that intrapersonal barriers (lack of time, lack of energy, and perceived competence), interpersonal factors (family and friend/peer support), and environmental/organizational (access, opportunity and resources) were associated with reduced physical activity and sport participation among adolescent girls. Such evidence notwithstanding, researchers have recently acknowledged that evidence gaps in this area still include a lack of participation information (e.g., with regards to dropouts and commencers of sport participation), lack of surveillance data, and measurement differences (Vella et al., 2016). Our participants, as well as recent commentators by researchers, suggest a need for on-going research to track sport participation and retention in specific sports and across population subgroups.

2.3. Parenting

In total, 42 participants (70%) reported preferences for research examining various aspects of parental involvement in sport. Some participants expressed concerns about parents exerting too much pressure on their children to achieve and parents interfering with coaching. ON_B_PSO9 said, “You know every parent would like the best for themselves and they’re too eager to interfere, and parents’ interference [is] one of the biggest challenges.” Furthermore ON_B_PSO10 said:

I don’t know what the hell we do with parents. If we could find a way, something to get into the psyche of the parents, I mean we mandated Respect in Sport [an online parent and coach education module] because we just don’t wanna have poor parent behavior … The parents are a huge problem … I think if we could resolve the parental problems, and that’s the biggest problem with our club teams, that’s the biggest complaint I get from them, is the parents are killing my coaches. They coach for a year, they quit.

There is an extensive body of research examining parenting in youth sport (see Holt & Knight, 2014; Knight, Berrow, & Harwood, 2017 for recent reviews). Indeed, researchers have examined the effects of parental pressure on young athletes for many years (e.g., Brustad, 1988; Leff & Hoyle, 1995). It appears that much of the research on parental pressure had not reached the participants in the current study, which suggests a knowledge translation issue.

Participants focused on ways to enhance parent education to address concerns about parents. ON_A_PSO4 highlighted that:

The parents are key … That to me would be very useful information because then that could be something that we could then turn around and give to the clubs in order to inform the parents that some of the things they’re doing are not beneficial.

Québec PSO#4 (QC_PSO4) said that “Educating the parents is a big challenge … What is the right attitude to have with your child for them to be happy? For them not to feel overwhelmed? For them to have a good self-esteem?” Similarly, PEI_PSO5 said:

On the parenting side, helping to educate parents on how they can help their children, not only after a game or before a game, that kind of stuff, but even that they can be reaching out to professionals to help make them better in their sport … I would love more research or guidance on how to deal with parents.

Participants also expressed concerns about parent-coach relationships. QC_PSO 7 said:

Yes. That’s it. Sometimes it can happen. It’s very, very close. If I give a lesson, of course, if the parent is behind me, he/she will hear everything that is going on during the lesson. Sometimes it can be good, but sometimes they can misunderstand things. [Research] might be something about knowing how to deal with parents like that.

There are only a small number of studies examining parent education approaches (e.g., Dorsch, King, Dunn, Osai, & Tulane, 2017; Thrower, Harwood, & Spray, 2017) and parent-coach relationships (e.g., Barber, Sukhi, & White, 1999). Hence, while there may be a research to practice gap in terms of research on the effects of parental pressure in sport, our findings also highlight important future directions for research examining parent education and parent-coach relationships. Such research would likely be highly relevant to sport organizations.
2.4. Benefits of the sport

A total of 39 participants (65%) reported preferences for research that could demonstrate the personal and social benefits of the sport. By and large, participants wanted to know more about the specific benefits of participating in their sport, often in comparison to other sports. For example, PEI_PSO6 said there should be more research on:

The social benefits of [name of sport]. It is kind of a unique sport in the fact that it’s a team sport with an individual [performance focus] in a team context. It’s not like [ice] hockey where in order to win, the team moves the puck and passes. Like in [name of sport] you have to do one skill by yourself.

