Vol 10 no. 1

Revue phénEPS / PHEnex Journal

Growing Pains? Examining Developmental Claims of Preschooler Sport Programs

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Abstract

Recently, there has been growing concern regarding very young children's health and physical activity (PA) levels. Paradoxically, trends suggest an increase in sport participation among this age group; however, limited evidence suggests organized sport is an optimal context for preschoolers to engage in PA. This study examined preschooler sport programs' claims of developmental outcomes, through the content of programs' websites. Our search yielded 114 websites of preschooler sport programs in the Toronto area, across six sports. The quantitative content analysis revealed programs claimed a mean of 9.63 developmental outcomes each, with much variation by sport type. Approximately half (47.3%) of all developmental claims focused on physical development, followed by psychological/emotional development (21.8%), social development (11.9%), general development (11.9%), and intellectual development (7.1%). Findings are discussed in relation to existing child development and youth sport literature, practical implications, and extensive future research areas.

Key words: early childhood; organized sport; physical activity; website; content analysis

Résumé

Récemment, la santé et la pratique d'activité physique des très jeunes enfants sont devenues sources de preoccupation. De façon paradoxale, la participation sportive de ce groupe d'âge est en augmentation. Cependant peu de résultats de recherche suggèrent que le sport organisé est un contexte favorable à la pratique d'activité physique pour ce groupe d'âge. Cette étude analyse les objectifs de développement visés par des programmes de sport organisé chez les enfants d'âge pré-scolaire tels que présentés dans le contenu des sites web de ces organisations. Nous avons trouvé 114 sites webs de programmes sportifs pour ces enfants dans six sports dans la région de Toronto. L'analyse de contenu quantitative révèle que ces programmes affirment viser en moyenne 9,63 objectifs de développement chacun, avec une grande variation selon le sport. Environ la moitié (47,3%) de ces objectifs visés portent sur le développement physique, 21,8% portent sur le développement psychologique / émotionnel, 11,9% portent sur le développement social, 11,9% sur le développement général et 7,1% sur le développement intellectuel. Ces résultats sont discutés en relation avec la littérature sur le développement de l'enfant, le sport chez les jeunes, les implications pratiques et de futures recherches.

Mots clés: petite enfance; sport organisé; activité physique; site web; analyse de contenu.

Introduction

In recent years there has been growing concern regarding children's health, with an increasing focus on very young children as a key demographic of concern. On a global scale, approximately 42 million children under the age of five years are estimated to be overweight (World Health Organization, WHO, 2017), while in Canada, 15.2% of children aged 2-5 years are categorized as overweight, and 6.3% are categorized as obese (Shields, 2006). Low levels of physical activity (PA) and high amounts of sedentary time are among the multitude of interacting factors contributing to childhood overweight and obesity (Hill & Melanson, 1999). While PA among preschoolers has historically been challenging to measure (e.g., non-conventional PA patterns, issues with accelerometers, debate over optimal epoch lengths), recent data collected for Statistics Canada suggest approximately one quarter to one third of Canadian 3-4 year olds are not meeting recommended daily PA guidelines (Garriguet, Carson, Colley, Janssen, Timmons, & Tremblay, 2016; Statistics Canada, 2015). These data also suggest Canadian preschoolers are spending 60-80% of waking hours engaged in sedentary behaviours (Garriguet et al., 2016), while other reviews suggest children in Western nations may be sedentary 94% of time (Hnatiuk, Salmon, Hinkley, Okely & Trost, 2014; Pate, O'Neill, Brown, McIver, Howie, & Dowda, 2008).

An interesting paradox despite low PA levels among preschoolers is a trend towards increased availability of, and subsequently participation in, one form of PA among preschoolers - organized sports. Sport programming for preschoolers appears increasingly popular through nationally and provincially sanctioned clubs, community programs, and/or private for profit programs (e.g., Little Kickers, 2015; Sportball, 2017; Tim Hortons Community Sport, 2017). There may be many interrelated reasons for this trend. For example, parents may be concerned about their children's PA levels, and see sport as a means to address the PA void in their children's lives (Fraser-Thomas & Safai, in press). In recent years, parents have been made aware of the importance of children's physical literacy, with health and PA promotion organizations emphasizing the value of children engaging in a variety of fundamental movement skills (FMS), and fundamental sport skills (Sport for Life, 2017), in turn giving them the knowledge, skills and attitudes to lead healthy lifestyles (Mandigo Francis, Lodewyk & Lopez, 2012). Canada's Long-Term Athlete Development Model (LTAD, Sport for Life, 2017) suggests physical literacy is the foundation to lifelong PA (i.e., the Active for Life path within the model) and could also lead to high performance sport (i.e., the Competitive for Life path within the model).

Parents may also see benefit in sport programming for preschoolers, given the various psychological and social developmental outcomes associated with sport participation among youth and adults, including pro-social behaviors, emotional well-being, social inclusion, social competence, familial bonding, friendships and peer respect (Fraser-Thomas, Côté, & Deakin, 2005; Holt et al., 2017; Super, Hermens, Verkooijen, & Koelen, 2014). However, there is currently very little evidence to suggest these same developmental benefits exist among very young children (Harlow, Wolman, & Fraser-Thomas, 2017). Further, parents in today's society appear to be experiencing increased social pressures to assure their children's future success, with sport holding a central position in these perceptions. For example, Wheeler (2011) found parents perceived it was necessary to enroll children in at least two activities outside school in

order to be considered good parents, while Coakley (2006) suggest fathers in many communities are expected to actively promote their children's success in sport in order to meet the standards of good parenting. Finally, pressures for early sport participation may be fuelled in part by highly popularized research on deliberate practice, which suggests early focused practice in any domain is necessary order to attain later expertise/success (Ericsson, Krampe, & Tesch-Römer, 1993).

While there appears to be a trend towards increased availability of and participation in preschooler sports, the Canadian Pediatric Society (CPS) and American Academy of Pediatrics (APP) both offer some caution in relation to sport readiness among preschoolers. Specifically, CPS (2005) advise that young children (i.e., three to five years) should engage in egocentric activities that emphasize fun, playfulness, exploration, experimentation, and focus on acquiring fundamental skills; moreover, they suggest competition should be avoided and be introduced at the earliest in middle childhood (i.e., six to nine years). The APP also recommends "readiness to participate in organized sports should be determined individually, based on the child's (not the parent's) eagerness to participate, and subsequently enjoyment of the activity," and that "*children are unlikely to be ready before age six years*" (emphasis added) (1992, p.1003). Thus, the CPS and AAP appear to be advocating for more unstructured forms of PA, rather than organized sport, prior to age six. Less structured forms of PA have been linked to creativity, dexterity and physical, cognitive and emotional strength, as well as key social skills such as sharing, negotiating, resolving conflicts, and learning self-advocacy skills (Ginsburg, 2007). In 2015, Canada's ParticipACTION Report Card also offered a position statement emphasizing active outdoor self-directed play as critical to a child's development.

