

Regular Paper

Developing an Intentionally Designed Physical Activity Model of Programming for Children's Structured Recreation in Canada

Nadine Van Wyk,^a Nicole Taylor McCallum,^b and Larry Katz^c

^a Department of Health and Physical Education, Mount Royal University, Calgary, Alberta, Canada

^b Department of Health and Physical Education, University of Calgary, Calgary, Alberta, Canada

^c Faculty of Kinesiology, University of Calgary, Calgary, Alberta, Canada

Please send correspondence to Nadine Van Wyk, nvanwyk@mtroyal.ca

Executive Summary

Sport and education organizations have established models to ensure that coaches and teachers understand the physical, social, emotional and mental development of children. Such pathways of intentionally designed models fail to exist in the recreation sector where many physical activity (PA) programs are mainly developed based on convenience and instructor availability rather than on established credentials and current pedagogy practices.

Addressing this gap, this paper explores the creation of an intentionally designed model of programming for children's structured recreation, which is defined as sport or PA-based programs that are planned and led by an instructor. This proposed model is contextualized within the province of Alberta, but may be applicable across the nation. The authors further define "intentionally designed" as the development of purposeful programming with specific objectives that align with outside sources. One such source comes from the Canadian Parks and Recreation Association, who has created a Canadian Recreation Framework, an initiative to ultimately develop the well-being of all Canadians.

The proposed, structured recreation model also incorporates several guiding principles including physical literacy and sport philosophy. Physical Literacy (PL) focuses on the lived body as the embodied dimension of our human experience, and how it can be enriched through various experiences that enable us to reach our full potential (Whitehead, 2007). It is about viewing the body holistically rather than separate from the entire being. By planning diverse PA in four environments, including land, water, air, and ice, the model also aligns with the sports sector and its philosophy of developing both fundamental movement skills and fundamental sport skills. Moreover, with allocated playing time, intentionally designed structured lesson plans, and one consistent leader in each activity, the model aims to increase the participants' motor proficiency and levels of PA while building their confidence and competence across distinct exercises.

The execution of the proposed recreation model involves a four-month program where participants rotate to a different PA environment each month and attend two classes per week, cumulating in 32 total classes. Management implications are discussed to determine how recreational professionals can achieve the intended outcomes of the model. Finally, further research is necessary to determine if this model can increase participants' motor proficiency and positively influence physical activity behaviors in the recreation sector.

Keywords

Recreation, physical activity, intentionally designed model, Canada, physical literacy

Introduction

Many children and youth are not meeting the recommended guidelines of 60 minutes per day of heart-pumping activity, known as moderate to vigorous physical activity (MVPA; Carson et al., 2017; Colley et al., 2017; ParticipACTION, 2020). As a result of this and other factors (including various environmental, social, and biological determinants of health), an increasing number of children and youth are overweight and obese (Anis et al., 2010; Rao et al., 2016; Roberts et al., 2012; World Health Organization, 2019). To help address this issue, the Canadian Parks and Recreation Association (CPRA) has created a Canadian Recreation Framework (CRF). Within the CRF framework is the Pathway to Well-being: an initiative to promote the well-being of all Canadians (Canadian Parks and Recreation Association, 2015). The CRF has five goals and priorities which are: Active Living, Inclusion and Access, Connecting People with Nature, Supportive Environments, and Recreation Capacity (Canadian Parks and Recreation Association, 2015).

Recreation has been defined by the CPRA (2015) as “the experience that results from freely chosen participation in physical, social, intellectual, creative and spiritual pursuits that enhance individual and community well-being” (p. 4). This definition aligns well with the Canadian consensus statement and definition of physical literacy (PL) which states that “physical literacy is the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life” (Sport for Life, 2020a). Both the CRF framework and the PL consensus statement, along with existing child development models, should be used as guiding documents in the creation of a new program model in the public recreation sector to promote the holistic well-being of children.

This paper outlines a new, intentionally designed model of programming for children's structured recreation; that is, programs based on sport or physical activity (PA) that are planned and led by an instructor. In contrast, unstructured recreation refers to PAs such as walking, running, or playing in a gym that is not guided by an instructor (Mota & Esculcas, 2002). While the concept of “intentionally designed” has been used before, it has not been clearly defined (Bruening et al., 2015; Cooke & Donovan, 1998). In this paper, the authors define “intentionally designed” as the development of purposeful programming with specific objectives that align with outside sources. In this context, intentional design is used to develop a multifaceted PA programming

model with the end objectives at the forefront of program design. The authors believe this approach has the potential to lead to higher MVPA levels in programs and can help enhance participants' motor proficiency. For greater clarity, "children" as referred to in the proposed structured recreation model, includes those ages 6 to 12. Although the intentionally designed model of PA programming discussed in this paper was developed within the context of the province of Alberta, it may be applicable across Canada.

