

School factors associated with the provision of physical education and levels of physical activity among elementary school students in Ontario

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ABSTRACT

OBJECTIVES: To explore school and student characteristics associated with the number of physical education (PE) classes that elementary students received and to determine whether these characteristics and amount of PE were associated with the physical activity (PA) levels of elementary students.

METHODS: Multi-level modeling with school-level ($n = 30$) and student-level ($n = 2,447$) questionnaire data from the PLAY-ON study was used to explore the school factors associated with the number of PE classes that students in grades 5 to 8 report receiving, and how these factors were associated with their PA. The Theories of Organizational Change served to operationalize the main school factors measured in this study and included assessments of: organizational climate (school practices related to PE or PA), organizational capacity (school ability to provide students with more PE or PA), and school PA/PE policies.

RESULTS: The number of PE classes reported per week was higher in schools that had two PA facilities in addition to a gymnasium ($\beta = 1.13$, $p = 0.048$) and in schools with greater levels of parental involvement in school-based PA decisions and programs ($\beta = 2.06$, $p = 0.001$). However, students in schools that provided more intramural programs reported fewer PE classes than those without ($\beta = -1.97$, $p < 0.001$). The number of PE classes provided in the previous week was associated with greater odds of students being highly active compared to minimally active (OR = 1.14, $p = 0.003$).

CONCLUSION: Organizational and structural factors within the school environment are related to the amount of PE that students receive at school. Strategies are required to resolve the resulting inequities.

KEY WORDS: School policy; physical activity; school environment; children

La traduction du résumé se trouve à la fin de l'article.

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It is well established that physical activity (PA) is beneficial for preventing the onset of obesity, cardiovascular disease, and a number of chronic conditions.¹ However, levels of PA among Canadian youth are well below recommended levels, as less than 10% of youth accumulate at least 1 hour of moderate to vigorous PA (MVPA) per day (accelerometry data).² The school environment provides an ideal target for promoting PA, as 1) most children attend school, regardless of their socio-economic background, and they accumulate as much as 50% of their PA while at school, and 2) for many, the physical education (PE) class is their only source of regular PA.^{3–5}

Many aspects of the school PE environment have been linked with an increase in PA, including PE time, PE frequency (days/week), qualification of PE specialists, and PE resources.^{6–13} In addition, one of the benefits of PE is that structured classes led by PE specialists provide students with the physical skills required to pursue PA both inside and outside of school hours. Furthermore, Dale and colleagues found that not only did elementary students get less total PA on days PE was not offered, but children were actually more active in the after-school period on days when recess and PE were offered.¹⁴ It is thus important to understand the factors that influence how much time schools dedicate to PE, especially among elementary school students, as a survey of Canadian parents found that only 22% of elementary students are receiving at least one day of PE per week.¹⁵

In recent years, the number of Canadian schools that report having a policy for daily PE has increased from 35% in 2006 to 55% in 2011.¹⁶ However, simple enactment of a policy will not ensure its full implementation. For example, three years after the full implementation of a daily PA policy was mandated in British Columbia (BC) schools, about 35% of elementary schools still reported not meeting the requirements of the policy.¹⁷ In addition, schools reported that many factors at the organizational levels (including school climate and capacity) influenced their ability to fully implement the policy.¹⁸ Gaining a better understanding of the school factors associated with PE provision is paramount, as these factors may represent barriers to implementation of PE policies.

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The purpose of this study was to re-analyze the cross-sectional data collected as part of the 2007–2008 PLAY-Ontario (PLAY-ON) study (Ontario, Canada)¹⁹ to explore school characteristics associated with the number of PE classes elementary students received at school. In addition, this study determined whether these school characteristics and the amount of PE that students received were associated with the PA levels of elementary students. In a previous analysis of the PLAY-ON data,²⁰ PE amount was linked with PA levels of elementary students; therefore, our study aims to gain further insights into this relationship.