While organizations' recommendations and current research generally advise against organized sport involvement among preschoolers, a limited body of research suggests there may be some specific developmental benefits to this form of PA, which are not facilitated through unstructured PA among preschoolers. For example, results from a recent study suggest participation in sport at an early age facilitates the development of self-regulation skills in kindergarten children (Piché, Fitzpatrick, & Pagani, 2015). Moreover, Henriques and colleagues (2015) reported that initial sport participation and advanced locomotor skills in preschool years may be significant in promoting continued participation across childhood.

In sum, a variety of factors appear responsible for the growth in the availability of and participation in preschoolers' organized sport. While current recommendations advise against engaging in organized sport prior to age six, a handful of studies offer some evidence to suggest organized sport may be an optimal form of PA for preschoolers. In essence, the question asked by Timmons and colleagues' in their seminal (2007) paper regarding *how* PA should be experienced among preschoolers, remains critically important. In recent years, the Internet has served as a primary source of information and support for parents of young children (Plantin & Daneback, 2009). Therefore, this study took a preliminary step in advancing knowledge and understanding of preschoolers' development through sport, by first examining the information that parents are receiving regarding the benefits and outcomes of preschooler sport participation through online mediums. Specifically, this study examined preschooler sport programs' claims of developmental outcomes, through the content of programs' websites.

Methods

Research Design

This study utilized a quantitative content analysis (QCA) to examine websites of preschooler sport programs, with a focus on programs' claims of developmental outcomes. A QCA has been identified as an appropriate technique to describe surface content of communication, systematically and objectively (Berelson, 1952). Specifically, this study focused on coding website content according to specific categories, and further outlining frequencies of categories; this differs from qualitative content analyses, where the aim is to infer meaning behind words or content (Hsieh & Shannon, 2005). In this study we adhered to the QCA protocol outlined by Rourke and Anderson (2004) by: (a) identifying the purpose of the coding data; (b) identifying content that represented the construct; (c) reviewing the categories and indicators; (d) holding preliminary tryouts; and (e) developing guidelines for administration, scoring and interpretation of the coding scheme.

Data Collection

Search strategy. With the aim of examining a sufficient but manageable number of preschooler sport programs (Kim & Kuljis, 2010), it was determined that the study would focus on programs in Canada's largest city (i.e., Toronto). Our search was limited to programs for children aged 2-5 years, as the term 'preschooler' inherently implies that the child has not yet started school. In Ontario, children are mandated to attend school beginning in Grade 1 (approximately age of 6; Ministry of Education, 2017). Additionally, our search focused on six specific organized sports deemed most popular among preschoolers, based on recent research in Ontario (i.e., Caldwell & Timmons, 2013; Fraser-Thomas & Safai, in press); these were soccer, baseball, gymnastics, skating, martial arts and dance. While some debate may surround the inclusion of martial arts and dance as "sports," common definitions suggest sport includes elements of competition (e.g., Canadian Heritage, 2013), and many preschooler martial arts and dance programs feed into competitive programs. Additionally, for the purpose of this study, we excluded swimming, given parents most often enroll preschoolers in this sport as a drowning prevention strategy and life skill, rather than as a sport for competition (Brenner, Saluja & Smith, 2003).

Google search. A systematic Google search was conducted during September and October 2016, whereby three combined terms were used: "preschooler" + "specific organized sport" + "Toronto". In order to capture the diversity of programs offered in Toronto, various synonyms were used for the six chosen organized sports (e.g., t-ball and blastball was also used for baseball). Thus, a total of 16 different search term combinations were used, as outlined in Table 1.

Table 1
Google Search Terms and Results

Sport	Sport Synonym	Search Term Combination	Number of Search Results	Number of Exclusions	Final Number of Programs
Soccer	Soccer	Preschool Soccer Toronto	79	62	17
Baseball	Blast ball	Preschool Blast ball Toronto	63	61	2
	T-Ball	Preschool T-Ball Toronto	73	65	8
	Baseball	Preschool Baseball Toronto	56	54	2
Gymnastics	Gymnastics	Preschool Gymnastics Toronto	68	49	19
Hockey	Skating	Preschool Skating Toronto	78	67	11
	Ice-Hockey	Preschool Ice-Hockey Toronto	52	52	0
	Figure Skating	Preschool Figure Skating Toronto	58	58	0
MMA	Judo	Preschool Judo Toronto	62	54	8
	Karate	Preschool Karate Toronto	84	76	8
	Taekwondo	Preschool Taekwondo Toronto	82	77	5
	MMA	Preschool MMA Toronto	63	59	4
Dance	Jazz	Preschool Jazz Toronto	74	68	6
	Ballet	Preschool Ballet Toronto	81	63	18
	Hip Hop	Preschool Hip Hop Toronto	79	78	1
	Dance	Preschool Dance Toronto	81	76	5
Total			1133	1019	114

Program inclusion and exclusion. Table 1 also summarizes the search results. The 16 searches yielded a combined total of over 5 million program websites. In order to assure a reasonable sample size (Kim & Kuljis, 2010), and consistent with past systematic Google searches, only the first five pages of results were included for each of the 16 searches, totaling 1133 results. Of these, 1019 were excluded based on six criteria: they (a) were not sport programs (e.g., advertisements, directories, news articles) (n=606), (b) were duplicates (n=175), (c) were not located within the city of Toronto (n=122), (d) were programs run by the City of Toronto's Parks and Recreation Commission (n=42) (excluded because they were abundant in number, and generally offered little diversified information regarding developmental outcomes), (e) did not include participant age (n=25), and (f) did not provide sufficiently detailed information (e.g., sport type not listed, no developmental outcomes provided) (n=50). Following exclusions, 114 programs remained for further examination.

Data extraction. For each of the 114 results, website content was extracted that focused on claimed developmental outcomes of the organized sport program. Typically, this information was found on general information pages such as "about us," or occasionally on more specific pages outlining the program's "mission statement. Additional details regarding data extraction are provided in the data analysis section below (i.e., coding manual).