Opportunities for Engagement in Physical Activity

Physical Education

The objective of the Alberta physical education (PE) curriculum is to have students "develop the knowledge, skills, and attitudes to lead an active and healthy life" (Physical Education Program of Studies, 2000, p. 1). The PE curriculum endorses the Program of Studies (POS), which provides teachers with specific curricular objectives to educate students. It is the responsibility of each teacher to ensure students acquire the necessary skills outlined in the POS. To assist teachers with this mandate, opportunities for multiple experiences are built into the curriculum including dance, gymnastics, individual-based activities, game activities, and alternate environments (Physical Education Program of Studies, 2000). This broad exposure to numerous PA experiences develops a multitude of movement skills among students. Therefore, school becomes an equalizer in providing many children with various PA experiences that some may not experience otherwise. Unfortunately, the experience in PE varies greatly and may not necessarily meet the diverse needs and interests of all students (Kilborn et al., 2015). Other factors such as whether teachers have specialized PE training can affect students' experiences. For example, when students are taught by PE specialists, they are more likely to demonstrate the recommended levels of motivation and confidence, as well as greater movement skills in comparison to their peers who were taught by generalists (Law et al., 2018).

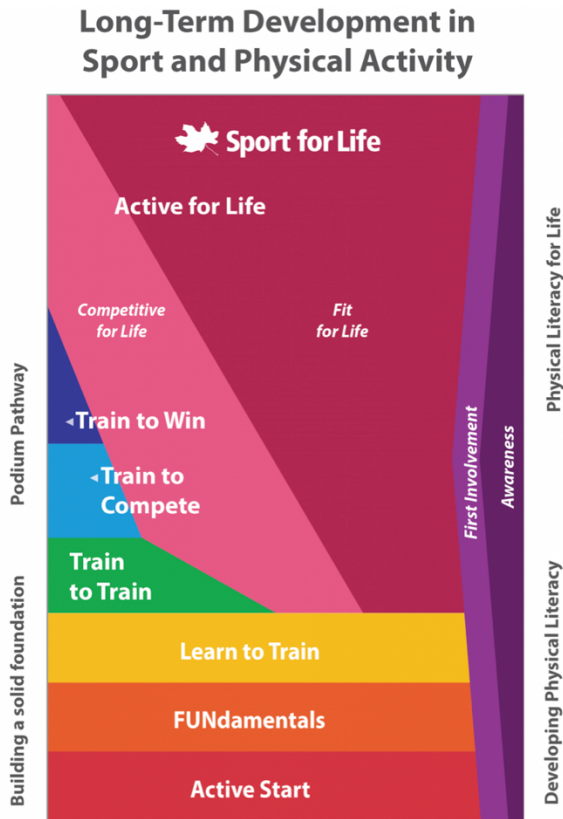
Sport

In addition to the available funding at the professional, national, and regional levels, the sports sector is also well-equipped with frameworks that serve as guides in promoting physical activity and physical literacy. For example, Canada's Long-Term Development in Sport and Physical Activity Framework is multi-staged with three main goals: "to support the development of physical literacy, strive for excellence, and empower people to be active for life" (Higgs et al., 2019, p. 20). The logic behind the framework is that children and adults are more likely to become active, stay active and potentially reach high levels of sport achievement if they "do the right things at the right times" (Higgs et al., 2019, p. 38). The framework is identified in Figure 1.

The Long-Term Development Framework is an evidence-based guide of how participation in sport can lead to excellence in sport and potentially being active for life. Although sport can provide such opportunities, those opportunities may not be accessible to all. The high cost associated with sport may be a limiting factor of participation (Priest et al., 2008).