METHODS

Participants

In total, 30 elementary schools participated in the PLAY-ON study. Overall, 2,449 students in grades 5 to 8 completed the survey (50.6% response rate), with non-participation mainly due to parental refusal (46.2%; $n = 2,237$) or absenteeism (3.2%; $n = 152$). All 30 elementary school administrators completed the school survey. The demographic characteristics of the schools and students are shown in Table 1.

Procedure

All students in grades 5–8 attending the 30 participating schools were eligible to participate in the study. Active consent from parents was obtained and students were informed they could decline participation at any point. Students completed the School Health Action, Planning and Evaluation Physical Activity Module (SHAPES-PAM) survey at school. In each school, one administrator or person deemed most knowledgeable about the programs, policies and facilities was asked to fill out the School

Health Environment Survey (SHES). Schools received a cash honorarium of CAD \$150 or \$250 (pro-rated based on participation). The University of Waterloo Office of Research Ethics and appropriate school board ethics committees approved the PLAY-ON study and procedures and the University of British Columbia Children's and Women's Research Ethics Board approved this secondary data analysis.

Instruments (available upon request)

SHAPES-PAM – Student Survey

The SHAPES-PAM included questions about students' age, height, weight, PA, and correlates of PA.

Outcome variable – PE amount. Students were asked to report the number of PE classes they were offered over the previous week, with response options of 0–5.

Outcome variable – PA levels. Students were asked to report the total minutes of moderate physical activity (MPA) and vigorous physical activity (VPA) in which they participated in the previous week. Students' MVPA was calculated by summing their weekly MPA and VPA, with the data categorized into tertiles as children are known to have difficulties recalling exact amounts of PA in self-report.²¹ The survey has demonstrated reliability using weighted kappa scores from a one-week test-retest reliability protocol for PA level ($K = 0.58$; $p < 0.05$) and criterion validity with a Spearman correlation for average daily MVPA ($r = .44$, $p < 0.01$).²²

School Health Environment Survey (SHES) – School Survey

The SHES assessed demographic factors such as school size, urban/rural status, and number of teachers. In addition, it asked about facilities, programs and policies related to PA at school. The SHES has been shown to be both reliable and valid.²³

Table 1. Descriptive information about the students ($n = 2449$) and schools ($n = 30$)

	Responses	%	Mean (standard deviation); range, inter-quartile range (IQR)
Gender ($n = 2436$)	Male	47.4%	–
	Female	52.6%	–
Grade ($n = 2443$)	5	24.4%	–
	6	26.2%	–
	7	26.6%	–
	8	22.8%	–
Ethnicity ($n = 2449$)	Caucasian	79.0%	–
	Other	21.0%	–
Number of physical education classes in previous week ($n = 2357$)	0	10.5%	–
	1	13.3%	–
	2	40.0%	–
	3	19.8%	–
	4	7.8%	–
	5	9.2%	–
Physical activity amount ($n = 2398$)	Minimally active	32.9%	–
	Moderately active	33.4%	–
	Highly active	33.7%	–
Participation in team sports outside of school ($n = 2363$)	No	27.7%	–
	Yes	72.3%	–
Participation in other activities (e.g., jogging) outside of school ($n = 2355$)	No	38.2%	–
	Yes	61.8%	–
School setting ($n = 29$)	Urban/inner-city	17.2%	–
	Suburban	48.3%	–
	Rural	34.5%	–
Number of students enrolled at school ($n = 29$)	–	–	377 (105); range = [214–630] IQR: 280–440
Number of students per school ($n = 29$)	–	–	82 (34); range = [25–158] IQR: 58–105
School schedule ($n = 29$)	Semestered	24.1%	–
	Full-year classes	75.9%	–

SCHOOL PE AND STUDENT PHYSICAL ACTIVITY

The Theories of Organizational Change²⁴ was used as a framework to elucidate why certain schools offer more PE amounts than others and measured: organizational climate (school practices related to PE or PA), organizational capacity (school ability to provide students with more PE or PA), and school PE/PA policies.

