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Physical Education Policies and Practices in Qatari Preschools: A Cross-Cultural Study

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Abstract
Anecdotal evidence and empirical research point out to the low physical activity levels at preschools as well as the global rise in childhood obesity rates. Placing a high premium on sports and healthy well-being of its citizens by the Qatari government, taking into account the increasing prevalence of overweight and obesity among Qatari children, and given the significance of physical activity during the development phase of preschool children all served as a rationale for the current research. The purpose of this study was to assess the preschool physical education practices and policies in Qatar. 40 teachers from 19 public independent and private international schools completed the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC). Findings revealed that the total mean scores for the "time provided," "teacher practices," and "policy" sections of the NAP SACC were noted to be on the lower continuum of the best practice recommendations regardless of the preschool type (public vs. private). Higher mean scores on four sections of the NAP SACC were reported for the physical education preschool teachers in private international schools as compared to their counterparts in public independent schools. Significant effects of school type on the following three sections of the assessment: Time provided, indoor play environment, and policy were also revealed. Implications are discussed in the context of curriculum practices, professional development, and family-school partnership.
Keywords: Physical education, Professional development, School-Family partnership, Preschool curriculum

1. Introduction

Ever since the 15th Asian Games held in Doha, Qatar, 10 years ago, the State of Qatar has witnessed exponential growth in infrastructure investments, state of the art sports facilities, and international sports events, all of which are aimed to help enhance the country's international visibility and representation (Silva, 2014). This past year, for instance, Qatar hosted 89 sporting events, 55 of which were international, including the AIBA World Boxing Championships, IPC Athletics World Championships, Asian Youth Athletics Championships, ATP and WTA tennis tours, and International Volleyball Federation Beach World Tour. All of these events are seen as essential precursors to hosting the 2019 World Athletics Championships and the 2022 FIFA World Cup (Qatar Olympic Committee, 2015). The Qatar Olympic Committee, whose vision is to "become a leading nation in bringing the world together through sustainable sport development" has undertaken diligent efforts to make effective and positive contributions to maintain young people interest's in sport and physical activity. One such initiative is the establishment of Qatar's National Sports Day in 2012 during which thousands of women, men, and children participate in various sports activities and events throughout the country. Another significant milestone is the creation of the School Olympics Program which has the following objectives:

- Establish a sports culture calling for the practice of sport for Health and Life.
- Prepare an attractive environment for male and female students, which encourages them to adopt physical activities.
- Provide the financial and human resources for the practice of sport at the competitive, prevention and recreation levels.
- Strengthen the cooperation between the Qatar Olympic Committee, the Ministry of Education, the Supreme Education Council and the Health institutions.
- Promote all types of sport in the State schools in order to achieve the objectives of School Sports and promote them.
- Promote the values and principles of the Olympic movement through sport activities.
- Support and improve performance in sport, and make sure that the maximum of State schools population, males and females, take on practicing sport.
- Increase the interest of Qatari community in practicing sport and physical activities

The latter two initiatives have been largely motivated by the alarming rates of childhood obesity and diabetes in Qatar. Diabetes mellitus (type 2) has been increasingly reported among Qatar children and adolescents (Soliman et al., 2013). According to the 2012 Qatar Health Report, the prevalence percentage of participants' raised blood glucose was nearly 17%. 70% of them were found to be overweight and obese and almost 46% had low physical activity (Supreme Council of Health, 2014). In the same vein, the 2012 Qatar stepwise report of chronic disease risk factor surveillance discovered that half of respondents (18-64 year old males and females) had 3-5 of the following risk factors (Supreme Council of Health, 2013):

- Currently daily smokers
- Less than 5 servings of fruits and vegetables per day
- Low level of activity
- Overweight or obese
- Raised blood pressure