Another example of an established program in the sports sector is the National Coaching Certification Program (NCCP). The NCCP is a training program that ensures coaches undertake standardized training and certification that are developmentally appropriate and sport-specific, meaning that coaches receive certification in a

Figure 1
Canada's Long-Term Development Framework



Note. From “3.0 Long-Term Development in Sport and Physical Activity,” by C. Higgs, R. Way, V. Harber, P. Jurbala, I. Balvi, A. Carey, C., Trono, D. Mitchell, J. Grove, and T. Liang, 2019, p. 13 (<https://sportforlife.ca/wp-content/uploads/2019/06/Long-Term-Development-in-Sport-and-Physical-Activity-3.0.pdf>). Copyright 2019 by Sport for Life. Reprinted with permission.

sport that they are interested in coaching (Sport for Life, 2020b). These educational requirements emphasize a minimum expectation of the coach to deliver an acceptable quality sporting experience. Similarly, in Canada, to work in the school system, teachers are required to have at least a Bachelor of Education degree. The required training and educational credentials in both the sports sector and in schools does not always ensure that there are high-quality sporting experiences, but it does support the delivery of them.

Recreation

There are many opportunities for children to participate in PA in the sport and education sectors. The NCCP and PE curriculums have established measures to ensure that coaches, teachers, and PA leaders understand the physical, social, emotional, and mental development of children (Bates & Eccles, 2008; Graber et al., 2008; Higgs et al., 2019; Kilborn et al., 2015). These same measures and standards do not exist in recreation. Widespread credentials that are nationally mandated do not currently exist

in the Canadian recreation sector. While there are known training programs such as High Five and first aid, they are not mandatory unlike the NCCP. Many PA programs are offered in the recreation sector out of convenience and instructor availability. The instructor often has personal experience participating in the activity, but may not necessarily have recognized certification or qualifications to instruct it. Instructors may not be familiar with current pedagogy practices and as a result, children may not experience high quality programming (Cross et al., 2010; Gottfredson et al., 2007; Lerner et al., 2005; Zarrett et al., 2008).

Structured recreation program offerings are dictated by a number of different factors including: the needs of the community; the expertise and services that can be provided; and the ability to provide quality programming (Brock et al., 2017). The interplay of these factors can greatly influence which programs are offered from community to community. For example, some locations may only have a pool and a gymnasium while others have only a climbing wall and a fitness studio. As a result, the availability of some activities may be constrained by the spatial limitations of the recreation centers, subject to existing community demand.

Engaging in sport and recreation opportunities is important to physical health and well-being. Exploring levels of PA engagement in structured PA should be an important element of consideration for recreation programmers. Previous research identified that during a structured one-hour recreation program, children spent as much as 60% of class time in sedentary behavior (standing, sitting, or lying down; Sheehan, 2015). Similarly, work conducted by Hannon et al. (2013) indicated that children spent an average of 32.1% of PE class time engaging in MVPA, and the majority of the class (42.8%) standing. These studies provide a baseline for physical activity engagement during structured physical activity programs. Exploring opportunities to increase MVPA in the new intentionally designed physical activity programming model may promote improved well-being.

An opportunity exists within recreation to provide high quality programs that deliver lessons designed with clear, intentional objectives in a fun and playful manner (Hallfors & Godette, 2002; Rajan & Basch, 2012). Introducing intentionally designed programs taught by trained instructors may lead to health benefits (e.g., decreased obesity and increased PA behaviors), a more diverse and inclusive recreation experience, and increased MVPA levels. The authors suggest that the public recreation sector develop its own model, aligned with other developmental models, to deliver PA experiences to children that are both positive and purposeful to address the current lack of intention in recreation programming.

Literature Review

While school-based PE is the most widely available opportunity for promoting PA among children and adolescents (McKenzie, 2010; McKenzie et al., 2000; Trost et al., 2003), there are additional opportunities to participate in PA beyond structured programs such as school and sport-type activities. The use of a variety of settings to promote PA in recreation can contribute to the improvement of population health (Casey et al., 2009). Health-promoting recreation organizations have been defined as “a community that designs activities and programs, to improve social and environmental living conditions, that enable people to increase control over and improve their health” (Casey et al., 2009, p. 112). Therefore, recreation is an excellent avenue to foster the holistic well-being of individuals. Recreation has an opportunity to enhance children's

motor development and acquisition of fundamental movement skills by reinforcing the skills they learn in school-based PE or in the sports sector. Creating a model for structured recreation programs that is intentionally designed with purpose and that aligns with the principles of Canada's Long-Term Development framework and Alberta's education curriculum may result in more children meeting the recommended PA guidelines.