School organizational climate included assessment of whether the school: used PA as a reward; promoted active transportation by providing a car-free zone or a walk- or cycle-to-school program; and provided gym access outside school hours or class time. It also assessed the level to which parents were involved in the decisions, dialogues or events related to school PA. The parental involvement measure was comprised of four questions targeting these conceptual domains, which were summed (Cronbach's $\alpha = 0.64$). All items used a Yes/No response format, except for: PA reward, which had four responses, ranging from not at all to a lot (responses were dichotomized); and access to the gym, which used "rarely", "sometimes" and "often" as the response format.

School organizational capacity included assessment of the number of onsite school PE facilities in addition to a gymnasium (zero to three additional facilities, with zero and one grouped together since only one school had no additional facilities), and whether the school provided intramural programs (Yes/No).

School PA/PE policy asked whether the PA curriculum had been outlined through a written policy or practice, with possible response options being "Yes, through practice", "Yes, through a written policy", and "No". Two manual contrasts were created to compare responses: "Yes" (either of the "Yes" responses) versus "No"; and "Yes, through a written policy" versus "Yes, through practice" and "No".

Data analysis

Multi-level mixed-effects linear regression, which accounts for the nested structure of the data, was used to examine the school factors associated with the amount of PE that students received.

Independent variables and covariates were entered as fixed effects. Grade and gender were entered as random effects, as boys and girls may be offered different amounts of PE depending on whether the school offered co-ed or single-gender classes. The effect of grade level on PE provision was also thought to vary by school and thus was modeled with a random slope.

We used two multi-level mixed-effects logistic regressions to examine school characteristics associated with PA levels. In these analyses, the amount of PE that students received was entered as an independent variable. Although measured at the student level and entered as a student-level variable in the analyses, this variable gives an indication of the amount of PE provided by the school and indirectly measured school characteristics. The first analysis compared highly active students with those who were minimally active and the second compared students who were moderately active to those who were minimally active. In both analyses, all independent variables and covariates (school-level covariates: student enrolment, setting and schedule; student-level covariates: grade, gender, participation in sports outside of school, participation in individual PA activities outside of school) were modeled with random intercepts.

Multiple imputation methods were used to adjust for missing data in the independent variables and covariates.²⁵ The amount of missing data is reported in Tables 1 and 2 and ranged from 0 to 17.8% before imputation. All analyses were completed using Stata v11 (StataCorp, Texas).

RESULTS

School environment factors

With respect to organizational climate, most administrators reported using PA as a reward, providing a car-free zone for encouraging walking to and from the school, as well as providing some access to the gymnasium during and outside of school hours (Table 2). For organizational capacity, there was variability in the number of additional facilities used for PE,

Table 2. Descriptive information on the underlying school factors hypothesized to be associated with the amount of physical education (PE) provided at school and levels of physical activity (PA)

	Responses	%	Mean (standard deviations) range, inter-quartile range (IQR)
Uses PA as a reward ($n = 27$)	Very little/not at all	33.3%	–
	A lot/some	66.7%	–
Provides a car-free zone ($n = 28$)	No	42.9%	–
	Yes	57.1%	–
Provides a walking/cycling program at school ($n = 28$)	No	60.7%	–
	Yes	29.3%	–
Provides gym access outside school hours ($n = 28$)	No	29.3%	–
	Yes	60.7%	–
Provides gym access during school ($n = 30$)	Rarely/never ('rarely')	13.3%	–
	Sometimes ('sometimes')	56.7%	–
	A lot/always ('often')	30.0%	–
Parental involvement in school PA decisions/dialogues ($n = 29$)	–	–	52.6 (32.9); range = [0–100] IQR: 25–75
Additional facilities for PE besides gym ($n = 30$)	None	3.3%	–
	One	23.3%	–
	Two	60.0%	–
	Three	13.3%	–
School has an intramural program ($n = 30$)	No	16.7%	–
	Yes	83.3%	–
School has a PA/PE policy	No	16.7%	–
	Yes, through practices	23.3%	–
	Yes, through written policy	60.0%	–

although the majority of schools had two additional facilities. Most schools provided intramural programs and reported having written PA/PE guidelines or policies.

