

## Supplemental Online Content

Lonsdale C, Sanders T, Parker P, et al. Effect of a scalable school-based intervention on cardiorespiratory fitness in children: a cluster randomized clinical trial. *JAMA Pediatr*. Published online May 3, 2021. doi:10.1001/jamapediatrics.2021.0417

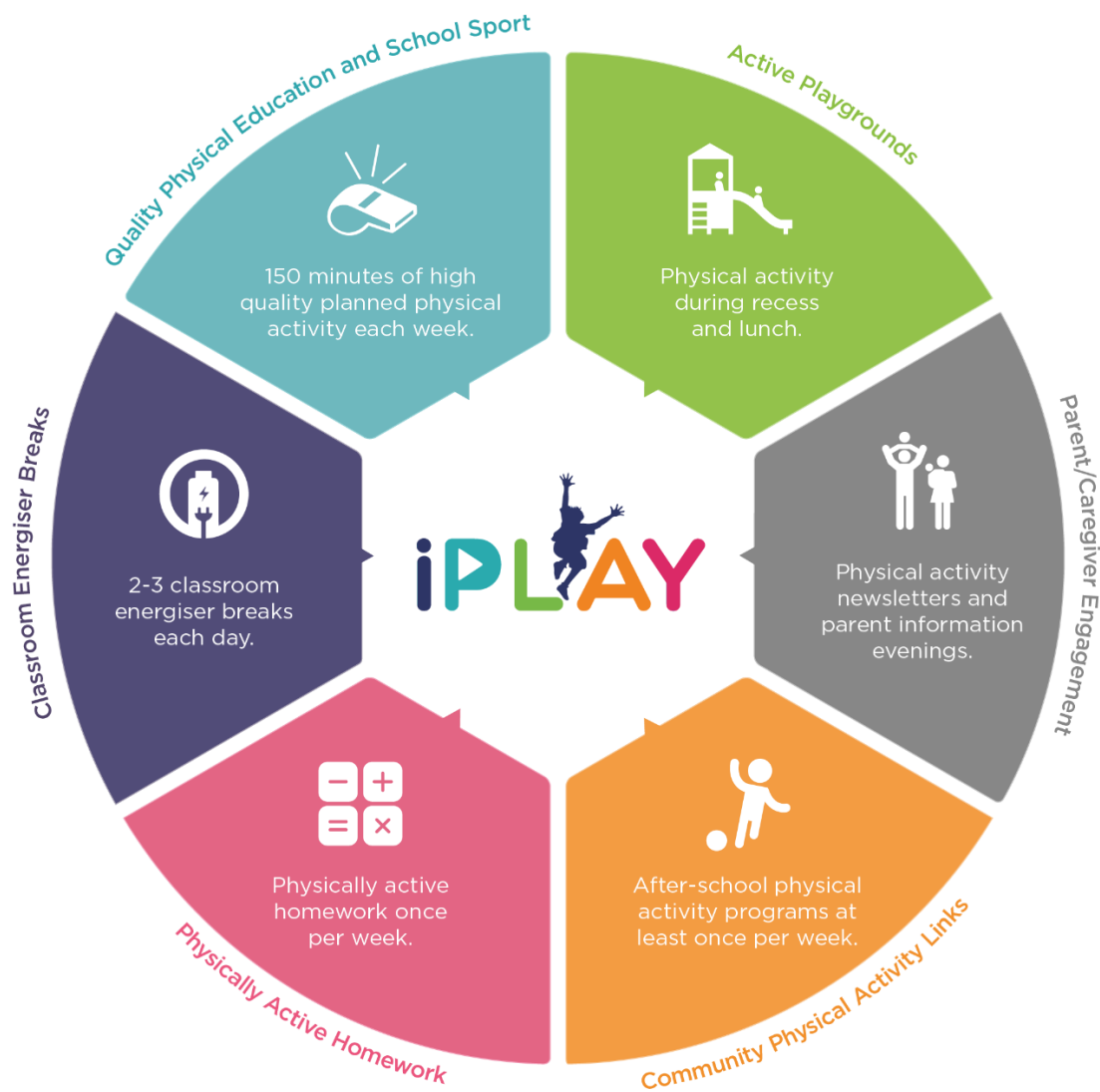
- eFigure 1.** Consolidated Framework for Implementation Research
- eFigure 2.** iPLAY Intervention Components
- eFigure 3.** Online platform screenshots
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This supplemental material has been provided by the authors to give readers additional information about their work.

eFigure 1. Consolidated Framework for Implementation Research



eFigure 2. iPLAY Intervention Components



### eFigure 3. Online platform screenshots

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**iPLAY** MY LEARNING ACTION PLANS DASHBOARD RESOURCES CHRIS LONSDALE

