INDIGENOUS YOUTH AND SPORT

A LITERATURE REVIEW OF BEST PRACTICES, ISSUES, & HEALTH OUTCOMES

FULL VERSION

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Contents

Foreword

What does it mean to "Indigenize" sport? An examination of what constitutes "Indigenous sport" is important to informing this question. As opposed to inserting Indigenous cultures within sport, perhaps it is more desirable to insert sport within Indigenous cultures, that is, to build sport on a foundation of Indigenous values. As Brian Rice explains in the following section, the sports we value are not as important as the values hold, and sport can be a vehicle for developing and demonstrating those values.

What Does it Mean to Indigenize Sports?

Traditionally, Indigenous sports were recreational activities whose purpose was to enhance cultural proficiency in order to develop survival skills. In the past, this included practical skills and values, but with the loss of traditional ways of living, traditional values have taken precedent and are being incorporated with newer skills that can be applied to modern sports. Often when we think of Indigenous sports we become fixated on the type of sports being played and not why Indigenous peoples played certain sports. Traditionally, Indigenous peoples in Canada played a variety of sports to develop their skills in order to survive. They included stick and ball games for endurance, games of coordination to develop hunting skills, games of chance to show the uncertainty of life and develop observations skills, wrestling for strength, and running for corresponding, peace, or warfare. A good example is the game of Lacrosse which became Canada's first national sport. The Rotinonshonni referred to the game as Tewarathon or Little Brother of War, and sometimes as the Creator's game depending on the context on why it was played. It served the dual purpose of training warriors for battle or by allowing a victory as a final resolution to a dispute in order to prevent violence (Rice, 2013). However, most Indigenous societies played sports as a reflection of the values the society held in all facets of their lives. The Cree emphasized one's behaviour based on their hunting skills in order to distinguish being a good leader from a bad one. Most importantly was how hunters conducted themselves during a hunt. Was the hunter selfish or generous? Did they brag about the hunt? They would regard sport in much the same way. It is important to note that each community might emphasize certain values more than another community would, but they would be similar in nature. Here is a general idea of the type of values a Cree from Waskaganish Quebec would adhere to while hunting:

A good hunter…

- does not boast
- never causes others embarrassment
- never speaks about how he killed an animal
- conducts himself with dignity and restraint
- reveals the information about his hunt slowly
- shows modesty
- shares with others
- when game is scarce is still able to catch something (Waskaganish, 1986)

A good leader

- is a good hunter
- teaches by example
- consults others and values their opinions
- exercises leadership
- obtains consensus among his hunters

The values set down in hunting are the same values one would bring to sports. Although particular values may apply to other Indigenous societies, they are similar. Leaders are chosen not by how much they take, but rather how much they give back including how they conduct themselves with others in everyday life. Cayuga chief Jake Thomas once said that to be a good leader you had to have skin seven spans thick, meaning that you were likely to be berated and even humiliated by others and had to be able to take it without retribution (Jacob Thomas, personal communication). In other words, you always needed to be a good sport. From an Indigenous values perspective it is not so much what type of sport is being played, but rather how one conducts themselves while playing. Each Indigenous society had a particular understanding of what represented a good player or leader. The model given here comes from the Anishnabé and is known as the seven teachings by elder Eddie Benton-Banai; it is provided in the Mishomis Book, a book written by him years ago, after he had asked the elders from his community what the core values of the community were. The seven values are now a standard learning activity in many schools in Manitoba; and each value is configured with a type of animal: the bison, the bear, the wolf, the eagle, the sabé (big foot), the turtle, and the beaver (Banai-Benton, 1988). The bison warrants respect because of the power that they generate from their hooves, and as providers for people living on the prairies. The bear for its courage and as a provider of medicine. The wolf because they are humble and rarely show themselves to others. The eagle as an act of giving or love for what they provide from the feather to the claw. The Sabé as a representation of honesty for showing themselves only when we need them. The turtle, one of the oldest of creation, as truth and as a reflection of how we should conduct ourselves in life. Finally, the beaver, who spend their lives building. They warrant the value of wisdom and teach by example on how to live one's life through hard work.

Indigenized values are not simply rooted in activities that Indigenous peoples adhered to in the past. They are a wholistic way of being that allows persons to be intellectually, emotionally, physically, and spiritually balanced and can be applied to games in sports even to this day. Mino-Pimatisiwin in Cree and Anishnabé means living a good, balanced life. Indigenous sports are about creating players with healthy foundations upon which to build their lives. That is what Indigenizing sport really represents. If youth can be taught to play sports using the traditional values and teachings of the Cree, Anishnabé, and other Indigenous societies, we will all be enriched in the end. The purpose of Indigenizing sports is not to go back to the past, but rather to bring traditional values that were rooted in survival into present day activities such as sports.

1. Introduction

This literature review is divided into 6 sections. The first (current) section ("Introduction") contains an overview of the process we followed. The second section ("Summarized Document") is an abbreviated version of the third section ("Full Document). The fourth section ("Annotated Bibliographies") contains annotated bibliographies for readings identified through phases 1-3 (refer to "Methods" for an explanation of the phases). The fifth section ("Definitions") contains some important definitions. Finally, the sixth section ("References") contains the full list of readings referred to in this document.

1.2. Methods

1.2.1. Search strategy.

Bruner et al. (2016)[1] performed a systematic review to gather information on relationships between physical activity/sport and positive youth development in Indigenous youth. Their search strategy involved three phases: 1) a search of indexed, peer-reviewed literature using 10 databases; 2) a search of 25 non-indexed, peer reviewed journals; and 3) a search of grey literature using Google and limiting results to the first 4 pages. In addition, they sought opinions of experts.

Due to constraints with respect to time and resources (i.e., only two co-authors as opposed to eight, as in Bruner et al. 2016), we modified Bruner *et al.*'s search strategy to ensure project timeliness. Phase 1 was critical to ensuring a robust literary analysis, so it was maintained but in a reduced form. This phase involved the search databases SPORTdiscus and ProQuest Social Sciences, the latter of which is actually a collection of a number of databases[2]. Phase 2 was omitted. A search of grey literature (phase 3) was performed, although not systematically, and with a focus on relevant policies only. Pertinent issues not addressed by phases 1-3 were covered through additional readings with which we were already familiar (phase 4). While assembling the document, supporting references were added where appropriate (phase 5).

The search itself was restricted to titles of articles, and filtering limited results to only peer-reviewed, primary articles written in English. Similar to Bruner et al. (2016), our search phrase followed the pattern: (population AND domain AND (outcome #1 OR outcome #2 OR outcome #3)). The population included "Indigenous" and synonyms; the domain included "sport" and synonyms; and outcomes 1, 2, and 3 included synonyms for health, synonyms for

[1] Bruner, M. W., Hillier, S., Baillie, C. P., Lavallée, L. F., Bruner, B. G., Hare, K., ... & Lévesque, L. (2016). Positive youth development in Aboriginal physical activity and sport: A systematic review. *Adolescent Research Review, 1*(3), 257-269.

[2] American Periodicals, Canadian Business & Current Affairs Database: Social Sciences, Digital National Security Archive, ERIC, Index Islamicus, Linguistics and Language, Behavior Abstracts (LLBA), PAIS Index, Periodicals Archive Online, Philosopher's Index, PILOTS: Published International Literature On Traumatic Stress, ProQuest Dissertations & Theses A&I: Social Sciences, PsycINFO, Sociological Abstracts, Worldwide Political Science Abstracts.

factors influencing sport delivery, and synonyms for best practices in participant programming and leadership, respectively.

Many of the keywords we used were similar to those used by Bruner et al. (2016), although we made some additions. The following is the search phrase we used:

("indigenous" OR "aboriginal*" OR "first nation*" OR "inuit" OR "métis" OR "metis" OR "native*" OR "indian*" OR "native american*" OR "american indian*" OR "indian* of north america" OR "pacific islander*" OR "alaska* native*") AND ("sport*" OR "recreation*" OR "physical activit*" OR "play" OR "organized sport*" OR "competitive sport*" OR "game*" OR "physical education" OR "gym") AND (("negative effect*" OR "negative outcome*" OR "negative experience*" OR "positive experience*" OR "burnout" OR "dropout" OR "injur*" OR "hurt" OR "sacrific*" OR "commitment*" OR "benefit*" OR "fit*" OR "physical" OR "mental" OR "spiritual" OR "emotional" OR "wellbeing" OR "wellness" OR "social interaction" OR "positive youth development" OR "pyd" OR "leadership" OR "athlet* development*" OR "prosocial" OR "life skill*" OR "sport outcome*" OR "psychosocial development*" OR "resiliency" OR "empowerment" OR "success*" OR "failure*") OR ("factor*" OR "influenc*" OR "barrier*" OR "challenge*" OR "obstacle*" OR "imped*" OR "obstruct*" OR "discourag*" OR "prevent*" OR "limit*" OR "facilitat*" OR "support*" OR "encourag*" OR "promot*") OR ("best practice*" OR "best program*" OR "best strateg*" OR "program* develop*" OR "develop* program*" OR "lead*" OR "program* outcome*"))

1.2.2. Article analyses.

Bruner et al. (2016) were quite systematic in their analyses of articles found and retained. As in the search process, since the time and resources we had available were not on par with those available to the aforementioned researchers, we were required to use a more simplistic approach. Similar to Bruner et al., we scanned titles, abstracts, and finally full texts of articles identified by phase 1 of the search, and we excluded articles that did not meet our inclusion criteria (i.e., peer-reviewed, primary articles written in English; about Indigenous people, the domain mentioned earlier, and at least one of the three outcomes mentioned earlier). Where our analyses differed from that of Bruner et al., however, was that opposed to using a highly systematic, rigorous approach to classifying articles and identifying themes, as they did, analyses of articles retained were constrained to simple summaries and identification of perceived links (i.e., "themes") between studies.

1.3 Results

1.3.1. Results of the systematic search (phase 1).

The systematic search in phase 1 (performed on 17 May 2018) yielded a total of 33 articles. Four and six articles were excluded based on titles and full texts, respectively, leaving 23 relevant articles. Table 1 shows the articles (author(s), year of publication) excluded based on titles, those excluded based on full texts, and those retained in phase 1 of our literature review search. No articles were excluded based on abstracts. The population of interest in one study (Perez et al., 2011) was low-socioeconomic status, ethnic, minority women and, while this study was not specific to Indigenous people, it was retained because issues pertaining to low-socioeconomic status are relevant to many Indigenous people in Canada due to lingering effects of colonization. For full citations, please refer to the references section.

Table 1. Articles (author(s), year of publication) excluded based on titles, those excluded based on full texts, and those retained in phase 1 of our literature review search. No articles were excluded based on abstracts.

Excluded	Retained
Based on title	Bersamin et al., 2014
Curtis, 1932	Blodgett et al., 2014
Glascock, 1929	Brusseau et al., 2013
Glascock, 1932	Critchley et al., 2006
Glascock, 1940	Findlay, 2011
	Foulds, Bredin, & Warburton, 2012
Based on full text	Henderson & Ainsworth, 2001
Arvidsson et al., 2015	Henderson & Ainsworth, 2003
Bungum et al., 2012	Ho et al., 2008
Singh & Purohit, 2012	Johnson et al., 2007
Singhal & Siddhu, 2014	Kerpan & Humbert, 2015
Sinnapah, Antoine-Jonville, & Hue, 2009	Lemstra et al., 2013
Young & Katzmarzyk, 2007 (review)	Macdonald, Abbott, & Jenkins, 2012
	Maynard, 2009
	Mitchell et al., 2010
	Munroe & MacLellan-Mansell, 2013
	Patel et al., 2015
	Perez et al., 2011
	Steinbrecher et al., 2012
	Sutliff, 1996
	Tang, Community Wellness Program, & Jardine, 2016
	Wall, 2008
	Wan et al., 2018

1.3.2. Grey literature (phase 3).

The following grey literature were included in our literature review:

- Aboriginal Sport Circle, 2016
- Manitoba Aboriginal Sports and Recreation Council Inc., 2018
- North American Indigenous Games, 2018
- Sport for Life, 2016
- Sport for Life, 2018
- Sport for Life., n.d.

1.3.3. Additional articles (phase 4).

The following additional readings were included in our literature review:

- Apoifis et al., 2018
- Bennie et al., 2019

- Blodgett et al., 2008
- Blodgett et al., 2010
- Brokenleg & Van Bockern, 2003
- Canadian Heritage, 2005
- Champagne, 2006
- Côté et al., 2013
- Deci & Ryan, 2011
- Eskicioglu et al., 2014
- Fox, 2006
- Fox, 2007
- Halas et al., 2017a
- Halas et al., 2013
- Halas et al., 2017b
- Lavallée & Lévesque, 2013
- Paraschak, 2013
- Peralta et al., 2014
- Schinke et al., 2013

1.3.4. Supporting references (phase 5).

The following supporting references were included in our literature review while assembling the document:

- Arriagada, 2015
- Assembly of First Nations, n.d.
- Bean et al., 2014
- Berry, 1999
- Champagne & Halas, 2002
- Coopersmith, 1967
- Côté et al., 2007
- Côté et al., 2012
- Courchene, Carpenter, Robillard, & Halas, 2017
- Daschuk, 2013
- Forsyth, 2002
- Forsyth, 2007
- Forsyth, 2013
- Giles & van Luijk, 2018
- Goodwill & McCormick, 2012
- Halas, 2001
- Halas, 2006
- Halas, 2011
- Halas, 2014
- Kirkness & Barnhardt, 1991
- Ladson-Billings, 1994
- Ladson-Billings, 1995
- Lerner, 2003

- Lerner, 2007
- Mack et al., 2015
- Memmi, 1965
- Milloy, 2008
- Paraschak, 1997
- Paraschak, 2002
- Preston, 2008
- Robinson et al., 2016
- Sirant, 2010
- Sport Manitoba, n.d.
- Strachan et al., 2018
- Tajifel & Turner, 1979
- United Nations General Assembly, 2008
- Valentine, 2012
- van Ingen & Halas, 2006

2. Summarized Document

2.1. Best Practices

2.1.1. Cultural relevance.

"Interventions aimed at increasing physical activity are likely to succeed to the extent that they are meaningfully embedded in the local cultural context" (Bersamin et al., 2014, p. 262). This idea resonates with key tenets of culturally relevant pedagogy (Ladson-Billings, 1994); education (sport) that is embedded within a group's culture is more effective than aspects of a group's culture inserted into mainstream/western education (sport) practices. Ensuring cultural relevance entails being allies to participants, making programs meaningful and relevant to participants, creating and maintaining supportive climates for participants, and understanding the day-to-day cultural landscapes of participants (Halas et al., 2013). Understanding the backgrounds of each individual participant is particularly important, as the culture in an area with respect to sport (i.e., which sports are popular and which are not) may marginalize individuals who prefer less popular sports (Maynard, 2009).

A resource that can be used to help guide sport/physical activity programs in culturally meaningful ways for Indigenous participants is Lavallée & Lévesque's (2013) Integrated Indigenous-ecological Model. This model takes a wholistic approach by emphasizing connections between a number of leverage points, including the intrapersonal (physical, mental, spiritual, emotional), interpersonal, organizational, community, policy, systems environments and all of creation.

It should be recognized that cultural relevance in sport extends into sport psychology as well. Schinke et al. (2013) developed "cultural sport psychology" which, in an Indigenous context, includes role models, traditional medicine people and elders, maintaining family connections, and the national Indigenous community.

2.1.2. Motivating youth to participate.

Self-determination theory suggests humans are naturally motivated, but motivation levels can fluctuate depending on environmental factors (Deci & Ryan, 2011). What SDT boils down to is that self-determined activities that promote autonomy, competence, and relatedness are more likely to result in long-term participation (Mack et al., 2015). These three areas are very similar to the Circle of Courage® values promoting dignity and respect (Brokenleg & Van Bockern, 2003), the 4 A's of resilience (Brokenleg & Van Bockern), and the 4 benchmarks by which youth measure their self-worth (Brokenleg & Van Bockern; Coopersmith, 1967):

- Circle of Courage® values: independence, mastery, belonging, and generosity
- 4 A's of resilience: autonomy, achievement, attachment, altruism
- 4 benchmarks of self-worth: power, confidence, significance, virtue.

In addition, many studies have highlighted the value of social networks/groups in promoting physical activity (Kerpan & Humbert, 2015; Lemstra et al., 2013; Perez et al., 2011;

Wan et al., 2018), although this is not true in all cases, such as when obligations to family still take precedent (Henderson & Ainsworth, 2003). Having a group or partner can make activities more fun as well as encourage youth and hold them accountable. One strategy that incorporates social networks and may be particularly beneficial is that of youth-youth mentoring (Eskicioglu et al., 2014; Halas et al., 2017a,b).

2.1.3. Athletic development.

Deliberate play, deliberate practice, spontaneous practice, play practice, and organized competition all play a role in athletic development, as each has unique benefits. For instance, the child-led activities foster creativity and often expose youth to peers of varying ages (Côté, Erickson, & Abernethy, 2013). The adult-led activities provide youth with an opportunity to receive feedback and instructions from adults (Côté, Erickson, & Abernethy).

To help youth determine which sports they like and are best at, program leaders should also prioritize opportunities for sampling a variety of sports at early ages, as this is one possible pathway to performance improvement (Côté, Baker, & Abernethy, 2007) that promotes prolonged engagement and does not hinder a participant's potential with respect to reaching an elite level (Côté, Murphy-Mills, & Abernethy, 2012). In fact, physiological adaptations garnered by practicing one sport may be transferable to other sports (Côté et al., 2012), providing youth opportunities to experience athletic success in many areas.

2.1.4. Sport for Life's (2018) Long-Term Athlete Development 2.1.

Sport for Life's (2018) Long-Term Athlete Development (LTAD) model was created to guide training decisions at various stages as athletes age. The model depicts the following 8 stages:

1. Awareness and First Involvement
2. Active Start
3. FUNdamentals
4. Learn to Train
5. Train to Train
6. Train to Compete.
7. Train to Win
8. Active for Life

2.1.5. Sport for Life's (2016) Aboriginal Long-Term Participant Development 1.1.

Through use of a modified version of the medicine wheel, Sport for Life's (2016) Aboriginal Long-Term Participant Development (ALTPD) pathway emphasizes important aspects of Indigenous cultures that coaches, program leaders, and sport providers must take into account when delivering sport programs. The physical, spiritual, intellectual, emotional, and cultural aspects of development are all highlighted, and the ALTPD pathway also emphasizes the need to learn about the cultural backgrounds of participants, and for coaches to be open and encouraging of athletes from diverse cultural backgrounds.

However, the addition of a few Indigenous teachings to what is otherwise basically the mainstream version of the model (i.e., the LTAD) raises questions as to the depth of cultural resonance of the ALTPD: might this represent an example of inserting some cultural values into mainstream sport, versus a more deeply Indigenous and/or culturally relevant approach of inserting aspects of mainstream sport within dominant Indigenous cultural values, teachings, and practices (e.g., like NAIG)?

2.1.6. Athlete support, encouragement, and examples from others.

Parents, extended families, and community members/volunteers can all play important roles in sport programs in Indigenous communities (Blodgett et al., 2008; Sirant, 2010). Families, in particular, pass down values to children, so there may be less incentive to be active when one's family is not active (Kerpan & Humbert, 2015). The role of role models in providing guidance to younger athletes has also received attention (Blodgett et al., 2008; Schinke et al., 2013), highlighting the need to teach participants about successful Indigenous athletes (Sutliff, 1996).

Connections with other organizations are also important. Partners can help reduce costs of program initiatives while helping initiatives reach wide audiences (Patel et al., 2015). Making use of community facilities can compensate for resources sports and physical activity programs do not have (Halas et al., 2013). It is also important to teach youth about sport opportunities that may exist away from home, as well as the value of being persistent throughout the barriers they experience in pursuit of sport (Blodgett et al., 2008). With respect to Indigenous athletes who choose to pursue sport outside their home communities, Schinke et al. (2013) emphasized the need for them to learn about the structures/procedures of the sport system they are getting into prior to committing.

2.1.7. Coaches.

Coaches should enjoy working with youth, have a knowledge of sport the sport they are coaching, and have a passion for sport (Blodgett et al., 2008). A background in the sport coaches are selected to coach is not always a necessity, as technical aspects of a sport can be learned from other coaches as well as coaching education programs (Sirant, 2010). Values such as patience, caring, commitment, and respect should be considered a necessity (Sirant, 2010). Research with Indigenous coaches from Australia highlighted self-determination, resilience, and socio-economic background and values as characteristics positively influencing Indigenous coaches in their roles (Bennie et al., 2019).

Although there are intrinsic benefits to be derived from coaching roles, it is also important coaches receive support and recognition for their work (Bennie et al., 2019; Blodgett et al., 2010). The following other supports should be taken into account (Bennie et al., 2019):

- Mentor coaches from which to learn
- Ties to sport clubs (to provide career support)
- Financial support from organizations

- Policies promoting inclusivity of Indigenous participants in sport
- Coaching opportunities (one example would be the opportunity to coach at the North American Indigenous Games).
- All-Indigenous coaching clinics
- Coaching accreditation courses
- Inclusive environments.

2.1.7.1 Coach education.

Sirant's (2010) research provided three recommendations to consider when preparing people to coach hockey in Indigenous communities in Manitoba's Interlake region. Similar considerations should be made with respect to other sport programs as well:

1. What a new coach in the community needs to coach hockey (i.e., patience, caring, commitment, and respect).
2. Necessary content to be included in coaching education (i.e., leadership, technical/tactical, and health and fitness).
3. Best delivery (teaching/coaching) approaches (i.e., a mentoring approach, coaching resources, achievement awards for athletes).

Sport providers should be aware that the Manitoba Aboriginal Sports and Recreation Council (MASRC) has an Aboriginal Coaching Module that covers a variety of topics. In addition to content on lifestyle, health, and nutrition, the module emphasizes a holistic approach and covers topics such as racism in sport and incorporation of Indigenous culture to coaching practices (Sport Manitoba, n.d.).