School factors associated with the amount of PE

Significant between-school variation was seen in the amount of PE that students received ($\sigma_{\mu 0}^2 = 0.629$, $p < 0.001$, where $\sigma_{\mu 0}^2$ is the school-level variance); it was found that 22% of the total variation in PE amount provided to students was explained by school-level differences, and grade levels significantly explained the within-school variation. The results showed that parental involvement in school PA decisions/dialogues (mainly through the parental advisory committee) and having additional PE facilities were significantly associated with increased PE amount ($p = 0.048$), while the provision of intramural programs was significantly associated with less PE amount ($p < 0.001$) (Table 3). Specifically, students received 0.53 more PE classes per 25% increase in their school's parental-involvement scale, and 1.13 more classes per week if their school had two additional PE facilities compared to students in schools with zero or one additional facility besides a gymnasium. Additionally, schools that provided intramural programs provided 1.97 fewer PE classes per week than schools that did not provide intramurals.

School factors associated with student PA levels

Significant between-school variation was identified for being highly active ($\sigma_{\mu 0}^2 = 0.16$, $p < 0.05$); it was found that 4.6% of the

total variation in the odds of being highly active was explained by differences between schools. Although no significant between-school variation was found for being moderately active, this model was still used to explore the underlying associations in more detail. The amount of PE that students reported receiving in the previous week was the only significant school factor associated with student level of PA ($p = 0.003$) (Table 4). Each additional PE class that students reported receiving in the past week was associated with a 14% increase in their odds of being highly active. There was no significant difference in the odds of being moderately active based on the amount of PE that students received in the past week (Table 4). In addition, after controlling for all other covariates and the school-level factors, students who participated in a team sport outside of school and participated in other activities outside of school such as jogging or yoga were more highly or moderately active than students who did not participate in these activities ($p < 0.001$). Being female was found to be associated with 44% lower odds of being highly active ($p < 0.001$), although there were no significant gender differences in the odds of being moderately active ($p = 0.187$).

DISCUSSION

Similar to other studies conducted in Canada,¹⁶ this study highlights the inconsistent amount of PE that is being provided to elementary school students. Overall, 10.1% of students reported receiving no PE classes in the previous week, while only

Table 3. Results showing school factors associated with the amount of physical education (PE) provided to students

	Estimate	p value	95% confidence interval
Fixed effects parameters			
Constant	1.94	0.002**	[0.78, 3.23]
Organizational climate			
Uses PA as a reward [‡]	0.00	0.993	[-0.73, 0.73]
Provides a car-free zone [§]	0.37	0.255	[-0.27, 1.01]
Provides a walking/cycling program at school [§]	-0.38	0.224	[-1.00, 0.24]
Provides gym access outside school hours [§]	0.50	0.210	[-0.28, 1.27]
Provides gym access during school – rarely [†] vs. sometimes or often	0.06	0.901	[-0.85, 0.96]
Provides gym access during school – rarely [†] vs. often	0.24	0.631	[-0.72, 1.19]
Parental involvement in school PA decisions/dialogues	0.53	0.001**	[0.23, 0.82]
Organizational capacity			
Additional facilities for PE – 0 or 1 [†] vs. 2	1.13	0.048*	[0.01, 2.26]
Additional facilities for PE – 0 or 1 [†] vs. 3	1.32	0.055	[-0.03, 2.66]
School has intramural programs [§]	-1.97	0.000**	[-3.00, -0.95]
PA/PE policy			
School has a policy – no [†] vs. yes (practices or written policy)	-0.16	0.684	[-0.91, 0.60]
School has a policy – no or yes (practices) [†] vs. yes (written policy)	0.04	0.914	[-0.76, 0.85]
Covariates			
Number of students enrolled at school	0.00	0.441	[-0.01, 0.00]
School setting – urban [†] vs. suburban	-0.30	0.411	[-1.01, 0.42]
School setting – urban [†] vs. rural	-0.10	0.843	[-1.12, 0.92]
School schedule – semestered [†] vs. full-year classes	-0.47	0.187	[-1.16, 0.23]
Random effects parameters			
Constant	4.42 ⁻⁹	NR	NR
Grade	0.09	0.025***	[0.05, 0.16]
Gender –male [†] vs. female	0.01	0.010	[0.00, 0.04]