Learning >> Teacher Modules

## Teacher Modules

View as   
 Edit Schedule

WELCOME TO iPLAY!	INTRODUCTORY WORKSHOP	FAST START	CIRCUITS
SMALL-SIDED & MODIFIED GAMES	EFFECTIVE FEEDBACK	FAIR & ENJOYABLE	POSITIVE SOCIAL CLIMATE
CHOICE & RATIONALES	DIFFERENTIATION & EMPATHY	MENTOR MEETING	PEER LESSON OBSERVATION...
POST-SMALL GROUP MEETING...	ONLINE INTRODUCTORY WORKSHOP...	ONLINE INTRODUCTORY WORKSHOP...	

eFigure 3a - Overview of teachers' online learning

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Learning >> Teacher Modules >> Fast Start

## Fast Start

Task 2 of 11: Intro - Starter Games

View as

Please watch this video and then complete the following question.

### TASKS

1. SELF-REFLECTION ON WORKSHOP ACTION PLAN
- 2. INTRO - STARTER GAMES**
3. MODEL ANSWERS
4. GOOD AND POOR PRACTICE - STARTER GAMES
5. MODEL ANSWERS
6. INTRO - FREE PLAY
7. MODEL ANSWERS
8. GOOD AND POOR PRACTICE - FREE PLAY
9. MODEL ANSWERS
10. MY PRACTICE
11. ACTION PLAN

# Active A

## Starter Games

02:24

How might starter games have a positive influence on students in your lesson? Think broadly; consider all the benefits to students' physical activity, fundamental movement skills and motivation to be physically active.

x

eFigure 3b - Example teacher module

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Learning >> iPLAY Leader Modules

## iPLAY Leader Modules


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Edit Schedule

<p>INTRODUCTION AND IMPORTANCE OF PHYSICAL ACTIVITY...</p>	<p>ACTIVE PLAYGROUNDS (20MIN)</p>	<p>PARENT ENGAGEMENT AND ACTIVE HOMEWORK (30MIN)</p>	<p>COMMUNITY PHYSICAL ACTIVITY LINKS (20MIN)</p>
<p>SUPPORTING COLLEAGUES (10MINS)</p>	<p>iPLAY LEADER ACTION PLAN MEETING – TERM A</p>	<p>ACTION PLAN MEETING PREPARATION – TERM B (30MIN)</p>	<p>ACTION PLAN MEETING PREPARATION – TERM C (30MIN)</p>
<p>ACTION PLAN MEETING PREPARATION – TERM D (30MIN)</p>	<p>LEADING SMALL GROUP DISCUSSIONS – TERM D</p>	<p>iPLAY LEADER EVALUATION</p>	

eFigure 3c - Overview of leaders' online learning

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Learning >> iPLAY Leader Modules >> Active Playgrounds (20min)