Data Analyses

Coding manual. The coding manual (Table 2) was developed from the National Research Council and Institute of Medicine's (NRCIM) framework of *Health and Developmental Outcomes Facilitated Through Community Programs* (Eccles & Gootman, 2002). While the NRCIM's framework was developed for community programs for youth rather than preschoolers, we considered this framework a suitable lens of analysis based on preliminary outcomes emerging in our findings, and the apparent absence of a comparable preschooler-specific framework for community-based programs. The NRCIM's framework outlines four key domains of development which served as the main categories of the coding manual: (a) physical development; (b) intellectual development; (c) social development; and (d) psychological and emotional development. Within these four domains, the framework offers 28 specific indicators of development, which served as subcategories for the coding manual. Three further adaptations of the NCRIM's framework were made for the coding manual. First, to more accurately capture the specific developmental outcomes of sport participation, the categories of physical health (e.g., cardiovascular endurance, muscular strength) and physical skills (e.g., agility, balance, power, speed) were added to the physical development category (Caspersen, Powell, & Christenson, 1985). Second, one additional subcategory was added to each of the four main categories to capture more general claims of development within each domain (i.e., general physical development, general intellectual development, general social development, and general psychological and emotional development); these captured unique claims that were not captured by existing domains, and/or claims that reflected multiple subcategories. Lastly, a general development category (with only one subcategory by the same name) was added in order to account for all statements that did not align with the four main categories of development and/or reflected multiple domains of development. Thus, a total of 35 subcategories were developed within the five main categories. Sample content for each subcategory is provided in Table 2.

Table 2
Content Analysis Coding Guide

Category	Code	Factor	Example Statement
Physical Development	1	Good health habits	Dance is such an exciting way to stay active.
	2	Good health risk management skills	---
	3	Physical health (e.g., cardiorespiratory endurance, muscular endurance, muscular strength, body-composition and flexibility).	This is a high-energy class, loaded with fun that encourages rhythm, coordination, strength and flexibility.
	4	Physical skills (e.g., agility, balance, power, speed, coordination and reaction time)	Touches on the ball, footwork, freedom of movement, fun exercises that challenge the players to build their coordination with the ball.
	5	General physical development	We offer summer camps and recreational gymnastics programs that are designed to develop athletic ability...

Intellectual Development	6	Knowledge of essential life skills	Providing them with "life skills" to excel in life.
	7	Knowledge of essential vocational skills	---
	8	School success	… has improved grades...
	9	Rational habits of mind – critical thinking and reasoning skills	…will learn (…) problem-solving skills…
	10	In-depth knowledge of more than one culture	[Program] embraces the principles of having fun, respecting cultural diversity…
	11	Good decision-making skills	…but the practice of judo is also meant to develop sharp mental powers.
	12	Knowledge of skills needed to navigate through multiple cultural contexts	To provide a consummate education in the art of dancing, an education that imparts (…) appreciation of culture through the sheer joy of movement.
	13	General intellectual development	Dancing helps develop a child's vocabulary of symbolism; sizes, shapes and colours…
Social Development	14	Connectedness – perceived good relationships and trust with parents, peers, and some other adults	…in promoting team spirit and cooperation among players, coaches and parents.
	15	Sense of social place/integration – being connected and valued by larger social networks	The mission of [Baseball Program] is to provide the game of baseball to the youth of our [Community] neighbourhood…"
	16	Attachment to prosocial/ conventional institutions, such as school, church, and non-school youth programs	Our focus is on providing a positive and supportive soccer experience for the children and youth of our community and to help individuals (….) develop their character as resourceful and responsible members of their community.
	17	Ability to navigate in multiple cultural contexts	---
	18	Commitment to civic engagement	---
	19	General social development	…encourage the players to respect one another, and learn the names of the rest of the players on their team.
Psychological and Emotional Development	20	Good mental health, including positive self-regard	Our programme is designed to empower your child with more esteem and self reliance.
	21	Good emotional self-regulation skills	They learn how to control their feelings, emotions, and impulses.
	22	Good coping skills	They learn to overcome their fears, and to show courage under pressure.
	23	Good conflict resolution skills	In fact, the confidence you'll exude is enough to diffuse most situations before they ever arise.
	24	Mastery motivation and positive achievement motivation	…designed to increase motivation (…) goal-setting skills and development.
	25	Confidence in one's personal efficacy	… designed to build self-confidence and promote important personal and social skills.
	26	"Planfulness" – planning for the	Teaching them how to create goals and work

		future and future life events	hard to achieve them.
	27	Sense of personal autonomy/ responsibility for self	With nurturing support, they begin to establish a greater sense of independence.
	28	Optimism coupled with realism	Dance provides the perfect medium to facilitate this type of learning, growing their knowledge, skill, coordination and overall understanding of the world.
	29	Coherent and positive personal and social identity	…to make sure every child has a healthy sense of self-esteem and good self image.
	30	Prosocial and culturally sensitive values	---
	31	Spirituality or a sense of a "larger" purpose in life	…to face life's challenges with faith and conviction and to pursue personal best in life.
	32	Strong moral character	…the practice of judo is also meant (…) to build a correct moral attitude.
	33	A commitment to good use of time	Judo students develop an outstanding work ethic…
	34	General psychological and emotional development	We provide well-rounded fitness and sport programs that develop children and athletes on a physical, social, mental, and psychological level.
General Development	35	General development	… dancers begin to learn musicality, pointing their toes, and memorization….

Coding validity and reliability. Validity and reliability of the data was considered throughout the coding process. As outlined above, Rourke and Anderson's (2004) five-step theoretically valid protocol was followed to identify, review, and test the coding process. Specifically, after identifying the purpose of coding the data, it was determined that the NRCIM's (2002) framework of *Health and Developmental Outcomes Facilitated Through Community Programs* (Eccles & Gootman, 2002) would guide the identification of content that represented each construct. All study authors were involved in the development, review, and initial categorization of the program outcomes; the research team reviewed the NRCIM's framework, which provides detailed descriptions of each developmental domain (category), and associated indicators of development within these domains. Following preliminary categorizations and sub-categorizations of the content, further discussion between authors led to the creation of the seven additional indicators (subcategories) noted above. Subsequently, four websites were randomly chosen and coded independently by two members of the research team. Only minor differences emerged in the coding of these four websites; these differences were discussed between all three members of the team, until agreement and clear guidelines for administration, scoring, and interpretation of the coding scheme moving forward was reached. The primary researcher then coded the remaining 110 websites. As a final step, inter-rater reliability was tested with an independent researcher with expertise in preschooler development through sport; researcher agreement was attained for 82% of the 51 randomly selected codes.