PA = physical activity; PE = physical education; NR = not reported since near zero.

[†] Referent group.

[‡] Binary “low” versus “high” variable, with “low” as the referent group.

[§] Binary “yes” versus “no”, with “no” as the referent group.

^{||} Estimate for the continuous variable was scaled to represent a 25% increase in parental involvement.

* $p < 0.05$; ** $p < 0.01$; *** significant since estimate divided by standard error > 2 .

Table 4. Results showing school factors associated with the odds of being highly active versus minimally active (Model 1) or moderately active versus minimally active (Model 2)

	Model 1 (high vs. minimal) n = 1637			Model 2 (moderate vs. minimal) n = 1619		
	Odds ratio	p-value	95% confidence interval (CI)	Odds ratio	p-value	95% CI
Fixed effects parameters						
Organizational climate						
Uses PA as a reward [‡]	0.88	0.445	[0.63, 1.23]	0.94	0.700	[0.67, 1.31]
Provides a car-free zone [§]	0.76	0.082	[0.55, 1.03]	0.81	0.176	[0.60, 1.10]
Provides a walking/cycling program at school [§]	1.31	0.111	[0.94, 1.82]	1.00	0.986	[0.72, 1.38]
Provides gym access outside school hours [§]	1.15	0.413	[0.82, 1.63]	0.89	0.450	[0.66, 1.20]
Provides gym access during school – rarely [†] vs. sometimes/often	0.80	0.380	[0.48, 1.32]	1.09	0.729	[0.58, 1.79]
Provides gym access during school – rarely [†] vs. often	0.83	0.530	[0.47, 1.48]	1.01	0.959	[0.58, 1.82]
Parental involvement in school PA decisions/dialogues	1.00	0.987	[0.87, 1.15]	1.01	0.902	[0.88, 1.16]
Organizational capacity						
Additional facilities for PE – 0 or 1 [†] vs. 2	1.28	0.396	[0.72, 2.30]	0.90	0.687	[0.52, 1.53]
Additional facilities for PE – 0 or 1 [†] vs. 3	1.62	0.160	[0.83, 3.18]	1.20	0.563	[0.64, 2.24]
School has intramural programs [§]	1.05	0.870	[0.58, 1.90]	1.26	0.407	[0.73, 2.20]
PA/PE policy						
School has a policy – no [†] vs. yes (practices or written)	1.16	0.477	[0.77, 1.74]	1.03	0.894	[0.70, 1.50]
School has a policy – no or yes (practices) [†] vs. yes (written)	1.15	0.504	[0.77, 1.71]	1.12	0.536	[0.77, 1.65]
Opportunities for PE at school						
Number of PE classes in previous week	1.14	0.003**	[1.05, 1.24]	1.05	0.245	[-1.94, -0.11]
Covariates						
Participation in team sports outside of school [§]	2.75	0.000**	[2.15, 3.54]	1.72	0.000**	[1.38, 2.15]
Participation in other activities (e.g., jogging) outside of school [§]	2.48	0.000**	[1.97, 3.10]	1.69	0.000**	[1.37, 2.10]
Grade	1.10	0.062	[1.00, 1.21]	0.87	0.107	[0.71, 1.07]
Gender – male [†] vs. female	0.66	0.000**	[0.53, 0.81]	1.08	0.187	[0.98, 1.18]
Random effects parameters						
	Estimate	Standard error	95% CI	Estimate	Standard error	95% CI
Constant	2.05 ⁻¹⁰	29.17	NR	1.26 ⁻¹¹	7.92	NR

PA = physical activity; PE = physical education; NR = not reported since near zero.

