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A Time in Research A Comparison Study between Two Studies before and during Covid-19 Pandemic in Physical Education Policies and Practices

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Abstract
This paper is a comparison paper between two papers in the same topic physical education policies and practices in Qatar, repeated measures and time series (Trochim,2023) the first paper was on the 2016 and the second paper is in 2022 during the Covid pandemic. In this paper will observe the difference between School type :

- Time provided
- Indoor play environment
- teacher practices
- Education and professional development
- Policy

The investigation showed the old study: Physical Education Policies and Practices in Qatari Preschools: A Cross-Cultural Study 2016, the results shows a significant effect of school type (In favor of international schools) on:

- time provided,
- indoor play environment, and
- policy

The new study 2022, Observing Preschool Physical Education Practices and Policies Under the COVID-19 Pandemic the results shows there is a significant effect of school type (In favor of international schools) on:

- Education
- Professional development,
- Indoor play environment

The old study (2016) There are no statistically significant effects of school type on:

- teacher practices and education
- professional development

The new study (2022) There are no statistically significant effects of school type on:

- Time provided
- Teacher practices
- Policies noted

Keywords: Time in Research, Repeated Measures, Comparison Study, Physical Education, Preschool Curriculum
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Introduction

The new guidelines for children ages 3 to 5 years old emphasize that preschool-aged children should be active at school to enhance their growth and development. Adults caring for children at this age should be encouraged to play actively (light, moderate, or vigorous intensity) and aim for at least 3 hours per day.(2) **(health.gov)**

Schools are the best place for children to help them sustain the nationally recommended 60 minutes or more of moderate-to-vigorous physical activity daily. Regular physical activity in childhood and adolescence is essential for endorsing lifelong health and well-being and avoiding various health conditions. 3 (Healthy school, 2022)

Regular physical activity is an important element for human health. Existence physical activity can improve brain health, help manage weight, reduce the risk of disease, strengthen bones and muscles, and improve the ability to do everyday activities. 4. (CDC,2022)

There is a increasing attention through Canada in outdoor education that is formally integrated into school. This tendency has amplified since COVID-19, mainly because open-air environments meaningfully reduced the risks of disease transmission. 5 (conversation,2023)

The aspect of physical and mental well-being is the apprehension of two similar areas of education: health education and physical education. Mutually deal with habits of exercise, sleep, rest, and recreation. Ever since physical well-being is only one aspect of a person's overall health, physical education is frequently assumed of as a part of health education. 6 (Britannica kids,2023)

Methods

Participants

The first study was in 2016 the participants were 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. (Althani.Semmar,2016)

The second study was in 2022 under the Covid pandemic 27 teachers from 27 government schools and 13 teachers from 13 international schools all the participants are physical education teachers. All the teachers have bachelor degree or master in physical Education. (Althani,2022)

Instruments

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.

Procedure

The study in 2016 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. (Althani.Semmar,2016)

The study in 2022 27 teachers from 27 government schools and 13 teachers from 13 international schools all the participants are physical education teachers. All the teachers have bachelor degree or master in physical Education. Qatari schools are divided between public (government) schools and private schools, expat usually study in the private schools that follows their embassies. (Althani,2023)

Result

3.1 survey 2016

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 Perce
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.

3.2 Survey 2022

Tables 1-4 present descriptive statistics. The study involved 40 preschool physical education teachers (27 from public independent schools and 13 from private international schools) (Table 1). The majority of respondents had a Bachelor of Arts degree in education (Table 2), and the majority of them had taught physical education for at least 21 years (Table 3). Of the 13 preschool teachers surveyed, the majority (10 teachers) indicated that they had physical education assistants. Nevertheless, 17 preschool teachers in public independent schools reported having physical education assistants (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	Bachelor	33	82.5	82.5	82.5
	Master	7	17.5	17.5	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 Percent
Valid	0-5 years	10	25.0	25.0	25.0
	6-9 years	7	17.5	17.5	42.5
	10-15 years	7	17.5	17.5	60.0
	16-20 years	5	12.5	12.5	72.5
	21 years and more	11	27.5	27.5	100.0
	Total	40	100.0	100.0	

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

		Physical Education Assistants		
		Yes	No	Total
School Type	Independent	17	10	27
	International	10	3	13
Total		27	13	40

Table 5 presents the mean and standard deviation scores for the five sections of the instrument (i.e., time provided; indoor play environment; teacher practices; educational and professional development; policy). Across the five sections, the average mean scores were M=2.11, M=3.05, M=2.82, M=3.20, and M=2.90, respectively. Among the preschool teachers at private international schools, the mean scores were 2.31, 3.52, 2.67, 3.55 and 3.12, while in public independent schools, the average mean scores were 2.01, 2.82, 2.89, 3.02, and 2.80.