Fundamental Movement Skills

The development of motor proficiency (MP) and the skills needed to be active for life are a result of acquiring and applying fundamental movement skills (FMS; Cliff et al., 2009; Higgs et al., 2008; Lubans et al., 2010; Robinson, 2011). FMS are considered the building blocks for lifelong participation in PA (Cliff et al., 2009; Higgs et al., 2008; Lubans et al., 2010; Robinson, 2011). Such skills are often broken into three categories: stability, locomotor, and object manipulative (Barnett et al., 2008, 2009; Okely et al., 2001). Stability skills are skills often performed while stationary (e.g., twist, stretch, balance), and are prerequisites to locomotor and object manipulative skills. Locomotor skills include the ability to travel from one location to another. Examples of locomotor skills include skipping, running, and leaping. Locomotor skills are not restricted to traveling on the ground or with feet alone as they can involve an individual's hands and feet such as a bear or crab walk, and in water and snow environments including swimming and skating. Object manipulative skills are often the most difficult to acquire because they require a combination of locomotor and stability skills. Dribbling a basketball while stationary or while traveling within a space are examples. Once children have acquired FMS, they have developed the requisite skills necessary to play more organized game or sport-type activities, thus leading to the development of fundamental sport skills (FSS).

Physical Literacy

The human body is capable of much more than simply acting as a vehicle to engage in physical movement. According to Whitehead (2007), the view of the body should be holistic, recognizing that the body is not separate from our entire being and that the experiences we have influence both our body and our overall well-being. Physical Literacy (PL) focuses on the lived body as the embodied dimension of our human experience, and how it can be enriched through various experiences that enable us to reach our full potential (Whitehead, 2007). This perspective suggests that a broader, holistic perspective of the individual will allow for a greater sense of understanding and development in regard to self-realization, self-concept, emotion, and the importance of social relationships (Whitehead, 2007). More recently, a common consensus definition of PL has been created. The definition of PL, as defined by the International Physical Literacy Association (2017), is that "Physical literacy can be described as the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life" (para. 1). PL is a capacity that everyone can achieve within their own sphere of being (Whitehead, 2007).

Sport Philosophy

Sport for Life (S4L) endorses PL. S4L is an initiative to improve the quality of sport and PA opportunities for all individuals (Higgs et al., 2008). According to Canada's Long-Term Development model, PL should include the development of FMS and FSS in a variety of environments including on the ground, in the water, on snow and on ice as well as in the air (Higgs et al., 2008). Individual exposure to as many environments

as possible will increase the transferability of skills to different contexts, providing more opportunity for physical development. A strong foundation in FMS and FSS will provide children and youth with opportunities to participate in a variety of activities in childhood, which will transcend into adulthood (Higgs et al., 2008; Kirk, 2005).

Play

Play is considered essential for healthy development and is defined as a self-motivated activity where children engage for their pure enjoyment (Herrington & Brussoni, 2015; Nijhof et al., 2018). Play that is unstructured is often considered to be free play that can spontaneously occur anywhere and is led by the child (Herrington & Brussoni, 2015). There has been an influx of literature about the importance of play to children's cognitive and social development (Bergen & Fromberg, 2009; Herrington & Brussoni, 2015; Huisman, 2014; Lester & Russell, 2008; Milteer et al., 2012). Bergen and Fromberg (2009) suggest that providing children with time, resources that promote creativity and open-ended opportunities, and a safe environment that promotes problem solving are all necessary to encourage play. Given the importance of play to children's social, emotional, cognitive, and physical development (e.g., cooperation, problem-solving, and goal-setting skills), it is essential to consider how to intentionally incorporate play into a new PA model.

Developing a New Model of Physical Activity Programming for Recreation

The creation of a new, informed, PA programming model can promote the development of children's FMS in a variety of environments with specific learning objectives within each class. The new model:

- Is grounded in elements of physical literacy
- Is aligned with education curriculum and sport philosophy
- Capitalizes on backward design lesson planning principles
- Incorporates play
- Involves one consistent instructor