[†] Referent group.

[‡] Binary “low” versus “high” variable, with “low” as the referent group.

[§] Binary “yes” versus “no”, with “no” as the referent group.

^{||} Estimate for the continuous variable was scaled to represent a 25% increase in parental involvement.

* $p < 0.05$; ** $p < 0.01$.

12.7% reported receiving four or more PE classes. Consistent with previous analyses of the PLAY-ON data,¹⁰ students reported more PA when they had more PE classes, which implicates PE as an important predictor of total PA behaviour.⁶⁻⁹ Our findings extend previous analyses¹⁰ by highlighting the factors within the schools that can indirectly influence levels of PA. Specifically, structural and organizational factors (PA facilities, intramural offerings, and parental involvement in PA decisions and programming) within the school environment were related to the provision of PE, which can indirectly influence PA behaviours given that PE provision is related to PA behaviour.

Increasing levels of parental involvement related to PA decisions/dialogues were associated with increased PE provision. Although this relationship has not been previously examined, this result is supported by one of the tenets of the Theories of Organizational Change,²⁴ which hypothesizes organizational climate to be associated with PA decisions/dialogues (e.g., amount of PE provided). Based on these findings, we suggest that schools should attempt to include parents to a greater extent in the PA-related activities of the school, as this involvement seems to be linked with more PE provision.

We also found that the number of additional on-site facilities that teachers could use for PE classes was associated with providing more PE. Post-hoc analyses investigated whether the presence of any individual facilities (rather than a summative number of additional facilities) was associated with greater provision of PE (results not shown). Interestingly, while the cumulative number of facilities was shown to be significant, no associations were found between PE amount and specific types of PA facilities. This finding suggests that for schools that are limited by physical space to provide PE, the absolute number of additional spaces besides a gymnasium can be a limiting factor for the provision of PE, rather than the presence or absence of any one facility. Our findings contrast with those in the study by Fernandes and Sturn,²⁶ which may be due to the way the latter defined “other facilities” – they included auditoriums, cafeterias and classrooms as potential alternatives to a gymnasium for providing PE, which are less conducive for teaching curricular PE.²⁶ Unfortunately, increasing the number of facilities on school grounds for PE is not feasible for many schools due to lack of physical space or adequate funding. As an alternative, schools with limited PA facilities may increase PE

opportunities by partnering with nearby community centres, agencies, or private sporting facilities to aid in the delivery of PE off school grounds.

Interestingly, we found that schools that provided students with intramural programming actually provided less PE to their students, suggesting that intramural programming might be used by schools as an alternative to PE delivery. Although there are previously documented associations between the presence of intramural programs and greater levels of student PA,²⁷ if intramural programs are indeed associated with less PE provided to students, there is a risk of creating disparities in the PA levels of students within a given school. Since intramural programs are usually optional,²⁸ it is probable that the students who are already active, highly skilled, and/or enjoy sports are more likely to participate in intramurals than the relatively inactive students who would benefit the most from PA administered in a required PE class. Although intramural programs might be useful for increasing the PA levels of some children, they are not a suitable replacement for teaching other aspects of the curricular PE class (healthy living and skill development components). For example, intramurals are often focused on competition rather than skill acquisition and improvement, and there is often little oversight as to whether students are showing improvement in the activities or not.

The amount of PE provided to students was the only factor significantly associated with the PA levels of students. The literature indicates that environmental factors within the school, while important on a population level, account for only a fractional amount of the variation in the daily PA accumulated by individual children (between 2.2 and 5.7% of the total variation in PA).²⁹ In this study, school-level differences accounted for 4.6% of the variability in the odds of being highly active, and did not account for any differences in the odds of being moderately active. Thus, there was relatively little between-school variation in the PA levels of students that could have been explained by these school factors – especially when compared to PE provision, where 22% of the variability was explained by differences between schools.