Table 5. Physical Activity: School Type

School Type		Time Provided	Indoor Play Environment	Teacher Practices	Education and Professional Development	Policy
Independent	Mean	2.0123	2.8241	2.8889	3.0222	2.7963
	N	27	27	27	27	27
	SD	.68862	.66800	.36980	.61603	1.04935
International	Mean	2.3077	3.5192	2.6667	3.5538	3.1154
	N	13	13	13	13	13
	SD	.53509	.57247	.45134	.40128	.96077
Total	Mean	2.1083	3.0500	2.8167	3.1950	2.9000
	N	40	40	40	40	40
	SD	.65105	.71208	.40615	.60509	1.02031

The old study: Physical Education Policies and Practices in Qatari Preschools: A Cross-Cultural Study 2016

The results showed a significant effect of school type on time provided, indoor play environment, and policy (In favor of international schools).

There are no statistically significant effects of school type on teacher practices and education and professional development were noted.

The current study Observing Preschool Physical Education Practices and Policies Under the COVID-19 Pandemic 2022

The results showed there is a statistically significant effect of school type on education and professional development, indoor play environment (In favor of international schools).

There are no statistically significant effects of school type on time provided, teacher practices, and policies noted.

Discussion

The results showed a significant effect of school type on indoor play environment in both studies 2016 and 2022. A public health concern is the lack of a steady, reasonable opening for kids to get physical activity. PE through the public education system can alleviate health differences. Children in wealthier districts benefit from sports leagues and dance studios, PE classes are the only organized system for many lower-income kids to get enough exercise. The National Physical Activity Plan (NPAP) initiate that budget cuts had differential impacts on physical education, subsequent in racial differences. (Berkeley ,2019)

Regular physical activity can release stress, anxiety, depression and anger. That "feel good perception" you acquire after doing physical activity? It has the effect of a happy pill with no side effects! Lots of people recognizes that they feel better over time as physical activity becomes a regular part of their lives. (AHA,2017)

Moderate-to-vigorous-physical activity (MVPA) remained unchanged while light physical activity (LiPA) decreased and sedentary time enlarged. Sleep duration decreased and screen time increased. Girls, adolescents with overweight/obesity (BMI and percent body fat), and those with lower CVF at baseline had less favourable changes in PA patterns, sleep and screen time. (Helgadóttir et al.,2023)

There are no statistically significant effects of school type on teacher practices in both studies 2016 and 2022.

The objective is to help students grow and to provide positive feedback and guidance so that they become comfortable participating in physical activity outside of school. Teachers do this is through tailored lessons, ensuring activities are accessible but challenging for each student. 12 (Azusa Pacific University,2023)

Identified three issues addressed by both the students and the teacher, explicitly 'the use of logbooks as a method for reflection', 'awareness of health as a knowledge object' and 'developing confidence in how to teach health'. During the use of a didactic approach to health, together the students and teacher developed new reflections on and awareness of health. The findings indicate that it was professional development which consequently impacted improving decisions, dialogues about how health was taught and the teacher's confidence in teaching health. 13 (Mong, Hanne H, 2022)

Physical Education (PE) is often viewed as a marginal subject within the curriculum. Research shows that PE is helping to improve psychological health, nurture social and moral development by way of supporting cognitive and academic performance. (Conversation,2018)

Recommendations

Improved with more comprehensive teacher training (both during physical education teacher education (PETE) and in in-service professional development) in pedagogical strategies, curriculum interpretation, and meaningful assessment. 14 (Lander.et.al,2016)

The largest barrier for Quality physical education QPE in primary schools is the certificates and training of teachers. It is suggested that prospects for developmentally appropriate primary education PE specializations be provided within degrees, permitting every primary school over time to have a sustainable infrastructure of PE expertise and advocacy. This endorsement will in time provide QPE experiences for all children recommending global direction for learning in the physical measurement and therefore, optimize rounded education. 15 (Timothy Lynch & Gregory J. Soukup Sr, 2017)

Strengthening and improving programs and policies for physical activity and physical education in the school environment. Appling life-long physical activity habits in children. Introducing systems thinking in improving physical activity and physical education in the school environment. The recognition of existing differences in chances and the need to achieve fairness in physical activity and physical education. Considering all types of school environments and the diversity of students as recommendations are developed. 16 (NASE & M, 2013)

Understanding the cultural relevance cycle-which consists of (a) understanding community dynamics, (b) understanding how community dynamics influence educational processes, and (c) implementing strategies that reflect cultural knowledge of the community. 17(Flory, S. B., & McCaughtry, N. 2011)

Using the student voice to creating an active environment, contribution choice and variety, inserting physical activity PA in the curriculum and promoting active travel, echoing the themes from the recent CSJ report on childhood obesity. 18 (Sports Think Tank, 2017)

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