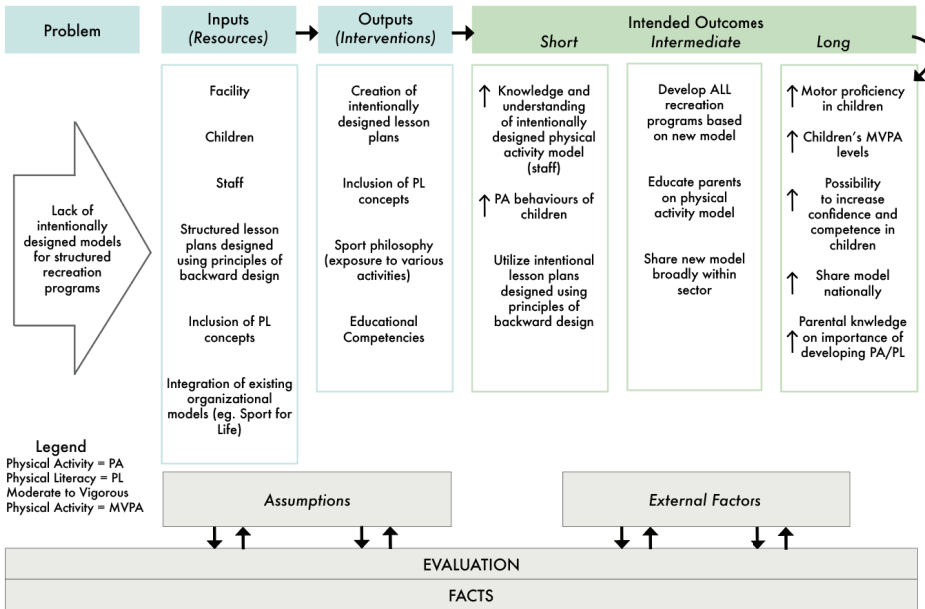
The use of such a model may result in an increase in children's MVPA levels as well as motor proficiency.

Recreation Sector Physical Activity Model Design

A logic model, sometimes referred to as theory of change, is a process often used to evaluate the effectiveness of a program (McLaughlin & Jordan, 2010). Although this model is typically used at the end of an activity or program to measure success, it can be used during the planning or implementation phase to plan, evaluate, and communicate change (Bickman, 1987; Moore et al., 2015; Scott et al., 2018; Tournier et al., 2020; Wells & Arthur-Banning, 2008). Logic models can also be used to promote positive youth development in youth sport programs (Wells & Arthur-Banning, 2008). An example of a complete logic model is identified in Figure 2. This logic model is a starting point to question the current practice of program planning and delivery in the recreation sector, and identifies the inputs, outputs, intended outcomes, and opportunities to develop purposeful and intentional PA programs to increase PA. This logic model suggests that, in recreation, there is a lack of alignment of program planning with guiding principles and intentionally designed lessons. Itemized lists of resources

are identified to assist in promoting change as well as specific intervention activities that will help facilitate the desired outcome(s). To measure success, short, intermediate, and long-term objectives have been established. Assumptions and external factors have also been considered in this visual roadmap. A few of the basic assumptions identified include the desire to increase PA time in typical programs and a general desire by community members to want to lead an active and healthy lifestyle. There are also external factors to consider such as cost of programs, interest and willingness of members to participate in activities, and the buy-in of staff to incorporate a new model of programming.

Figure 2
Logic Model



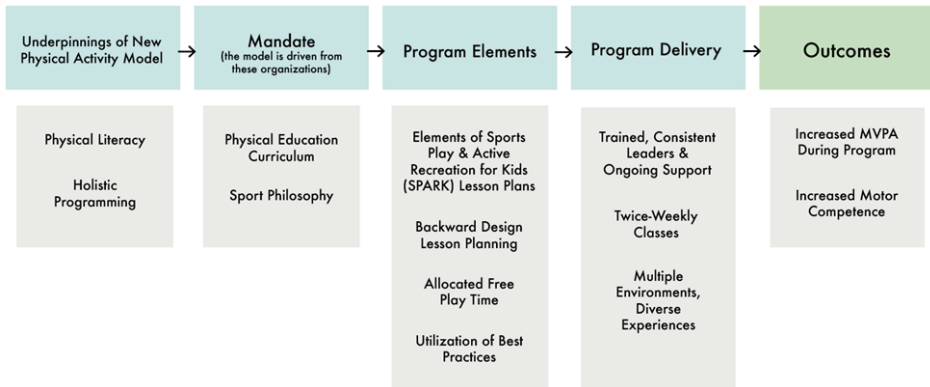
A curriculum grounded in the principles of PL will enhance holistic experiences (Whitehead, 2007). Designing a structured curriculum is intended to take into consideration multiple elements that can influence a child’s experience or behavior in a program. By providing children with multiple PA experiences, a consistent instructor, opportunities to play, and intentionally designed lesson plans, the proposed physical activity model has the potential to increase children’s PL and positively influence the public recreation sector to offer more programs grounded in PL. Figure 3 identifies the key elements of the proposed new model.