2.1.9. Policies/Organizations.

2.1.9.1. Aboriginal Sport Circle.

The Aboriginal Sport Circle (ASC) is the federal body governing Indigenous sport in Canada. According to the ASC's (2016a) strategic plan for 2015-2020, their mission statement is:

- "The Aboriginal Sport Circle is a member-based, not-for-profit organization that exists to support the health and wellbeing of Aboriginal people and communities through participation in sport, physical activity and recreation" (p. 3).

A point of interest with the ASC's document, however, is that the definitions of sport, physical activity, and recreation seem to be taken as self-evident. In light of the United Nations Declaration on the Rights of Indigenous Peoples (United Nations General Assembly, 2008), organizations such as the ASC are critical to the future development of Indigenous sport in Canada. Indigenous programming cannot be offered without respecting Indigenous self-determination, and as a national government body for Indigenous sport, the ASC needs to be the *driver* of Indigenous sport.

2.1.9.2. Manitoba Aboriginal Sports and Recreation Council Inc.

The Manitoba Aboriginal Sports and Recreation Council (MASRC) is the provincial body for Indigenous sport in the province of Manitoba. Their mission statement, which can be found on their website (MASRC Inc., 2018), reads:

- "To strengthen Aboriginal participation in positive healthy lifestyle activities.
- The MASRC promotes sport and recreation as pillars to the health and well-being of all first Nations, Inuit and Métis people. Our goals are building partnerships, targeting community strategies, measuring success and creating community awareness. These goals will guide us as we work through community led initiatives to building community capacity (skills, knowledge, structures and resources)".

Interesting points to note with respect to their mission statement include:

- Promotion of sport and recreation as "pillars of health and well-being".
- As with the ASC, definitions of sport, recreation, health, well-being, and success are taken as self-evident.

2.1.9.3. North American Indigenous Games Council

The North American Indigenous Games (NAIG) is an example of Indigenous Sport, as it incorporates self-determined and cultural activities as well as "holistic" elements of participation with regard to "social/cultural/spiritual" components. Their mission statement, which can be found on their website (NAIG, 2018), reads:

- "To improve the quality of life for Indigenous Peoples by supporting self-determined sports and cultural activities which encourage equal access to participation in the social/cultural/spiritual fabric of the community in which they reside and which respects Indigenous distinctiveness."

Motivation behind creation of the NAIG included giving youth something positive to anticipate (Wood, 1990 Chairperson, cited by NAIG, 2018). The NAIG promotes connection, feelings of achievement, and new friendships (Wood, cited by NAIG, 2018). However, as Forsyth (2002) explained, the structure of NAIG, where traditional games are placed in a "cultural" program as opposed to the main sport program, serves to marginalize Indigenous events while elevating mainstream sport.

2.1.9.4. Canada's Policy on Aboriginal People's Participation in Sport (thoughts by Paraschak)

Paraschak (2013) described how the two sport systems in Canada – Canadian Mainstream and Aboriginal – are like a double helix, with the rungs representing the connections and opportunities that can be made between the two systems. In her discussion, she noted the following:

- 3 underlying assumptions about the double helix:
    1. Duality of structure.
    2. Unequal power relations.
    3. A strengths perspective.
- She noted sporting spaces can be *racialized, racializing and racist*.
- Strengths of the policy:
    - Legitimates, through policy, the existence of the Aboriginal sport system.
    - Committed to an ongoing relationship with Indigenous peoples.
- Paraschak argued Indigenous peoples have the right to determine their own cultural practices and that Sport Canada can reduce the unequal power relations by acknowledging, through policy, a different relationship that is more inclusive.

2.1.9.5. Sport for Life's (n.d.) Winnipeg Community Sport Policy

Sport for Life's (n.d.) Winnipeg Community Sport Policy is a document guiding the development, promotion, and delivery of sport programs for all ages and all levels of competition in Winnipeg. The Policy is informed by the sport interests of community members in Winnipeg and is guided by the Canadian Sport for Life (CS4L) model. Involved in the Policy are three partners (General Council of Winnipeg Community Centres (GCWCC), Winnipeg Community Sport Alliance (WCSA), Sport Manitoba) and three stakeholders (Winnipeg Regional Health Authority (WRHA), Manitoba Physical Education Supervisors Association (MPESA), The City of Winnipeg Community Services Department).

Creation of the policy was informed through review of then-current research and best practices relating to a number of areas. The policy gives little recognition to the inclusion of people of diverse cultures, and it lacks emphasis on education regarding cultural awareness. The policy does, however, mention programs in Winnipeg that were designed with Indigenous participants in mind.

2.2. Issues

2.2.1. Issues in schools.

According to Halas et al. (2013) and others, some issues regarding access to sport/physical activity in primary and secondary schools include:

- Lack of sports equipment, or low quality equipment.
- Teacher turnover.
- Idea of "triangulating" teachers versus "triangle teachers" – those teachers who are interested in getting to know the community. A high quality and sustainable physical education program will depend on the community's ability to attract dedicated, caring teachers.
- Mainstream teacher's need to develop respectful, supportive relationships.
- Recognition of education's connection to colonialism.
- In Manitoba, lack of specialized education in physical education for teachers working in smaller, rural schools is not uncommon.

- Substitute teachers with little knowledge of physical education and/or time to prepare lessons.
- Lack of Indigenous teaching staff.
- Lack of funding for coaches and physical education teachers.
- Often not enough students participating to form entire teams.
- Significant distance to travel to compete against other teams.
- In addition, more areas for recess play was suggested as a facilitator of physical activity among Pima children in the United States (Johnson et al., 2007).
- Munroe & MacLellan-Mansell (2013) noted that some educators harbor perceptions of in-class learning being superior to outdoor learning.
- Lastly, some suggestions Robinson et al. (2016) found through discussions with Mi'kmaw elders and community members include:
    - Be an ally, but know where to draw the line between ally and friend; learn about Indigenous peoples' history; know the students you are teaching; form relationships with community members, including parents; seek guidance from Indigenous people; be understanding; help affirm students' cultural identities; learn about and engage in Indigenous cultural activities; show students that you care about their wellbeing; include culturally relevant activities, and have someone knowledgeable, such as an elder, guide them; be cautious when discussing physical activity or education with elders, as this may rekindle memories of residential schools.

2.2.2. Issues in communities.

Canadian Heritage (2005) identified geographic distance from experienced and knowledgeable coaches, physical therapists, and other supports as a barrier. The lack and quality of neighbourhood facilities has also received attention (Canadian Heritage, 2005). It is often difficult for reserve communities to build and maintain sport facilities due to the historical lack of funding reserves receive relative to non-Indigenous communities (Milloy, 2008).

In addition, safety concerns in some communities may be a barrier with respect to getting to and from facilities (Kerpan & Humbert, 2015). The location of one's residence has been highlighted as an influential factor (Kerpan & Humbert), suggesting the ability to choose where one lives, which is dependent on income, plays a role in activity levels. In fact, research has suggested there may be relationships between activity levels and many sociodemographic variables (Findlay, 2011). Even when many of these issues are overcome, athletes are often confronted by the challenges imposed by a lack of coaches and costs of sports equipment (Canadian Heritage, 2005).

2.2.3. Different issues across sexes.

It should be recognized that certain issues affecting Indigenous peoples' participation in sport may not be consistent across sexes. Much research has indicated that Indigenous girls/women are less likely to be active than Indigenous boys/men in Canada (Findlay, 2011; Foulds et al., 2012; Lemstra et al., 2013) and beyond (Brusseau et al., 2013, United States;

Macdonald et al., 2012, Australia), although this is not always the case (Johnson et al., 2007, United States).

Some barriers with which Indigenous girls/women may be confronted in their pursuit of sport/physical activity include feelings of shame when wearing sports clothes in public; men not wanting their female partners to engage in sport, yet wanting them to eat and drink what they (the men) do regardless of whether or not it is healthy; and women being expected to be the primary caregivers in a family (Macdonald et al., 2012).

2.2.4. Bureaucracy.

Bureaucratic practices can compromise athletes' experiences when decision makers have little connection to the communities and organizations their policies affect. It is critical that decision makers establish and maintain ongoing relationships with the staff in charge of implementing and enforcing the policies created, as it is the latter group that has greater exposure to, and knowledge of, policy consequences. Information from multiple stakeholder and participants groups can help prevent funding decisions that compromise Canada's relationship with Indigenous peoples (see Giles & van Luijk, 2018), as well as policies that act as barriers to Indigenous youths' participation in sport and physical activity (Champagne & Halas, 2002).

2.2.5. University sport.

The benefits of pursuing a university degree can be twofold, as universities often provide sport/physical activity facilities. Yet university settings are often culturally exclusive environments in which students are asked to adjust to the setting as opposed to the setting adjusting to the needs/cultures of students (Kirkness & Barnhardt, 1991). Some additional barriers to university, discussed by Preston (2008), include:

- The Western biases of grade-point average.
- Lack of childcare support.
- Transportation for students and their children.
- Availability of daycares.
- Lack of career counselling services.
- The complexities of filling out scholarship/bursary forms.
- Availability of guidance when planning to attend university.
- Not being sufficiently prepared for university curriculum due to funding and staff inadequacies in some rural and remote high schools.
- Lack of educational role models because some Indigenous students are the first in their families to attend university.

These examples once more point to the strategies of placing education into culture versus culture into education (Ladson-Billings, 1994).

In addition, Indigenous athletes who move from their home communities to pursue mainstream sport are often confronted by acculturation challenges (Blodgett et al., 2014). Acculturation is a process that includes a culture shock phenomenon as well as a feeling of

disconnect from one's home community/culture (Blodgett et al.). In their work with Indigenous athletes, Blodgett et al. found the following themes pertaining to acculturation experiences:

- Feeling overwhelmed by change.
- Discomfort in living with non-Indigenous billets.
- Lacking meaningful engagement from host culture members.
- Dealing with racism.
- Confronting attitudes that Indigenous people cannot succeed.
- Being distanced from family.
- Losing loved ones while away from home.
- Missing the Indigenous culture.
- Dealing with on-reserve rejection.

Similar challenges can also face Indigenous youth who move to larger urban communities to continue their high school education, where they may encounter racism for the first time and feel disconnected being so far from home; opportunities to participate in high school sports and/or intramurals are limited if teachers do not work to create culturally affirming spaces and assist Indigenous students who want to be actively involved in extra-curricular activities (e.g., see Halas, 2006).

Goodwill and McCormick's (2012) research on factors that influence cultural identity may help athletes navigate the acculturation process:

- Negatively
  - Living in separation from Indigenous people/culture.
  - Experiencing racism and prejudice.
  - Experiencing negative portrayals of Indigenous people.

- Positively
  - Participating in a cultural gathering.
  - Participating in a group of Indigenous people.
  - Connecting with family.
  - Changing self-perception.
  - Helping other Indigenous people (a reason why mentorship strategies are valuable).
  - Verbalizing experiences as an Indigenous person.
  - Spiritual experience.
  - Getting support from parents.
  - Attending a cultural gathering.
  - Being influenced by a grandparent.
  - Personal accomplishment.
  - Experiencing positive representations of Indigenous people (a reason why role models are valuable).

2.2.6. Racism.

Canadian Heritage (2005) identified racism as a barrier to sport participation among Indigenous peoples. In the current context, Paraschak (2013) argues that the dominant sport system in Canada is "underpinned by 'race logic'" (p. 98). She argues that due to such logic, sport in the Indigenous context can be *racialized, racializing,* and *racist*. Racialized spaces are those mainstream sporting spaces that are reflective of European culture, values, and practices. Such spaces are equated to institutional racism because the structure of the system will inherently privilege European values and outcomes over those of non-European heritage. These spaces are also racialized because they most often define Indigenous peoples based upon established definitions related to heritage (e.g., First Nations, Inuit, or Métis). Indigenous peoples who have gained control over the sporting space have often determined access to participation by defining who is eligible based upon these definitions of identity and heritage. The sporting space subsequently becomes a racialized space when participation is determined by the identification of participants within these definitions.

Racializing spaces are "created when the 'doing' of an operational race hierarchy facilitates the (re)creation of racialized identities" (Paraschak, 2013, p. 98). For example, if an Indigenous person participates in the NAIG, where Indigenous cultures are celebrated, they may gain a greater sense of the Indigenous identity because "the racial structuring of the sporting space facilitated a heightened awareness of a particular interpretation(s)" of Indigeneity. A racist space is created when an operational race hierarchy is utilized to construct Indigenous peoples as a racialized 'other', furthering the experience of unequal race relations.

Issues of race and racism also affect the types of activities that are privileged, the way Indigenous cultures are perceived, and the ways in which Indigenous peoples engage in sporting events and activities. As mentioned, sporting spaces can racialized and racializing. For instance, the NAIG have been critiqued because they separate traditional games from sport, placing the former in a distinct "cultural" program (Forsyth, 2002; Paraschak, 2013). The effect of this categorization may inadvertently maintain a perspective of Indigenous cultures and practices as being rooted in the past.

Unfortunately, misinformed perceptions also perpetuate stereotypes about Indigenous peoples' athletic prowess. Researchers have noted the tendency of some coaches to typecast Indigenous athletes into certain positions (Apoifis et al., 2018), such as the role of "enforcer" in hockey (Valentine, 2012). Among the reasons for such typecasting are stereotypes of Indigenous athletes as being geared toward more physical-, as opposed to intellectual- and leadership-oriented sport positions (Apoifis et al., 2018).

2.2.7. Perceptions held by potential participants with respect to physical activity.

Another aspect about which program leaders must remain cognizant is the impact perceptions held by potential participants may have on sport participation. Various researchers have gathered opinions from Indigenous participants about their views of physical activity/sport. Below are some of the findings in this area.

- The widespread phenomenon of people viewing exercise as unenjoyable has also been recorded among some Indigenous adults (Henderson & Ainsworth, 2001), hence the need for enjoyable, meaningful activities.
- Physical activity may not be a priority among older participants (Henderson & Ainsworth, 2003; Wan et al., 2018).
- Activity is embedded in life when we're young, but becomes more of a decision as age increases (Henderson & Ainsworth, 2001; Wan et al., 2018).

2.2.8. Coaching.

Canadian Heritage (2005) identified a lack of Indigenous coaches and a lack of culturally sensitive coaches as barriers to Indigenous peoples' participation in sport. Research has identified many factors influencing Indigenous coaches along their career paths.

- Level of encouragement received to become a coach (Australian context; Apoifis et al., 2018).
- Waning interest or enjoyment (Australian context; Bennie et al., 2019).
- Shyness (Australian context; Bennie et al., 2019).
- Lack of confidence (Australian context; Bennie et al., 2019).
- Time constraints (Australian context; Bennie et al., 2019).
- Balancing community involvement with family and coaching responsibilities simultaneously (Australian context; Bennie et al., 2019).
- In some cases, little support received from some parents (Sirant, 2010).
- Lack of opportunity for Indigenous coaches to become certified/trained (Canadian Heritage, 2005).
- Inflexibility of coaching accreditation courses (Australian context; Bennie et al., 2019).
- Cost and location of accreditation courses (Australian context; Bennie et al., 2019).
- Perceptions that Indigenous-specific coaching programs are not as legitimate or valuable as mainstream programs (Australian context; Bennie et al., 2019).
- Institutional racism (Australian context; Bennie et al., 2019).
- Sociocultural norm of perceiving Indigenous people as being geared toward physical- as opposed to intellectual activities (Australian context; Bennie et al., 2019).
- Being excluded from coaching positions because of Indigeneity (Australian context; Apoifis et al., 2018).

2.3. Health

Numerous studies have tied health benefits to sport/physical activity among Indigenous participants (e.g., Findlay, 2011; Lemstra et al., 2013; Mitchell et al., 2010). What is often overlooked, however, are the negative health outcomes. A discussion of both the negative and positive health outcomes of sport/physical activity is necessary in order to provide a balanced perspective.

2.3.1. Negative outcomes.

Bean et al. (2014) discussed many of the negative outcomes of sport among young participants. In general, these outcomes included overuse injuries, concussions, issues with nutrition and weight control, alcohol use and substance abuse, burnout and dropout, and issues with motivation (particularly among athletes who are pushed to specialize early). Coaches must remain aware of the possibility of demanding too much from athletes, and they should seek constant feedback from athletes to ensure they are not setting the bar too high.

2.3.2. Positive outcomes.

With Indigenous participants specifically, research has shown that engaging in sport/physical activity can help lower stress, BMI, body fat, triglycerides, and fasting glucose; it can decrease waist circumference; and it can help keep diastolic blood pressure within a healthy range (Bersamin et al., 2014). This is significant because self-reported diagnosis of either diabetes or impaired glucose tolerance/impaired fasting glucose, as well as being employed, has been shown to be linked to great BMI among Indigenous participants (Ho et al., 2008). For Indigenous children specifically, peer support initiatives such as IYMP have proven to attenuate increases in BMI (Eskiciologlu et al., 2014).

Interestingly, research has suggested that strenuous sports may have more impact on reducing diabetes risk than vigorous work or moderate activity (Steinbrecher et al., 2012). Similarly, being active, as opposed to moderately active, was associated with better general and mental health among Indigenous participants in research by Findlay, 2011.

2.3.2.1. Mental health

Along with facilitating good physical health, sport/physical activity can also promote good mental health. In her work with youth at a treatment centre, Halas (2001) observed that sport played the following roles:

- Helped new students in the centre feel welcome.
- Outlet for physical energy as well as anger and frustration.
- Vehicle for self-expression.
- Facilitated positive self-image.
- Motivator to attend classes.
- Calming effects that had potential to translate into improved focus in classroom settings.

The link between sport participation and academic success, particularly among Indigenous students, has been suggested elsewhere as well. For instance, Arriagada (2015) found successful completion of secondary school was positively related to participation in extracurricular sports by male First Nations students attending off-reserve secondary institutions.

3. Full Document

3.1. Best Practices

3.1.1. Cultural relevance.

A lot of emphasis has been placed on cultural relevance. In fact, a positive relationship has been suggested between degree of enculturation and amount of physical activity, as many Indigenous cultural activities are highly physical (Bersamin et al., 2014). This is important because research in northwestern Ontario suggested many First Nations people in remote communities may still acquire much of their food from hunting and/or fishing (Ho et al., 2008). However, it should not be assumed that people living in areas with greater access to hunting and/or fishing are more physically active, as research has also shown the opposite. For instance, in a study with Indigenous people across 25 locations in British Columbia, Foulds et al. (2012) found that people from on-reserves, rural areas, and the interior demonstrated greater rates of inactivity than people from urban areas and the Vancouver–Lower mainland region.

The take-home message is "interventions aimed at increasing physical activity are likely to succeed to the extent that they are meaningfully embedded in the local cultural context" (Bersamin et al., p. 262). This idea resonates with key tenets of culturally relevant pedagogy (Ladson-Billings, 1994); education (sport) that is embedded within a group's culture is more effective than aspects of a group's culture inserted into mainstream/western education (sport) practices.

Although, traditional activities are important in providing cultural connection, and in helping affirm identity (Kerpan & Humbert, 2015; Tang, Community Wellness Program, & Jardine, 2016), program providers must remain cognizant that "culturally relevant"' may include activities that may not be considered traditional.

So how do we go about making programs culturally relevant? Some basic principles, which can be found in the pedagogy literature (Ladson-Billings, 1995) but are applicable to sport, must be kept in mind. These principles are:

1. Cultural competence – do programs allow athletes to "be themselves" (p. 161)? Are there aspects of a particular Indigenous athlete's daily cultural practices that are accepted and affirmed within the sporting context?
2. Student success – are students (in our case, athletes) succeeding in sport? Note that "success" is not measured simply by points or wins. Rather, are Indigenous athletes seen by their non-Indigenous, mainstream coaches as capable of reaching their full potential, and are they supported in doing so?
3. Critical social consciousness – are students encouraged to question the social structures that maintain the status quo of deep inequities, where abject health disparities exist between Indigenous and non-Indigenous Canadians (Daschuk, 2013; Halas, 2014).
    - Are teachers/coaches cognizant of the social, economic, and historical circumstances affecting athletes? Are they aware of the impacts of

colonization, anti-Indigenous racism, poverty, and other structural issues impacting on how children, youth, and young adults experience physical education and sport (Champagne, 2006; Halas, 2011; Lavallee, 2018)?
    - In fact, various authors have highlighted the need for athletes to learn about colonization (e.g., Blodgett et al., 2008; Lavallée & Lévesque, 2013), which can help them understand and overcome the mechanisms perpetuating social inequities

In addition, strategies for addressing the three principles of cultural relevance can be gleaned from pedagogy (physical education) literature (Halas et al., 2013). These strategies are:

1. Coaches/physical education teachers actively seek to become allies to Indigenous athletes, going above and beyond merely providing workouts and drills (Halas et al., 2013)
    - Are coaches/educators seen by their athletes/students as caring? Do they actively seek to support the individual athlete's needs within the socio-cultural context of their sport (e.g., a hockey coach who is purposefully aware of the potential for racism within the intercultural connections between players and teams and who stands up to anti-Indigenous racism on the ice and in the locker room)?
    - Are coaches/educators engaging with community members and learning about/participating in the cultures/cultural activities in the area (Halas et al., 2013)? One example is the exhibition game between USports men's hockey teams from the Universities of Regina and the University of Manitoba that took place in a First Nations community located in the shared geographic region of these two areas (Mike Sirant, personal communication).
2. Meaningful, relevant curriculum – what are athletes learning in their programs? Is it relevant to their lives and cultures?
    - For instance, Sutliff (1996) proposed teaching participants about successful Indigenous athletes.
3. Supportive learning climates – is the atmosphere positive and conducive to athletic growth?
4. Understanding athletes' day-to-day cultural landscapes – what are their day-to-day lives like? What are their interests? What do they do outside sport? How do they view sport? What motivates them to participate? What do they want to get out of sport?
    - Understanding the backgrounds of each individual participant is particularly important, as the culture in an area with respect to sport (i.e., which sports are popular and which are not) may marginalize individuals who prefer less popular sports (Maynard, 2009).