ON_B_PSO6 highlighted the need for more research into and promotion of “the benefits of team sports off the court or off the ice or whatever it happens to be.” Similarly, AB_PSO4 said:

… it would be neat from our perspective to have someone dig a little deeper into the specifics of the game and what it offers and why to choose [our sport]. So what’s different about [our sport]? And what are the benefits?… What are the benefits of the intangible part that will hopefully enable you to be successful in a career or business or understanding team dynamics?

Although researchers have questioned the assumption that sport participation leads to positive developmental outcomes (e.g., Coalter, 2013), and some research has revealed sport participation has been associated with negative outcomes (e.g., increased substance use; Veliz, Schulenberg, Kloska, McCabe, & Zarrett, 2015), there is a growing body of evidence depicting the reported benefits of sport participation (see Eime, Young, Harvey, Charity, & Payne, 2013; Holt et al., 2017 for reviews). For example, studies have revealed that compared to non-participants, youth sport participants score better on markers of physical health outcomes (Pate, Trost, Levin, & Dowda, 2000), educational attainment (Freedrick & Eccles, 2006), and – when sport participation is combined with participation in other youth development activities – positive psychological functioning (e.g., Zarrett et al., 2009).

Research in the area of positive youth development (PYD) suggests that developmental benefits are not gained merely by participating in sport; rather, they appear to be largely dependent on social interactions that occur within sport settings (e.g., empathetic relationships with adult coaches and leaders, positive interactions with peers, and the supportive involvement of parents; Holt et al., 2017). Comparing the participants’ desire for more research on the benefits of their sport with existing literature in this area, a plausible implication is that research efforts could focus on examining the contextual conditions that exist within the programs offered by particular sports and the extent to which they may contribute to, or detract from, participants’ acquisition of positive developmental outcomes. Put differently, it is not a question of whether participation in a particular sport leads to positive outcomes, but rather a question of what contextual conditions exist with these sports that contribute to or detract from participants’ acquisition of positive outcomes.

There may be some unique traditions and characteristics in some sports (e.g., certain martial arts; Chinkov & Holt, 2016) that contribute to participants obtaining benefits, and evidence from a systematic review showed that team sport participation was associated with improved mental health outcomes compared to individual activities, which the authors attributed to the social nature of team sport participation (Eime et al., 2013). Evans et al. (2016) suggested that sport types (e.g., amount of interdependence among teammates, physical contact), sport settings (e.g., community leagues, levels of competitiveness) and individual patterns of sport involvement (e.g., amount of organized sport, specialization or sampling pathways) may shape the psychosocial experiences of young athletes in different ways. Furthermore, outcomes may vary depending on the type of participation in said sport (e.g., at lower versus higher levels of competition) or the dimensions of involvement in terms of breadth, intensity, duration and engagement at different ages (Rohner, Fredricks, & Randall, 2010; Côté & Hancock, 2016). Whereas it may be an oversimplification to merely study the benefits of a particular sport, more sophisticated studies that involve examining the effects of context and type of participation appear to be important future research directions that would also be relevant to the participants in the current study.

2.5. Coaching

A total of 39 participants (65%) reported preferences for research on coaching. Some PSOs wanted to know more about the effects of particular coaching approaches. MB_PSO2 said:

It would be fascinating to see the direct impact of coaching. I know we see it first-hand in results, you know Olympic medals. But we’d like to have it at the youth levels. What kind of impact coaching has at a youth level?… Is there a correlation between a coach being really ethical and is his team being the same? Is there a correlation between really practicing good skills at an early age and those athletes continuing on?

This finding was somewhat surprising, given that PSOs are responsible for providing coach education training schemes (which, presumably, are informed by research to some degree). Furthermore, there is an extensive body of research on coach education and coaching practices spanning several decades. Over 25 years ago Smith and Smoll’s research showed, for example, that children with low self-esteem responded more positively to coaches who were reinforcing and encouraging and provided technical instruction, while they responded more negatively to coaches who were low on these dimensions (Smith & Smoll, 1990). More recently, research suggests that transformational leadership behaviors among coaches can have positive effects on participant outcomes by helping them to think more positively about themselves and their tasks, enhancing the quality of their relationships by creating environments that are fair, respectful, and supportive (Turnnidge & Côté, 2017). Thus, it appears that research on coaching effectiveness has not adequately reached the sport organization representatives sampled in the current study. This finding suggests a knowledge translation issue.