Coding analyses. The content of the sport programs' websites was analyzed with a focus on the claimed developmental outcomes of preschooler programs, using the coding manual's 35 subcategories within the five key categories. First, all coded statements were

counted to determine the total number of developmental claims. The mean number of claims per program was calculated by dividing the total number of claims by the number of programs. Second, the codes that were affiliated with each subcategory were summed, providing frequency counts for each of the 35 subcategories. Subcategory frequency counts were converted to percentages of total codes, by dividing by the total number codes. Finally, category percentages were calculated by summing all of the subcategory counts within each category, and by the total number of codes.

Frequencies and percentages were also calculated according to sport type. First, the mean number of claims per program for each sport type was calculated; the total number of claims for each sport type was divided by the number of programs for that sport type; this was repeated for each of the six sports. Next, frequency counts and percentages for each of the five development categories within each of the six sport types were calculated. Specifically, the total frequency count for each developmental category for a sport type was divided by the total frequency count for that same sport type; this was repeated for all six sports.

Results

The 114 preschooler program websites were distributed across the six organized sports as follows: 30 dance, 25 martial arts, 19 gymnastics, 17 soccer, 12 baseball, and 11 skating.

Developmental Claims

A total of 1098 statements were coded from the 114 preschooler program websites, which equates to a mean of 9.63 developmental claims per program website. Table 3 provides the category and subcategory frequencies and percentages for all coded website content. Approximately one half (47.8%) of codes reflected claims of physical developmental, 21.8% reflected claims of psychological and emotional development, 11.9% reflected claims of social development, 7.1% reflected claims of intellectual developmental, and an additional 11.9% reflected general developmental claims.

Table 3
Category and Subcategory Frequencies and Percentages for All Website Content

Category	Code	Factor	Subcategory Frequency Within Category N(%)	Category Frequency N(%)
Physical Development	1	Good health habits	50(9.63)	
	2	Good health risk management skills	0(0.00)	
	3	Physical health: cardiorespiratory endurance, muscular endurance, muscular strength, body-composition and flexibility.	77(14.83)	
	4	Physical skills: agility, balance, power, speed, coordination and reaction time	254(48.94)	
	5	General physical development	138(26.59)	519(47.3)
Intellectual	6	Knowledge of essential life skills	7(8.97)	

Development	7	Knowledge of essential vocational skills	0(0.00)	
	8	School success	16(20.51)	
	9	Rational habits of mind – critical thinking and reasoning skills	3(3.85)	
	10	In-depth knowledge of more than one culture	1(1.28)	
	11	Good decision-making skills	2(2.56)	
	12	Knowledge of skills needed to navigate through multiple cultural contexts	2(2.56)	
	13	General intellectual development	47(60.26)	
				78(7.1)
Social Development	14	Connectedness – perceived good relationships and trust with parents, peers, and some other adults	15(11.45)	
	15	Sense of social place/integration – being connected and valued by larger social networks	31(23.66)	
	16	Attachment to prosocial/ conventional institutions, such as school, church, and non-school youth programs	3(2.29)	
	17	Ability to navigate in multiple cultural contexts	0(0.00)	
	18	Commitment to civic engagement	0(0.00)	
	19	General social development	82(62.60)	
				131(11.9)
Psychological and Emotional Development	20	Good mental health, including positive self-regard	33(13.81)	
	21	Good emotional self-regulation skills	4(1.67)	
	22	Good coping skills	11(4.60)	
	23	Good conflict resolution skills	3(1.26)	
	24	Mastery motivation and positive achievement motivation	22(9.21)	
	25	Confidence in one's personal efficacy	69(28.87)	
	26	"Planfulness" – planning for the future and future life events	9(3.77)	
	27	Sense of personal autonomy/ responsibility for self	8(3.35)	
	28	Optimism coupled with realism	10(4.18)	
	29	Coherent and positive personal and social identity	11(4.60)	
	30	Prosocial and culturally sensitive values	0(0.00)	
	31	Spirituality or a sense of a "larger" purpose in life	1(0.42)	
	32	Strong moral character	12(5.02)	
	33	A commitment to good use of time	12(5.02)	

	34	General psychological and emotional development	34(14.23)	
				239(21.8)
General Development	35	General development	131(100)	131(11.9)
Total		General development	1098	1098

Within the physical development category (n=519), the physical skill subcategory comprised almost half (48.9%) of the codes, followed by general physical development (26.6%), physical health (14.6%), and good health habits (9.6%); no codes aligned with the subcategory of good health risk management. Within the psychological and emotional development category (n=239), confidence in one's personal efficacy represented 28.9% of coded statements, followed by general psychological and emotional development (14.2%), good mental health / positive self-regard (13.8%), and mastery/positive achievement motivation (9.2%); the remaining 11 subcategories each accounted for less than 5% of the codes in the category. Within the social development category (n=131), the general social development category comprised the majority of codes (62.6%), followed by sense of social place/integration/value within larger social networks (23.7%), and connectedness with parents, peers, and other adults (11.5%); the remaining three subcategories each accounted for less than 3% of the codes in the category. Within the intellectual development category (n=78), the general intellectual development accounted for 60.3% of coded statements, followed by school success (20.5%) and knowledge of essential life skills (9.0%); the remaining five subcategories each accounted for less than 4% of the codes in this category.

Developmental Claims by Sport Type

Table 4 presents means and category percentages of developmental claims by sport type. The mean number of developmental claims per program varied by sport type. Specifically, 30 dance websites outlined a total of 362 developmental claims, equating to a mean of 12.07 per program. The 25 martial arts websites included 283 claims, equating to a mean of 11.32 per program. The 19 gymnastics websites included 207 claims, equating to a mean of 10.89 development claims per program. The 17 soccer websites included 136 developmental claims, equaling a mean of 8 per program. Finally, the 12 baseball websites and 11 skating websites offered 57 and 50 claims, equating to means of 4.75 and 4.55 per program, respectively.

Table 4

Developmental Claims by Sport: Means and Category Percentages

Sport	# Programs	# Claims	Mean # Claims/ Program	% Physical	% Intellectual	% Social	% Psychological /Emotional	% General
Soccer	17	136	8.00	50.7	5.9	21.3	20.6	1.5
Baseball	12	57	4.75	43.9	1.7	47.4	1.7	5.3
Gymnastics	19	207	10.89	63.8	6.3	8.7	20.3	0.9
Skating	11	50	4.55	76.0	2.0	8.0	8.0	6.0
Martial Arts	25	287	11.48	33.1	10.8	9.8	33.1	13.2
Dance	30	361	12.03	44.3	6.6	7.0	19.1	23.0

Further, the distribution of developmental claims across domains (categories) also varied by sport type. The percentage of claims of physical development was highest within skating programs (76% of all skating claims) and lowest within martial arts programs (only 33.1% of all martial arts claims). Claims of intellectual development were highest among martial arts programs (10.8% of all martial arts claims) and lowest within baseball programs (only 1.75% of all baseball claims). Claims of social development were highest within baseball programs (47.4% of all baseball claims), moderate within soccer programs (21.3% of all claims) and lowest across the remaining four sport types (9.8%, 8.7%, 8.0%, and 7.0% of all martial arts, gymnastics, skating, and dance claims, respectively). Claims of psychological and emotional development were highest within martial arts programs (33.10% of all martial arts claims), moderate within soccer, gymnastics, and dance (20.6%, 20.3%, and 19.1% respectively) and lowest within baseball programs (only 1.7%).