A resource that can be used to help guide sport/physical activity programs in culturally meaningful ways for Indigenous participants is Lavallée & Lévesque's (2013) Integrated Indigenous-ecological Model. Key concepts of the model include:

- Emphasizes interconnectivity among the following leverage points: the intrapersonal (physical, mental, spiritual, emotional), interpersonal, organizational, community, policy, systems environments and all of creation.
- Sport, recreation and physical activity should be delivered via a decolonizing approach (i.e., reclaim knowledges and practices) at each leverage point.
- Spirituality is the key dimension that needs to be considered in physical activity and health promotion.
- Four important considerations when applying the model:
    1. Providing positive, decolonizing opportunities at each leverage point.
    2. Avoiding a deficit approach and starting with a strengths approach.
    3. Involving the community from conceptualization of the program to its delivery and evaluations.
    4. Developing a consciousness of the impact of colonialism.
    5. Learning about wholistic health and how other systemic and societal factors play a role in the health of Indigenous peoples.

When principles of cultural relevance are applied successfully, a program like the Rec and Read Mentorship Program (also called the Aboriginal/Indigenous Youth Mentorship Program (IYMP; Halas et al., 2017a, b) may result. Currently offered in Winnipeg, northern Manitoba, and diverse First Nations communities in Quebec, Ontario, Saskatchewan, and Alberta, Rec and Read is an example of a physical activity program for Indigenous children and youth that has been infused with Indigenous cultural values. Working in conjunction with university students and/or young adult health leaders (in northern communities), high school students lead younger students in nutrition, physical activities, and cultural and educational exercises. Along with providing responsibility and empowerment to high school students, as well as physical activity and education to younger students, the program is guided by Indigenous knowledge such as the Circle of Courage® values (Brokenleg & Van Bockern, 2003), the Four R's (Kirkness & Barnhardt, 1994) and Medicine Wheel teachings, thereby maintaining cultural relevance.

It should be recognized that cultural relevance in sport extends into sport psychology as well. Research has addressed the need for culturally relevant sport psychology, as Western approaches may not be meaningful to many Indigenous athletes (Schinke et al., 2013). Schinke et al.'s cultural sport psychology includes four key aspects:

1. Role models.
2. Traditional medicine people and elders.
3. Maintaining family connections.
4. The national Indigenous community.

Due to varying understandings of what constitutes a "role model", it should be noted that research Blodgett et al. (2008) conducted with elite Indigenous athletes from Ontario, Manitoba, and Saskatchewan, as well as with Indigenous community members from a reserve in Ontario provided insight into what the term "role model" meant to these knowledge sharers. As reported by Blodgett et al., "Role models is a holistic term that includes firsthand mentoring and also intermittent firsthand encouragement and vicarious positive sport examples" (p. 398). In

searching for role models, it is important program leaders convey what this position entails, as athletes may shy away from wanting to be labelled "role models" if they think this term implies heroism or perfection. Indigenous cultural values (e.g., humility, enhancing one's self esteem by contributing to the benefit of the group or community) must be understood and considered within the context of a particular Indigenous community's history and social context.

Not to be overlooked is the role groups play in forming one's identity (Tajifel & Turner, 1979). Struggles associated with acculturation, which includes both a culture shock feeling as well as the challenge of being distanced from one's "home" environment (Blodgett et al., 2014), are profound when one feels alone in their new environment. Having peers with a similar background and upbringing can help in this regard.

Yet it is important to avoid simply applying "Indigenous" cultural aspects to programs (e.g., by inserting archery into a mainstream physical education program), thinking these aspects will resonate with Indigenous participants. Program leaders must be cognizant of the reality that not everyone who identifies as Indigenous has been raised in ways that parallel the generalizations literature often makes with respect to what Indigenous culture is. Hence, the need for understanding the day-to-day cultural landscapes of individual athletes, including their perspectives.

It comes as no surprise that there are many reasons Indigenous participants engage in physical activity. Along with engaging in some physical activities simply because they are fun, youth are also cognizant of the health benefits, which is contrary to Canadian Heritage's (2005) claim that "There is a general lack of awareness, understanding and information among Aboriginal Peoples about the benefits of being active in sport and the health risks associated with inactivity" (p. 4). Critchley et al.'s (2006) research with Indigenous youth aged 6-18 from Lennox Island First Nation and Abegweit First Nation in Prince Edward Island suggested Indigenous young people are indeed aware that not eating the right foods, not exercising, not taking care of one's body, and engaging in high risk behaviors such as smoking, drinking and using drugs are things that promote poor health outcomes. The youth also understood that eating healthy and engaging in exercise promote health. In addition, younger youth (less than 13 years) reported feeling proud of themselves when they were physically active.

Program leaders should also be aware that "physical activity" in the eyes of many participants might include activities that are not always seen in mainstream society as "sport". Research with Dene youth and other community members in the Northwest Territories found that physical activity was perceived to include fitness, exercise, and going to the gym, but also movement, being active, keeping busy, community, traditional activities/work (like checking fishnets, peeling spruce, etc.), Dene games, and traditional games. Moreover, PA was seen as being part of Dene culture, and it involved respecting the elders who were role models for PA, passing on knowledge, being inclusive, connection to the land, and traditional activities. The authors noted that cultural identity was the underlying theme of the findings. Lastly, it was noted that participants had a wholistic view of physical activity that included physical, mental, emotional, and spiritual aspects (Tang, Community Wellness Program, & Jardine, 2016). This finding, with respect to the connection of physical activity with mental and spiritual wellbeing, was also a finding of Henderson and Ainsworth's (2003) research with older Indigenous women,

as well as older African American women, in the United States. These findings align with diverse Medicine Wheel teachings that acknowledge health and wellness as holistic, and point to the need for balance to 'lead a good life' – as in the teachings of Mino-Pimatisiwin (Courchene, Carpenter, Robillard, & Halas, 2017).

With respect to older Indigenous participants, another study by Henderson and Ainsworth (2001) with older (40+ years of age) Indigenous women in the United States highlighted the importance of remaining cognizant of the benefits of physical activity later in life, and finding activities you enjoy doing as hobbies. Ensuring participation in physical activity/sport is intrinsically rewarding to young participants may encourage active lifestyles later on in life.

Similar to maintaining cultural relevance to make programs more meaningful and, thus, increase retention rates, there are many other strategies to motivate youth to participate.

3.1.2. Motivating youth to participate.

Self-determination theory suggests human beings are naturally motivated, but that motivation levels can fluctuate depending on environmental factors (Deci & Ryan, 2011). Mack et al. (2015) summarized the five sub theories of SDT:

1. Cognitive explanation theory (CET) – about factors supporting and thwarting intrinsic motivation.
2. Organismic integration theory (OIT) – explains that extrinsic motivators exist on a continuum from highly autonomous (self-determined) to controlled, and that motivation can be developed through internalization of extrinsic motivators.
3. Causality orientations theory (COT) – suggests individuals are unique in their response to highly autonomous and controlled extrinsic motivators.
4. Basic physiological needs theory (BPNT) – examines relationships between the basic physiological needs of competence, autonomy, and relatedness to intrinsic motivation.
5. Goal contents theory (GCT) – suggests the pursuit of intrinsic goals is linked to the basic physiological needs examined in BPNT and, therefore, is beneficial to wellbeing, whereas the pursuit of extrinsic goals can thwart wellbeing.

What SDT boils down to is that self-determined activities that promote autonomy, competence, and relatedness are more likely to result in long-term participation (Mack et al., 2015).

Assessing the three basic psychological needs relative to the Circle of Courage® values promoting dignity and respect (Brokenleg & Van Bockern, 2003), the 4 A's of resilience (Brokenleg & Van Bockern), and the 4 benchmarks by which youth measure their self-worth (Brokenleg & Van Bockern; Coopersmith, 1967) reveals significant overlap:

- Circle of Courage® values: independence, mastery, belonging, and generosity
- 4 A's of resilience: autonomy, achievement, attachment, altruism
- 4 benchmarks of self-worth: power, confidence, significance, virtue.

In essence, programs helping youth meet the three basic psychological needs, along with generosity (or altruism or virtue), not only encourage long-term participation, but also encourage dignity and respect (Circle of Courage® values), resilience (4 A's), and feelings of self-worth (4 benchmarks). A variation of this model is incorporated within the theoretical model guiding the Rec and Read/IYMP teachings (Halas et al., 2017b).

In addition, many studies have highlighted the value of social networks/groups in promoting physical activity (Kerpan & Humbert, 2015; Lemstra et al., 2013; Perez et al., 2011; Wan et al., 2018), although this is not true in all cases, such as when obligations to family still take precedent (Henderson & Ainsworth, 2003). Having a group or partner can make activities more fun as well as encourage youth and hold them accountable. One strategy that incorporates social networks and may be particularly beneficial is that of youth-youth mentoring. Focusing on diabetes prevention within northern First Nations communities, (Eskicioglu et al., 2014), the urban Rec and Read program model was adapted for delivery in a remote, northern community. In place of university mentors (in the urban programs), older youth were assigned to mentor younger youth by providing curriculum focusing on healthy food, healthy play, healthy relationships, and education. Although waist circumference increased for both the control and intervention groups, the increase for the intervention group was significantly less than that of the control group. In addition, relative to the control group, healthy food knowledge, body image, and body satisfaction in the intervention group improved significantly.

3.1.3. Athletic development.

If athletic development is a priority, program leaders will want to keep in mind the importance of deliberate play, deliberate practice, spontaneous practice, play practice, and organized competition, as each of these types of activities has unique benefits. For instance, the child-led activities foster creativity and often expose youth to peers of varying ages (Côté, Erickson, & Abernethy, 2013). The adult-led activities provide youth with an opportunity to receive feedback and instructions from adults (Côté, Erickson, & Abernethy). It should be noted, however, that if positive personal development – not just athletic development – is a desirable outcome of sport programs, research by Strachan et al. (2018) examining urban Indigenous youth's understandings of the 5 C's (confidence, competence, character, connection, and caring) of positive youth development (PYD; Lerner, 2003, 2007) should be taken into consideration. In this research, youth shared understandings of the 5 C's that differed from Western descriptions. Perhaps most notably, the self was embedded in all of the 5 C's, suggesting a wholistic view of PYD that takes into account more than just one's attitudes/actions toward others. As is always the case, theory must be critically appraised in the context of where it is to be applied, hence the importance of learning about the day-to-day cultural landscapes of participants (Halas et al., 2013).

Similarly, and with the preceding considerations in mind, sport providers are encouraged to critically evaluate the types of activities promoting athletic development (below) for relevance and feasibility within the contexts of application.

- Deliberate play – child-led, intrinsically motivated activities, e.g., youth meeting with friends to play road hockey.

    - According to Côté, Murphy-Mills, & Abernethy (2012), deliberate play activities "build a solid foundation of intrinsic motivation" (p. 276), so youth participate because they want to.
- Deliberate practice – adult-led, extrinsically motivated activities, e.g., a coach teaching youth how to shoot a puck.
- Spontaneous practice – child-led, extrinsically motivated activities, e.g., youth shooting baskets to work on their shot.
- Play practice – adult-led, intrinsically motivated activities, e.g., a scrimmage at the end of hockey practice.
- Organized competition – adult-led activities that may be either extrinsically- or and intrinsically motivated, e.g., a competition against another team.

In addition to promoting a variety of benefits through a varied approach, research with Mi'kmaq youth from Prince Edward Island suggested younger youth (<13 years) may prefer more unstructured activities, and older youth (13+ years) more structured activities (Critchley et al., 2006). Further, in a study with Indigenous youth in Saskatchewan, researchers found that 10-16 year olds valued organized activities and being instructed/coached (Lemstra, Rogers, Thompson, & Moraros, 2013). With respect to when to run unstructured or structured activities, research with Indigenous youth in the United States has shown that physical education and recess in school settings may play valuable roles in facilitating physical activity, but that these students tended to be less active on weekends (Brusseau, Kulinna, Tudor-Locke, & Ferry, 2013), thus indicating a gap that sports/physical activity programs could address.

To help youth determine which sports they like and are best at, program leaders should also prioritize opportunities for sampling a variety of sports at early ages, as this is one possible pathway to performance improvement (Côté, Baker, & Abernethy, 2007) that promotes prolonged engagement and does not hinder a participant's potential with respect to reaching an elite level (Côté, Murphy-Mills, & Abernethy, 2012). In fact, physiological adaptations garnered by practicing one sport may be transferable to other sports (Côté et al., 2012), providing youth opportunities to experience athletic success in many areas.

3.1.4. Sport for Life's (2018) Long-Term Athlete Development 2.1.

Sport for Life's (2018) Long-Term Athlete Development (LTAD) model was created to guide training decisions at various stages as athletes age. The model depicts the following 8 stages:

9. Awareness and First Involvement
    - Aware of what opportunities exist.
    - Must be a positive experience.
10. Active Start
    - Age 0-6.
    - Emphasizes fundamental movement skills.
    - Daily physical activity in the form of play.
    - Fun.
    - Lots of variety.

11. FUNdamentals
    - Fundamental movement skills.
    - Structured and unstructured play; some instruction.
    - Aim for 180 minutes of activity per day, with 60 minutes being vigorous.
    - Agility, balance, coordination, speed.
    - Variety of environments.
12. Learn to Train
    - Rules, tactics, strategy.
    - Sport specific skills.
    - Minimum of 60 minutes in vigorous activity each day.
    - Strength, endurance, flexibility.
    - Incorporates physical literacy movement preparation.
    - Training 70% of the time, competition 30% of the time; no early specialization if sports are late-specialization sports.
    - Emphasize inclusion.
    - Unstructured free play is still important.
    - Emphasize fun.
13. Train to Train
    - Specialization may occur late in this stage.
    - Must be cognizant of the physical, mental, and emotional maturity of athletes, as these components will be developing during this time.
    - Peer influences; strained relationships between adults and adolescents.
    - Emphasize rules of sport, values, and consequences of actions.
    - Periodization.
    - Address weaknesses in physical literacy; address muscle imbalances.
    - Athletes with disabilities are introduced to specialized equipment.
    - Inclusion remains important.
14. Train to Compete
    - Training is almost full time; competition is at the national and even international level.
    - Individual, event, and position-specific, high quality training.
    - Quality training environment.
    - Sport specialization (1 or 2 sports). Event/discipline specialization may occur later in this stage.
    - Emphasizes recovery and mental fitness.
    - Can still transfer from one sport to another.
15. Train to Win
    - Highest level of competition.
    - Athletes have integrated support teams.
    - Emphasis is on performance.
16. Active for Life
    - Competitive for life – continue to compete.
    - Fit for life – active in any physical activity (not just "sport"), but not competitive.
    - Minimum 150 minutes of moderate and vigorous physical activity each week.
    - May help coach, instruct, lead, etc.

3.1.5. Sport for Life's (2016) Aboriginal Long-Term Participant Development 1.1.

The Sport for Life's (2016) Aboriginal Long-Term Participant Development (ALTPD) pathway was created in recognition that mainstream athletic development models may not be culturally relevant to Indigenous people. Due to colonization, racism, location of many Indigenous communities with respect to sport facilities, influences of traditional approaches, and other considerations, Indigenous people often have different lived experiences than non-Indigenous people. These lived experiences must be taken into consideration in sport programming.

The ALTPD pathway takes a somewhat deficit-based approach by presenting sport as a vehicle for helping Indigenous people, as conveyed by the quote, "This is the underlying rationale for this resource [the ALTPD pathway] – to save lives and to build healthier Aboriginal people, who contribute to healthier communities" (p. 2). However, through use of a modified version of the medicine wheel that amalgamates the intellectual and emotional components while introducing a "cultural" component (p. 8), the ALTPD pathway emphasizes important aspects of Indigenous cultures that coaches, program leaders, and sport providers must take into account when delivering sport programs. In addition, the ALTPD pathway emphasizes the need to learn about the cultural backgrounds of participants, and for coaches to be open and encouraging of athletes from diverse cultural backgrounds.

Overall, the ALTPD pathway emphasizes balance and the importance of all aspects of an athlete's development (i.e., not only physical). The stages of the ALTPD pathway, however, remain the same as the stages of the mainstream LTAD; and the addition of a few Indigenous teachings to what is otherwise basically the mainstream version of the model (i.e., the LTAD) raises questions as to the depth of cultural resonance of the ALTPD: might this represent an example of inserting some cultural values into mainstream sport, versus a more deeply Indigenous and/or culturally relevant approach of inserting aspects of mainstream sport within dominant Indigenous cultural values, teachings, and practices (e.g., like NAIG)?

3.1.6. Athlete support, encouragement, and examples from others.

Athletes are not self-made, as many people play important roles in providing support and encouragement. Research has highlighted the importance of parents, extended families, and community members/volunteers to sport programs in Indigenous communities (Blodgett et al., 2008; Sirant, 2010). In fact, coaches in Sirant's research expressed significant gratification for help they received from parents (transportation for youth, equipment costs, operating canteens, etc.). Families, in particular, pass down values to children, so there may be less incentive to be active when one's family is not active (Kerpan & Humbert, 2015).

The role of role models in providing guidance to younger athletes has also received attention (Blodgett et al., 2008; Schinke et al., 2013), further supporting the need to teach participants about successful Indigenous athletes (Sutliff, 1996). Fortunately, a database of over 170 Indigenous athletes has been assembled by Dr. Paraschak from the University of Windsor, making things easier for program leaders.

Although it has been suggested that having sports equipment at home may encourage physical activity (Lemstra et al., 2013), not all people can afford this, highlighting the need for youth programs even more. Connections with various community members/organizations can help alleviate the issues imposed by the lack of facilities in some rural and remote communities. It has been shown that partners can help reduce costs of program initiatives while helping initiatives reach wide audiences (Patel et al., 2015). Making use of community facilities can compensate for resources sports and physical activity programs do not have (Halas et al., 2013). For instance, community trap lines (van Ingen & Halas, 2006) can be used to provide youth with a culturally relevant way of being physically active and developing physical literacy. Finally, as Blodgett et al. (2008) conveyed, it is also important to teach youth about sport opportunities that may exist away from home, as well as the value of being persistent throughout the barriers they experience in pursuit of sport. With respect to Indigenous athletes who choose to pursue sport outside their home communities, Schinke et al. (2013) emphasized the need for them to learn about the structures/procedures of the sport system they are getting into prior to committing.

3.1.7. Coaches.

To facilitate effective programming, a number of considerations must be made with respect to program staff. Coaches in particular should enjoy working with youth, have a knowledge of sport the sport they are coaching, and have a passion for sport (Blodgett et al., 2008). A background in the sport coaches are selected to coach is not always a necessity. For instance, research by Sirant (2010) about hockey programs in Manitoba's Interlake region suggested that coaches could learn the technical aspects of hockey from other coaches as well as coaching education programs, but values such as patience, caring, commitment, and respect were a necessity. Research with Indigenous coaches from Australia highlighted self-determination, resilience, and socio-economic background and values as characteristics positively influencing Indigenous coaches in their roles (Bennie et al. 2017).

In many cases, coaches are community members volunteering their time and energy. There are a number of reasons why people may volunteer, some of which include:

- A feeling of gratification from being positive influences in the lives of youth (Sirant, 2010).
- Love and passion for sport (Bennie et al., 2019).
- Opportunity to give back to the community (Bennie et al., 2019).
- Opportunity to be a role model or leader (Bennie et al., 2019).
- Awareness of the importance of sport in Indigenous communities (Sirant, 2010).

Although there are intrinsic benefits to be derived from coaching roles, it is also important coaches receive support and recognition for their work (Blodgett et al., 2010). In fact, research with Indigenous coaches in Australia suggested support and encouragement from parents and others is a facilitator of coaches in their roles (Bennie et al., 2019). The following other supports should be taken into account (Bennie et al., 2019):

- Mentor coaches from which to learn
- Ties to sport clubs (to provide career support)

- Financial support from organizations
- Policies promoting inclusivity of Indigenous participants in sport
- Coaching opportunities (one example would be the opportunity to coach at the North American Indigenous Games).
- All-Indigenous coaching clinics
- Coaching accreditation courses
- Inclusive environments.

Along with being cognizant of the factors that support coaches, program planners must also be aware of the factors that may act as barriers. Some information on this can be found in the section on *Issues.*

3.1.7.1. Coach education.

Sirant's (2010) research provided three recommendations to consider when preparing people to coach hockey in Indigenous communities in Manitoba's Interlake region. Similar considerations should be made with respect to other sport programs as well:

1. What a new coach in the community needs to coach hockey (i.e., patience, caring, commitment, and respect).
2. Necessary content to be included in coaching education (i.e., leadership, technical/tactical, and health and fitness).
3. Best delivery (teaching/coaching) approaches (i.e., a mentoring approach, coaching resources, achievement awards for athletes).

Sport providers should be aware that the Manitoba Aboriginal Sports and Recreation Council (MASRC) has an Aboriginal Coaching Module that covers a variety of topics. In addition to content on lifestyle, health, and nutrition, the module emphasizes a holistic approach and covers topics such as racism in sport and incorporation of Indigenous culture to coaching practices (Sport Manitoba, n.d.).

3.1.9. Policies/Organizations.

3.1.9.1. Aboriginal Sport Circle.

The Aboriginal Sport Circle (ASC) is the federal body governing Indigenous sport in Canada. According to the ASC's (2016a) strategic plan for 2015-2020, their mission statement is:

- "The Aboriginal Sport Circle is a member-based, not-for-profit organization that exists to support the health and wellbeing of Aboriginal people and communities through participation in sport, physical activity and recreation" (p. 3).