The need for research examining on-going coach education was also highlighted. For instance, ON_A_PSO8 told us “[athletes] say they need better coaching, then obviously what kind of research can we do that would make sure that they’re getting better coaching?” Similarly, AB_PSO12 said:

Coaching in general. Any research on that would definitely be beneficial, how our coaches can become better coaches, what to stay away from, what to kinda strive to go towards type of thing would be all good stuff…. We’re like a sponge we want to soak as much as we can in some of these areas and apply it to [name of sport] if possible.

Here, the issue seems to reflect the continuing professional development of coaches (in the participants’ words, are coaches getting “better”?); Griffiths, Armour, and Cushion (2016) claimed that there is a lack of “conclusive evidence” about the effectiveness of different types of coach education on coach learning and changes to practice, meaning that little is known about “what works” (p. 1). More specifically, researchers have tended to focus on specific learning activities and individuals, rather than institutional or organizational factors that mediate learning. In their evaluation of a sport organization’s youth coach education program in the UK, Griffiths et al. (2016) found that a clear understanding of the ‘transmission model’ for education was missing and the different ‘communities’ that could support learning were not connected within the organization. From the perspectives of participants in the current study, it would appear that important future research directions could involve examining sport-specific coach...
education and development programs and their impact on both coaches and young athletes.

Other participants talked about coach retention. MB_PSO7 suggested it would be important to learn more about:

What motivates people to become coaches because becoming a coach, there’s not a lot of money in it but it takes a lot of time and energy, so it’s challenging to keep volunteer coaches involved. So what motivates people to become coaches and continue in sport coaching volunteer role?

The retention of volunteer coaches is a critical issue for youth sport delivery systems in many countries. In a focus group study, Rundle-Thiele and Auld (2009) found enjoyment, success, and support from parents, clubs, and the league were key factors that contributed to Australian youth coaches’ decisions to stay involved as a volunteer coach. Results from a survey conducted in the United States showed that 94% of youth sport coaches from a municipal parks and recreation soccer program were motivated to stay involved because they wanted to instill positive values in children through their coaching (Busser & Carruthers, 2010). However, there does not appear to be extensive evidence on factors that influence coach retention over time, and this could represent a valuable area for future research.

Finally, several participants highlighted the need for more research with parent-coaches. ON_A_PSO4 shared the following specific example:

We have one parent in particular who’s now star of the club and his son is one of the best [athletes] in Canada, but the kid has no break because his dad is coaching him. And his dad was not an athlete. So you’ve got that kid who’s under so much stress 24-h and I think that they’re practicing 15–18 hours a week. That’s a lot of time. That’s a lot of their free time. The rest of the time they should be home being a kid.

It is noteworthy that there is very little previous research on parents as coaches (e.g., Weiss & Fretwell, 2012), despite the fact that parents often appear to fulfill a coaching role on their children’s youth sport teams (Holt & Knight, 2014). The participants’ priority for future research examining parent-coaches may represent an important area for future research that would be beneficial to Canadian PSOs and other sport systems that rely on parent-coaches.

3. General discussion

The overall purpose of this study was to examine Canadian PSO representatives’ research priorities in order to provide directions for future research and knowledge translation initiatives in youth sport. The most frequently identified areas were athlete development systems, participation and retention, parenting, benefits of sport, and coaching. There was an underpinning preference for sport-specific research in several of these areas. We then compared findings to the existing youth sport literature, revealing future research directions that may be valuable for stakeholders in youth sport. Conversely, the results also revealed some of the reported priorities have already received extensive attention in the youth sport literature, which is instructive information for future knowledge translation initiatives.