Program Elements

Physical Education Curriculum

The recreation sector PA model is deliberately aligned with Alberta’s education curriculum including the adherence to diverse physical activities promoted by sports models (e.g., gymnastics, dance, individual activities, and alternative environments), while using structured and intentionally designed lesson plans, and best practices of

Figure 3
Intentionally Designed Physical Activity Model Elements



teaching delivery. The combination of these factors ensures that each lesson is purposeful in achieving specific objectives. The creation of the PA model is intended to enhance the existing school-based objectives in the recreation environment by giving children an even better opportunity to create a strong foundation in multiple activities across various environments. Children's engagement in the program may also increase the likelihood that they will be active for life.

Sport Philosophy

The alignment of the PA model to the sports sector and S4L philosophy occurs in two ways. The first way involves the philosophical belief that children should have a diverse experience in a variety of different physical activities. With this perspective, the PA model includes activities in four environments: land, water, air and ice. The second alignment to sport is the belief in developing FMS as a foundation to the development of FSS. The activities selected for children will be developmentally appropriate while simultaneously allowing them to have fun and experience success.

Backward Design and SPARK Lesson Plans

The proposed PA model uses principles of backward design to develop lesson plans. Backward design is planning with the end objectives in mind and more specifically, when desired outcomes of a program are determined in advance and specific instructional methods are chosen to meet those objectives (Wiggins et al., 2005). Determining the desired end results of the PA program at the beginning stage of planning will help guide participant success. Lesson plans in all environments will be designed with purposeful objectives, clear instructions, and opportunities to assess children's learning.

The PA model also utilizes evidence-based lesson plans from the Sports Play and Active Recreation for Kids (SPARK) program. SPARK resources were developed with the intention to aid generalist teachers in delivering quality PA programs and have been demonstrated to be effective in the school system (Herrick et al., 2012; Sallis et al., 1997). Lesson plans are designed to be user-friendly for leaders by identifying specific objectives and including all the necessary materials to engage in learning activities and as well as teaching tips (McKenzie et al., 2009; Sallis et al., 1997, 1999).

SPARK resources and lesson plans, such as 3-Catch Basketball (SPARK, n.d.), will primarily be used to teach gym-based PA, as evidence suggests success at increasing PA within the PE classroom (McKenzie et al., 1998). Although the SPARK resources will be used primarily for lesson planning in the gym-based environment, lesson planning for each environment is crucial to the success of the proposed program. In addition to the SPARK resources and principles of backward design, a compilation of other materials will be used to assist instructors leading the program in the delivery of best practices. This information will be acquired from education curricula and national sporting organizations (i.e., National Coaching Certification Program [NCCP] Gymnastics Foundation). Using the SPARK resources and principles of backward design in the proposed model provides opportunities for children to increase their amount of PA time within the program and for instructors to build on each lesson to achieve the desired outcomes.

Utilizing the best teaching strategies and practices is an important element of the new recreation sector PA model that encourages program instructors to foster maximum activity time and create positive experiences for participants. This can be done by using strategic methods such as organizing children into groups, modifying activities so participants are appropriately challenged, and choosing activities and games that promote active participation of all children in the program. The authors suggest that the use of these best practices could help increase the amount of time participants spend in MVPA.

The Inclusion of Play

In alignment with suggestions by Bergen and Fromberg (2009), a concerted effort to encourage play within the PA model will occur by providing children with time, resources and an appropriate environment in which they can play. Opportunities for free play are embedded in the structured PA model by giving children time at the beginning and end of each class—in all PA environments—to play freely with a variety of resources and equipment. Equipment, depending on the PA environment, could include beach balls, various shaped balls, hula hoops, and beanbags. Leaders will be trained on how to promote and engage in play by drawing upon best practices derived from online resources such as Sport for Life and Active for Life. Examples of best practices relate to classroom management strategies, detailed lesson plans, and equipment distribution. As there is evidence that adults engaging in play interaction is important to children's play (Huisman, 2014), it is imperative that leaders are well prepared.

One Consistent Leader and Ongoing Support

A unique element to the model is the inclusion of a consistent program leader. This leader will be trained in PL and teaching pedagogy. They will instruct in PA environments where they are confident and competent in teaching and will assist other leaders in alternative environments where certain certifications are required (e.g., swimming and skating). The role of a consistent leader is to build and maintain the important social connections amongst the program participants and families. Additionally, literature supports the positive, significant correlation between individuals fostering social connections and their continued participation in PA (Jago et al., 2012; Ullrich-French et al., 2012). Recreation program leaders can facilitate ongoing meetings with instructors on what best practices in instruction looks like, delivering the necessary information while ensuring that instructors have the resources and support they need to lead informative PA classes.