The ASC's responsibilities are listed on page 3 of their document and include:

1. "Provide a national voice for Aboriginal sport, physical activity and recreation;

2. Build capacity at the national, provincial and territorial levels in the design and delivery of sport, physical activity and recreation programs that are culturally appropriate for Aboriginal people;
3. Ensure national policies and frameworks pertaining to sport, physical activity and recreation respond the needs of Aboriginal people and communities;
4. Facilitate development and training of individuals to be effective leaders for Aboriginal participants in sport, physical activity and recreation;
5. Recognize and promote best practices in sport, physical activity and recreation for Aboriginal people;
6. Oversee the development and delivery of national and international programs that enhance participation of Aboriginal people in sport, physical activity and recreation. This work is accomplished directly, with our membership and through strategic partnerships" (p. 3).

A point of interest with the ASC's document, however, is that the definitions of sport, physical activity, and recreation seem to be taken as self-evident. In light of the United Nations Declaration on the Rights of Indigenous Peoples (United Nations General Assembly, 2008), organizations such as the ASC are critical to the future development of Indigenous sport in Canada. Indigenous programming cannot be offered without respecting Indigenous self-determination, and as a national government body for Indigenous sport, the ASC needs to be the *driver* of Indigenous sport.

3.1.9.2. Manitoba Aboriginal Sports and Recreation Council Inc.

The Manitoba Aboriginal Sports and Recreation Council (MASRC) is the provincial body for Indigenous sport in the province of Manitoba. Their mission statement, which can be found on their website (MASRC Inc., 2018), reads:

- "To strengthen Aboriginal participation in positive healthy lifestyle activities.
- The MASRC promotes sport and recreation as pillars to the health and well-being of all first Nations, Inuit and Métis people. Our goals are building partnerships, targeting community strategies, measuring success and creating community awareness. These goals will guide us as we work through community led initiatives to building community capacity (skills, knowledge, structures and resources)".

Interesting points to note with respect to their mission statement include:

- Promotion of sport and recreation as "pillars of health and well-being".
- As with the ASC, definitions of sport, recreation, health, well-being, and success are taken as self-evident.

3.1.9.3. North American Indigenous Games Council

The North American Indigenous Games (NAIG) is an example of Indigenous sport, as it incorporates self-determined and cultural activities as well as "holistic" elements of participation

with regard to "social/cultural/spiritual" components. Their mission statement, which can be found on their website (NAIG, 2018), reads:

- "To improve the quality of life for Indigenous Peoples by supporting self-determined sports and cultural activities which encourage equal access to participation in the social/cultural/spiritual fabric of the community in which they reside and which respects Indigenous distinctiveness."

Motivation behind creation of the NAIG included giving youth something positive to anticipate (Wood, 1990 Chairperson, cited by NAIG, 2018), as the NAIG promotes connection, feelings of achievement, and new friendships (Wood, cited by NAIG, 2018). However, as Forsyth (2002) explained, the structure of NAIG, where traditional games are placed in a "cultural" program as opposed to the main sport program, serves to marginalize Indigenous events while elevating mainstream sport.

3.1.9.4. Canada's Policy on Aboriginal People's Participation in Sport (thoughts by Paraschak)

Paraschak (2013) described how the two sport systems in Canada – Canadian Mainstream and Aboriginal – are like a double helix, with the rungs representing the connections and opportunities that can be made between the two systems. In her discussion, she noted the following:

- 3 underlying assumptions about the double helix:
    1. Duality of structure.
    2. Unequal power relations.
    3. A strengths perspective.
- She noted sporting spaces can be *racialized, racializing and racist*.
    - Racialized – definition of participants is defined by heritage (e.g., the Little NHL).
    - Racializing – created when the "doing" of an operational race hierarchy facilitates the (re)creation of racialized identities" (p.104; e.g., the NAIG).
    - Racist – participants or spectators experience treatment as a racialized "other" in sport. For example, the Canadian sport system, which was created by "white" Europeans, granting them privilege within this system. In contrast, Indigenous peoples may be excluded from this system, based upon the privilege of Europeans, or because of having acts of racism performed against them.
- Strengths of the policy:
    - Legitimates, through policy, the existence of the Aboriginal sport system.
    - Committed to an ongoing relationship with Indigenous peoples.
- Paraschak argued Indigenous peoples have the right to determine their own cultural practices and that Sport Canada can reduce the unequal power relations by acknowledging, through policy, a different relationship that is more inclusive.

3.1.9.5. Sport for Life's (n.d.) Winnipeg Community Sport Policy

Sport for Life's (n.d.) Winnipeg Community Sport Policy is a document guiding the development, promotion, and delivery of sport programs for all ages and all levels of competition in Winnipeg. The Policy is informed by the sport interests of community members in Winnipeg and is guided by the Canadian Sport for Life (CS4L) model. Involved in the Policy are three partners (General Council of Winnipeg Community Centres (GCWCC), Winnipeg Community Sport Alliance (WCSA), Sport Manitoba) and three stakeholders (Winnipeg Regional Health Authority (WRHA), Manitoba Physical Education Supervisors Association (MPESA), The City of Winnipeg Community Services Department).

Creation of the policy was informed through review of then-current research and best practices relating to the following six areas:

1. People – deliverers and participants of programs.
    - Balance between paid staff and volunteers.
    - Emphasis on placement, training, recognition, and succession planning.
2. Partnerships – to ensure effective programs and efficient systems.
    - Cooperation, shared vision, and common goals among sport stakeholder organizations.
    - Prioritizing needs of participants.
    - Of particular relevance is the North End Hockey Program, which provides hockey opportunities to disadvantaged youth.
3. Programs – to learn skills, participate in their choice of activities, and stay active.
    - Diversity of programs.
    - Delivery to a wide participant demographic, both in terms of age and ability.
    - Physical literacy, sport skills, active for life.
    - Considers program costs and placement (relative to neighbourhoods of participants), including transportation options to and from program areas.
4. Places – where programs are hosted and opportunities are offered.
    - Facilities must meet current and future needs of participants.
    - Emphasis on access and being inviting, and on improvement, multi-dimensionalness, and construction of new facilities.
5. Promotion and Public Education– provide education regarding long-term benefits of sport and recreation.
    - Referring to the CS4L model, educate community members about the societal benefits of sport and recreation.
    - Also educate about the benefits of physical activity and healthy eating, as well as the positive aspects of sport.
    - Also educate participants, parents, coaches, and managers about best practices for delivery of healthy (i.e., not harmful) sport programs (e.g., True Sport, Respect in Sport).
    - Support and resources to facilitate access to the sport system.
6. Public and private funding – the return on investment this provides to the quality of life of community members and the vibrancy of neighbourhoods.
    - Funding has been prioritized.
    - Collaboration and innovative methods when it comes to improvements to programs, opportunities, and facilities.

- Stresses subsidies and not over-charging participants/their families.

The policy gives little recognition to the inclusion of people of diverse cultures, other than recognizing sport helps with inclusion in broader society, as well as brief mentions of cultural inclusion (e.g., p. 28). The policy also lacks emphasis on education regarding cultural awareness. The policy does, however, mention programs in Winnipeg that were designed with Indigenous participants in mind (Winnipeg Aboriginal Sport Achievement Centre, Enhancing Participation of Aboriginal and New Canadian Youth in Sport Program).

3.2. Issues

3.2.1. Issues in schools.

There are many barriers to sport programming as it relates to Indigenous participants in Manitoba and elsewhere. Halas et al. (2013) made a case for physical education in schools as often an important first exposure to sport, as well as a means by which to begin developing physical literacy. In fact, sport opportunities during an athlete's early years may be critical to success later on (Athletics Canada, n.d.). Due to the importance of physical activity at early ages, this section on issues begins by noting many of the challenges existing in primary and secondary schools due to the inequitable funding arrangement for First Nations (band controlled) schools. According to Halas et al. (2013), some of these issues include:

- Lack of sports equipment, or low quality equipment.
- Teacher turnover.
- Idea of "triangulating" teachers versus "triangle teachers" – those teachers who are interested in getting to know the community. A high quality and sustainable physical education program will depend on the community's ability to attract dedicated, caring teachers.
- Mainstream teacher's need to develop respectful, supportive relationships.
- Recognition of education's connection to colonialism.
- In Manitoba, lack of specialized education in physical education for teachers working in smaller, rural schools is not uncommon.
- Substitute teachers with little knowledge of physical education and/or time to prepare lessons.
- Lack of Indigenous teaching staff.
- Lack of funding for coaches and physical education teachers.
- Often not enough students participating to form entire teams.
- Significant distance to travel to compete against other teams.
- In addition, more areas for recess play was suggested as a facilitator of physical activity among Pima children in the United States (Johnson et al., 2007).
- Lastly, some suggestions Robinson et al. (2016) found through discussions with Mi'kmaw elders and community members include:
    - Be an ally, but know where to draw the line between ally and friend; learn about Indigenous peoples' history; know the students you are teaching; form relationships with community members, including parents; seek guidance from Indigenous people; be understanding; help affirm students' cultural identities;

> learn about and engage in Indigenous cultural activities; show students that you care about their wellbeing; include culturally relevant activities, and have someone knowledgeable, such as an elder, guide them; be cautious when discussing physical activity or education with elders, as this may rekindle memories of residential schools.

One solution Halas et al. provided with respect to lack of equipment/facilities is to make use of community facilities. For instance, they cited van Ingen and Halas (2006), who discussed how one First Nations school made use of a community trap line. However, with respect to land-based physical activity/education, program leaders must be willing to overcome perceptions of in-class learning as being superior to outdoor learning (Munroe & MacLellan-Mansell, 2013).

The need for program leaders to "buy in" to certain initiatives has been suggested elsewhere as well. Research with Pima children in the United States has suggested that health interventions delivered for delivery by classroom teachers, provided they follow through, may help increase levels of physical activity among children (Johnson et al., 2007).

3.2.2. Issues in communities.

Sports teams from rural/remote communities in general face numerous barriers, many of which are similar to those challenging First Nations schools. For instance, Canadian Heritage (2005) identified geographic distance from experienced and knowledgeable coaches, physical therapists, and other supports as a barrier. The lack and quality of neighbourhood facilities has also received attention (Canadian Heritage, 2005). It is often difficult for reserve communities to build and maintain sport facilities due to the historical lack of funding reserves receive relative to non-Indigenous communities (Milloy, 2008).

In addition, safety concerns in some communities may be a barrier with respect to getting to and from facilities (Kerpan & Humbert, 2015). The location of one's residence has been highlighted as an influential factor (Kerpan & Humbert), suggesting the ability to choose where one lives, which is dependent on income, plays a role in activity levels. In fact, research has suggested there may be relationships between activity levels and many sociodemographic variables (Findlay, 2011). Even when many of these issues are overcome, athletes are often confronted by the challenges imposed by a lack of coaches and costs of sports equipment (Canadian Heritage, 2005).

3.2.3. Different issues across sexes.

It should be recognized that certain issues affecting Indigenous peoples' participation in sport may not be consistent across sexes. Much research has indicated that Indigenous girls/women are less likely to be active than Indigenous boys/men in Canada (Findlay, 2011; Foulds et al., 2012; Lemstra et al., 2013) and beyond (Brusseau et al., 2013, United States; Macdonald et al., 2012, Australia), although this is not always the case (Johnson et al., 2007, United States).

Some barriers with which Indigenous girls/women may be confronted in their pursuit of sport/physical activity include feelings of shame when wearing sports clothes in public; men not wanting their female partners to engage in sport, yet wanting them to eat and drink what they (the men) do regardless of whether or not it is healthy; and women being expected to be the primary caregivers in a family (Macdonald et al., 2012).

3.2.4. Bureaucracy.

Bureaucratic practices can compromise athletes' experiences when decision makers have little connection to the communities and organizations their policies affect. It is critical that decision makers establish and maintain ongoing relationships with the staff in charge of implementing and enforcing the policies created, as it is the latter group that has greater exposure to, and knowledge of, policy consequences. For instance, there is still a lack of understanding of what truth and reconciliation entail. An example from the sport domain is the federal government's recent decision to provide $9.5 million to Sport for Life to improve programming in Indigenous communities (Giles & van Luijk, 2018). Canada's Aboriginal Sport Circle (ASC) was designed specifically to oversee Indigenous sport in the country, including "coaching development, the creation of provincial/territorial Aboriginal sport associations, and the North American Indigenous Games" (Paraschak, 2002, p. 27). Provincial Indigenous sport organizations such as the Manitoba Aboriginal Sports and Recreation Council are dedicated to providing and improving sport opportunities for Indigenous participants, and their staff have substantial knowledge pertaining to effective development, implementation, and maintenance of programs. According to Giles and van Luijk, the decision to grant the funding to Sport for Life as opposed to the ASC is contradictory to Canada's support of the United Nations Declaration on the Rights of Indigenous Peoples (United Nations General Assembly, 2008). Specifically, these authors stated, "sport for development initiatives can reinforce colonial structures and fail to account for differences in local cultures, contexts and customs, especially when delivered by outside organizations" (no page numbers). Hence the need for programs pertaining to Indigenous people to be led by Indigenous organizations.

In addition to challenges with disconnected bureaucracy at the governmental level, issues also exist more locally. Champagne and Halas (2002) discussed three school policies that directly and negatively affect Indigenous students' sport and physical activity experiences. First, they discussed how changing for physical education class often discourages students from attending because change room atmospheres are not seen as safe places. Further, they mentioned that being forced to participate in activities students don't like and have no input in choosing is also a disincentive, hence the importance of cultural relevance (Halas et al., 2013) to school curriculum. Finally, they discussed the challenges of having to try out for school teams and not having the option of participating in less competitive sports, which could help increase skill levels. These three issues discouraging Indigenous students from participating in sport could be alleviated through policy changes.

3.2.5. University sport.

As mentioned previously, it is important to teach youth about sport opportunities that may be present outside reserve communities, and to also emphasize the value of being persistent

in the face of challenges that might arise while pursuing sport-related goals (Blodgett et al., 2008). The benefits of pursuing a university degree can be twofold, as universities often provide sport/physical activity facilities. Yet university settings are often culturally exclusive environments in which students are asked to adjust to the setting as opposed to the setting adjusting to the needs/cultures of students (Kirkness & Barnhardt, 1991). Some additional barriers to university, discussed by Preston (2008), include:

- The Western biases of grade-point average.
- Lack of childcare support.
- Transportation for students and their children.
- Availability of daycares.
- Lack of career counselling services.
- The complexities of filling out scholarship/bursary forms.
- Availability of guidance when planning to attend university.
- Not being sufficiently prepared for university curriculum due to funding and staff inadequacies in some rural and remote high schools.
- Lack of educational role models because some Indigenous students are the first in their families to attend university.

These examples once more point to the strategies of placing education into culture versus culture into education (Ladson-Billings, 1994).

Indigenous people have historically been placed in positions where they must renegotiate their cultural identities due to the policies and systems constructed by Western society (Fox, 2007). Although initiatives have been put in place to make post-secondary education more accessible and relevant to Indigenous students (e.g., Wall, 2018), it is often the schools located in larger urban centres that provide the best sport and physical activity opportunities.

Mainstream sport itself is not free from biased policies and systems, as the differences between mainstream and Indigenous cultures permeate sport as well (Schinke et al., 2013). Research has discussed the challenges associated with acculturation among elite Indigenous athletes who move from their home communities to pursue mainstream sport (Blodgett et al., 2014). Acculturation is a process that includes a culture shock phenomenon as well as a feeling of disconnect from one's home community/culture (Blodgett et al.). In their work with Indigenous athletes, Blodgett et al. found the following themes pertaining to acculturation experiences:

- Feeling overwhelmed by change.
- Discomfort in living with non-Indigenous billets.
- Lacking meaningful engagement from host culture members.
- Dealing with racism.
- Confronting attitudes that Indigenous people cannot succeed.
- Being distanced from family.
- Losing loved ones while away from home.
- Missing the Indigenous culture.
- Dealing with on-reserve rejection.

Similar challenges can also face Indigenous youth who move to larger urban communities to continue their high school education, where they may encounter racism for the first time and feel disconnected being so far from home. Opportunities to participate in high school sports and/or intramurals are limited if teachers do not work to create culturally affirming spaces and assist Indigenous students who want to be actively involved in extra-curricular activities (e.g., see Halas, 2006).

According to Berry (1999), there are four possible outcomes from the acculturation process:

1. Marginalization – one becomes disconnected from their home culture and does not adopt the culture in the new area.
2. Segregation/separation – one stays connected with their home culture but does not adopt the culture in the new area.
3. Assimilation – one becomes disconnected from their home culture but does adopt the culture in the new area.
4. Biculturation – one stays connected with their home culture and does adopt the culture in the new area.

Although biculturation seems like the most desirable outcome of acculturation, it is often not feasible because of the contradictory worldviews held between Western relative to Indigenous cultures (Goodwill & McCormick, 2012; Memmi, 1965). How can those who must make the adjustment maintain their original cultural identity in the Western world? Research by Goodwill and McCormick has identified a number of factors that influence cultural identity negatively and positively:

- Negatively
  - Living in separation from Indigenous people/culture.
  - Experiencing racism and prejudice.
  - Experiencing negative portrayals of Indigenous people.

- Positively
  - Participating in a cultural gathering.
  - Participating in a group of Indigenous people.
  - Connecting with family.
  - Changing self-perception.
  - Helping other Indigenous people (a reason why mentorship strategies are valuable).
  - Verbalizing experiences as an Indigenous person.
  - Spiritual experience.
  - Getting support from parents.
  - Attending a cultural gathering.
  - Being influenced by a grandparent.
  - Personal accomplishment.
  - Experiencing positive representations of Indigenous people (a reason why role models are valuable).

3.2.6. Racism.

Canadian Heritage (2005) identified racism as a barrier to sport participation among Indigenous peoples. Overt, day-to-day racism still exists and is easily recognizable. What is often missed, however, is the racism embedded in sport and physical education (e.g., Halas, 2011) and the systems and institutions that promote or provide sport, recreation, and physical education. Paraschak (1997) notes that unequal race relations within Canada have affected the way Indigenous peoples have participated in sport and are reflected in the sporting opportunities they have created (e.g., the Arctic Winter Games, the Northern Games versus the All-Indian Sport System). She argues that differences between geographic contexts and power relations with Euro-Canadians have significantly influenced the development of sport, with Indigenous peoples in the northern regions of Canada demonstrating more control over the shaping of sport opportunities to suite their lifestyle and reflect Indigenous values, versus those Indigenous peoples who live in the southern regions Canada who very often reproduce Euro-Canadian sporting practices and accompanying values. These differences can be attributed to racism embedded in legislation and subsequent funding agreements that were meant to promote Euro-Canadian definitions of what constitutes legitimate forms of sport, recreation, and physical activity.

In the current context, Paraschak (2013) argues that the dominant sport system in Canada is "underpinned by 'race logic'" (p. 98) that has subsequently affected the landscape of sporting spaces in which Indigenous peoples participate. Paraschak argues that due to such logic, sport in the Indigenous context can be *racialized, racializing,* and *racist*. Racialized spaces are those mainstream sporting spaces that are reflective of European culture, values, and practices. Such spaces are equated to institutional racism because the structure of the system will inherently privilege European values and outcomes over those of non-European heritage. These spaces are also racialized because they most often define Indigenous peoples based upon established definitions related to heritage (e.g., First Nations, Inuit, or Métis). Indigenous peoples who have gained control over the sporting space have often determined access to participation by defining who is eligible based upon these definitions of identity and heritage. The sporting space subsequently becomes a racialized space when participation is determined by the identification of participants within these definitions.

Racializing spaces are "created when the 'doing' of an operational race hierarchy facilitates the (re)creation of racialized identities" (Paraschak, 2013, p. 98). For example, an Indigenous person may participate in an Indigenous event with only other Indigenous participants and have "no shifts or reflections on their racial identity" (p. 99). In contrast, if an Indigenous person participates in the NAIG, they may gain a greater sense of the Indigenous identity because "the racial structuring of the sporting space facilitated a heightened awareness of a particular interpretation(s)" of Indigeneity. A racist space is created when an operational race hierarchy is utilized to construct Indigenous peoples as a racialized 'other', furthering the experience of unequal race relations.

Issues of race and racism also affect the types of activities that are privileged, the way Indigenous cultures are perceived, and the ways in which Indigenous peoples engage in sporting

events and activities. As mentioned, sporting spaces can racialized and racializing. For instance, the NAIG have been critiqued because they separate traditional games from sport, placing the former in a distinct "cultural" program (Forsyth, 2002; Paraschak, 2013). The effect of this categorization may inadvertently maintain a perspective of Indigenous cultures and practices as being rooted in the past; this is problematic in that the sporting space contributes to racializing of Indigenous cultural authenticity that is specious and not rooted in the present context. Indeed, as with "leisure" (Fox, 2006, 2007), the lens of Western society often remains firmly in place with respect to what constitutes sport and what constitutes Indigenous culture in relation to sport.

The results of this firmly affixed lens is manifested through the largely one-sided focus literature places on the "goodness" of Western sport (Fox, 2006) as opposed to the way in which it has helped marginalize Indigenous people. For instance, physical activity in the form of callisthenic drills was first introduced to residential schools not only as a means to improve the deplorable health outcomes resulting from the inhumane living conditions in these facilities, but also to teach students to be obedient and patriotic, as well as to persuade the Canadian public the schools were beneficial (Forsyth, 2007, 2013). When the physical activity program evolved into sports such as hockey and basketball, school staff used these activities as leverage for good behaviour, at least for boys, since girls were expected to refrain from activities that were stereotypically associated with masculinity (Forsyth, 2007). Eventually, competitions against White students from public schools were initiated as a means to facilitate integration of Indigenous students into mainstream schools (Forsyth, 2013).

Unfortunately, the mistreatment of Indigenous people through sport has been perpetuated since the days of residential schools. For instance, researchers have noted the tendency of some coaches to typecast Indigenous athletes into certain positions (Apoifis et al., 2018), such as the role of "enforcer" in hockey (Valentine, 2012). Among the reasons for such typecasting are stereotypes of Indigenous athletes as being geared toward more physical-, as opposed to intellectual- and leadership-oriented sport positions (Apoifis et al., 2018).