Discussion

This study examined website content of organized sport programs for preschoolers in Toronto, Canada, with a focus on claims of developmental outcomes. Specifically, we examined content using a modified version the NRCIM's *Health and Developmental Outcomes Facilitated Through Community Programs* framework, which outlines four key domains of youth development (Eccles & Gootman, 2002). Given that the Internet serves as a primary source of information and support for parents of young children (Plantin & Daneback, 2009), this study examined information parents are receiving regarding potential outcomes of preschooler sport participation, as a preliminary first step in advancing knowledge and understanding of preschoolers' development through sport.

Trends of Developmental Claims

First, it is noteworthy that the mean number of developmental claims was 9.63 per program; this indicates that sport programs are promoting themselves as avenues of healthy development for preschoolers. It is perhaps not surprising that the greatest number of claims were in the domain of physical development (47.3%), followed by psychological (21.8%), social (11.9%), general (11.9%), and intellectual (7.1%) development. This pattern of developmental domain distribution aligns with current understanding of development through sport across the lifespan (Canadian Heritage, 2013; Eime, Young, Harvey, Charity, & Payne, 2013a; Eime, Young, Harvey, Charity, & Payne, 2013b; Gayman, Fraser-Thomas, Dionigi, Horton, & Baker, 2017; Canadian Heritage, 2013; Holt et al., 2017). However, current research indicates preschoolers do not necessarily follow the same developmental trends within sport as older children, youth, and adults (Harlow et al., 2017). While a handful of studies suggest some developmental benefits of sport participation for preschoolers (e.g., Henriques et al., 2015; Piché et al., 2015), debate ensues regarding this age group. Specifically, it has been suggested that unstructured contexts may be equally or more optimal for preschoolers' development, when compared to sports' competitive contexts (AAP, 1992; CPS, 2005; Ginsburg, 2007; ParticipACTION, 2015). As such, several critical research questions must be addressed moving forward: (a) What are the developmental outcomes that preschool aged children should be gaining through PA (in either

organized or unstructured contexts)? (b) Do claims of organized sport programs align with optimal developmental outcomes for preschoolers? (c) Do claims of developmental outcomes align with actual developmental outcomes experienced by preschoolers within organized sport programs? While it is somewhat surprising these questions have gained only minimal attention within the literature given the availability of and subsequent participation in preschooler sport, one might speculate that societal concerns (e.g., preschooler inactivity, overweight, and obesity) and social trends (e.g., expectations of parents) have contributed to the rapid increase in popularity of such programs, while the research examining associated outcomes has not kept pace.

Physical Developmental Claims

It is also interesting to consider the frequency of developmental claims in subcategories of the each of the four key developmental domains. Within the physical development category, the subcategory of physical skills made up 48.9% of the claims, capturing outcomes including agility, balance, power, speed, coordination and reaction time, as well as FMS such as throwing, catching, jumping, striking, running and kicking (Caspersen et al., 1985). These claimed outcomes align with key tenants of physical literacy (Edwards, Bryant, Keegan, Morgan, & Jones, 2016) and are considered necessary for participation in organized sport and unstructured forms of PA (Gallahue & Ozmun, 2006; Sport for Life, 2017); however, the directionality of this relationship remains unclear. Future research should examine whether organized sport participation is an important pre-cursor to the development of FMS and physical literacy among preschoolers, or whether unstructured PA (e.g., playfulness, exploration, experimentation; Ginsburg, 2007) may foster FMS and physical literacy among preschoolers, in turn facilitating children's optimal participation in organized sport during later childhood, and active lifestyle over the life course.

The high frequency of developmental claims related to physical skills should also be considered in light of parents' motivations for enrolling their child in organized sport. Programmers are likely cognizant of parents' interest of providing their child with optimal opportunities, and may be capitalizing upon parents' enthusiasm by presenting their programs in a manner they believe appeals most to parents. In particular, the high content around physical skills aligns with parents' probable interests in their child's future success (Coakley, 2006; Wheeler, 2011), and desire to get an early start on children's focused skill practice (i.e., deliberate practice; Ericsson et al., 1993). These considerations further reinforce the importance of examining actual outcomes experienced by preschoolers, and testing the credibility of developmental claims made by programmers.

Additionally, a growing body of research focuses on parents' roles and influences in their children's sport participation, highlighting both positive and concerning parental attitudes and behaviours (Bean, Fortier, Post, & Chima, 2014; Fraser-Thomas, Strachan, & Jeffery-Tosoni, 2013); however, little work has focused specifically on parents of preschooler sport participants. A unique characteristic of this very young age group is that parents generally make *all* decisions regarding their children's sport enrolments. As such, parents should be particularly cautious of pushing their child towards a pathway of early sport specialization, they should be wary of their over-involvement, and be particularly cognizant of any potential stress they may be causing their child (Bean et al., 2014; Côté & Fraser-Thomas, 2016; Fraser-Thomas et al., 2013).

Following the subcategory of physical skills, the subcategories related to physical health (14.8%), and health habits (9.6%) were most frequently cited. It is interesting to note that these health-related claims were given less attention than skill-related claims on program websites, particularly given concerns surrounding low PA levels, high rates of sedentary behavior, and high rates of obesity and overweight among preschoolers (Garriguet et al., 2016; Shields, 2006; WHO, 2017). Currently, Canadian Physical Activity Guidelines (CSEP, 2012) recommend toddlers and preschoolers accumulate at least 180 minutes of PA at any intensity over the course of the day, including activities that develop movement skills, and that preschoolers progress towards at least of 60 minutes of energetic play by 5 years of age. However, researchers and practitioners' recommendations continue to evolve. For example, new 24-hour movement guidelines for the early years (i.e., ages 0-4) to be released in the fall of 2017 focus on the amount of time to be spent in the four key movement behaviours of sweating (moderate to vigorous PA), stepping (light PA), sleeping, and sitting (sedentary behavior) (CSEP, 2017). Further research should focus on if and how, past and future guidelines may shape or change perceptions (particularly among parents and programmers), of what optimal PA should "look like" among preschoolers.