A promising feature of this study is that there does appear to be some enthusiasm and appreciation for the adoption of research evidence among the 60 PSO representatives sampled. These participants were able to articulate a wide range of research topics that would assist their work in youth sport. Hence, it appears that collaborative approaches that include involving stakeholders in the generation of research agendas are fruitful endeavors for pursue in the future, which may reduce ‘waste’ (Chalmers et al., 2014) and increase the adoption of research evidence in practice, program, and policy contexts (Innvær et al., 2002; Strauss et al., 2013).

Returning to the KTA model (Graham et al., 2006) that guides our larger project, the current study was located at the start of the action cycle and focused on identifying problems and searching for existing relevant research knowledge. Similarly, the small body of previous knowledge translation research in sport can be located in the ‘early stages’ of knowledge translation models, given that the focus has been on identifying barriers to the use of evidence (a type of problem identification itself). Though the evidence base is small, a ‘picture’ is beginning to emerge; people who work in the sport sector (e.g., coaches, sport organization representatives) face numerous barriers that restrict their ability to access and use research evidence (Holt et al., 2018; Pain & Harwood, 2004; Reade et al., 2008b, 2008a; Williams & Kendall, 2007).

Researchers themselves may face barriers to engaging in knowledge translation research. Traditional academic graduate training models may not adequately prepare researchers for effective knowledge translation (Gould, 2016; Greenwood & Abbott, 2001). Fully embracing knowledge translation in youth sport may require major training initiatives. Engaging stakeholders in the development of research agendas will be an important starting point. Other important steps include considering what knowledge should be disseminated, to whom, by whom, and with what effects? (Lavis, Robertson, Woodside, McLeod, & Abelson, 2003). By integrating such dissemination topics into graduate training and emphasizing the need to collaborate with stakeholders in all stages of the research process (especially in the generation of ideas), important steps toward creating a generation of researchers dedicated to enhancing the use of research evidence in youth sport will be made.

These suggestions for future research and training notwithstanding, we also wish to critically reflect on the very premise of using research evidence to inform decisions in youth sport. To draw an illuminating historical comparison, evidence-based medicine (EBM) became a paradigm for medical practice in the early 1990s (Montori & Guyatt, 2008). EBM emphasizes the examination of evidence from clinical research, requiring physicians to have skills in formulating questions, searching and retrieving the best available evidence, and critically appraising studies to establish the validity of results (Evidence-Based Medicine Working Group, 1992). Yet, whatever the evidence, value and preference judgments are implicit in every clinical decision, not only in relation to patients’ preferences but also physicians’ evaluations of the relative benefits/harms or costs of treatment (Guyatt et al., 2008). Enduring concerns in the adoption of EBM in medical and allied health professions have included excessive reliance on easily obtained but potentially misleading evidence and the increase in commercial interests to produce and interpret evidence for physicians (Als-Nielsen, Chen, Gluud, & Kjaergard, 2003; Montori & Guyatt, 2008). Some of these challenges may also apply to sport. For example, commercial entities often make unsubstantiated claims about the performance benefits of their products or services, a recent example being the use of genetic testing for talent identification (Vlahovich, Fricker, Brown, & Hughes, 2016).

More recently, the notion of practice-based evidence has been introduced in the health care field as it begins to advance beyond the EBM paradigm. As Green (2008) remarked, “if we want more evidence-based practice, we need more practice-based evidence” (p. 23). Practice-based evidence acknowledges that efficacy or effectiveness research is just one of several sources of information needed to improve health care, and that understandings of the challenges faced by people who both receive and deliver interventions are needed (Green, 2008). Ammerman, Woods Smith, and Calancie (2014) suggested community-based participatory research approaches, whereby research and interventions are informed by the views of different stakeholders, as a useful strategy for developing practice-based evidence. Furthermore, they argued that systems-based models that consider dynamic, complex, and multilevel factors and include the views of multiple stakeholders hold great promise for generating practice-based evidence. Working collaboratively to set research agendas with appropriate stakeholders in youth sport may provide a useful way forward for bridging research to
practice gaps, and there are some examples from public health that could provide models for future endeavors in this regard (e.g., Lenaway et al., 2006).