Qatar is currently rated sixth in the world on the prevalence of obesity. A survey conducted by the World Health Organization and Hamad Medical Corporation in 2009 found that 70% of Qatari children led unhealthy lifestyles. Boys were also noted to have the highest obesity rates in the region according to the International Association for the study of obesity (Qatar Foundation, 2016). The 2006 Qatar World Health Survey revealed that 28% of Qatari children below 5 years of age were overweight (Chanpong, 2006). That figure rose to 40% four years ago (Supreme Council of Health, 2013). Over the past decade, Qatar has witnessed a massive economic development, which was reflected in the increased GDP per capita. According to the 2012 World Bank Report, Qatar is considered to be among the high income non-Organization for Economic Co-operation and Development (OECD) countries with a Gross National Income per capita of (current US) $80,000 (The World Bank, 2012). The increased GDP per capita might have been related to changes in behaviors and practices among the Qatari population. Qataris might have been more at risk to exposure to more risk factors due to sedentary lifestyles, fast-food consumption, and financial prosperity (Mandeya & Kridli, 2014). Studies have found that overweight children were less physically active and had less well developed motor skills (Krombholz, 2013; Castetbon & Andreyeva, 2012), and there's a plausible link between overweight and poor cognitive functioning (Li et al., 2008).

Over the past decade, researchers have noted that physical activity of preschool children was low (e.g., Tucker, 2008) and did neither achieve the amount that the World Health Organization endorsed in 2007, which is one hour of hearty physical activities per day, nor the two hours that the National Association for Sport and Physical Education recommended in 2002. In addition, the WHO Child Growth Standards reported that the prevalence of overweight and obesity in preschool children worldwide has jumped from 4.2% in 1990 to 6.7% in 2010 (De Onis, Blössner, & Borghi, 2010). These findings are alarming since early childhood is an essential, developmental period during which children acquire a healthy lifestyle and adopt positive attitudes towards physical activity, especially that the latter has been known to foster mental health and well-being (McWilliams et al., 2009; Stork & Sanders, 2008; Timmons, Naylor, & Pfeiffer, 2007). Two years ago, Krombholz observed that increasing the number of physical activities in child care centers contributed to the enhancement of children's motor performance, and that overweight children and those with impoverished motor skills benefited the most from the intervention. Well-structured, physical education programs have also had a positive impact on preschoolers' motor, social, and cognitive development (Donnelly & Lambourne, 2011; Zachopoulou et al., 2006). Similarly, a study conducted three years ago found that an innovative, preschool physical education program had positive effects on children's social behaviors and skills (Gregoriadis, Grammatikopoulos, & Zachopoulou, 2013).

The bulk of empirical research investigating physical education practices in preschool settings has been largely conducted in North American and European contexts. Studies examining this topic have not received much attention in the Gulf region. In Qatar, for instance, studies investigating physical education practices and policies in preschools are non-existent. Placing a high premium on sports and healthy well-being of its citizens by the Qatari government, taking into account the increasing rates of childhood overweight and obesity, and given the significance of physical activity during the development phase of preschool children, all served to motivate this researcher to conduct this study, which would be essential in terms of examining the time provided for physical activity, indoor play environment, teacher practices, education and professional development, and policy in Qatari preschools.

2. Methods

2.1 Participants

Participants in this study were 40 physical education teachers from 19 preschools in Doha, Qatar. 27 of the participating teachers were from 11 independent public schools, while the other 13 were employed in 8 private international schools. Independent public schools in Qatar receive government funding and provide free tuition to all eligible residents. Most of students are Qatari (approximately 70%), while the rest are non-Qatari, expat children. The ministry of education oversees all schools in Qatar. Most expat children attend private international schools in Qatar. There are various curricula, including the International Baccalaureate (IB), British, American, and Indian systems. Most families choose a curriculum similar to the one in their home country, while expats who move frequently often prefer the IB curriculum. Private international schools can cost around $17,000 (US Dollars) per year excluding additional expenses, such as registration fees, uniforms and excursions.