## Active Playgrounds (20min)

Task 1 of 2: Active Playgrounds - Video


View as 

### TASKS

- 1. ACTIVE PLAYGROUNDS - VIDEO 
- 2. ACTIVE PLAYGROUNDS - MODEL ANSWERS 

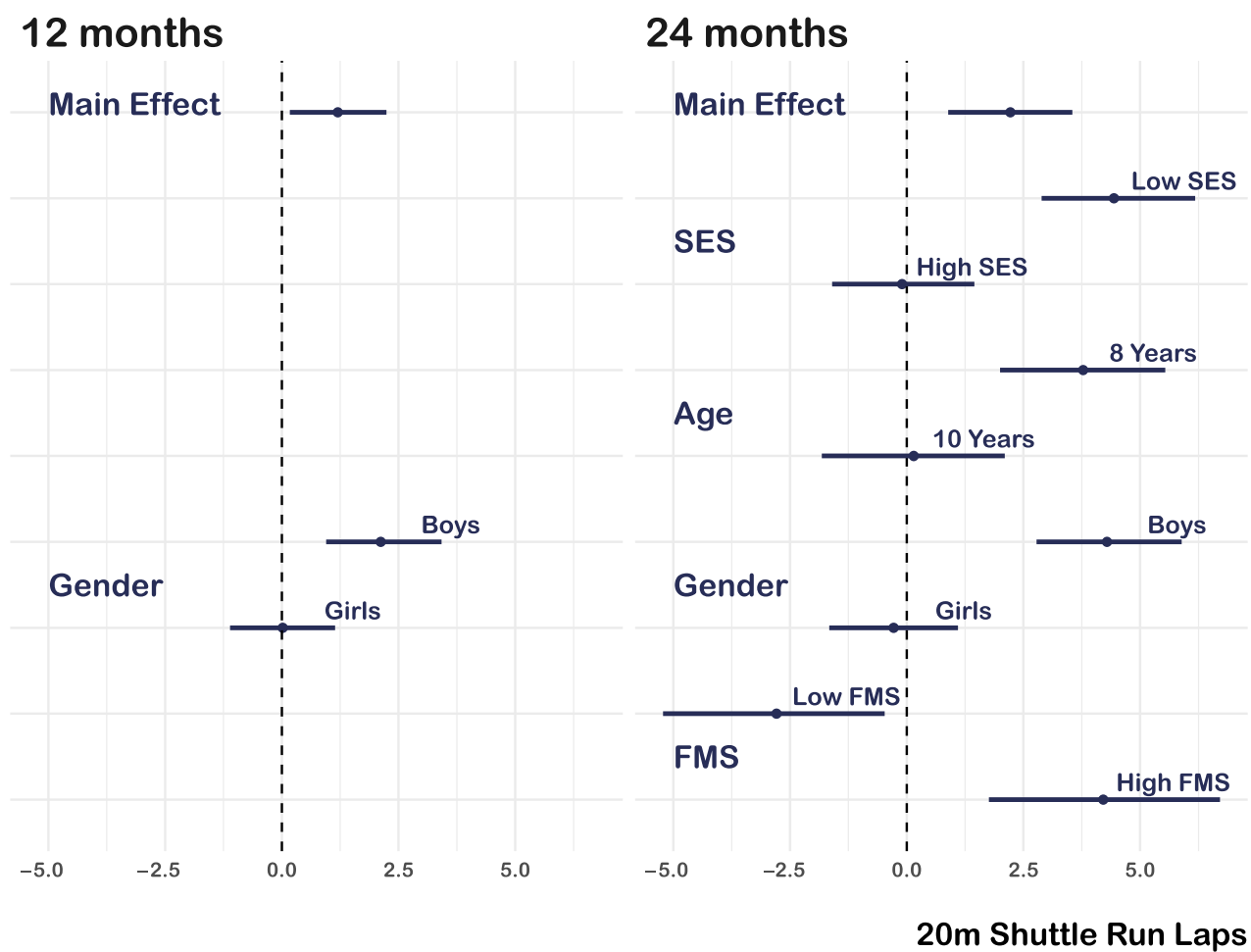


### Active Playgrounds

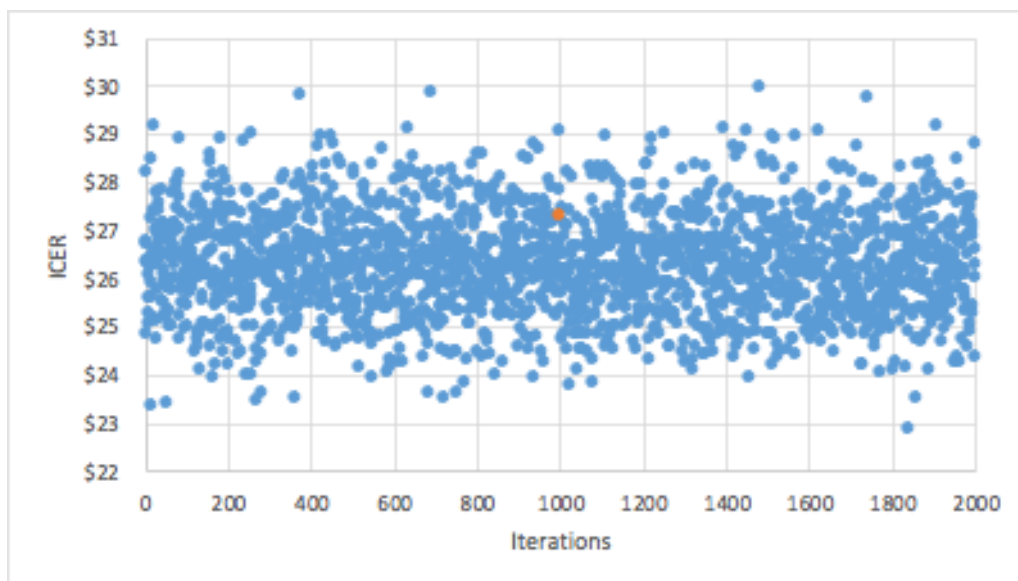


eFigure 3d - Example leader module

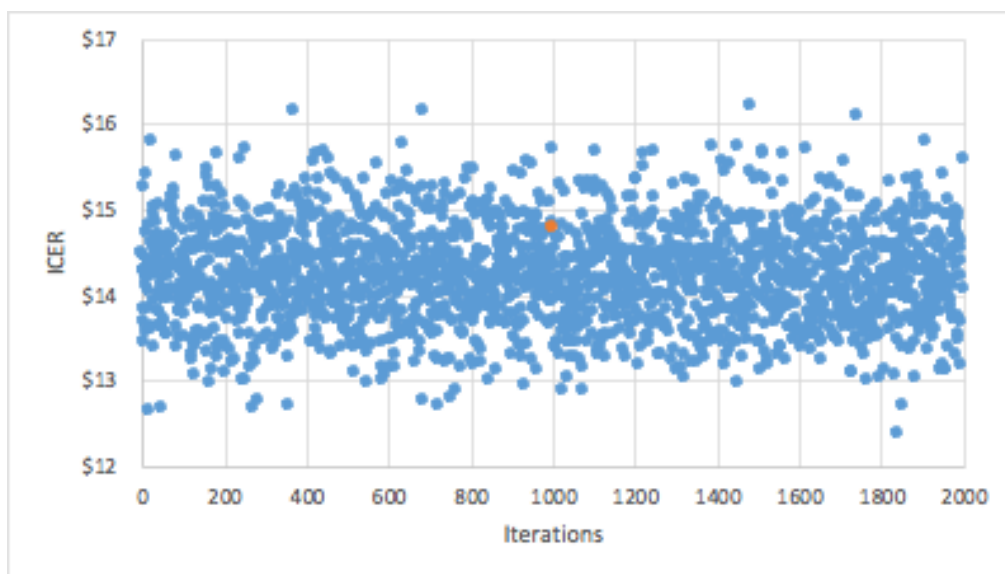
eFigure 4. Summary of Significant Moderator Effects





**eFigure 5. Sensitivity analysis for incremental cost-effectiveness ratios**

eFigure S5a: Sensitivity analysis for the incremental cost-effectiveness ratios (ICERs) at 12 months derived from bootstrapping. The ICER for the base case is represented by the orange plot. Values are presented in AUD (2018).



eFigure S5b: Sensitivity analysis for the incremental cost-effectiveness ratios (ICERs) at 24 months derived from bootstrapping. The ICER for the base case is represented by the orange plot. Values are presented in AUD (2018).

**eTable 1. iPLAY Data Collector Blinding Evaluation**

School Code	Actual Trial Arm	Research assistants' responses to: "Was this school intervention or control?" <sup>a</sup>	If you know the school was intervention or control, how did you find out?	Blinding Status
1	Intervention	I know it was intervention	Research Assistant A: "iPLAY poster in front office window of school viewed upon entry."	Unblinded
2	Control	I don't know	N/A	Blinding maintained