3.2.7. Perceptions held by potential participants with respect to physical activity.

Another aspect about which program leaders must remain cognizant is the impact perceptions held by potential participants may have on sport participation. Various researchers have gathered opinions from Indigenous participants about their views of physical activity/sport. Below are some of the findings in this area.

- The widespread phenomenon of people viewing exercise as unenjoyable has also been recorded among some Indigenous adults (Henderson & Ainsworth, 2001), hence the need for enjoyable, meaningful activities.
- Physical activity may not be a priority among older participants (Henderson & Ainsworth, 2003; Wan et al., 2018).
- Activity is embedded in life when we're young, but becomes more of a decision as age increases (Henderson & Ainsworth, 2001; Wan et al., 2018).

3.2.8. Coaching.

Canadian Heritage (2005) identified a lack of Indigenous coaches and a lack of culturally sensitive coaches as barriers to Indigenous peoples' participation in sport. Research has identified many factors influencing Indigenous coaches along their career paths.

- Level of encouragement received to become a coach (Australian context; Apoifis et al., 2018).
- Waning interest or enjoyment (Australian context; Bennie et al., 2019).
- Shyness (Australian context; Bennie et al., 2019).
- Lack of confidence (Australian context; Bennie et al., 2019).
- Time constraints (Australian context; Bennie et al., 2019).
- Balancing community involvement with family and coaching responsibilities simultaneously (Australian context; Bennie et al., 2019).
- In some cases, little support received from some parents (Sirant, 2010).
- Lack of opportunity for Indigenous coaches to become certified/trained (Canadian Heritage, 2005).
- Inflexibility of coaching accreditation courses (Australian context; Bennie et al., 2019).
- Cost and location of accreditation courses (Australian context; Bennie et al., 2019).
- Perceptions that Indigenous-specific coaching programs are not as legitimate or valuable as mainstream programs (Australian context; Bennie et al., 2019).
- Institutional racism Australian context; (Bennie et al., 2019).
- Sociocultural norm of perceiving Indigenous people as being geared toward physical- as opposed to intellectual activities (Australian context; Bennie et al., 2019).
- Being excluded from coaching positions because of Indigeneity (Australian context; Apoifis et al., 2018).

3.3. Health

The health benefits of participating in sport/physical activity are many. For instance, Findlay (2011) found evidence for physical activity being linked to both general and mental health among Indigenous and non-Indigenous people. Similarly, Lemstra et al. (2013) found excellent or very good self-reported levels of health were more prevalent among on-reserve youth who met the Canadian Society for Exercise Physiology's standard for physical activity (60+ min of moderate-to-vigorous PA each day) than those who did not. In a study with First Nations youth in northern British Columbia, Mitchell et al. (2010) found moderate-to-vigorous PA was linked to lowered insulin resistance, and that higher body fat was linked to greater insulin resistance.

What is often overlooked, however, are the negative health outcomes. A discussion of both the negative and positive health outcomes of sport/physical activity is necessary in order to provide a balanced perspective.

3.3.1. Negative outcomes.

Bean et al. (2014) discussed many of the negative outcomes of sport among young participants. In general, these outcomes included overuse injuries, concussions, issues with nutrition and weight control, alcohol use and substance abuse, burnout and dropout, and issues

with motivation (particularly among athletes who are pushed to specialize early). Coaches must remain aware of the possibility of demanding too much from athletes, and they should seek constant feedback from athletes to ensure they are not setting the bar too high.

3.3.2. Positive outcomes.

With Indigenous participants specifically, research has shown that engaging in sport/physical activity can help lower stress, BMI, body fat, triglycerides, and fasting glucose; it can decrease waist circumference; and it can help keep diastolic blood pressure within a healthy range (Bersamin et al., 2014). This is significant because self-reported diagnosis of either diabetes or impaired glucose tolerance/impaired fasting glucose, as well as being employed, has been shown to be linked to greater BMI among Indigenous participants (Ho et al., 2008). For Indigenous children specifically, peer support initiatives such as IYMP have proven to attenuate increases in BMI (Eskiciologlu et al., 2014).

Interestingly, research has suggested that strenuous sports may have more impact on reducing diabetes risk than vigorous work or moderate activity (Steinbrecher et al., 2012). Similarly, being active, as opposed to moderately active, was associated with better general and mental health among Indigenous participants in research by Findlay, 2011.

3.3.2.1. Mental health

Along with facilitating good physical health, sport/physical activity can also promote good mental health. In her work with youth at a treatment centre, Halas (2001) observed that sport played the following roles:

- Helped new students in the centre feel welcome.
- Outlet for physical energy as well as anger and frustration.
- Vehicle for self-expression.
- Facilitated positive self-image.
- Motivator to attend classes.
- Calming effects that had potential to translate into improved focus in classroom settings.

The link between sport participation and academic success, particularly among Indigenous students, has been suggested elsewhere as well. For instance, Arriagada (2015) found successful completion of secondary school was positively related to participation in extracurricular sports by male First Nations students attending off-reserve secondary institutions.

4. Definitions

4.1 Self-determination[3]

Article 3 of the *United Nations declaration on the rights of Indigenous peoples states:* "Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development" (United Nations General Assembly, 2008, p. 4).

4.2 Culturally Relevant Sport for Indigenous Children and Youth

As stated by the Assembly of First Nations[4] (n.d.), "in 2017, the Minister of Sport and Persons with Disabilities and Minister of Indigenous Services were mandated to 'leverage investments in Indigenous youth and sport and ensure the promotion of culturally relevant sport as an important means to strengthen Indigenous identity and cultural pride'" (see Assembly of First Nations website - http://www.afn.ca/youth-and-sport/).

Culturally relevant sport refers broadly to those contemporary sports, games, and traditional physical cultural practices that are relevant to the local Indigenous communities. Culturally relevant sport is embedded in Indigenous ways of being and knowing and should exhibit an Indigenous understanding of wholistic well-being that focuses on the spiritual, social, mental, and physical aspects of one's being without exclusively focusing on one aspect over another. Culturally relevant sport is also connected to Indigenous communities in culture and language. In other words, it is community identified and culturally appropriate.

4.3 Indigenous Sport

Traditionally, Indigenous sports were recreational activities whose purpose was to enhance cultural proficiency in order to develop survival skills. In the past, this included practical skills and values, but with the loss of traditional ways of living, traditional values have taken precedent and are being incorporated with newer skills that can be applied to modern sports. Often when we think of Indigenous sports we become fixated on the type of sports being played and not why Indigenous peoples played certain sports. Traditionally, Indigenous peoples in Canada played a variety of sports to develop their skills in order to survive. They included stick and ball games for endurance, games of coordination to develop hunting skills, games of chance to show the uncertainty of life and develop observations skills, wrestling for strength, and running for corresponding, peace, or warfare.

Indigenized values are not simply rooted in activities that Indigenous peoples adhered to in the past. They are a wholistic way of being that allows persons to be intellectually, emotionally, physically, and spiritually balanced and can be applied to games in sports even to this day. Mino-Pimatisiwin in Cree and Anishnabé means living a good, balanced life. Indigenous sports are about creating players with healthy foundations upon which to build their lives. That is what

[3] United Nations General Assembly. (2008). *United Nations declaration on the rights of Indigenous peoples.* Retrieved from http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf
[4] Assembly of First Nations. (n.d.). *Youth and sport.* Retrieved from http://www.afn.ca/youth-and-sport/

Indigenizing sport really represents. If youth can be taught to play sports using the traditional values and teachings of the Cree, Anishnabé, and other Indigenous societies, we will all be enriched in the end. The purpose of Indigenizing sports is not to go back to the past, but rather to bring traditional values that were rooted in survival into present day activities such as sports.

4.4 Race[5]

Drislane and Parkinson (n.d.) defined race as "[a] classification of human beings into different categories on the basis of their biological characteristics. There have been a variety of schemes for race classification based on physical characteristics such as skin colour, head shape, eye colour and shape, nose size and shape etc. A common classification system uses four major groups: Caucasoid, Mongoloid, Negroid and Australoid. The term was one popular in anthropology, but has now fallen into disrepute, because the idea of racial classification has become associated with racism – the claim that there is hierarchy of races. The idea of race categories also appears to be unscientific, since humans are able to mate across all "races" and have done so throughout history, creating an enormous variety of human genetic inheritance. In addition the defining characteristics of 'race' do not appear in all members of each so-called race, but merely occur with some degree of statistical frequency. If the defining characteristic of each 'race' does not appear in all members of each 'race' then the whole definition is clearly inadequate."

4.5 Racism[6]

Drislane and Parkinson (n.d.) defined racism as "[a]n ideology based on the idea that humans can be separated into distinct racial groups and that these groups can be ranked on a hierarchy of intelligence."

[5] Drislane, R., & Parkinson, G. (n.d.). *Online dictionary of the social sciences.* Retrieved from http://bitbucket.icaap.org/dict.pl
[6] Ibid.

5. Annotated Bibliographies

Aboriginal Sport Circle. (2016). *Aboriginal Sport Circle. Strategic Plan 2015-2020.* Retrieved from http://www.aboriginalsportcircle.ca/en/about-us/pdf/ASC-Strategic-Plan.pdf

The Aboriginal Sport Circle (ASC) is the federal body governing Indigenous sport in Canada. According to the ASC's (2016a) strategic plan for 2015-2020, their mission statement is:

- "The Aboriginal Sport Circle is a member-based, not-for-profit organization that exists to support the health and wellbeing of Aboriginal people and communities through participation in sport, physical activity and recreation" (p. 3).

The ASC's responsibilities are listed on page 3 of their document and include:

7. "Provide a national voice for Aboriginal sport, physical activity and recreation;
8. Build capacity at the national, provincial and territorial levels in the design and delivery of sport, physical activity and recreation programs that are culturally appropriate for Aboriginal people;
9. Ensure national policies and frameworks pertaining to sport, physical activity and recreation respond the needs of Aboriginal people and communities;
10. Facilitate development and training of individuals to be effective leaders for Aboriginal participants in sport, physical activity and recreation;
11. Recognize and promote best practices in sport, physical activity and recreation for Aboriginal people;
12. Oversee the development and delivery of national and international programs that enhance participation of Aboriginal people in sport, physical activity and recreation. This work is accomplished directly, with our membership and through strategic partnerships" (p. 3).

A point of interest with the ASC's document, however, is that the definitions of sport, physical activity, and recreation seem to be taken as self-evident.

Apoifis, N., Marlin, D., & Bennie, A. (2018). Noble athlete, savage coach: How racialised representations of Aboriginal athletes impede professional sport coaching opportunities for Aboriginal Australians. *International review for the sociology of sport*, *53*(7), 854-868.

In a study with 26 Australian Aboriginal and Torres Strait Islander coaches from various sports, and of varying experience and expertise, Apoifis, Marlin, and Bennie (2018) sought to gather knowledge about barriers and facilitators the coaches had encountered on their career path. Some participants felt they had been denied coaching opportunities because they were Indigenous, and some mentioned that non-Indigenous athletes receive more consideration for their coaching potential than Indigenous athletes do. One

participant mentioned stereotypes of Indigenous people as lazy and drug users affecting their chances at coaching positions. The authors highlighted the tendency of people to see Indigenous athletes as more suited to physical (rather than intellectual and leadership) positions, and they connected this to knowledge/experiences participants conveyed. The authors suggested that negative stereotypes, as well as perceptions of Indigenous people being more geared toward physical positions, makes it so Indigenous players aren't even considered for coaching positions.

Bennie, A., Apoifis, N., Marlin, D., & Caron, J. G. (2019). Cultural connections and cultural ceilings: exploring the experiences of Aboriginal Australian sport coaches. *Qualitative Research in Sport, Exercise and Health*, 1-17.

Bennie et al. (2019) interviewed 28 (22 male and 6 female) Aboriginal coaches from Australia (from community-level to high-performance levels) and of varying levels of coaching experience to elucidate the barriers and facilitators along their career paths. They categorized findings under the following environmental levels, as per Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1977; 1999): individual, interpersonal, organizational, and sociocultural.

Individual

Facilitators: love for sport; passion to remain involved in sport; self-determination; personal resilience; opportunity to give back to the community and the sport; being a role model or leader. Barriers: waning interest or enjoyment; lack of confidence; cultural shame; discomfort in mainstream contexts; shyness.

Interpersonal

Facilitators: support/encouragement from parents and others; validation from others (especially parents of participants); mentoring relationships between experienced and new Aboriginal coaches. Barriers: time commitment; balancing family, community commitments, and coaching; criticism from others.

Organizational

Facilitators: experience gained from working at sport clubs, including connecting with experienced, supportive coaches/mentors; feeling rewarded/appreciated for their work; incentive/capacity built from financial support from accreditation bodies; policies aimed at cultural inclusivity; experience gained from coaching opportunities; purpose and cultural pride felt from coaching Aboriginal athletes; connection and cultural safety provided by Aboriginal-specific coaching clinics and Aboriginal coaching positions. Barriers: time; cost; inflexible coaching accreditation courses; expense of, and geographic distance from, coaching accreditation courses; racism (excluded from positions for being Aboriginal); perceptions of Aboriginal-specific programs as tokenistic or less valuable than

mainstream programs, which can hinder future career opportunities for coaches who have only these experiences.

Sociocultural

Facilitators: inclusive sociocultural environment; varying opinions of how socio-economic background and values helped (e.g., privileged, hard-working); significance and role of sport in Aboriginal communities. Barriers: negative cultural stereotypes (laziness, drug-use); sociocultural norms/perspectives that view Aboriginal people as being more suited to physical rather than intellectual roles.

From the findings, the researchers highlighted the importance of Aboriginal-specific programs, teams, and organizations, although leaders must remain cognizant of how Aboriginal programs are perceived (less value, tokenistic). The authors suggested there must be emphasis on career progression for Aboriginal coaches. The authors also highlighted the importance of mentors for coaches, and suggested a coaching network like Canada's Aboriginal Sport Circle, which would help coaches make connections, aid communication between coaches, and provide opportunities for education and jobs. Lastly, the authors highlighted the importance of having Aboriginal people in leadership positions (role models, success stories, break down stereotypes, increase inclusivity, greater understanding among others of Aboriginal cultures).

Bersamin, A., Wolsko, C., Luick, B. R., Boyer, B. B., Lardon, C., Hopkins, S. E., … Zidenberg-Cherr, S. (2014). Enculturation, perceived stress, and physical activity: implications for metabolic risk among the Yup'ik – The Center for Alaska Native Health Research Study. *Ethnicity & Health*, *19*(3), 255–269. doi: 10.1080/13557858.2012.758691

In a study with 179 (78 male and 101 female) Yup'ik Inuit in Alaska, ages 14+, Bersamin et al. (2014) found that greater enculturation (measured via a survey) was linked to more steps per day (measured via pedometers), and they also found that less stress (measured via a survey) was linked to more physical activity in steps per day. More steps per day was linked to lower BMI, lower body fat, smaller waist circumference, lowered triglycerides and lowered fasting glucose. More stress was linked to higher BMI, higher body fat, larger waist circumference, and greater diastolic blood pressure. The authors suggested that traditional lifestyles of the Yup'ik were physically active, requiring lots of walking, hence the link between enculturation and greater numbers of steps.

Blodgett, A. T., Schinke, R. J., Fisher, L. A., Wassengeso George, C., Peltier, D., Ritchie, S., & Pickard, P. (2008). From practice to praxis: Community-based strategies for Aboriginal youth sport. *Journal of sport and social issues*, *32*(4), 393-414.

Blodgett et al. (2008) studied ways to increase youth participant retention rates of sport programs in Wikwemikong Unceded Indian Reserve in northern Ontario. The larger study was divided into two parts. Study 1 consisted of interviews with 23 (16 male, 7 female) elite Indigenous athletes (16 from Ontario, 4 from Manitoba, and 3 from

Saskatchewan) from a variety of sports. Study 2 built off study 1 and was aimed at gathering insights from community members through the use of 6 talking circles.

From study 1's interview transcripts, the authors identified three categories of information: 1) teachings for athletes (themes: understanding Aboriginal roots and culture (including critical social consciousness about the effects of colonization), limited sport opportunities on the reserve, and valuing persistence and success); 2) teachings for sport staff (contributing to positive sport beliefs, holistic development, and utilizing effective coaching strategies); and 3) the integration of role models.

Community members developed a priori categories of information for study 2's talking circle discussions: 1) parents (support, encourage, instill value for sport), 2) extended family (support and as role models), 3) coaches (enthusiastic, enjoy working with youth, create positive environments, formal training, mentor upcoming coaches, instill value for sport, initiatives should limit barriers for coaches and provide recognition for coaches), 4) community (help out, need to work as a team, share resources, provide financial support), 5) schools (transition between primary and secondary school is when many sport dropouts occur; high schools must emphasize daily PA; schools should make use of community resources; schools should have graduated levels of sport to accommodate a wider range of participants), and 6) external to Wikwemikong (fees of outside organizations being forced on the community; support available to athletes who move away; systemic racism with respect to financial issues and support in mainstream sport).

Blodgett, A. T., Schinke, R. J., Fisher, L. A., Yungblut, H. E., Recollet-Saikkonen, D., Peltier, D., ... & Pickard, P. (2010). Praxis and community-level sport programming strategies in a Canadian aboriginal reserve. *International journal of sport and exercise psychology*, *8*(3), 262-283.

In a follow-up to their 2008 study, Blodgett et al. (2010) used conversations held during two talking circles with community members (approximately 15 in each circle, and of a wide age range from youth to elder) to gain insights into youth sport participation in Wikwemikong Unceded Indian Reserve in northern Ontario. Four targeted follow-up talking circles, with 8-10 participants each, were used to gather further information from youth from grade through grade 12. Finally, a seventh talking circle was used to gather more insight, specifically targeting coaches and sport programming staff.

Three overarching themes were identified: 1) general community strategies; 2) school strategies; and 3) after school strategies.

General community strategies subthemes: (p. 271)

De-emphasize Sedentary Recreational Activities
Support a Variety of Sports
Foster a Passionate Volunteer Base
Emphasize Teambuilding and Coordination
Provide Financial Support

Recruit and Promote Role Models
Utilize Elders for Support and Motivation
Educate Youth About Opportunities Beyond the Reserve
Encourage Collective Support and Community Pride
Promote Sport Confidence in High School

School strategies subthemes (p. 271):

Implement Daily Physical Activity Programs
Run an Intramural Program
Provide Different Levels of Activity for All Children
Friends Can Encourage Participation
Promote Teachers as Role Models
Encourage Youth to Overcome and Prevent Injuries
Teach Youth to Balance Responsibilities and Recreation
Foster a Passionate Coaching Base

After school strategies subthemes (p. 271):

Training and Succession Planning Needed
Promote Coaching Role Models
Support Coaches to Reduce Deterrents
Provide Recognition for Coaches

Blodgett, A. T., Schinke, R. J., McGannon, K. R., Coholic, D. A., Enosse, L., Peltier, D., & Pheasant, C. (2014). Navigating the insider-outsider hyphen: A qualitative exploration of the acculturation challenges of Aboriginal athletes pursuing sport in Euro-Canadian contexts. *Psychology of Sport and Exercise*, *15*(4), 345-355.

In a study with 21 (10 male and 11 female) Canadian Indigenous elite athletes aged 14-26 (with one 41 year old) aimed at understanding acculturation experiences of this demographic, Blodgett et al. (2014) found two overarching themes. First, culture shock included the sub-themes: feeling overwhelmed by change, living with non-Aboriginal billets, lacking meaningful engagement from host culture members, dealing with racism, and confronting attitudes that Aboriginal people can't "make it". Second, becoming disconnected from home included the sub-themes: being distanced from family, losing loved ones while away from home, missing the Aboriginal culture, and dealing with on-reserve rejection.

Brokenleg, M., & Van Bockern, S. (2003). The science of raising courageous kids. *Reclaiming Children and Youth*, *12*(1), 22-26.

Brokenleg and Van Bockern (2003) discussed and endorsed the circle of courage values, noting they are similar to the four psychological needs of children (i.e., “the 4 ‘As’”, p. 23) as well as the four values by which children measure their self-worth (Coopersmith, 1967). These values are belonging, mastery, independence, and generosity. The 4 As are

attachment, achievement, autonomy, and altruism. The values by which children measure their self-worth are significance, competence, power, and virtue (Coopersmith). The authors highlighted how "broken circles" (Brokenleg & Van Bockern, pp. 24-25) may lead to compromised wellbeing.

Brusseau, T. A., Kulinna, P. H., Tudor-Locke, C., & Ferry, M. (2013). Daily physical activity patterns of children living in an American Indian community. *Journal of Physical Activity & Health*, *10*(1), 48–53.

In a week long study of physical activity (pedometer steps) patterns of 77 (44 male and 33 female) American Indian students in grades 5 and 6 in a southwestern American Indian community, Brusseau et al. (2013) found an average weekday day contained significantly more steps than an average weekend day for both boys (12621 vs. 8066) and girls (11640 vs. 6766). Much of the steps on an average weekday day (38% for boys and 35% for girls) were accrued during school time. Physical education accounted for 25% and 23% of steps on an average weekday day for boys and girls, respectively. Lunchtime recess accounted for 13% and 11% of steps on an average weekday day for boys and girls, respectively. The authors emphasized the importance of weekend programs to promoting physical health, as clearly weekend activity levels could be improved.

Canadian Heritage. (2005). *Sport Canada's policy on Aboriginal peoples' participation in sport.* Minister of Public Works and Government Services Canada. Retrieved from https://www.canada.ca/content/dam/pch/documents/services/sport-policies-acts-regulations/aborignial_v4-eng.pdf

Recognizing the importance of sport to health, as well as the importance of cultural connectedness to wellbeing, this document outlines the federal government's commitment to making sport in Canada more inclusive of Indigenous people. This policy highlights the importance of recognizing Indigenous cultures and knowledge of sport, as well as reducing barriers Indigenous people often face in pursuit of sport. These barriers include: unawareness among Indigenous people of sport's health benefits, as well as the dangers of being inactive; costs associated with sport; insensitivity toward Indigenous cultures; lack of Indigenous coaches and culturally-sensitive coaches, as well as lack of opportunities for Indigenous coaches to be trained; geographic distance of many Indigenous communities from facilities, sport experts, etc.; confusion as to which government departments have jurisdiction with respect to Indigenous sport interests; racism; and lack of infrastructure in many Indigenous communities due to sport receiving little prioritization compared to other interests (e.g., roads, housing, education).