Psychological/Emotional, Social, and Intellectual Development

Within the category of psychological and emotional development, codes most frequently aligned with the subcategory of confidence in one's personal efficacy (28.9%), followed by general psychological/emotional development (14.2%), good mental health and positive regard (13.81%), and mastery motivation and positive achievement motivation (9.21%). Thus, preschooler sport programmers appear to be claiming to facilitate key psychological outcomes that have consistently been associated with sport participation among older children, youth, and adults (Eime et al., 2013a, 2013b; Gayman et al., 2017; Canadian Heritage, 2013; Holt et al., 2017); despite these outcomes again remaining unexamined in this age group (Harlow et al., 2017). Measurement of these specific outcomes in preschoolers is particularly challenging, given they are in the midst of a period of significant cognitive and behavioral growth (Brown & Jernigan, 2012).

Within the social development category, the most commonly claimed developmental outcomes were in the general social subcategory (62.6%), followed by sense of social place/integration, being connected, being valued by larger social networks (23.7%), and connectedness (i.e., perceived good relationships, trust with parents, peers, and other adults) (11.5%). In Holt and colleagues' (2017) recent meta-study of positive development through sport among youth, social connections within sport were highlighted as both a process (i.e., facilitator) of healthy development, as well as an outcome. Specifically, their research highlights that an appropriate climate, which facilitates strong relationships between children, their adult leaders (e.g., coaches), peers, and parents, can in turn facilitate key interpersonal, social, and life skills; however, these outcomes will not 'implicitly' occur in the absence of such a climate. This is consistent with past work suggesting that coaches may be the most crucial factor in determining children's positive (or negative) experiences and outcomes through sport (Peterson, 2004; Steelman, 1995; Wiersma & Sherman, 2005). Although no research has focused specifically on coaches of preschoolers, coaches likely have even greater influence on preschoolers' experiences

(in comparison to older children and youth), given preschoolers' cognitive stage of development, whereby their thinking is intuition-based (Piaget, 1952).

Within current sport systems, there appears to be a misalignment between the expectations placed upon preschooler coaches, and their preparedness to coach. Generally, sport organizations and recreation agencies are reliant on volunteer coaches (Silverberg, Backmen, & Backment, 2000), with positions often difficult to fill (Cuskelly, Taylor, Hoye, & Darcy, 2006). As such, the majority of volunteer coaches are parents, their training is limited or non-existent (Camiré, Forneris, Trudel, & Bermard, 2011) and retention is often low (Paiement, 2007). While coaches' motivations are well intentioned (i.e., to optimize children's physical, psychological, and social development), often, they simply do not have the knowledge or experience to foster suitable environments for development (Camiré et al., 2011; McCallister, Blinde, & Weiss, 2000). Future research should focus on how to most efficiently and effectively train preschooler coaches (i.e., volunteer parents), to optimize preschoolers' developmental outcomes, given the many constraints that already exist for parents of very young children. Additionally, exploration of associations between coaches' attitudes, behaviours and specific child outcomes would be beneficial in moving the field forward.

Finally, within the intellectual development category, the majority of claimed outcomes were in the general subcategory (60.3%), followed by school success (20.5%). The relatively high percentage of codes in the school success subcategory is somewhat surprising, given that programs were aimed at children not yet enrolled in school, or children enrolled in Ontario kindergarten programs, where the provincial curriculum focuses on play-based and inquiry-based learning, and success is measured through processes versus outcomes (Ministry of Education, 2016).

Developmental Claims by Sport Type

Findings are also interesting to consider across sports. Three sports claimed more developmental outcomes per program than the overall study mean (i.e., more than 9.63/program). Specifically, dance programs claimed a mean of 12.03 per program, martial arts offer a mean of 11.48 per program, and gymnastics provided a mean of 10.89 per program. Three programs also fell below the overall study mean: soccer (M=8.0/program), baseball (M=4.75/program), and skating (M=4.55/program). It is interesting to consider differences in the structure, format, and goals of these six different sports. For example, the three sports with above mean claims of development are individual-based sports, while the three sports with below the mean claims are interactive team sports (or in the case of skating, feed into the team sport of hockey). As past research among adolescents has highlighted different developmental experiences and outcomes are associated with different sport types (Bruner, Hall, & Côté, 2011), future research should explore whether some sports may indeed offer greater developmental opportunities among preschoolers, or alternatively, if certain sports tend to be more or less realistic in their claims.

When specific make-up of claims within each sport type were examined, physical claims were greatest within skating programs (76.0% of all skating claims), psychological and emotional claims were highest within martial arts programs (33.1% of all martial arts claims), and social claims were greatest within baseball programs (47.4%). These patterns can again be interpreted through the lens of sport programmers' goals, and parents' motivations. For example,

many skating programs are looking to develop future hockey players, hence it follows that websites would focus on physical development. Similarly, martial arts programs typically align themselves with the development of life skills and anti-bullying skills, in line with psychological and emotional skills. Finally baseball has traditionally been framed as a team sport that involves extensive social interactions, in line with the high percentage of social development claims. Further research could offer insight into whether certain sport types actually offer richer developmental opportunities within specific domains.

Strengths, Limitations, and Future Directions

This was the first study to our knowledge to examine preschooler sport programs' claims of developmental outcomes. It is important to re-emphasize that this study focused on organizations' claims of developmental outcomes (i.e., what they were promoting or marketing); the study did not examine actual implementation of programs, or learning activities afforded to children, nor did it offer any data on the actual or assessed development outcomes of children.

The study was grounded in a solid design; drawing upon a QCA approach, we conducted a systematic Google search, used the NRCIM's framework (Eccles & Gootman, 2002) to guide the development of the coding manual, and we included multiple researchers in the coding process. Moving forward, it will be important to broaden the research questions, while also expanding the area of research.

A key challenge we encountered throughout our search was developing a working definition of sport among preschoolers. Definitions of sport typically include two key parameters: (a) physical exertion and/or physical skill, and (b) competition between two or more participants (Australian Sports Commission, 2013; Canadian Heritage, 2013). Given preschoolers' stage of cognitive development is too premature to fully comprehend all elements of competition (i.e., preoperational; limited concrete logic and abstract thought; Piaget, 1952), we did not include competition as criteria of sport in this study. However, without competition, distinctions between sport and other forms of organized PA (e.g., swimming lessons) are blurred. It may be helpful moving forward within this area of research to further consider an operational definition of sport for preschoolers, given unique constraints of this age group.