3	Control	I don't know	N/A	Blinding maintained
4	Intervention	I don't know	N/A	Blinding maintained
5	Intervention	I don't know	N/A	Blinding maintained
6	Control	I don't know	N/A	Blinding maintained
7	Intervention	I don't know	N/A	Blinding maintained
8	Intervention	I don't know	N/A	Blinding maintained
9	Control	I don't know	N/A	Blinding maintained
10	Control	I don't know	N/A	Blinding maintained
11	Control	I don't know	N/A	Blinding maintained
12	Intervention	I don't know	N/A	Blinding maintained
13	Intervention	I know it was intervention.	Research Assistant D: "iPLAY materials posted at school and a teacher disclosed that they had received the intervention."	Unblinded
14	Control	I don't know	N/A	Blinding maintained
15	Control	I don't know	N/A	Blinding maintained
16	Control	I don't know	N/A	Blinding maintained

17	Intervention	I know it was intervention.	Research Assistant C: "This school had <i>iPLAY</i> resources displayed in the window."	Unblinded
18	Intervention	I don't know	N/A	Blinding maintained
19	Intervention	I know it was intervention.	Research Assistant D: "A teacher at the school mentioned that they had received <i>iPLAY</i> training."	Unblinded
20	Control	I don't know	N/A	Blinding maintained
21	Control	I don't know	N/A	Blinding maintained
22	Intervention	I don't know	N/A	Blinding maintained

Note: <sup>a</sup> Response options included: 1. I don't know, 2. I know it was control, 3. I know it was intervention.