Champagne, L. D. (2006). *Physical education teachers as allies to Aboriginal students: Dimensions of social consciousness* (Unpublished master's thesis). University of Manitoba, Winnipeg, MB.

Champagne's analogy of teaching someone to bicycle from Winnipeg to The Pas while carrying a 500lb pack serves to succinctly convey the absurdity of teachers ignoring students' social circumstances in the classroom, or in the case of Champagne's work, in

the gym. Champagne argued the importance of critical social consciousness among physical education teachers teaching Aboriginal students, as well as for the need to follow a community solidarity framework which "… offers a framework that can help physical education teachers root out their own unhelpful and harmful assumptions and to consciously work with Aboriginal communities, rather than unconsciously against them" (p. 15). Specifically, Champagne's research addressed four questions (p. 3):

1. "How do physical education teachers interpret the effect of their own teaching practices on the performance of students?"
2. "What knowledge do teachers have about the historical social and economic backgrounds of their students, and how does this information impact on their relationships with Aboriginal students?"
3. "What is involved in critical social consciousness applied to teaching?"
4. "How is critical social consciousness important to being an effective ally to Aboriginal students?"

Champagne explained critical social consciousness as follows:

> "… critical social consciousness involves awareness of the historical development of social relationships and values. It includes an awareness of how these relationships and values play out in particular situations. Critical social consciousness refers to social consciousness that entails penetrating, analytical insight" (p. 39).

In her work, Champagne purposefully sampled and interviewed eight former or current physical education/activity teachers with experience teaching Aboriginal students. Champagne divided her analysis into two parts based on location of interview participants: 1) teachers in urban contexts, and 2) teachers in rural and remote contexts.

Champagne noted concern among teachers regarding the health and academic success of Aboriginal students. Although some teachers demonstrated strong critical social consciousness regarding the effects of colonization, some lacked this understanding and took a deficit-based view toward Aboriginal people as opposed to seeing the underlying reasons for behaviors some teachers viewed as being determined by lack of social skills. Champagne highlighted that critical social consciousness is important not only because it informs teaching practices, but also because "[w]hen they are not given a framework to understand the context of their lives, young people are left to conclude inferiority…" (p. 89). One instance in which this type of conclusion may occur, Champagne noted, is on sports trips to wealthier communities.

Teachers had different strategies for adapting curriculum and learning environments to the needs of students. For instance, one teacher kept extra gym clothes in case a student showed up for class wearing inappropriate attire. One teacher mentioned adapting physical education to the needs of students as opposed to focusing on teaching the rules of sports. Another teacher emphasized movement and physical and mental health over proper form and winning. In fact, Champagne explained that,

"Alfie Kohn (1992), a leading advocate of social relationships that are not based on "winners" and "losers", argues that winning in the context of competitive sports offers the possibility of psychological "euphoria" rather than fortification of self-esteem" (Champagne, p. 101).

In addition, and again citing Kohn, Champagne cautioned that "competing to win can have unintended, negative psychological repercussions, particularly among young people from relatively insecure social backgrounds" (Champagne, p. 113). That is not to say, however, that programs must avoid situations in which participants "lose", as losing is part of life and, therefore, one must learn how to deal with it.

Champagne also noted the need to develop independence and leadership skills among students, and to develop their "voice" (p. 105) when it comes to programming, providing them with choice. Other important aspects teachers shared were the need to develop trust in the community, the need for Aboriginal role models, the need to be respectful, caring, visible, and the need to provide opportunities for students to do things they excel at. Also highlighted was the importance of teachers being knowledgeable and passionate about the subject you are teaching. Similarly, one participant stressed the importance of helping students themselves find what they are passionate about, and finding opportunities for them to exercise this passion. This same teacher emphasized a strength-based approach to learning, and the importance of culturally-relevant lessons. These aspects of successful teaching highlighted the need to understand the lives of students. Yet this teacher also noted a lack of training in university settings that would prepare teachers to deal with the social and emotional aspects of teaching students.

Champagne concluded with the following recommendations (pp. 137-138):

> "(1) The community solidarity framework constructed in this thesis [refer to pp. 132-134] should be used in the development of training programs for physical education students, physical education curriculum and methodologies, and support programs for physical education teachers."
> "(2) Physical education teacher-training programs should incorporate a holistic perspective that emphasizes the social and emotional development of young people."
> "(3) Physical education teacher-training programs should provide students with opportunities to learn Aboriginal and colonial history."
> "(4) Physical education teacher-training programs should provide students with a critical framework that will enable them to address young peoples' lives more effectively, particularly in response to issues of racism and poverty."
> "(5) To be effective allies, physical educators need to value and respect the competence and cultures of Aboriginal young people. Teacher training programs should support this objective."
> "(6) Greater efforts should be made to recruit, attract, support, and train Aboriginal students in physical education and teacher training."

Côté, J., Erickson, K. & Abernethy, B. (2013). Play and practice during childhood. In J. Côté & R. Lidor (Eds.), *Conditions of children's talent development in sport* (pp. 9-20). Morgantown, WV: West Virginia University.

Côté, Erickson, & Abernethy (2013) discuss deliberate practice (Ericsson, Krampe, & Tesch-Römer, 1993) and deliberate play (Côté, 1999), which are two types of activities through which children's talent development with respect to sport may occur. The authors note that deliberate practice, which consists of extrinsically-motivated, adult-led activities, and deliberate play, which consists of intrinsically-motivated, child-led activities, represent the opposite ends of a talent development spectrum. Between these two types of activities are play practice (Launder, 2001), spontaneous practice, and organized competition. Play practice consists of intrinsically-motivated, adult-led activities. Spontaneous practice consists of extrinsically-motivated, child-led activities. Organized competition is adult-led, but may be either intrinsically- or extrinsically-motivated. The authors emphasized that "[e]xtrinsic values describes activities that are performed with the goal of improving skills or performance, while intrinsic values refers to activities that are done for their inherent enjoyment" (p. 12). They noted that all types of activities along the talent development continuum provide positive outcomes, suggesting that children should be exposed to a wide array of developmental activities. The authors present these activities (each of which they call a "prototype activity", p. 12) on a set of axes, with the y-axis demonstrating the extent to which the activities are adult- versus child-led, and the x-axis demonstrating the extent to which the activities are associated with extrinsic versus intrinsic values. They explain that deliberate practice, deliberate play, play practice, and spontaneous practice promote different types of learning: rational, creative, emotional, and informal, respectively. The authors then discussed child-led activities (deliberate play and spontaneous practice) specifically in more detail. Since children are in charge of making decisions in child-led activities, they gain valuable problem-solving experience, which helps develop creativity and innovation. As well, the unpredictable and flexible qualities of child-led activities expose children to a variety of environment, often requiring children to adapt to situations that arise (e.g., if one player drops out of the game, or more enter). The authors further connected child-led activities to implicit learning, which is learning that occurs without specifically focusing on trying to improve (i.e., just doing it), and they highlighted research that demonstrated implicitly learned motor performance is quite robust to situations in which athletes feel stress. Lastly, the authors argued that the self-regulation associated with child-led activities has positive psychological and motivational effects that are important to instill within children at early ages.

Critchley, K. A., Walton, F., Timmons, V., Bryanton, J., McCarthy, M. J., & Taylor, J. (2006). Personal health practices around physical activity as perceived by the Aboriginal children of Prince Edward Island. *Journal of Aboriginal Health*, *3*(1), 26–33. doi: 10.18357/IJIH31200612303

In a study with 68 Mi'kmaq youth aged 6-18 from Lennox Island First Nation and Abegweit Firs Nation in Prince Edward Island, Critchley et al. (2006) found that the youth were aware that not eating the right foods, not exercising, not taking care of one's

body, and high risk behaviors such as smoking, drinking and using drugs are things that promote poor health outcomes. The youth also understood that eating healthy and getting exercise promote health. Younger youth (<13 years) reported feeling proud from engaging in PA. Unstructured activities were more popular among younger youth, and structured activities among older youth. In addition, the youth saw PA as a way to stay away from things like drugs, smoking, and alcohol.

Deci, E. L., & Ryan, R. M. (2011). Self-determination theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *The handbook of theories of social psychology, 1* (pp. 416-433). London, UK: Sage Publications Ltd.

Self-determination theory (SDT) focuses on how social environments influence psychological nutriments of motivation, which include competence, autonomy, and relatedness. SDT is comprised of five sub-theories. Referring to Deci and Ryan (2002), Mack et al. (2015) provided summaries for these sub-theories: 1) cognitive evaluation theory (CET), which examines factors that help or hinder intrinsic motivation; 2) organismic integration theory (OET), which examines one's behaviour in relation to external motivators that are found at any point along a continuum expressing the motivators' degrees of internalization, which may range from controlling to highly autonomous; 3) causality orientations theory (COT), which explains individual-level differences in how well people respond to motivators along the OET continuum (i.e., some people are more controlled, some more autonomous); 4) basic psychological needs theory (BSNT), which examines the connection between the basic psychological needs (competence, autonomy, and relatedness) and motivation; and 5) goal contents theory, which examines peoples' goals in the context of the theory that intrinsic goals "… are linked with psychological need satisfaction, enhanced effort, and well-being." (p. 68) and that pursuing extrinsic goals instead can compromise psychological need satisfaction and well-being.

Referring again to Deci and Ryan (2002), Mack et al. (2015) elaborated more on OIT by explaining the continuum mentioned previously. Amotivation occurs at one end of the continuum, and intrinsic regulation at the other. Between these two states, from least self-determined to most, are: 1) external regulation, which occurs when one simply wants to meet someone else's demand; 2) introjected regulation, which is done to avoid feeling negatively about oneself; 3) identified regulation, which occurs when behaviour is linked to values; and 4) integrated regulation, which occurs when behaviour is linked to identity. Mack et al. stated that persistence and better cognitive and emotional feelings are positively linked with degree of self-determination.

Eskicioglu, P., Halas, J., Sénéchal, M., Wood, L., McKay, E., Villeneuve, S., ... & McGavock, J. M. (2014). Peer mentoring for type 2 diabetes prevention in First Nations children. *Pediatrics, 133*(6), e1624-e1631.

To examine the effects of an after-school, peer-led mentoring program on weight and healthy living knowledge among children in Garden Hill First Nation, Manitoba, Eskicioglu et al. (2014) divided 151 children in grades 4 and 5 in the community into

experimental (grade 4, n=51) and control (grade 5, n=100) groups. The intervention period was between January and May in each of two successive years, and mentors were students from the local high school (grades 7 through 12). Curriculum provided focused on healthy food, healthy play, healthy relationships, and education. Although waist circumference increased for both groups, the increase for the intervention group was significantly less than that of the control group. Significant attenuation over time was noted for change in BMI z-score for the intervention group as well. Relative to the control group, healthy food knowledge, body image, and body satisfaction in the intervention group improved significantly. The authors also noted that the change in self-efficacy was the best predictor of the change in waist circumference among the variables analyzed (age, gender, weight, knowledge of physical activity, knowledge of healthy eating, self-efficacy, and body image) by multiple linear regression. No variables predicted the change in BMI z-score.

Findlay, L. C. (2011). Physical activity among First Nations people off reserve, Métis and Inuit. *Health Reports, 22*(1), 47–54.

In a study with 1522 First Nations people living off-reserve, 1533 Métis, 359 Inuit, and 129,494 non-Indigenous people aged, all aged 12+, and using data from the 2005 Canadian Community Health Survey (CCHS), Findlay (2011) explored relationships between perceived PA level and various health outcomes (self-perceived general health; self-perceived mental health; and the presence of chronic conditions), as well as perceived PA level and various socio-demographic characteristics (gender, age, number of dependents aged 0-17 in the household, marital status, and employment status. The authors found First Nations people living off-reserve and Métis people had significantly higher rates of leisure-time physical activity than non-Indigenous Canadians. However, rates of good/fair/poor (as opposed to excellent/very good) mental and physical health were significantly greater in Indigenous than non-Indigenous people. Similarly, First Nations people living off-reserve and Métis people were more likely than non-Indigenous people to report chronic conditions that have been diagnosed. The authors suggested the lack of difference between Inuit and non-Indigenous people may be due to lack of opportunity for Inuit people to find professionals qualified to make diagnoses. The authors connected these results to the results of their socio-demographic analyses that indicated Indigenous groups were younger, had less formal education, more dependent children in their houses, live more in rural areas, more likely to be single, and live in lower-income households. They found First Nations people living off-reserve had higher rates of unemployment than non-Indigenous people. For First Nations people living off-reserve and Metis people, younger, male, and more highly-educated individuals were more likely to be active. The findings with respect to socio-demographic variables and activity found for First Nations people off-reserve and Metis people were similar to those found for non-Indigenous Canadians. When all Indigenous groups were amalgamated to compensate for low samples size, it was found that being active was linked with better general and mental health, which was a trend that also held true for non-Indigenous Canadians.

Foulds, H. J. A., Bredin, S. S. D., & Warburton, D. E. R. (2012). An evaluation of the physical activity and health status of British Columbian Aboriginal populations. *Applied Physiology, Nutrition & Metabolism*, *37*(1), 127–137.

In a study assessing various health measures of 882 Indigenous people (219 males and 663 females) aged 16-77 in 25 locations across BC, Foulds, Bredin, & Warburton (2012) found that average BMI's and waist circumferences of both males and females were "obese". Males demonstrated poorer health in many of the measures. Females demonstrated a greater risk of being inactive. People from on-reserves, rural areas, and the interior demonstrated greater rates of inactivity than people from urban areas and the Vancouver–Lower mainland region.

Fox, K. M. (2006). Leisure and indigenous peoples. *Leisure Studies, 25*(4), 403-409. doi:10.1080/02614360600896502

Fox (2006) explained there are key differences in perspectives pertaining to leisure between Indigenous and Eurocentric cultures. She noted that knowledge of leisure, as well as its practice, have been built upon Eurocentric epistemologies, and that due to the lack of incorporation of Indigenous knowledge and perspectives, those using existing leisure knowledge and practices must be critical with respect to inclusivity. Fox provided a number of suggestions.

First, citing Kelly (1992; 1994) and Chick (1998; 2000), Fox (2006) noted there is a need for descriptive studies about leisure because understanding what leisure means to a given culture requires one to experience that culture, as definitions are vague. She also noted that using Eurocentric understandings of leisure to explain Indigenous understandings of this concept "… misconstrues the dynamic, cyclical and verb-based world of Indigenous peoples" (p. 405).

Second, Fox (2006) highlighted how leisure research as it relates to Indigenous people is largely focused on the "goodness" (p. 405) of Eurocentric leisure activities. She suggested a different approach is needed, whereby scholars move away from applying Eurocentric epistemologies and ontologies, toward applying Indigenous epistemologies, ontologies, and collaborative approaches.

Third, Fox (2006) emphasized the importance of Indigenous peoples' perspectives and participation to scholarship so as to make scholarship more relevant and beneficial to them. In working with Indigenous people, Fox stated as her fourth suggestion that "… responsibilities include a transparency related to our concepts and theories, use of power, processes that are open-ended and responsive to change, and attention to multiple interpretations" (p. 406), and, referring back to how the "goodness" (p. 405) of Eurocentric leisure often captures the focus of research papers, she emphasized the importance of maintaining a critical eye to both the positive and negative aspects of leisure to Indigenous people.

Fox concluded her paper by noting some future challenges with respect to leisure research, including the need to take into account multiple perspectives, the need for Indigenous people to critique existing, Eurocentric research about leisure, maintaining Indigenous language through the pressures of globalization, and examining modern strategies for maintaining and/or restructuring Indigenous understandings of leisure.

Fox, K. M. (2007). Aboriginal peoples in North American and Euro-north American leisure. *Leisure/Loisir, 31*(1), 217-243.

Fox (2007) highlighted the need for more research about the intersection of Indigenous people and Euro-North American leisure. She began her paper by discussing the historical context surrounding the intersection of Indigenous people and Euro-North American leisure. Much of this history has been very negative for Indigenous people and, according to Fox, has:

> "… led to death and disease for Indigenous peoples, to attempts to assimilate or decimate Indigenous cultures, to repression of Indigenous practices and governance structures, to forced-labour in the service of Eurocentric leisure practices, and to commodification and objectification of Indigenous peoples and practices" (p. 219).

From a survey of literature, Fox (2007) found a lack of research about leisure and recreation among North American Indigenous people. From the studies available, she noted:

> "The research was conceptualized within existing Euro-North American structures and patterns for leisure, constructed through Euro-North American epistemological lenses, and often produced results that maintain those structures and processes. That is, the research (a) explored the meaning and significance of Euro-North American leisure categories (e.g., volunteerism, games, planning, benefits, participation) within Aboriginal populations, (b) posited cultural adaptations or negotiations by Aboriginal people to ensure the success of Euro-North American leisure, and (c) supported current, existing leisure knowledge, scholars and practitioners in positions to train or educate Aboriginal people" (p. 223).

Fox (2007) also suggested that modern pressures have made it so Indigenous people have to renegotiate cultural identity, attempting to maintain Indigenous principles in a world where the pressures of capitalism are great and contradictory to many of these principles. She explained that the shared trauma of residential schools has created a unity among Indigenous peoples that comes at the consequence of generalizations. In addition, identity is put into question by those that assume Indigenous identity is something that is static, unchanging as the world around it changes.

Fox (2007) also explained that "Aboriginal leisure" (p. 227) is problematic because both words making up this term are based on Euro-North American understandings and, as

such, may mean nothing to Indigenous people who maintain Indigenous understandings of the interconnectedness and complexity of the world. Therefore, Fox suggested, "… there is a need to reassess what is meant by leisure" (p. 229), and to approach leisure research without the colonial baggage that imposes definitions, perspectives, and values. She emphasized the need to use Indigenous languages in descriptions to capture the essence of leisure activities and, where translations are used, to be critical that no essence is lost in translation.

Fox (2007) makes two key suggestions: "decolonizing leisure research and practices and respectfully responding and incorporating the Aboriginal concept of "complex and circular understandings" (p. 231). Among the things the process of decolonizing research entails is a shift from deficit-based work that focuses on such things as "addiction", diabetes", "youth-at-risk", etc. (p. 232), as these terms reinforce negative stereotypes and may imply Euro-North American solutions that ignore contextual influences stemming from colonization. Fox also suggested researchers must focus on the successes of Indigenous people, which is a focus that may help elucidate how Indigenous identity can be navigated in a changing world. Further, she emphasized the need for Indigenous people to set research parameters to ensure the world being described by scholars is not misconstrued by the application of Euro-North American perspectives in an attempt to explain things, and, citing Newhouse (2004), she highlighted the importance of multiple perspectives to complex understanding.

Halas, J., Carpenter, A., McRae, H., McGavock, J., & Eskicioglu, P. (2017a). Peer review: Reclaiming Indigenous ways, Part 1. *Physical and Health Education Journal, 83*(2), 1-17.

Halas et al. (2017a) summarized a mentorship program in which university students and community mentors work with grade 9-12 students to deliver mentorship activities to grade 3-5 students. In urban settings, this program is called the Rec and Read; in northern locations, it is called the Aboriginal Youth Mentorship Program for All Nations (AYMP). The program, the initial ideas for which were developed in 2004, focuses on physical activity, nutrition, and education, and it is based on Indigenous worldviews and teachings.

In the early 2000's, Halas noticed a lack of Indigenous students enrolled in physical education at the University of Manitoba where she was a professor. She initiated a study and found that Indigenous students wanted to be active, but were confronted by numerous barriers. Her initial idea for Rec and Read/AYMP was very sport-oriented, although through collaborations with interested youth, the program developed into the multi-faceted one it is today, focusing on physical activity, education, healthy food, healthy fun, and guided by the medicine wheel teachings of spiritual-emotional-physical-mental interconnectedness and significance. High schools students were given not only the opportunity to mentor but also lessons about how to facilitate activities in ways that are inclusive, as university students enrolled in physical education would learn. Ladson-Billings (1994; 1995) teachings of culturally relevant pedagogy (student success, critical social consciousness, and cultural competence) were applied in the process to make the

programs more meaningful for participants. The authors also noted the program's focus on four key areas: 1) meaningful and relevant curriculum; 2) teacher as an ally; 3) understanding students' day-to-day cultural landscapes; and 4) supportive learning climates.

The authors emphasized that by prioritizing relationships and collaboration (as opposed to hierarchy) between leaders, university students, and high school mentors, the program's methods of delivery and outcomes were closely aligned to the the Four R's (relevance, reciprocity, respect, and responsibility; Kirkness & Barnhardt, 1991) and the Circle of Courage values (mastery, belonging, independence, and generosity; Brendtro, Brokenleg, & van Bockern, 2002), respectively. The program also allowed facilitators and participants to engage with people of diverse backgrounds. As Halas et al. (2017) stated, "[a]s mentor teams, the multi-age communal relationships crossed diverse cultural, class and ability backgrounds" (p. 12).

The authors also provided suggestions for dealing with challenges to programs. They highlighted the importance of a strength-based, flexible approach that takes an optimistic perspective. They also emphasized the importance of building relationships and maintaining communication with staff at schools where programs are delivered, as this can help in providing access to resources. Finally, they discuss the importance of grounding programs in theory (e.g., the Circle of Courage values, the Four R's, Ladson-Billing's Culturally Relevant Pedagogy, etc.), as doing so increases the likelihood of program success, which can help in securing funding.

Halas, J., McRae, H., & Carpenter, A. (2013). The quality and cultural relevance of physical education for Aboriginal youth. In J. Forsyth & A. R. Giles (Eds.), *Aboriginal peoples & sport in Canada: Historical foundations and contemporary issues* (pp. 182-205). Vancouver, BC: UBC Press.