Another factor worthy of consideration as this area of research moves forward surrounds the differences in structure, style, approach, and format of organized sport programs. In our search we encountered tremendous variability in the characteristics of programs, related to the length, frequency, duration, cost, adult-child ratio, space, etc. Interestingly, a number of programs also suggested or even required the active engagement of parents. For example, Little Kickers (2015) *Little Kicks'* program for children between the ages of 1.5-2.5 outlined parents must "put on their running shoes and get actively involved in the session." While parents' active role within preschoolers' sports programs may raise concerns of over-involvement and pressure (Fraser-Thomas et al., 2013), their involvement may also create opportunities for parent-child bonding, more play-based PA, and different developmental opportunities. Future research should explore if and how the role and influence of the coach and the parent is altered in programs where both adults are involved, and how this subsequently may influence preschoolers' optimal development through sport.

In essence, the question asked by Timmons and colleagues' in their seminal (2007) paper regarding *how* PA should be experienced among preschoolers, remains critically important. This

study offered an important first step in the study of preschooler sport, by examining the information that parents are receiving about these programs through the Internet. The study points to a number of important questions moving forward. As highlighted throughout our discussion, future investigation should focus on better understanding appropriate developmental markers to be targeting for this age group, and how organized sport programs may be delivering on these outcomes, particularly in comparison to less structured forms of PA. Continued research in this area is particularly necessary, given the increasing popularity of these activities for young children.

References

American Academy of Pediatrics (AAP, 1992). Fitness, activity, and sports participation in the preschool child, *Pediatrics, 90,* 1002-1004.

Australian Sports Commission (2013). Australia Sports Commission Recognition – Definition. Retrieved from http://www.ausport.gov.au/supporting/nso/asc_recognition.

Bean, C. N., Fortier, M., Post, C., & Chima, K. (2014). Understanding how organized youth sport may be harming individual players within the family unit: A literature review. *International Journal of Environmental Research and Public Health, 11*(10), 10226–10268. doi: org/10.3390/ijerph111010226

Berelson, B. (1952). *Content analysis in communication research.* New York, NY: Free Press.

Brenner, R.A., Saluja, G. & Smith, G.S. (2003) Swimming lessons, swimming ability and the risk of drowning. *Injury Control and Safety Promotion, 10*, 211-215.

Bridge, M.W., & Toms, M.R. (2013). The specializing or sampling debate: A retrospective analysis of adolescent sports participation in the UK. *Journal of Sports Sciences, 31*(1), 87-96.

Brown, T.T., & Jernigan, T.L. (2012). Brain development during the preschool years. *Neuropsychology Review, 22*(4), 313–333. doi: 10.1007/s11065-012-9214-1

Bruner, M., Hall, J., & Côté, J. (2011). Influence of sport type and interdependence on the developmental experiences of youth male athletes. *European Journal of Sport Science, 11*(2), 131-142, doi: 10.1080/17461391.2010.499969.

Caldwell, H.A.T., & Timmons, B.W. (2013). Sport participation: How young is too young? *Preschooler Focus, Issue 12*. Child Health & Exercise Medicine Program: McMaster University, Canada. Retrieved from https://fhs.mcmaster.ca/chemp/documents/PreschoolFocusIssue12October2013-SportParticipation-updatedSECURED.pdf

Canadian Pediatric Society (2005). Sport readiness in children and youth. *Pediatric Child Health, 10*(6), 343-344.

Camiré, M., Forneris, T., Trudel, P., & Bernard, D. (2011). Strategies for helping coaches facilitate positive youth development through sport. *Journal of Sport Psychology in Action, 2*(2), 92-99.

Canadian Heritage (2013). *Sport Participation 2010.* Retrieved from http://publications.gc.ca/collections/collection_2013/pc-ch/CH24-1-2012-eng.pdf.

Canadian Society for Exercise Physiology (CSEP, 2017). *24-hour movement guidelines for children and youth.* Retrieved from http://www.csep.ca/view.asp?x=696.

Caspersen, C.J., Powell, K.E., & Christenson, G.M. (1985). Physical activity, exercise, and physical fitness: Definitions and distinctions for health-related research. *Public Health Reports, 100(2), 126-131.*

Coakley, J. (2006). The good father: Parental expectations and youth sports. *Leisure Studies, 25*(2), *153–163*.

Colley, R.C., Garriguet, D., Janssen, I., Craig, C.L., Clarke, J., & Tremblay, M.S. (2011). Physical activity of Canadian children and youth: Accelerometer results from 2007 to 2009 Canadian Health Measures Survey. *Health Reports, 22*(1), 15-24.

Cuskelly, G., Taylor, T., Hoye, R. & Darcy, S. (2006). Volunteer management practices and volunteer retention: A human resource management approach, *Sport Management Review, 9,* 141–163.

Eccles, J., & Gootman, J. A. (Eds.). (2002). *Community programs to promote youth development.* Washington, DC: National Academy Press.

Edwards, L. C., Bryant, A. S., Keegan, R. J., Morgan, K., & Jones, A. M. (2016). Definitions, foundations and associations of physical literacy: A systematic review. *Sports Medicine*, 1-14. doi:10.1007/s40279-016-0560-7

Eime, R.M., Young, J.A., Harvey, J.T., Charity, M.J., & Payne, W.R. (2013a). A systematic review of the psychological and social benefits of participation in sport for adults: Informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity, 10*, 135. doi: 10.1186/1479-5868-10-135.

Eime, R.M., Young, J.A., Harvey, J.T., Charity, M.J., & Payne, W.R. (2013b). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: Informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity, 10*, 98. doi: 10.1186/1479-5868-10-135

Ericsson, K.A., Krampe, R.T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review, 100,* 363–406.

Fraser-Thomas, J., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy, 10,* 19-40.

Fraser-Thomas, J. & Safai, P. (In Press). Tykes and 'Timbits': A critical examination of organised sport programs for preschoolers. In R. Dionigi & M. Gard (Eds.), *Sport and physical activity across the lifespan: Critical perspectives.* London, UK: Palgrave Macmillan.

Fraser-Thomas, J., Strachan, L., & Jeffery-Tosoni, S. (2013). Family influence on children's involvement in sport. In J. Côté & R. Lidor (Eds.), *Conditions of children's talent development in sport* (pp. 179-196). Morgantown: Fitness Information Technology.

Gallahue, D., & Ozmun, J. (2006). *Understanding motor development: Infants, children, adolescents, adults* (6th ed.). New York: McGraw-Hill.