**eTable 2. iPLAY intervention components and implementation measures**

<b>Curricular Components</b>	<b>Intended Implementation</b>	<b>Implementation Measurement</b>
Quality PE and school sport	<ul style="list-style-type: none"> <li>Teachers will deliver 150 minutes of planned PE or school sport each week.</li> <li>Lessons will be delivered according to the SAAFE principles (Supportive, Active, Autonomous, Fair and Enjoyable).</li> <li>Students will spend &gt;40% of PE/sport lesson time being physically active (i.e., in MVPA).</li> </ul>	<ul style="list-style-type: none"> <li>Classroom teachers self-reported delivery of PE and School Sport at the start of each online learning module (i.e., up to 8 times).</li> <li>Mentors observed and rated each teacher's delivery using the SAAFE checklist once during the intervention.</li> <li>Monitored using the class activity tracking system provided to each school.</li> </ul>
Classroom movement breaks	<ul style="list-style-type: none"> <li>Teachers will deliver 2 x 3-minute classroom energizer activities per day (30 minutes per week)</li> </ul>	<ul style="list-style-type: none"> <li>Teachers self-reported at the start of each online learning module.</li> </ul>
Physically active homework	<ul style="list-style-type: none"> <li>Teachers will provide one physically active homework activity per week (except in schools that have a 'no homework' policy)</li> </ul>	<ul style="list-style-type: none"> <li>Teachers self-reported at the start of each of each online learning module.</li> </ul>
<b>Non-Curricular Components</b>	<b>Intended Implementation</b>	<b>Implementation Measurement</b>
Active playgrounds	<ul style="list-style-type: none"> <li>Children will spend &gt;40% of recess and lunch breaks in MVPA.</li> </ul>	<ul style="list-style-type: none"> <li>Leaders rated via the website their implementation of active playground strategies. Ratings occurred up to three times during the intervention (during meetings with mentors).</li> <li>Student physical activity during breaks measured via accelerometry at each assessment time-point (baseline, 12 months, 24 months), but was not measured during the intervention.</li> </ul>

Community physical activity links	<ul style="list-style-type: none"> <li>Schools will utilize the ‘Sporting Schools’ funding to offer after-school physical activity program at least once per week across two school terms.</li> <li>During the intervention at least one teacher in each school will complete accreditation/training procedures with a recognized sporting body that will allow them to deliver the Sporting Schools’ program in their school.</li> </ul>	<ul style="list-style-type: none"> <li>Principals reported on all non-curricular sport and recreation in each school.</li> <li>Teachers reported the sport accreditation/training they completed.</li> </ul>
Parent and caregiver engagement	<ul style="list-style-type: none"> <li>Schools will deliver 1 x newsletter item per fortnight, which will include a link to the parent portion of the <i>iPLAY</i> website.</li> <li>Schools will deliver 2 x <i>iPLAY</i> update presentations to parents per year during existing parent-teacher events.</li> <li>Schools will organize one physically active school fundraising event each year.</li> </ul>	<ul style="list-style-type: none"> <li>Leaders recorded via the website the frequency of newsletter distribution and parent meetings.</li> <li>Leaders self-reported school fundraiser events.</li> </ul>

**eTable 3. Intervention Adoption Rates**

	<i>Proportion Adopted</i>	
	<i>12 months</i>	<i>24 months</i>
<i>Core Learning Components</i>		
<i>Leader Adoption</i>		
Leader online learning - 5 modules	100% schools	100% schools
Leader action planning meetings - 4 modules	36% schools	91% schools
Total leader modules - 9 modules	36% schools	91% schools
<i>Leader adoption as per protocol (i.e., at least one leader at the school completed all professional learning modules and attended at least one action plan meeting)</i>	89% schools	100% schools
<i>Teacher Adoption</i>		
Teacher workshop module	100% teachers	100% teachers
Teacher online learning - 8 modules	20% teachers	63% teachers
Teacher school-based reflection - 3 modules	11% teachers	63% teachers
Total teacher modules - 12 modules	10% teachers	61% teachers
<i>Teacher adoption as per protocol (i.e., the teacher completed at least 50% of the 12 professional learning modules)<sup>a</sup></i>	48% teachers	71% teachers
<i>Additional Teacher Learning Components</i>		
Downloaded resources	82% teachers	82% teachers
Downloaded mobile app	19% teachers	19% teachers
Used class activity monitoring system <sup>b</sup>	58% teachers	59% teachers
Used posters, water bottles or lanyards	100% schools	100% schools

Note: <sup>a</sup> We used 50% as the per protocol threshold for adoption. Adult online learners typically do not complete their courses. Thus, we deemed a 50% completion rate to be considerable. <sup>b</sup> As noted in our protocol, we designed the class activity tracker to upload data so that the research team could access and track each teachers' usage of the system. Department of Education firewalls in most schools prevented these uploads and we, therefore, could not access the data. Instead, we report teachers' self-reported intentions to use the class activity. Delays with our software development company meant that the mobile app was not available for download until partway through Cohort 3's participation in the trial (August 2018). This delay likely accounts for the low rate of the app's adoption.