The chapter puts forth that quality and culturally relevant physical education can positively contribute to the enhancement of Aboriginal youth's physical literacy and thusly Aboriginal Sport in Canada. Physical literacy is important for participation in sport, physical education and other physical cultural activities. Major issues related to quality are underfunding and quality of instruction. Underfunding has implications for provision of facilities and equipment. As well, quality of instruction may also suffer. In terms of quality of instruction, lack of available resources, lack of cultural training and lack of diversity of PE opportunities are all factors that contribute to the quality of instruction.

It's important that the cultural relevance of activities be evaluated and understood. Meaningful activities need to be provided. These activities are identified by those who are participating in the activities. To identify culturally relevant activities, it is important that teachers act as an ally to students, understand their day to day cultural landscape and provide a learning environment that is supportive with a meaningful and relevant curriculum. In this chapter, these are described as four interconnected and relational constructs.

Notes:

- Idea of "trangulating" teachers versus "triangle teachers" – those teachers who are interested in getting to know the community. A high quality and sustainable PE program will depend on the community's ability to attract dedicated, caring teachers.
- Teacher's need to develop respective supportive relationships.
- Recognition of education's connection to colonialism.
- In Manitoba, lack of specialized education in PE for teachers working in smaller, rural schools is not uncommon.

Halas, J., McRae, H., McGavok, J., & Carpenter, A. (2017b). Peer review: Reclaiming Indigenous ways, Part 2. *Physical and Health Education Journal, 83*(3), 1-15.

Halas et al. (2017b) described how Rec and Read/the Aboriginal Youth Mentorship Program for All Nations (AYMP) discussed in Part 1 (Halas et al., 2017a) grew in terms of delivery methods as well as geographic area targeted (i.e., expanding from just urban locations to northern areas as well). Funding was secured by emphasizing the program's potential to help prevent diabetes, which allowed more staff to be hired, program continuation, and program expansion into northern regions.

A Mission and Vision for the program were solidified:

> Mission: "To develop and deliver relationship-based, communal mentor programs involving children, youth and adult allies from diverse cultural backgrounds. Informed by Indigenous worldviews and practices, we seek to build on the strengths of youth from diverse populations to build healthy inclusive communities" (p. 4).
>
> Vision: "Creating a world where all children and youth have safe healthy places to be, belong, grow and give of themselves" (p. 4).

The program manual was enhanced, and a training program for new staff was created. As activities continued, an emphasis on Indigenous teachings and perspectives was maintained.

The northern part of the program (AYMP) began with diabetes prevention research in Kistinganwaacheeng First Nation. One of the co-authors became aware of the success of Rec and Read in Winnipeg and wondered if such a mentorship model would work in the north, and if it would help prevent diabetes. A former Rec and Read mentor initiated the northern expansion by contacting Halas and asking about a program in her home community. A university student mentor spent three months living and building relationships in Kistinganwaacheeng First Nation. The student had started the program within one week. The program was a success in the north, the researchers showed it had

potential in preventing diabetes (Eskicioglu et al., 2014; Eskicioglu, 2015), and more expansion occurred.

As the program expanded, the researchers maintained an approach grounded in theory, particularly the Four R's (relevance, reciprocity, respect, and responsibility; Kirkness & Barnhardt, 1991) and the Circle of Courage values (mastery, belonging, independence, and generosity; Brendtro, Brokenleg, & van Bockern, 2002), including sharing theoretical knowledge with community members and high school mentors. All the while, a collaborative approach was maintained.

At the time of writing, Rec and Read/AYMP has expanded to four other provinces (Ontario, Quebec, Saskatchewan, and Alberta) and has reached over 3000 participants across 70 programs. Although funding is an ongoing concern, especially when resources are spent on intervention as opposed to prevention. As a possible solution, the authors noted the possibility of meshing the program with school activities, allowing mentors to receive class credits for their work.

Also at the time of writing, the modern rendition of the theoretical model guiding the program depicted a circle with three layers. The inner layer contained the Four R's (Kirkness & Barnhardt, 1991), the middle layer contained the Circle of Courage values (Brendtro, Brokenleg, & van Bockern, 2002), and the outer layer contained a modified version of Abraham Maslow's Hierarchy of Needs (safety and stability, social bonds, self-esteem, sense of purpose). In the centre of the circle is the Truth and Reconciliation Commission's purple ribbon of reconciliation, which reminds program facilitators to exercise critical social consciousness as it relates to colonial relationships in Canada, and which serves as a call for the development of cultural understanding between people of diverse backgrounds. The authors highlighted the importance of respectful relationships in a colonial society.

Henderson, K. A., & Ainsworth, B. E. (2001). Physical activity and human development among older Native American women. *Journal of Aging & Physical Activity*, *9*(3), 285–299.

In a study consisting of interviews with 26 older (40+ years of age) Native American women from the Pueblos and Navajo regions of New Mexico and a reserve in northern Minnesota about the changes in their involvement in, and meanings of, PA as they aged, Henderson & Ainsworth (2001) found that the women viewed PA as including moving, such as in household chores, and deliberate exercise. Exercise was viewed somewhat negatively. Women were more active early in life due to family influences and lack of modern conveniences (cars, tv, etc.), then they either experienced a decline following a plateau in early adulthood ("decliners), or a decline followed by a resurgence after middle-age ("rejuvenators"). Decliners were active early on in motherhood from taking care of and playing with their kids. As kids grew and tv and electricity became more prevalent in households, activity of women declined. These women generally did not take up physically active hobbies, and some complained about being too sore to be physically active. For rejuvenators, they were cognizant of the benefits of staying active,

and they found activities they enjoyed doing. One was a grandmother and foster parent, so she was still active in chasing after kids.

Henderson, K. A., & Ainsworth, B. E. (2003). A synthesis of perceptions about physical activity among older African American and American Indian women. *American Journal of Public Health, 93*(2), 313–317. doi: 10.2105/AJPH.93.2.313

In a study with 30 African American and 26 Indian American (half Pueblo, half Navajo) women aged 40+ in the United States examining the psychosocial context and socio-cultural meanings of PA among them, Henderson & Ainsworth (2003) found that despite valuing PA, many women did not engage in it very much. Many women saw PA as being connected to mental and spiritual wellbeing. Perception of lack of time and space for PA was a constraint among women. There were a plethora of other reasons given as well, such as safety concerns, family and community obligations, economic issues, job demands, health issues, etc. It was also found that social networks can help or hinder PA (too much time spent looking after others). Women were sedentary, but busy during the week, then used the weekends to get caught up and relax. Results about socio-cultural concerns were mixed. Of the women who said these issues mattered, they cited either history (African Americans) or marginalization (American Indians) as being negative factors with respect to PA. Walking was important because it was easy to do and not seen as real exercise.

Ho, L., Gittelsohn, J., Sharma, S., Cao, X., Treuth, M., Rimal, R., … Harris, S. (2008). Food-related behavior, physical activity, and dietary intake in First Nations - a population at high risk for diabetes. *Ethnicity & Health, 13*(4), 335–349.

Using 24 hour dietary recalls, a risk factor for diabetes survey, and accelerometers, Ho et al. (2008) studied food behaviour in the context of diabetes, as well as factors influencing food behaviour and PA in First Nations adults from 9 First Nations communities in Northwestern Ontario (of which 4 communities were only accessible by plane or ice road). The study produced many findings. Diet: overall, high fat and high sugar, and low fibre compared to dietary reference intakes (Otten et al. 2006). Risk factors: 47.7% were obese, 32.6% were overweight, 27% had diabetes, and 3% had been diagnosed with impaired fasting glucose (IFG) or impaired glucose tolerance (IGT) but not diabetes. Food acquisition: in remote communities, 54% of respondents hunted or fished to acquire food in addition to what was available in communities. The corresponding proportion for semi-remote communities was only 5%. 28% of respondents in remote communities ordered food that was flown in or purchased food to bring back to their communities when they flew out to town. Psychosocial factors: being older and living in a remote community were linked to healthier food knowledge. PA: 2/3 of respondents engaged in no vigorous PA. Sedentary time (including sleep) was more than 14.5 hours per day. BMI: self-reported diagnosis of either diabetes or impaired glucose tolerance/impaired fasting glucose, as well as being employed, was linked to greater BMI.

Johnson, T. G., Kulinna, P. H., Darst, P. W., & Pangrazi, R. P. (2007). School day physical activity patterns of Pima Indian children in two communities. *Research Quarterly for Exercise and Sport, 78*(4), 364–368.

In a study examining step counts and activity (both measured via pedometers) accumulated during school hours over the course of four days by 176 Pima children aged 8-12 from two communities, Johnson et al. (2007) found the two communities displayed differences in school day PA levels. The authors suggested this could be due to more areas for recess play at one of the schools, and/or results of health interventions at this school that occurred years prior but still have effects, with teachers following through with what they learned about incorporating more PA into the school day. No differences in PA were found between genders. With the exception of Pima boys from one of the communities, Pima students averaged more steps during school hours than boys and girls aged 8-11 from public schools in a large metropolitan area in the southwestern US (study by Morgan et al., 2003).

Kerpan, S., & Humbert, L. (2015). Playing together: The physical activity beliefs and behaviors of urban Aboriginal youth. *Journal of Physical Activity & Health*, *12*(10), 1409–1413.

In a study examining the PA beliefs and behaviors among 15 urban Indigenous youth in grades 9-12 (aged 14-21) in an Indigenous high school in a midsized Canadian prairie city, Kerpan & Humbert (2015) found 4 themes: "group physical activity preference," "focus on the family," "traditional physical activity," and "location of residence as a barrier." Students enjoyed being active in groups. Traditional activities were important, as they provided feelings of connection to culture and helped confirm identity. Family was important in passing down values pertaining to PA and traditional activities, and participants noted it is harder to be active when your family is not active. Neighbourhood safety was a barrier. Although buses allow transport to and from recreation facilities, bus stops were not seen as safe places, and taking a bus to facilities was seen as time consuming, especially for students who already take the bus to and from school.

Lavallée, L., & Lévesque, L. (2013). Two-eyed seeing: Physical activity, sport, and recreation promotion in Indigenous communities. In J. Forsyth & A. R. Giles (Eds.), *Aboriginal peoples & sport in Canada: Historical foundations and contemporary issues* (pp. 206-228). Vancouver, BC: UBC Press.

This chapter discusses the concept of "two-eyed seeing" which relates to seeing the world through 2 perspectives: an Indigenous perspective and a Western/European perspective. Two-eyed seeing requires an "attentiveness to bicultural ways of knowing"(p.206). The chapter's main focus is on the medicine wheel teachings of the Anishinaabek and the socio-ecological model to health promotion as they relate to physical activity, sport and recreation promotion. The authors utilize the two-eyed seeing approach to make a case for an "integrated indigenous-ecological model" (p.207) for promoting physical activity, sport, and recreation.

The chapters presents that both ways of knowing recognize the "reciprocal influence that exists between family, friends, community, and the physical environment."(p.217). However, they note that they medicine wheel teachings privilege connectivity to the land whereas the ecological model is not explicit about this connection. The authors note that the strengths of the two views converge at the concepts of relatedness and the reciprocal influence of people and settings and the importance of environments. However, they also note a point of divergence wherein the medicine wheel teachings discuss spirituality and an Indigenous notion of "revelations". Knowledge through revelations includes dreams, visions and intuitions and can be seen as coming from the spirit world and ancestors. There is also a notion put for from G. Antone, and V. Harper, through personal communication to the authors that Indigenous thoughts, beliefs, and actions are transmitted from generation to generation through blood (biologically). This notion ties into the notion of cellular memory in the field of DNA and human evolution genetics.

Spirituality is discussed as being tied to one's cultural understanding of identity. The authors argue that spirituality is the key dimension that needs to be considered in physical activity and health promotion.

A visual depiction of an Integrated indigenous-ecological model is presented in the discussion. The authors argue that the medicine wheel approach, which utilizes a wholistic outlook towards health and well-being, can be integrated with the ecological leverage points of the socio-ecological model of health promotion. These leverage points (i.e. the intrapersonal, interpersonal, organizational, community, policy, systems environments and all of creation) can be utilized to "enhance and strengthen each of the four realms of wholistic health" (p.219). they suggest that sport, recreation and physical activity should be delivered via a decolonizing approach at each leverage point. Decolonization is discussed as a way for Indigenous Peoples to reclaim knowledge and practices. With regards to sport, physical activity and health promotion, decolonizing activities "are used to redress balance and harmony between the spiritual, mental, physical and emotional domains of the self" (p.220).

Other points of emphasis are 1) providing positive, decolonizing opportunities at each leverage point, 2) avoiding a deficit approach and starting with a strengths approach, 3) involving the community from conceptualization of the program to its delivery and evaluations, 4) developing a consciousness of the impact of colonialism, 5) learning about wholistic health and how other systemic and societal factors play a role in the health of Indigenous Peoples.

Lemstra, M., Rogers, M., Thompson, A., & Moraros, J. (2013). Prevalence and correlates of physical activity within on-reserve First Nations Youth. *Journal of Physical Activity & Health*, *10*(3), 430–436.

In a study with 204 youth in grades 5-8 (ages 10-16) from Saskatoon Tribal Council (STC) on-reserve communities (7 rural, on-reserve First Nation communities around Saskatoon) that examined what proportion of these youth met the Canadian Society for Exercise Physiology's (CSEP's) standard for physical activity (60+ min of moderate-to-

vigorous PA each day) as well as what factors influenced PA, Lemstra et al. (2013) found 15 of 204 students met the CSEP PA standard. Males were found to be more likely to meet the standard than females. Facilitators included support from parents in the form of watching kids participate and providing transportation, having friends to bike or walk to school with, having appropriate sport/PA equipment at home, being instructed/coached, and organized activities. Excellent or very good self-reported levels of health were more prevalent among those who met the CSEP PA standard.

Macdonald, D., Abbott, R., & Jenkins, D. (2012). Physical activity of remote Indigenous Australian women: A postcolonial analysis of lifestyle. *Leisure Sciences*, *34*(1), 39–54. doi: 10.1080/01490400.2012.633854

Through interviews with 21 Indigenous families from the Torres Strait and Northern Peninsula Area of Australia, of which mainly the women and girls provided responses to interview questions, Macdonald, Abbott, & Jenkins (2012) examined thoughts about PA, including activity preferences and interests, the factors influencing participation, and the health and PA of children in the families. The researchers found three themes: 1) "shame" arising from the public nature of engaging in physical activity, 2) the gendering of being able to choose to be active alongside other gendered tasks, and 3) the deferral of responsibility for organising activities to the state or its agencies. Shame included being under public gaze while wearing sport-type clothes. Gendered roles and relationships included perceptions of men not wanting their partners engaging in sport, and wanting them to eat and drink what they do (sometimes unhealthy choices). This theme was included the obligations women have to taking care of their family (one woman mentioned trying to balance both as opposed to just giving up on being active), using alcohol as a stress release (as opposed to exercising), and boys being engaged in sport and traditional Indigenous activities yet varying reports about the engagement of girls. Responsibility included decision makers and people in general in the community not getting programs going or keeping them going. A lot of the onus was placed on community government. Canteens and pubs in the communities made it hard for youth to make good choices.

Manitoba Aboriginal Sports and Recreation Council Inc. (2018). *Vision and mission.* Retrieved from https://www.masrc.com/vision_and_mission

The Manitoba Aboriginal Sports and Recreation Council (MASRC) is the provincial body for Indigenous sport in the province of Manitoba. Their mission statement, which can be found on their website (MASRC Inc., 2018), reads:

- "To strengthen Aboriginal participation in positive healthy lifestyle activities.
- The MASRC promotes sport and recreation as pillars to the health and well-being of all first Nations, Inuit and Métis people. Our goals are building partnerships, targeting community strategies, measuring success and creating community awareness. These goals will guide us as we work through community led initiatives to building community capacity (skills, knowledge, structures and resources)".

Interesting points to note with respect to their mission statement include:

- Promotion of sport and recreation as "pillars of health and well-being".
- Definitions of sport, recreation, health, well-being, and success are taken as self-evident.

Maynard, J. (2009). Football barriers–Aboriginal under-representation and disconnection from the 'world game'. *Soccer & Society, 10*(1), 39-56.

In a paper exploring why Australian Indigenous athletes have historically not played as significant a role in soccer as they have in rugby and football, Maynard (2009) noted that many Indigenous people were forced to live in areas (reserves) where soccer was not really played. The author also noted that soccer was not accepted easily in mainstream Australian sport culture. European migrants started to engage in the sport, and then it became viewed as a game for misfits, so it received less media coverage than other sports. Soccer authorities had to request permission from the Protector of Aborigines if they wanted Indigenous players to travel with them on trips. More recently, however, soccer has become more greatly accepted in Australia and the presence of Indigenous representation has grown.

Mitchell, M. S., Gaul, C. A., Naylor, P. J., & Panagiotopoulos, C. (2010). Habitual moderate-to-vigorous physical activity is inversely associated with insulin resistance in Canadian First Nations youth. *Pediatric Exercise Science*, *22*(2), 254-265.

In a study exploring the link between PA (measured via accelerometer) and insulin resistance in 39 First Nations youth, aged 8.8-185 years, from Hartley Bay and Kitkatla, two remote coastal Tsimshian Nation villages in northern British Columbia, Canada (accessible only by boat or float plane), Mitchell et al. (2010) found 31.25% of males and 60.87% of females were overweight or obese. They also found that more moderate-to-vigorous PA was linked to lowered insulin resistance, and that higher body fat was linked to greater insulin resistance.

Munroe, E., & MacLellan-Mansell, A. (2013). Outdoor play experiences for young First Nation children in Nova Scotia: Examining the barriers and considering some solutions. *Journal of Childhood Studies*, *38*(2), 25–33. doi: 10.18357/jcs.v38i2.15448

Munroe and MacLellan-Mansell (2013) reviewed literature on the benefits of outdoor play, examined the barriers discussed in literature to taking kids outside to play, and also reflected on conversations they had with early childhood educators in 11 First Nations communities in Nova Scotia about these topics as they relate to Indigenous youth. From discussions with early childhood educators, the researchers found frustrations with outdoor play areas, that some educators just didn't like taking kids outside, that some educators valued indoor learning more than outdoor learning, and that educators agreed that children need to spend more time outside because it is important to individual growth as well as Indigenous culture. Barriers, from most to least of concern, included outdoor

environment (broken equipment, etc.), weather, animals, proper clothing, people (children running away, safety, not enough staff), allergies, and other barriers (computer games, not enough time). Many solutions were offered by participants, indicating that the issues could be dealt with. From what they learned, the authors provided 4 solutions: 1) offer professional learning opportunities to build awareness, since awareness (though things like workshops on the benefits of outdoor play) can lead to action, which can lead to more awareness, which can lead to more action; 2) acknowledge and examine the past and current experiences of adults - question values, beliefs, and things that keep you from taking kids outside, and ask what can be done about these things; 3) explore and share the adults' values, beliefs, and goals - educators are under pressure to help prepare students for success in mainstream society, so they may privilege in class learning, but often adults in the community want their children to be playing and learning outside as well; 4) reframe barriers in terms of problems and conditions - be cognisant of things you can and cannot change; change the things you can, work around the things you cannot.

North American Indigenous Games. (2018). *About.* Retrieved from http://www.naigcouncil.com/history.php

The North American Indigenous Games (NAIG) incorporates self-determined and cultural activities as well as "holistic" elements of participation with regard to "social/cultural/spiritual" components. Their mission statement, which can be found on their website (NAIG, 2018), reads:

- "To improve the quality of life for Indigenous Peoples by supporting self-determined sports and cultural activities which encourage equal access to participation in the social/cultural/spiritual fabric of the community in which they reside and which respects Indigenous distinctiveness."

Motivation behind creation of the NAIG included giving youth something positive to anticipate (Wood, 1990 Chairperson, cited by NAIG, 2018), as the NAIG promotes connection, feelings of achievement, and new friendships (Wood, cited by NAIG, 2018).

Paraschak, V. (2013). Aboriginal peoples and the construction of Canadian sport policy. In J. Forsyth & A. R. Giles (Eds), *Aboriginal peoples & sport in Canada: Historical foundations and contemporary issues* (pp. 95-123). Vancouver, BC: UBC Press.

Vicky looks at Sport Canada's Policy on Aboriginal People's Participation in Sport. In creating the policy, Sport Canada acknowledge the legitimacy of Aboriginal sporting spaces (i.e. the NAIG and the Arctic Winter Games). She approaches the discussion through a strengths perspective rather than a deficit perspective that sees inherent problems with Indigenous communities. The perspective leads her to employ the concept of the double helix – a way of thinking about the Aboriginal Sport System and the mainstream Canadian Sport system as existing and working alongside each other. The "rungs" in a double helix represent the connections and opportunities that can be made between the two systems.

The discussion is premised upon 3 underlying assumptions: 1) duality of structure, 2) unequal power relations, and 3) a strengths perspective. She argues that Aboriginal sporting spaces can be *racialized, racializing and racist*. Racialized sporting spaces are those where definition of participants is defined by heritage. An example would be the Little NHL, where participation is determined using Indian status or a Certificate of Indian Status" where the player has one parent of Indigenous background.

Racializing spaces are created when the "doing" of an operational race hierarchy facilitates the (re) creation of racialized identities" (p.104). And an example of this would be the NAIG whereby organizers and participants inject cultural values, and programs into the games.

And finally, a racist sporting space, are those spaces where participants or spectators experience treatment as a racialized "other" in sport. For example, the Canadian sport system is, in some ways, a racist space in that it was created by "white" Europeans and thus they have privilege within this system. In contrast, Indigenous peoples may be excluded from this system, based upon the privilege of Europeans, or because of having acts of racism performed against them.

Paraschak argues that the sport policy has strengths. It legitimates, through policy, the existence of the Aboriginal sport system. It also is committed to an ongoing relationship with Indigenous peoples. She puts forth that Indigenous peoples have the right to determine their own cultural practices and that Sport Canada can reduce the unequal power relations by acknowledging through policy an altered relationship that is more inclusive.