Garriguet, D., Carson, V., Colley, R.C., Janssen, I., Timmons, B.W., & Tremblay, M.S. (2016). Physical activity and sedentary behaviour of Canadian children aged 3 to 5. *Health Reports, 27*(9), 14-23.

Gayman, A.M., Fraser-Thomas, J., Dionigi, R.A., Horton, S., & Baker, J. (2017). Is sport good for older adults? A systematic review of psychosocial outcomes of older adults' sport participation, *International Review of Sport and Exercise Psychology, 10*(1), 164-185. doi: 10.1080/1750984X.2016.1199046.

Ginsburg, K. R. (2007). The importance of play in promoting healthy child development and maintaining strong parent-child bonds. *Pediatrics, 119*(1), 182–191. doi.org/10.1542/peds.2006-2697

Harlow, M., Wolman, L., & Fraser-Thomas, J. (2017). Should preschoolers participate in organized sport? A systematic review of psychosocial outcomes of young children's sport participation. *Journal of Exercise, Movement, and Sport, 48*(1), 88. Retrieved from https://www.scapps.org/jems/index.php/1/issue/view/9

Henrique, R.S., Ré, A.H., Stodden, D.F., Fransen, J., Campos, C.M., Queiroz, D.R., & Cattuzzo, M.T. (2015). Association between sports participation, motor competence and weight status: A longitudinal study. *Journal of Science and Medicine in Sport, 10,* 825-829. doi: 10.1016/j.jsams.2015.12.512.

Hill, J.O., & Melanson, E.L. (1999). Overview of the determinants of overweight and obesity: current evidence and research issues. *Medicine and Science in Sport and Exercise, 11,* S515-521.

Hnatiuk, J., Salmon, J., Hinkley, T., Okely, A., & Trost, S.G. (2014). A review of preschool children's physical activity and sedentary time using objective measures. *American Journal of Preventative Medicine, 47*(4), 487-497.

Holt, N.L., Neely, K.C., Slater, L.G., Camiré, M., Côté, J., Fraser-Thomas, J., MacDonald, D., Strachan, L., & Tamminen, K.A. (2017). A grounded theory of positive youth development through sport based on results from a qualitative meta-study, *International Review of Sport and Exercise Psychology, 10*(1), 1-49. doi: 10.1080/1750984X.2016.1180704

Hsieh H.F. & Shannon S. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15,* 1277–1288.

Kim, I., & Kuljis, J. (2010). Applying content analysis to web-based content. *Journal of Computing and Information Technology, 18*(4), 369–375. doi:10.2498 /cit.1001924.

Little Kickers (2015). Little Kicks. Retrieved from https://www.littlekickers.ca/littlekicks.aspx

McCallister, S.G., Blinde, E.M., & Weiss, W.M. (2000). Teaching values and implementing philosophies: Dilemmas of the youth sport coach. *Physical Educator, 57*(1), 35-45.

Ministry of Education (2017). Education Act. Retrieved from https://www.ontario.ca/laws/statute/90e02#BK27

Ministry of Education (2016). The Ontario Curriculum: Elementary. The Kindergarten Program. Retrieved from https://www.ontario.ca/laws/statute/90e02#BK27.

Pate, R.R., McIver, K., Dowda, M., Brown, W.H., & Addy, C. (2008). Directly observed physical activity levels in preschool children. *Journal of School Health, 78,* 438-444.

Piaget, J. (1952). *The origins of intelligence in children.* New York: International Universities Press.

Plantin, L. & Daneback, K. (2009). Parenthood, information and support on the Internet. A literature review of research on parents and professionals online. *BMC Family Practice,* 10(34). doi: 10.1186/1471-2296-10-34

Paiement, C. (2007) Youth sport coaches: Factors that predict satisfaction with the coaching experience. *Research Quarterly for Exercise & Sport, 78*(1), A84.

ParticipACTION (2015). The biggest risk is keeping kids indoors. The 2015 ParticipACTION Report Card on Physical Activity for Children and Youth. Toronto: ParticipACTION.

Peterson, C. (2004). Positive social science. *The Annals of the American Academy of Political and Social Science, 591,* 186-201.

Piché, G., Fitzpatrick, C., & Pagani, L.S. (2015). Associations between extracurricular activity and self-regulation: A longitudinal study from 5 to 10 years of age. *American Journal of Health Promotion, 30*(1), e32-40. doi: 10.4278/ajhp.131021-QUAN-537.

Rourke, L., & Anderson, T. (2004). Validity in quantitative content analysis. *Educational Technology Research and Development, 52*(1), 5-18.

Shields, M. (2006). Overweight and obesity among children and youth. *Health Reports, 17*(3), 27-42. Retrieved from http://www.statcan.gc.ca/pub/82-003-x/2005003/article/9277-eng.pdf

Silverberg, K., Backman, S., & Backman, K. (2000) Understanding parks and recreation volunteers: A functionalist perspective. *Loisir et Société/Society and Leisure, 23*(2), 453–475.

Sport for Life (2017). *Long term athlete development stages.* Retrieved from http://sportforlife.ca/qualitysport/stages/.

Sportball (2017). *Our story.* Retrieved from https://www.sportball.ca/about-sportball/our-story/

Statistics Canada (2015). *Directly measured physical activity of children and youth, 2012 and 2013.* Retrieved from http://www.statcan.gc.ca/pub/82-625-x/2015001/article/14136-eng.htm.

Steelman, T. (1995). Enhancing the youth sports experience through coaching. *Parks and Recreation, 29*(11), 14-17.

Super, S., Hermens, N., Verkooijen, K., & Koelen, M. (2014). Enhancing life prospects of socially vulnerable youth through sport participation: A mixed methods study. *BMC Public Health, 14*(1), 703-715. doi: 10.1186/1471-2458-14-703

Tim Hortons (2016). Timbits Minor Sports Program. Retrieved from https://www.timhortons.com/ca/en/corporate/timbits-minor-sports-program.php

Timmons, B.W., Naylor, P.J., & Pfeiffer, K.A. (2007). Physical activity for preschool children – how much and how? *Applied Physiology, Nutrition, and Metabolism, 32,* S122-134.

Wheeler, S. (2012). The significance of family culture for sport participation. *International Review for the Sociology of Sport, 47*(2), 235–252. doi: 10.1177/1012690211403196

World Health Organization (WHO) (2017). *Global strategy on diet, physical activity and health. Childhood Overweight and Obesity.* Retrieved from http://www.who.int/dietphysicalactivity/childhood/en/

Wiersma L., & Sherman C. (2005). Volunteer youth sport coaches' perspectives of coaching education/certification and parental codes of conduct. *Research Quarterly for Exercise & Sport76*(3), 324-338.