2.2 Instrument

The instrument that was adopted in this study is the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC), which is based on a set of best practices that stem from the latest research and guidelines in the field. NAP SACC was created in 2002 by a team of child obesity researchers at the University of North Carolina, Chapel Hill, in association with the Nutrition Services branch at the North Carolina Division of Public Health. The NAP SACC program helped centers improve their nutrition and physical activity policies and practices. Six years ago, the White House Task Force on Childhood Obesity named NAP SACC as one of three innovative early childhood programs to help combat childhood obesity. The NAP SACC program has become a trusted, widely used tool for improving nutrition and physical activity in child care settings (Ward et al., 2014). The original questionnaire consists of 22 items grouped into 5 sections: Time Provided, Indoor Play Environment, Teacher Practices, Education and Professional Development, and Policy. For the purpose of this study, five items were removed since they were targeting physical activity practices for infants and toddlers, which is not applicable to the current context. The current study investigated the physical practices and policies in preschools where children are 4-6 years of age. Thus, the final adapted version of the instrument was comprised of 17 items for which the reliability coefficient (α) was 0.88. For each of the 17 items, teachers were instructed to select (from 1-4) the physical education practice/area that is pertinent to their respective institutions, with 4 being the best practice recommendation.

2.3 Procedure

The questionnaire was translated to Arabic and then back-translated to English. The final "Arabic" version was piloted in the Early Childhood Center at Qatar University with the participation of six preschool teachers. After receiving IRB approval and the authorization from the Supreme Education Council to conduct the study, the final version of the questionnaire was administered to 40 preschool teachers working in 11 different independent schools and 8 private international schools in Qatar. The participants received detailed instructions and clarifications by the researcher about the questionnaire. The first part of the study relied on having the teacher participants complete the NAP SACC questionnaire. This type of self-reporting measure is commonly used in early childhood education research (Belacchi & Farina, 2010). The second phase of this investigation employed a causal comparative design in which the researcher tested whether the physical education practices and policies varied according to the type of school (i.e., public independent schools vs. private international school). According to Leedy and Ormrod (2001), causal-comparative methods aim at investigating whether one or more preexisting conditions have possibly caused subsequent differences in the groups of participants. The causal-comparative approach also has the advantage of establishing relationships that might be studied experimentally at later points in time.

3. Results

Descriptive statistics are presented in tables 1-4. A total of 40 preschool physical education teachers (27 from public independent schools and 13 from private international schools) participated in the study (Table 1). Almost all of respondents had a bachelor's of arts degree in education (Table 2) and the majority of them have been working as physical education teachers for at least 6 years (Table 3). All of the 13 preschool teachers in private international schools noted that they had physical education assistants, while 23 of their counterparts in public independent schools reported that they did not have any (Table 4).

Table 1. School frequency

	School	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Independent	27	67.5	67.5	67.5
	International	13	32.5	32.5	100.0
	Total	40	100.0	100.0	

Table 2. Qualification Frequency

	Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BA	39	97.5	97.5	97.5
	Diploma	1	2.5	2.5	100.0
	Total	40	100.0	100.0	

Table 3. Physical Education Years Frequency

Years as a Physical Education Teacher		Frequency	Percent	Valid Percent	Cumulative Percer
Valid	0-5 years	11	27.5	27.5	27.5
	6-9 years	8	20.0	20.0	47.5
	10-15 years	13	32.5	32.5	80.0
	16-20 years	4	10.0	10.0	90.0
	21 years or more	4	10.0	10.0	100.0
	Total	40	100.0	100.0	

Table 4. Cross-Tabulation of Schools by Physical Education Assistants

		Physical Education Assistants		Total
		Yes	No	
School	Independent	4	23	27
	International	13	0	13
Total		17	23	40

Mean and standard deviation scores on the five sections of the instrument (i.e., time provided; indoor play environment; teacher practices; educational and professional development; policy) are presented in Table 5. The total mean scores for the 5 sections were M=6.95, M=13.12, M=7.75, M=18.90, and M=2.85, respectively. The "ideal" total mean scores based on the best practice recommendations for each of those 5 sections is: Time provided (M=12); indoor play environment (M=16); teacher practices (M= 12); educational and professional development (M=24); and policy (M=4). The mean scores for the preschool teachers in the private international schools were M=7.84, M=15.46, M=7.53, M=19.23, and M=3.23, while those for the preschool teachers in the public independent schools were as follows: M=6.51, M=12.00, M=7.85, M=18.74, and M=2.66.