The results of this study should be interpreted in light of its limitations. First, this study utilized a cross-sectional design, which limits the ability to make causal inferences. Second, this study used a convenient sample of schools, and as such, the results cannot be extrapolated to all students and schools in the province of Ontario or beyond. Third, because it is known that students often misreport their actual PA levels in self-report,²¹ this measure does not allow for the interpretation of results in terms of the actual minutes of MVPA that students participated in, which would likely be of some importance to policy-makers. Fourth, although PE amount is a school factor, we utilized the student data to measure PE amount to account for the variability within schools which could not be captured from the school principal survey (i.e., variation within and between grades). Future studies should consider obtaining this information from classroom teachers to minimize measurement errors. Fifth, as PE was taught by classroom teachers, we were not able to examine the extent to which having PE specialists increases total PA. Finally, the self-report methods used for this study were subject to a number of potential biases. For example,

students may have misreported their answers based on recall bias or inability to understand the question. Additionally, although honest administrator reporting was encouraged, social desirability bias may have resulted in more positive impressions of their schools. Despite these limitations, this study is one of a few that have examined the influences of environmental factors on PE provision and PA levels among elementary students.

CONCLUSION

As the PA levels of Canadian children continue to decrease at an alarming rate,² it is vital that policy-makers and researchers work together to address this critical issue. In this study, we found that organizational and structural factors within the school environment were related to the amount of PE that students received at school. While policy-makers should be encouraged to make daily PE requirements mandatory, we need to address the organizational and structural factors that impede schools from offering more PE. Currently, only less than 10% of Canadian children are meeting the PA guidelines,² finding ways to ensure that PE is provided to all students will no doubt help to improve this troubling statistic.

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RÉSUMÉ

OBJECTIFS : Explorer les caractéristiques d'écoles et d'élèves du primaire associées au nombre de classes d'éducation physique (EP) reçues par les élèves et déterminer si ces caractéristiques, et le nombre de classes d'EP, sont associés aux niveaux d'activité physique (AP) des élèves du primaire.

MÉTHODE : Des modèles à niveaux multiples utilisant les données des questionnaires de l'étude PLAY-ON à l'intention des écoles ($n = 30$) et des élèves ($n = 2\ 447$) ont servi à explorer les facteurs scolaires associés au nombre de classes d'EP que les élèves de la 5^e à la 8^e année disent avoir reçues, et les associations entre ces facteurs et l'AP des élèves. Les « théories du changement organisationnel » ont servi à opérationnaliser les principaux facteurs scolaires mesurés dans l'étude, notamment les analyses : du climat organisationnel (pratiques scolaires liées à l'EP ou à l'AP), de la capacité organisationnelle (la capacité de l'école d'offrir davantage d'EP ou d'AP aux élèves) et des politiques scolaires en matière d'AP/d'EP.

RÉSULTATS : Le nombre déclaré de classes d'EP par semaine était supérieur dans les écoles ayant deux installations d'AP en plus d'un gymnase ($\beta = 1,13$, $p = 0,048$) et dans les écoles où les niveaux d'implication parentale dans les décisions et les programmes de l'école étaient plus élevés ($\beta = 2,06$, $p = 0,001$). Cependant, les élèves des écoles offrant davantage de programmes intramuros ont dit avoir moins de classes d'EP que ceux des écoles sans ces programmes ($\beta = -1,97$, $p < 0,001$). Le nombre de classes d'EP offertes au cours de la semaine précédente était associé à une probabilité accrue d'avoir des élèves très actifs plutôt que minimalement actifs ($RC = 1,14$, $p = 0,003$).

CONCLUSION : Des facteurs organisationnels et structurels en milieu scolaire sont liés au nombre de classes d'EP que les élèves reçoivent à l'école. Il faut des stratégies pour résoudre les iniquités qui en résultent.

MOTS CLÉS : politique scolaire; activité physique; milieu scolaire; enfant