Effort to Increase Moderate-to-Vigorous Physical Activity Time

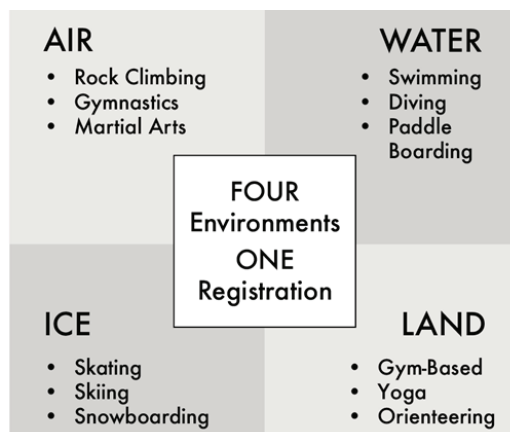
Another notable element to the PA model is the intentional effort to increase the amount of time children spend in MVPA. This is done through utilizing best practices of program delivery as previously outlined: incorporating play and intentionally designed structured lesson plans.

Program Execution

The new model only requires one registration for program participation in four environments. This registration allows the participant to be involved in a twice weekly, four-month PA program. Participants will rotate to a different PA environment each month (after eight classes) for four months, resulting in 32 total classes. This proposed schedule is different from traditional recreation programs, which usually occur once a week for eight weeks, for a total of eight classes. Given that the program is twice-weekly, participants have a greater opportunity to solidify their learnings as they will participate in each activity in a more condensed and concentrated manner.

Program participation in multiple PA environments is also advocated by S4L. Figure 4 outlines examples of different activities that could be offered in each environment. For smaller, rural communities who are likely to have more limited recreational resources and space, it is important to coordinate physical activities with the seasons. For instance, snow and ice activities such as skating and skiing may only be possible during the winter months. Recreational facilities with physical or seasonal constraints should also encourage creativity when designing PA experiences. For example, when indoor ice rinks are unavailable and centers are located in warmer climates, children can place paper plates under their feet to mimic skating in a gymnasium. Moreover, activities that are inclusive and promote diverse cultures may provide children with unique, engaging, and novel PA experiences. High Five (n.d.) has created an Indigenous Games for Children Resource, which is a series of traditional indigenous games and activities and can be used by program leaders to introduce new activities, through a cultural lens, to non-indigenous children. Although some recreation centers may not have the resources to offer experiences in all four environments, this curriculum is ultimately designed to deliver as many diverse experiences as possible considering the potential spatial and financial limitations of some communities.

Figure 4
Program Layout and Examples of Diverse Activities and Environments



Discussion

A recreation model that is intentionally designed and grounded in elements of PL has the potential to lead to more positive experiences for children in recreation (Whitehead, 2007). An opportunity exists in the recreation sector to increase MVPA levels of participants and enhance their motor proficiency. The model proposed is intended to build upon the wealth of existing knowledge from other sectors and apply it within the recreation context. By grounding the PA model in PL and designing a holistic, intentionally designed curriculum (as depicted in Figure 3), the model intends to influence positive PA behaviors that are reinforced through program participation. Aligning the program with the Physical Education Curriculum provides further opportunity for children to reinforce and apply their learnings outside of school, and as a result, potentially increase their PA behaviors by giving them the tools they need to be active both inside and outside of school and recreation. Moreover, using S4L philosophy within the model encourages children to participate in diverse PAs in alternative environments. By doing so, children who participate in the program may be able to enhance their PL and build their confidence and competence in various environments, encouraging them to be more active as they grow older.

Utilizing resources such as SPARK and backward design lesson planning meaningfully provides opportunities to increase the amount of PA time within the program and the ability for instructors to build on each lesson to achieve desirable outcomes. Adding a small amount of free play at the beginning and end of the program gives children the space, time, and opportunity to be creative and participate in unstructured activity within a structured program. Using best practices encourages instructors to promote maximum PA time and create positive experiences for participants. Having one consistent leader for ongoing support in each environment in addition to more frequent classes (twice-weekly instead of the usual once-per-week) may help build children's confidence and competence across diverse activities.