Table 5. Physical Activity: School Type

School Type		Time Provided	Indoor Play Environment	Teacher Practices	Education and Professional Development	Policy
Independent	Mean	6.5185	12.0000	7.8519	18.7407	2.6667
	N	27	27	27	27	27
	Std. Dev.	1.50308	1.20894	1.16697	2.76785	.62017
International	Mean	7.8462	15.4615	7.5385	19.2308	3.2308
	N	13	13	13	13	13
	Std. Dev.	1.14354	.66023	.87706	1.36344	.43853
Total	Mean	6.9500	13.1250	7.7500	18.9000	2.8500
	N	40	40	40	40	40
	Std. Dev.	1.51826	1.95051	1.08012	2.39444	.62224

In the second phase of the study, a causal-comparative design was employed to investigate the effect of school type (public independent vs. private international) on the five sections of the NAP SACC instrument: Time provided; indoor play environment; teacher practices; education and professional development; and policy. One-way MANOVA test was used to examine the effects of school type on the physical education practices and policies. Table 6 shows the results of the one-way MANOVA for each of the five sections subscales (i.e., time provided; indoor play environment; teachers practices; education and professional development; and policy) using the predictor variables of school type. Results from table 6 revealed a significant effect of school type on time provided (F = 7.896, p < .05), indoor play environment (F = 92.422, p < .05), and policy (F = 8.621, p < .05). No significant effects of school type on teacher practices and education and professional development were noted.

Table 6. One-Way MANOVA: School Type & Physical Education Practices & Policies

Source	**Dependent Variable**	*df*	*F*	*p*
		Between subjects		
School Type	Time Provided	1	7.896	.00*
	Indoor Play Environment	1	92.422	.00*
	Policy	1	8.621	.00*

*$p < .05$

4. Discussion

The total mean scores reported in this study for the "time provided," "teacher practices," and "policy" sections of the NAP SACC were noted to be on the lower continuum of the best practice recommendations regardless of the preschool type (public vs. private). This is an indication that there needs to be an increase in both the amount of time provided to preschool children for indoor and outdoor physical activity each day as well as the amount of adult-led physical activity. Past research (e.g., Patrick et al., 2004) has also revealed that preschool children's physical activity was low. A study investigating the physical activity practices and policies in 96 child care centers in the state of North Caroline found that the majority of them didn't meet the NASPE guidelines and only 13% of them provided 120 minutes of structured and unstructured physical activity (McWilliams et al., 2009). Given the extreme, hot weather conditions throughout most of the year in Qatar, it is challenging for schools to plan out ample, outdoor physical activity. Therefore, it may be more practical to compensate for this drawback by diversifying and enhancing the types and the number of physical activities that children ought to spend indoors. In terms of teacher practices, physical education teachers and/or assistants in Qatari preschools need to take more of a proactive, participatory role during children's physically active playtime and incorporate physical activity into classroom routines including movement games while children transition between activities. Integrating physical activity into the preschool curriculum fosters unique opportunities to fuel children's thinking in physical and enjoyable ways (Henniger, 2009; Trost, Fees, & Dzewaltowski, 2008). Physical education programs in Qatari preschools would most likely benefit from a comprehensive policy that covers specific guidelines about programs' operations or expectations for teachers, assistants, children, staff, and families. Such policies can be included in parent handbooks, staff manuals, and other documents. Preschool administrators might need to consider creative strategies to reinforce those guidelines and ensure that physical education teachers play a proactive role in the embodiment of their program policy into their curricular and pedagogical practices. Brady et al. (2008) emphasized that preschool physical education program policies have a long-term effect on children's involvement in physical activity.