Patel, S., Kwon, S., Arista, P., Tepporn, E., Chung, M., Chin, K. K., … Trinh-Shevrin, C. (2015). Using evidence-based policy, systems, and environmental strategies to increase access to healthy food and opportunities for physical activity among Asian Americans, native Hawaiians, and Pacific Islanders. *American Journal of Public Health*, *105*(S3), S455–S458. doi: 10.2105/AJPH.2015.302637

Patel et al. (2015) assessed the effectiveness, both in terms of impact and cost, of the initiatives funded by the Strategies to Reach and Implement the Vision of Health Equity (STRIVE) project. STRIVE funded implementation of targeted, culturally-based strategies focused on evidence-based policy, systems, and environmental improvements to access to healthy food and PA in Asian American, Native Hawaiian, and Pacific Islander communities across the United States. Patel et al. found that based on estimates provided by 15 program partners whose initiatives reached a wide range of ages, the overall initiative reached over 1.4 million people over the span of 13 months and at a cost of about $2.04 per person reached. This research demonstrated that targeted approaches, through cooperation with program partners, can reach a lot of people.

Peralta, L. R., O'Connor, D., Cotton, W. G., & Bennie, A. (2014). The effects of a community and school sport-based program on urban indigenous adolescents' life skills and physical activity levels: The SCP case study. *Health*, *6*(18), 2469-2480.

Peralta et al. (2014) examined the effects of a community and school sport program (SCP) on the life skills and PA (moderate-to-vigorous physical activity, MPVA) of 34 Australian Aboriginal and Torres Strait Islander students (58% girls and 42% boys) in grades 7-10 from three schools in Sydney, Australia. The intervention consisted of a 120-minute lesson delivered once per week. Both practical and theoretical lessons were delivered, and in all cases the focus was on PA and life-skill development. An Indigenous teacher led implementation of the lessons, while Indigenous community members as well as experts from the community were recruited to help. MPVA was measured using the System for Observing Fitness Instruction Time (SOFIT; McKenzie, Sallis, & Nader, 1991), which required observer reporting, and life skills were measured using a questionnaire. Using 3 focus groups with 18 youth participants (6 per focus group), as well as one-on-one interviews with 6 stakeholders ("the three school's principals, and the CEO, Education Manager and the Programs Manager of the Indigenous community organization", p. 2471), the researchers also determined the extent to which the program was deemed acceptable.

Overall, the success rate of program implementation was 77%. Low attendance rates were experienced for both practical (33%) and theoretical (37%) lessons, which the authors attributed partly to end of year commitments such as exams. These low rates resulted in post-program measures being gathered for only 10 practical lesson students and 7 theoretical lesson students. Results indicated no significant difference between life-skills among youth before and after implementation of the program. MVPA occurred among participants for 58% of practical lesson time. During these lessons, teachers focused on promoting MVPA during the sessions themselves (53% of session time) as opposed to outside the sessions (0.2% of session time). Further, 50% of practical lesion time was spent on skills and drills, and 25% on playing games. During the theoretical lessons, teachers spent 0% of their time promoting MPVA outside sessions.

With respect to the acceptability analysis, sport, culture, and painting were seen to be valued aspects of the program. Other aspects valued were learning new movement skills; the positive, safe environment provided; improvement in art skills; cultural understanding and sense of identity. Indigenous people, the school, and sport organization support was received, and these organizations cooperated in program delivery. School principals and SCP staff noted student attendance and behavior improved, and they attributed this, in part, to the variety of lessons/content delivered.

However, lack of variety and choice was also a barrier (to learning skills) mentioned by students, and younger students struggled with older students telling them what to or not to do. The students also believed that the study was also not conducted at a time conducive to high attendance (i.e., near the end of the year), and they mentioned being removed from their regular classes to take part in the program. SCP staff noted a lack of program resources as well as a tendency of some school staff to not support the program, which was attributed at least partly due to attitudes some school staff seemed to have toward students based on student past behavior and culture.

Perez, D. F., Ritvo, P. G., Brown, P. E., Holowaty, E., & Ardern, C. (2011). Perceived walkability, social support, age, native language, and vehicle access as correlates of physical activity: A cross-sectional study of low-socioeconomic status, ethnic, minority women. *Journal of Physical Activity & Health*, *8*(8), 1098–1107.

In a study looking at relationships between social support, English as first language or not, and access to a motor vehicle to PA among low socio-economic, ethnic women aged 18-89 in the Jane-Finch community of Toronto, Ontario, Perez et al. (2011) found social support was important to this demographic in encouraging PA. There was also evidence to believe motor vehicle access may reduce the rise in sedentariness that seems to occur with age among people of this demographic who are without motor vehicle.

Schinke, R., Peltier, D., & Yungblut, H. (2013). Canadian elite Aboriginal athletes, their challenges, and the adaptation process. In J. Forsyth & A. R. Giles (Eds.), *Aboriginal peoples & sport in Canada* (pp. 124-144). Vancouver, BC: UBC Press.

Schinke, Peltier, and Yungblut (2013) provided rationale for cultural sport psychology, noting that underlying sport psychology practices are cultural norms that may be overlooked when providing services to clients of varying cultural backgrounds. The authors suggested that taking into account the cultures of athletes is critical to retention, and that lack of retention results in losses to not only the athletes, but to their communities as well as to mainstream sport. The authors share their experiences providing sport psychology services to elite Aboriginal athletes. They also share the experiences of 23 (16 male and 7 female – likely the same athletes as Blodgett et al. 2008) elite Aboriginal athletes, aged 17 to 42, and from Ontario, Manitoba, and Saskatchewan, who were participants in their research. The experiences demonstrate the lack of effectiveness Eurocentric sport psychology methods may have when applied to people of non-European backgrounds, and they elucidate ways in which sport psychology practices may be better tailored to athletes of Aboriginal cultural background. Challenges mentioned by athletes were categorized into the four categories below.

Making the commitment

The commitment for athletes who must adjust to a new culture is greater than for athletes that do not have to make this adjustment. Things to adjust to include: hierarchical sport structures, coaches that used insensitive coaching strategies, different food, and being away from home support systems.

Learning about mainstream sport's organizational structure

In many mainstream sports, coaches make decisions and athletes follow, and public critiques of individuals may be seen by Indigenous athletes as similar to shaming. Indigenous sports take a more collective approach where athletes' concerns are addressed in conjunction with the coach's. In addition, drill-oriented (as opposed to play-oriented) practices characterize mainstream sport, so the

authors recommended that athletes considering pursuing mainstream sport learn about this structure prior to making their decision.

Gaining and offering acceptance

It can be difficult to form connections with coaches and teammates. Indigenous cultures often prioritize listening before speaking, as opposed to trying to have one's voice heard. In addition, shyness can slow the rate at which connections are made. It helped athletes to talk about their cultures with their teammates.

Resisting aspects of mainstream sport culture

Resistance may be seen by coaches and staff as defiance rather than a personal choice to respect one's own cultural values when mainstream values diverge. The authors suggested a "… multicultural understanding" (p. 136).

From their research, the authors noted four things of importance in cultural sport psychology with Indigenous athletes: family for encouragement, support, guidance, inspiration to participate in sport; role models for inspiration, motivation, and guidance; medicine people and elders for spiritual support and knowledge/wisdom; and the national Aboriginal community for support, exposure to role models (Aboriginal Peoples Television Network), and Aboriginal-specific competitions.

Finally, the authors suggested incorporating culturally relevant motivational strategies as needed (i.e., some Indigenous athletes are more acculturated to mainstream sport than others); incorporating Aboriginal practices to sport environments and utilizing resources provided by the national Aboriginal community; and understanding that sport psychology practices are built upon cultural norms and, thus, Eurocentric strategies may not work for athletes of non-European cultures.

Sport for Life. (2016). *Aboriginal sport for life: Long-term participant development pathway 1.1*. Retrieved from http://sportforlife.ca/wp-content/uploads/2017/09/ALTPD1.1-Oct2016-EN.pdf

The Sport for Life's (2016) Aboriginal Long-Term Participant Development (ALTPD) pathway was created in recognition that mainstream athletic development models may not be culturally relevant to Indigenous people. Due to colonization, racism, location of many Indigenous communities with respect to sport facilities, influences of traditional approaches, and other considerations, Indigenous people often have different lived experiences than non-Indigenous people. These lived experiences must be taken into consideration in sport programming.

The ALTPD pathway takes a somewhat deficit-based approach by presenting sport as a vehicle for helping Indigenous people, as conveyed by the quote, "This is the underlying rationale for this resource [the ALTPD pathway] – to save lives and to build healthier Aboriginal people, who contribute to healthier communities" (p. 2). However, through

use of a modified version of the medicine wheel that amalgamates the intellectual and emotional components while introducing a "cultural" component (p. 8), the ALTPD pathway emphasizes important aspects of Indigenous cultures that coaches, program leaders, and sport providers must take into account when delivering sport programs. In addition, the ALTPD pathway emphasizes the need to learn about the cultural backgrounds of participants, and for coaches to be open and encouraging of athletes from diverse cultural backgrounds.

Overall, the ALTPD pathway emphasizes balance and the importance of all aspects of an athlete's development (i.e., not only physical). The stages of the ALTPD pathway, however, remain the same as the stages of the mainstream LTAD.

Sport for Life. (2018). *Long-term athlete development.* Retrieved from http://sportforlife.ca/qualitysport/long-term-athlete-development/

Sport for Life's (2018) Long-Term Athlete Development (LTAD) model was created to guide training decisions at various stages as athletes age. The model depicts the following 8 stages:

17. Awareness and First Involvement
    - Aware of what opportunities exist.
    - Must be a positive experience.
18. Active Start
    - Age 0-6.
    - Emphasizes fundamental movement skills.
    - Daily physical activity in the form of play.
    - Fun.
    - Lots of variety.
19. FUNdamentals
    - Fundamental movement skills.
    - Structured and unstructured play; some instruction.
    - Aim for 180 minutes of activity per day, with 60 minutes being vigorous.
    - Agility, balance, coordination, speed.
    - Variety of environments.
20. Learn to Train
    - Rules, tactics, strategy.
    - Sport specific skills.
    - Minimum of 60 minutes in vigorous activity each day.
    - Strength, endurance, flexibility.
    - Incorporates physical literacy movement preparation.
    - Training 70% of the time, competition 30% of the time; no early specialization if sports are late-specialization sports.
    - Emphasize inclusion.
    - Unstructured free play is still important.
    - Emphasize fun.

21. Train to Train
    - Specialization may occur late in this stage.
    - Must be cognizant of the physical, mental, and emotional maturity of athletes, as these components will be developing during this time.
    - Peer influences; strained relationships between adults and adolescents.
    - Emphasize rules of sport, values, and consequences of actions.
    - Periodization.
    - Address weaknesses in physical literacy; address muscle imbalances.
    - Athletes with disabilities are introduced to specialized equipment.
    - Inclusion remains important.
22. Train to Compete
    - Training is almost full time; competition is at the national and even international level.
    - Individual, event, and position-specific, high quality training.
    - Quality training environment.
    - Sport specialization (1 or 2 sports). Event/discipline specialization may occur later in this stage.
    - Emphasizes recovery and mental fitness.
    - Can still transfer from one sport to another.
23. Train to Win
    - Highest level of competition.
    - Athletes have integrated support teams.
    - Emphasis is on performance.
24. Active for Life
    - Competitive for life – continue to compete.
    - Fit for life – active in any physical activity (not just "sport"), but not competitive.
    - Minimum 150 minutes of moderate and vigorous physical activity each week.
    - May help coach, instruct, lead, etc.

Sport for Life. (n.d.). *Winnipeg community sport policy.* Retrieved from http://sportforlife.ca/wp-content/uploads/2016/12/WPG-COMMUNITY-SPORT-POLICY-Jan-6-2012.pdf

Sport for Life's (n.d.) Winnipeg Community Sport Policy is a document guiding the development, promotion, and delivery of sport programs for all ages and all levels of competition in Winnipeg. The Policy is informed by the sport interests of community members in Winnipeg and is guided by the Canadian Sport for Life (CS4L) model. Involved in the Policy are three partners (General Council of Winnipeg Community Centres (GCWCC), Winnipeg Community Sport Alliance (WCSA), Sport Manitoba) and three stakeholders (Winnipeg Regional Health Authority (WRHA), Manitoba Physical Education Supervisors Association (MPESA), The City of Winnipeg Community Services Department).

Creation of the policy was informed through review of then-current research and best practices relating to the following six areas:

7. People – deliverers and participants of programs.
    - Balance between paid staff and volunteers.
    - Emphasis on placement, training, recognition, and succession planning.
8. Partnerships – to ensure effective programs and efficient systems.
    - Cooperation, shared vision, and common goals among sport stakeholder organizations.
    - Prioritizing needs of participants.
    - Of particular relevance is the North End Hockey Program, which provides hockey opportunities to disadvantaged youth.
9. Programs – to learn skills, participate in their choice of activities, and stay active.
    - Diversity of programs.
    - Delivery to a wide participant demographic, both in terms of age and ability.
    - Physical literacy, sport skills, active for life.
    - Considers program costs and placement (relative to neighbourhoods of participants), including transportation options to and from program areas.
10. Places – where programs are hosted and opportunities are offered.
    - Facilities must meet current and future needs of participants.
    - Emphasis on access and being inviting, and on improvement, multi-dimensionalness, and construction of new facilities.
11. Promotion and Public Education– provide education regarding long-term benefits of sport and recreation.
    - Referring to the CS4L model, educate community members about the societal benefits of sport and recreation.
    - Also educate about the benefits of physical activity and healthy eating, as well as the positive aspects of sport.
    - Also educate participants, parents, coaches, and managers about best practices for delivery of healthy (i.e., not harmful) sport programs (e.g., True Sport, Respect in Sport).
    - Support and resources to facilitate access to the sport system.
12. Public and private funding – the return on investment this provides to the quality of life of community members and the vibrancy of neighbourhoods.
    - Funding has been prioritized.
    - Collaboration and innovative methods when it comes to improvements to programs, opportunities, and facilities.
    - Stresses subsidies and not over-charging participants/their families.

Steinbrecher, A., Erber, E., Grandinetti, A., Nigg, C., Kolonel, L. N., & Maskarinec, G. (2012). Physical activity and risk of type 2 diabetes among Native Hawaiians, Japanese Americans, and Caucasians: The multiethnic cohort. *Journal of Physical Activity & Health*, *9*(5), 634–641.

In a study examining the relationship between PA (questionnaire) and diabetes which involved 74,913 people of Caucasian, Japanese American, and Native Hawaiian ancestry in Hawaii, Steinbrecher et al. (2012) found that engaging in strenuous sports was inversely related to diabetes risk for men from all groups. Engaging in vigorous work was inversely related to diabetes risk for Caucasian and Native Hawaiian men, but not Japanese American men. Engaging in moderate activity was inversely related to diabetes risk for Caucasian men only. For women: engaging in strenuous sports was linked to decreased diabetes risk in all groups. No relationship was observed between vigorous work and diabetes risk for women. Engaging in moderate activity was inversely related to diabetes risk for Caucasian women only. For the moderate activity analyses for both men and women, a significant interaction was found with ethnicity. This interaction could have suggested that moderate activity may have varying influence on diabetes risk depending on ethnic background, although the authors mentioned that PA questions may have been answered differently across ethnicities, thus accounting for the perceived dependence of the effects of moderate activity on ethnicity.

Sutliff, M. (1996). Multicultural education for native American students in physical education. *Physical Educator, 53*(3), 157.

Sutliff (1996) discussed three strategies for multicultural enrichment in physical education, with an emphasis on teaching Native American students: 1) content integration, 2) prejudice reduction strategies, and 3) culturally responsive pedagogy. Content integration is about recognizing the contributions of other cultures. This is accomplished through a) culturally specific themes and lessons (traditional activities and emphasizing their rationale (i.e., to be fit enough to survive)) to instill pride within students, and b) historical contributions and achievements (e.g., Jim Thorpe and Billy Mills), which also instills pride. Prejudice reduction strategies are about increasing understanding of other cultures, as well as one's own, by exercises involving cooperation and trust-building. Social awareness and sensitivity are top concerns of which the teacher must remain cognizant. Culturally responsive pedagogy is about being aware of, and responsive to, the cultures of students.

Tang, K., Community Wellness Program, & Jardine, C. G. (2016). Our way of life: Importance of Indigenous culture and tradition to physical activity practices. *International Journal of Indigenous Health, 11*(1), 211–227. doi: 10.18357/ijih111201616018

Tang, Community Wellness Program, & Jardine (2016) examined understandings and promotion of PA among members of a community in the Northwest Territories. Their study involved participatory videos made by 19 Yellowknives Dene First Nations youth aged 8-18, focus groups with 11 community members, and follow-up, semi-structured interviews with 9 community members, in addition to researcher journals (no participants). The researchers found that PA was perceived to include fitness, exercise, and going to the gym, but also movement, being active, keeping busy, community, traditional activities/work (like checking fishnets, peeling spruce, etc.), Dene games, and traditional games. It was noted that participants had a wholistic view of PA that included physical, mental, emotional, and spiritual aspects. Moreover, PA was seen as being part

of Dene culture, and it involved respecting the elders who were role models for PA, passing on knowledge, being inclusive, connection to the land, and traditional activities. The authors noted that cultural identity was the underlying theme of the findings.

Wall, K. (2008). Reinventing the wheel? Designing an Aboriginal recreation and community development program. *Canadian Journal of Native Education*, *31*(2), 70–93. doi: 10.1108/17506200710779521

Wall (2008) discussed the proposed (but not implemented) Aboriginal Recreation, Tourism and Community Development program at Red Deer College to gain better understanding of the value of, and barriers to, similar programs. She noted the focus of the program would have been on recreation and community leadership; tourism, sport, and facility management; and basic entrepreneurship. The program would have consisted of a 1 year certification, with the option of continuing on to a 2 year diploma, credits of which could be used toward a university degree (University of Alberta's Recreation and Leisure Studies program). With online programming as well as an emphasis on community engagement, fieldwork, and internships, 2/3rds of the program could be taken off campus (important for students with family obligations in their home communities). The program could be tailored to the individual and community's needs, with many possible options for areas of focus (museum/archives technician, coaching, wilderness knowledge, traditional healing, etc.). The author emphasized that this program was geared to be for and by Indigenous people, and that Indigenous culture was paramount (land, spirit, history, holism, community), although it would also incorporate Western ways of teaching when appropriate (i.e., strengths of both Indigenous and Western paradigms). Wall discussed many positive aspects about the distance learning option. She also discussed the program rationale, including benefits of recreation, sport, and leisure, as well as the need for people employed in Recreation, Tourism, and Community Development in Alberta. She noted that one barrier to such programs is funding. As Wall stated, "... First Nations colleges receive less than half the funding of mainstream institutions" (p. 80). The proposed program intended to use partnerships with other organizations to overcome funding barriers. Yet bureaucratic issues arose, preventing program initiation. Despite much support for the program from the Indigenous community, the college would not support the program until it was assured (quantitatively) the program would be economically successful, yet the internal workings of band councils prevented them from committing until they had more details about the program as well as full commitment from the college.

Wan, N., Wen, M., Fan, J. X., Tavake-Pasi, O. F., McCormick, S., Elliott, K., & Nicolosi, E. (2018). Physical activity barriers and facilitators among US Pacific Islanders and the feasibility of using mobile technologies for intervention: A focus group study with Tongan Americans. *Journal of Physical Activity & Health*, *15*(4), 287–294. doi: 10.1123/jpah.2017-0014

Through focus groups with 36 (14 male and 22 female) Tongan Americans, aged 18-74, Wan et al. (2018) sought to better understand participants' perceptions of: cost/benefits to PA, factors influencing engagement in PA, and the potential of using smartphones to

track/promote PA, including how this would be done effectively among the target demographic. The researchers found the majority of participants were aware of many of the benefits of PA, including psychological and aesthetic benefits. Most participants said their health was "good", although most also said they were active at most 1 hour per week. Most also expressed the desire to be more active. One barrier identified was no time, as participants felt they were required to spend a lot of time working (one was a truck driver who logged 15 hour days). Some participants were active, and some claimed they made time for exercise. One participant suggested that activity is embedded in one's life when they are young, but becomes more of a decision as you age. As for other barriers (in addition to lack of time), there were mentions of cultural change upon moving from islands to the inland US, lack of motivation, and physical aches. One participant mentioned arthritis from a basketball injury. Another barrier was having to balance many responsibilities (family, work, church). One participant mentioned that in Tongan culture, collectivism is emphasized over individualism, so exercise for one's own sake comes after responsibilities to others have been met. As for motivators, older participants claimed they wanted to be healthy so they could live longer in order to be around for their families, while younger participants were more concerned about peer pressure and socializing. Making PA enjoyable was an interest among participants, as was being active with others. Education about PA in visual or demonstrative forms was seen as something that would be helpful with respect to promotion. Role models were also seen as important. With respect to culture, participants mentioned healthier food and a less sedentary lifestyle back in Tonga, although food choices there did expand to include less healthy options once other cultures came to the island. Participants noted that free time was spent relaxing, for instance, men like to spend it Kava drinking due to the relaxing effects of this activity. Humour toward issues such as obesity was another theme. As for use of technology, most participants had smartphones, felt comfortable using them, and claimed they carry their smartphones with them most of the time. Some participants mentioned already using diet/PA apps. Most participants were interested in the idea of using smartphones for a mobile-phone-based PA intervention, with one participant emphasizing the importance of being “tracked” (p. 291) to staying committed. Another participant emphasized the need for PA education to be ongoing, reminding participants regularly so they don’t stop. Other ideas from participants about how to use smartphones for PA promotion emphasized the importance of social aspects, education, fun, and community orientation. One idea mentioned was competing with one another to accumulate the most PA minutes. Another idea suggested was PA reminders sent through smartphones, and there was emphasis that these reminders MUST be linked to a social component.

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