**eTable 4. Intervention Implementation Rates**

	<i>Proportion Implemented</i>	
	<i>12 months</i>	<i>24 months</i>
<i>Leader Implementation - Non-curricular Components</i>		
Active playgrounds - leader reports of implementing recommended strategies	45% schools	45% schools
School mean >40% of total break time spent in MVPA (accelerometers)	0% schools	0% schools
Sporting Schools funding used (principal report)	73% schools	73% schools
At least one teacher complete accreditation to with a recognized sporting body (teacher report)	64% schools	64% schools
Parent newsletter distribution (leader report)	45% schools	45% schools
Parent info sessions (leader report)	27% schools	27% schools
One physically active school fundraiser (leader report)	9% schools	9% schools
<i>Leader implementation as per protocol (i.e., the school implemented at least 50% implemented of non-curricular strategies)</i>	52% schools	51% schools
<i>Teacher Implementation - Curricular Components</i>	<i>12 months</i>	<i>24 months</i>
150 mins of PE/sport/week (teacher reported - median across modules)	42% teachers	47% teachers
Mean SAAFE rating > 3.0 rating (mentor rated)	93% teachers	91% teachers
10 classroom energizers per week (mean of teacher reports)	37% teachers	38% teachers
1 weekly active homework activity (excluding schools with no homework policy) (mean of teacher reports)	49% teachers	46% teachers
Teacher implementation as per protocol (i.e., teacher implemented 50% of strategies)	30% teachers	22% teachers
<i>Teacher Evaluations of Workshop</i>		
Theoretical portion of the workshop (1-5 rating)	4.6 (0.7)	NA
Practical portion of the workshop (1-5 rating)	4.6 (0.8)	NA
How engaging was your mentor? (1-5 rating)	4.5 (0.8)	NA

*Note:* As noted in our protocol, we designed a class activity tracker to upload data so that the research team could access and track each teachers' usage of the system. One of our implementation criteria was the proportion of physical education lesson time spent in moderate-to-vigorous physical activity should be greater than 40%. Department of Education firewalls in most schools prevented uploads from our tracker system and we, therefore, could not access the data.

**eTable 5. Per Protocol Analyses of Intervention Effects on Primary Outcome**

Variable	Follow-up	Condition	Met protocol (n students)	Did not meet protocol (n students)	Adjusted difference in 20m shuttle test laps between treated vs non-treated
<i>Teachers</i>					
Teacher Adoption	12 Months	Intervention	165	294	2.16 [-2.14,6.46]
		Control	0	562	
	24 Months	Intervention	236	172	3.35 [-0.41,7.11]
		Control	0	514	
Teacher Implementation	12 Month	Intervention	136	323	2.66 [-2.46,7.78]
		Control	0	562	
	24 Months	Intervention	91	317	9.24 [-0.9,19.38]
		Control	0	514	
<i>Leaders</i>					
Leader Adoption	12 Months	Intervention	409	50	0.88 [-0.86,2.62]
		Control	0	562	
	24 Months	Intervention	408	0	NA. All leaders met protocol.
		Control	0	514	
Leader Implementation	12 Month	Intervention	239	220	1.54 [-1.84,4.91]
		Control	0	562	
	24 Months	Intervention	209	199	3.7 [-2.47,9.86]
		Control	0	514	

*Note:* Teacher adoption = student's teacher completed at least 50% of modules. Teacher implementation = student's teacher implemented at least 50% of strategies. Leader adoption = student's school had a leader who completed all 5 learning modules + 50% of action plans.



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Leader implementation = student's school implemented at least 50% of strategies. We conducted per-protocol analysis using an instrumental variable approach with shuttle runs coded as continuous and with the application of cluster-robust standard errors.