Higher mean scores on four sections of the NAP SACC were reported for the physical education preschool teachers in private international schools as compared to their counterparts in public independent schools. Findings from this study also revealed significant effects of school type on the following three sections of the assessment: Time provided, indoor play environment, and policy. The difference in physical education practices and policies between the two preschool settings is likely due to several factors. In the private, international schools, for instance, all of the 13 physical education teachers had assistants, while only 14% of their counterparts in public, independent schools received similar support. One of the key successful elements of a preschool physical education program is to ensure the availability of sufficient number of teachers and staff (Joško, 2014). Unlike public, independent schools, which adhere to national curriculum standards set forth by the Supreme Education Council, private schools have the flexibility and autonomy to adopt international curricula, which might affect the qualitative and quantitative aspects of physical education resources and facilities that are provided at the preschool level. Another factor that might have contributed to the findings of this study is teachers' attitudes towards physical activities at the preschool level and their perceived, self-efficacy beliefs about incorporating those activities into their teaching practices. Sevimli-Celik and Johnson (2013) reported that preschool teachers had positive attitudes towards children's engagement in physical activities and that most of them felt that the latter was beneficial in terms of preventing obesity and enhancing physical, social, and cognitive development. Providing teachers with training opportunities on age-appropriate structured games appear to boost their self-efficacy and self-confidence vis-à-vis involving preschoolers in physical activities (Copeland et al., 2009).

4. Limitations and future directions

The strengths of this study must be considered in the context of its limitations. Though this was the first study in Qatar and the Gulf region that investigated the topic of physical education practices and policies at the preschool level, much is needed to gain a more comprehensive and profound insight into the dynamics of physical activity

and the participation of preschoolers therein. The current research relied solely on the NAP SACC, a self-reporting instrument, to gather data. Future studies should adopt a "multi-approach," longitudinal design marked by a qualitative and quantitative paradigm using questionnaires, interviews, focus groups, naturalistic observations, and curriculum. Such investigations ought to also consider incorporating a wider range of factors, such as children's attitudes towards physical education, perceived barriers, parental support and encouragement, peer and sibling support, teachers' attitudes, self-efficacy, perceived benefits, and access to play spaces and equipment (Hagger, Chatzisarantis, & Biddle, 2002). Professional development opportunities shouldn't be seen as a vehicle for teachers' to collect certificates of attendance or a means to attain higher appraisals from school administrators. Qatari preschools should engage in a concerted effort to plan a series of highly organized, effective professional development workshops on how to assist teachers with effective and creative ways to integrate physical activity into their teaching practice as well as gain a working familiarity with the relationship between the importance of physical activity and indices of psychophysical, social, and emotional well-being. Darling-Hammond et al. (2009) explicated that in order for professional development to have a positive effect on teachers' classroom practices, the content of professional development initiatives must be aligned with curriculum guidelines and assessment procedures. Finally, Since physical activity is considered an essential predictor of the short- and long-term health of children (Biddle, Gorely, & Stensel, 2004) and a way to help them acquire the appropriate skills, knowledge, and dispositions (Howe & Pate, 2012), it is equally imperative for preschool teachers and administrators to engage in dialogue with parents and other stakeholders on ways in which they can foster and strengthen collaborative and constructive partnerships around the importance of physical activity, while considering the following five guidelines developed by the NASPE (2009):

1. Preschoolers should accumulate at least 60 minutes of structured physical activity each day.
2. Preschoolers should engage in at least 60 minutes and up to several hours of unstructured physical activity each day, and should not be sedentary for more than 60 minutes at a time, except when sleeping.
3. Preschoolers should be encouraged to develop competence in fundamental motor skills that will serve as the building blocks for future motor skillfulness and physical activity.
4. Preschoolers should have access to indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.
5. Caregivers and parents in charge of preschoolers' health and well-being are responsible for understanding the importance of physical activity and for performing movement skills by providing opportunities for structured and unstructured physical activity.

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