Another useful concept to consider is evidence-based policy. Essentially, evidence-based policy is an extension of evidence-based practice, suggesting that if practitioners are expected to base their work on evidence then the same expectations should be placed on policymakers (Ham, Hunter, & Robinson, 1995). Evidence-based policy is sometimes viewed as a linear process, whereby a problem is defined and then research evidence is amassed to provide policy options (Black, 2001). However, this linear process, whereby evidence leads to the development of policy, may be problematic. Policy change is not simply made based on the availability of evidence; it may depend on an appraisal of what is scientifically plausible, what is politically acceptable or achievable, and what is practical at a given point in time (Nutbeam & Milat, 2017). Indeed, representatives of sport organizations have expressed a preference for using research that supports the programs they are already planning, rather than using evidence as a starting point to inform new programs (Holt et al., 2018).

One concept underlying several of the themes (most notably athlete development systems, participation and retention, and benefits of the sport) was a preference for sport-specific research. In this respect, the health care literature can again provide some guidance for future knowledge translation research in youth sport. Within the KTA framework (Graham et al., 2006) knowledge tailoring is a critical issue for youth sport researchers to consider, because ‘generic’ knowledge that is not specifically contextualized is “seldom directly taken off the shelf and applied without some sort of vetting or tailoring to the context” (Graham et al., 2006, p. 20). That is, the implications of relevant research, even when it is accessible, must be adapted to local contexts (e.g., sport systems). Our results regarding the preference for sport-specific research highlight the need to tailor ‘generic’ knowledge to local contexts (cf. Straus et al., 2013). From here, from a knowledge translation perspective, future projects that involve adapting implications to local contexts will provide opportunities for primary studies that monitor knowledge use, evaluate the outcomes of using knowledge, and examine sustained ongoing knowledge use (Graham et al., 2006).

A key strength of this study was the sample, specifically that we were able to recruit 60 people from five provinces. This facilitated a high degree of data saturation. The thorough approach to training the interviewers was another strength. Nonetheless, several limitations of this study must be considered. Qualitative description, while an appropriate methodological selection for this study, is perhaps one of the most simplistic forms of qualitative research (Neergaard et al., 2009). Another limitation is that sport organizations are merely one type of stakeholder in the world of sport. There is a need for further research with other stakeholders (e.g., coaches, athletes, parents).

Additionally, in considering the implications of this study, the extent to which the findings would apply to youth sport in other jurisdictions is unknown. However, it is quite likely the findings go beyond the Canadian context. For example, the most frequently reported theme, LTAD, is not only a fundamental feature of the Canadian sporting landscape; iterations of LTAD are used in numerous countries (including, but not limited to, the United Kingdom, Ireland, South Africa, and New Zealand) and, of course, other countries have some form of athlete development models in place. Thus, some of the current findings may well apply beyond the Canadian context. In addition to highlighting a need for more LTAD research, other implications for generating future research arising from this study include finding ways to track athlete participation and retention, working with sport organizations to develop parent education initiatives, understanding the contextual conditions and participation factors that may contribute to or detract from the acquisition of positive developmental outcomes in particular sports, examining the effects of on-going coach development, and studies of coach retention and parents as coaches. By identifying these topics our study may help inform the development of future programs of study that would be highly relevant to sport organizations.

Implications for knowledge translation include the need to develop research of policy dedicated to knowledge translation, which involve engaging stakeholders from the beginning rather than merely developing dissemination strategies. Studies that examine the complexities surrounding the implementation and adoption of research evidence, and the evaluation of knowledge translation initiatives, are important next steps. Finally, our findings suggest that knowledge tailoring strategies (Graham et al., 2006) will be important in the future in order to contextualize the implications of ‘generic’ knowledge for particular sport organizations. We hope that the views of the participants in this study may help inform future research agendas, increase the applicability of findings, and ultimately their translation into the policies, programs, and practices of youth sport.

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