**eTable 6. Main Sample Secondary Outcomes Baseline Values**

Variable	N (n intervention)	Control Mean	Control SD	Intervention Mean	Intervention SD	Total Mean	Total SD
School MVPA (mins/day)	926 (424)	42.53	16.09	41.97	15.29	42.27	15.72
Lunch/Recess Breaks MVPA (mins/day)	926 (424)	18.66	8.52	14.28	6.99	16.65	8.15
After School MVPA (mins/day)	926 (424)	33.17	15.22	35.95	16.82	34.45	16.02
Weekend MVPA (mins/day)	925 (423)	77.74	36.37	76.53	33.42	77.19	35.04
Total MVPA (mins/day)	925 (423)	85.90	28.03	87.30	28.79	86.54	28.37
Self-reported PA usual week (days/week)	1195 (558)	5.03	1.97	4.88	2.03	4.96	2.00
Self-reported PA this week (days/week)	1197 (558)	5.17	1.97	5.19	2.01	5.18	1.99
Self-reported PA team sport participation in the past year	1197 (558)	70.74%	NA	63.62%	NA	67.42%	NA
Self-reported PA individual sport participation in the past year	1196 (558)	65.36%	NA	61.47%	NA	63.55%	NA
Self-reported PA active travel (days/week)	1197 (558)	2.27	2.15	2.79	2.18	2.52	2.18
NAPLAN Numeracy	890 (378)	-0.45	0.92	-0.54	0.89	-0.49	0.91
NAPLAN Literacy	889 (378)	-0.39	0.95	-0.46	0.92	-0.42	0.94
Wellbeing	1172 (546)	40.94	5.84	41.10	5.52	41.01	5.69
PE Psychological needs support from teacher	1197 (558)	4.06	0.73	4.14	0.70	4.10	0.72
PE Concentration	1196 (558)	4.48	0.63	4.47	0.60	4.48	0.61
PE Effort	1196 (558)	4.60	0.60	4.63	0.57	4.61	0.59
PE Learning strategy use	1196 (558)	3.95	0.84	3.92	0.87	3.94	0.85
PE Enjoyment	1197 (558)	4.54	0.72	4.61	0.70	4.58	0.71

**eTable 7. Main Sample Secondary Outcome Analyses**

Variable	Follow-up	N (n intervention)	Change from Baseline: Control	Change from Baseline: Intervention	Adjusted Difference (intervention v control)
<b>Secondary Outcomes: Main Sample</b>					
School MVPA (mins/day)	12 Month	753 (332)	-5.20 [-7.18, -3.17]	-4.22 [-6.46, -1.98]	0.98 [-2.04, 4.01]
	24 Month	577 (260)	-6.07 [-8.27, -3.86]	-4.87 [-7.31, -2.42]	1.21 [-2.05, 4.41]
Lunch/Recess Breaks MVPA (mins/day)	12 Month	753 (332)	-4.78 [-5.63, -3.93]	-1.10 [-2.08, -0.15]	3.68 [2.40, 4.98]
	24 Month	577 (260)	-4.82 [-5.77, -3.86]	-1.36 [-2.41, -0.30]	3.46 [2.04, 4.88]
After School MVPA (mins/day)	12 Month	753 (332)	-2.75 [-4.54, -0.96]	-3.70 [-5.70, -1.70]	-0.95 [-3.67, 1.71]
	24 Month	577 (260)	-7.38 [-9.40, -5.35]	-9.77 [-11.94, -7.52]	-2.39 [-5.37, 0.59]
Weekend MVPA (mins/day)	12 Month	753 (332)	-8.91 [-13.09, -4.70]	-4.05 [-8.75, 0.66]	4.85 [-1.42, 11.20]
	24 Month	576 (259)	-16.80 [-21.43, -12.26]	-17.91 [-23.10, -12.90]	-1.11 [-8.10, 5.79]
Total MVPA (mins/day)	12 Month	753 (332)	-5.58 [-8.79, -2.32]	-5.00 [-8.68, -1.35]	0.58 [-4.23, 5.45]
	24 Month	576 (259)	-12.77 [-16.29, -9.21]	-13.87 [-17.76, -9.94]	-1.09 [-6.54, 4.18]
Self-reported PA usual week (days/week)	12 Month	1000 (443)	-0.06 [-0.23, 0.12]	0.00 [-0.19, 0.19]	0.06 [-0.20, 0.32]
	24 Month	890 (384)	0.00 [-0.17, 0.18]	0.04 [-0.17, 0.25]	0.04 [-0.23, 0.31]
Self-reported PA this week (days/week)	12 Month	1001 (444)	0.05 [-0.13, 0.22]	-0.18 [-0.37, 0.02]	-0.23 [-0.49, 0.04]
	24 Month	890 (384)	-0.05 [-0.23, 0.13]	-0.11 [-0.31, 0.10]	-0.06 [-0.34, 0.21]
Self-reported PA team sport participation in the past year	12 Month	1001 (444)	-0.00 [-0.04, 0.04]	0.04 [-0.01, 0.08]	0.04 [-0.02, 0.10]
	24 Month	889 (384)	0.03 [-0.01, 0.08]	0.06 [0.01, 0.11]	0.03 [-0.04, 0.09]
Self-reported PA individual sport participation in the past year	12 Month	1001 (444)	-0.04 [-0.09, 0.01]	-0.05 [-0.10, 0.00]	-0.01 [-0.08, 0.06]
	24 Month	890 (384)	-0.05 [-0.10, 0.00]	-0.07 [-0.12, -0.01]	-0.02 [-0.09, 0.06]
Self-reported PA active travel (days/week)	12 Month	1001 (444)	-0.11 [-0.30, 0.08]	-0.02 [-0.23, 0.19]	0.09 [-0.19, 0.38]