Ultimately, there is an opportunity within the recreation sector to do more to positively shift behaviors, encouraging individuals to lead healthier lifestyles. The development of this intentionally designed PA model of programming for structured recreation, which aligns beyond the walls of recreation to other sectors (PE and sport), is one small step in that direction. While the proposed model is mainly designed with children in mind, many of its elements could also apply to adults as well such as allowing them the opportunity to play or explore their environment prior to the start of a structured lesson. Further to that a consistent leader in diverse PA experiences may also help with building and maintaining the social connections of participants to leaders and participants to participants. There is a real opportunity to extend the benefits of this intentionally designed PA model for children to a broader adult audience.

In addition, it is necessary to pursue a research study to test the effectiveness of this model at increasing MVPA levels and motor proficiency, and determine its success at achieving other short, intermediate, and long-term goals (as mentioned in Figure 3).

Future Research

A pilot study comparing the new intentionally designed PA model to standard recreation programming could be used to test if the model is successful in increasing the participants' MC and MVPA levels. To measure the program's success at increasing the participants' MC, motor proficiency testing could be conducted pre and post program participation (Giblin et al., 2014). A variety of standardized tests exist to assess chil-

dren's motor proficiency skills (e.g., The Test of Gross Motor Development, 3rd Edition [TGMD-3]; the Bruininks-Oseretsky Test of Motor Proficiency, 2nd Edition [BOT-2]; Allen et al., 2017; Bruininks & Bruininks, 2005). Measuring the participants' motor proficiency at the beginning and at the end of the program could provide researchers with valuable information regarding the participants' physical developments as a result of engaging in various environments and activities throughout the four-month program.

To explore levels of PA engagement, systematic observation may provide an understanding of the determinants of sedentary versus MVPA behavior. For example, the System for Observing Fitness Instruction Time (SOFIT) is an observation system designed to record several variables including PA intensity, lesson context, and instructor interaction (McKenzie et al., 1991) and can be conducted in each PA environment. Measuring program movement levels using tools like SOFIT may identify program elements that inhibit or promote engagement in MVPA behavior.

Another suggestion for future research is to explore recreation programming from a social-ecological perspective. This perspective would encourage recreation, education, and sports sectors to work collaboratively to share their learning, resources, and expertise in the best interest of children and youth. Eliminating the silos that exist amongst the sectors would allow for consistent messaging in the development and fostering of PA and PL. There is a real opportunity to connect individuals, communities, and organizations to work collaboratively to positively shift and influence PA and healthy behaviors.

Intended Outcomes and Management Implications

While the key outcomes of this intentionally designed model are to increase the participants' MVPA during program time and increase their MC, additional intended outcomes (as depicted in Figure 2) include:

- Increase knowledge and understanding of the intentionally designed physical activity model among staff of the recreation center where it is utilized
- Increase participants' PA behaviors outside of the program
- Enhance participants' confidence and competence
- Increase caregiver knowledge on importance of developing PA/PL
- Share the model nationally

Utilizing questionnaires and focus groups with children and their caregivers could provide insight into the effect the model has on confidence and competence levels, and whether or not participants' PA behaviors have changed as a result of participating in the intentionally designed program. These insights are particularly useful for recreational professionals who can use the feedback to continually adjust and improve the delivery of the programs to achieve the intended outcomes. These data collection methods could also be used to determine the caregivers' knowledge of PA and PL.

Furthermore, developing an instructor training program or information sessions could help educate staff and other recreation centers on the premise and goals of the model. By creating an instructor training program, the recreation sector can form set standards and develop formal certifications to ensure that pedagogy practices are the same across all centers. Certifications can further be categorized to address the best teaching practices for each PA environment. Sharing successful program designs at

conferences and with other stakeholders would also assist with achieving the long-term goal of disseminating the model to a national audience.

Conclusion

This intentionally designed model has the potential to shed light on effectively incorporating research in the recreation sector to gain an understanding of children's participation in recreation programming. Findings from a pilot study could contribute to the body of literature supporting the opportunity for recreation to assist children in leading active and healthy lives through their life-course. The creation of a new model of programming for structured recreation also supports the goals of the Canadian Recreation Framework (Canadian Parks and Recreation Association, 2015) by promoting the well-being of participants and working to positively influence PA behaviors. While the paper focused on how the model is appropriate for children, there is also a strong possibility that the program could encourage positive PA behaviors among adult participants, particularly given that many design aspects of the model are not exclusive to children. Further research is needed to determine if the model will be successful at achieving its long-term goals of enhancing MVPA levels and motor proficiency, increasing confidence and competence levels, educating parents on the importance of PA and PL, and building national awareness.

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