	24 Month	890 (384)	0.21 [0.02, 0.41]	0.05 [-0.17, 0.27]	-0.16 [-0.46, 0.1]
<b>Variable</b>	<b>Follow-up</b>	<b>N (n intervention)</b>	<b>Change from Baseline: Control</b>	<b>Change from Baseline: Intervention</b>	<b>Adjusted Difference (intervention v control)</b>
BMI (raw)	12 Month	992 (435)	0.79 [0.69, 0.90]	0.74 [0.63, 0.86]	-0.06 [-0.21, 0.10]
	24 Month	878 (372)	1.62 [1.52, 1.73]	1.56 [1.43, 1.68]	-0.07 [-0.23, 0.10]
BMI-z	12 Month	992 (435)	0.02 [-0.01, 0.05]	-0.00 [-0.04, 0.03]	-0.02 [-0.07, 0.02]
	24 Month	878 (372)	0.04 [0.01, 0.07]	-0.00 [-0.04, 0.03]	-0.04 [-0.09, 0.01]
NAPLAN Numeracy	12 Month	771 (313)	1.07 [1.02, 1.13]	1.01 [0.95, 1.07]	-0.06 [-0.14, 0.02]
	12 Month	773 (312)	0.88 [0.84, 0.93]	0.91 [0.85, 0.97]	0.03 [-0.05, 0.10]
Well-being	12 Month	971 (432)	0.12 [-0.35, 0.59]	0.22 [-0.31, 0.75]	0.10 [-0.61, 0.82]
	24 Month	869 (372)	-0.85 [-1.34, -0.37]	-0.43 [-0.99, 0.13]	0.42 [-0.32, 1.17]
PE Psychological needs support from teacher	12 Month	1001 (444)	-0.09 [-0.16, -0.02]	-0.09 [-0.16, -0.01]	0.00 [-0.10, 0.11]
PE Psychological needs support from teacher	24 Month	890 (384)	-0.36 [-0.43, -0.29]	-0.19 [-0.27, -0.11]	0.17 [0.06, 0.27]
PE Concentration	12 Month	1001 (444)	-0.09 [-0.15, -0.03]	-0.06 [-0.12, 0.01]	0.03 [-0.06, 0.12]
	24 Month	890 (384)	-0.24 [-0.30, -0.18]	-0.24 [-0.31, -0.17]	-0.00 [-0.10, 0.09]
PE Effort	12 Month	1001 (444)	-0.07 [-0.13, -0.01]	-0.06 [-0.13, 0.00]	0.00 [-0.09, 0.09]
	24 Month	890 (384)	-0.23 [-0.30, -0.17]	-0.27 [-0.34, -0.20]	-0.04 [-0.13, 0.06]
PE Learning strategy use	12 Month	1001 (444)	-0.17 [-0.25, -0.09]	-0.15 [-0.24, -0.06]	0.02 [-0.11, 0.15]
	24 Month	890 (384)	-0.42 [-0.51, -0.33]	-0.46 [-0.55, -0.36]	-0.04 [-0.17, 0.09]
PE Enjoyment	12 Month	1001 (444)	-0.13 [-0.21, -0.06]	-0.07 [-0.16, 0.01]	0.06 [-0.05, 0.17]
	24 Month	890 (384)	-0.33 [-0.41, -0.25]	-0.32 [-0.41, -0.23]	0.01 [-0.10, 0.13]

Note: PA = Physical Activity; MVPA = Moderate-to-Vigorous Physical Activity. NAPLAN = National Assessment Program – Literacy and Numeracy; PE = Physical Education. Well-being can range from 10 (very low well-being) to 50 (very high well-being). PE Psychological needs support from the teacher, PE concentration, effort, PE learning strategy use, and PE enjoyment can range from 1 (low) to 5 (high).

**eTable 8. Sub-sample Variables Baseline Values**

Variable	N (n intervention)	Control Mean	Control SD	Intervention Mean	Intervention SD	Total Mean	Total SD
Fundamental Movement Skills	359 (188)	1.90	0.60	1.82	0.67	1.86	0.64
Response Accuracy AX	174 (91)	44.69	26.83	56.36	24.34	50.79	26.15
Response Accuracy AY	167 (87)	39.06	24.09	46.50	22.81	42.94	23.66
Response Accuracy BX	167 (88)	47.63	27.47	60.27	27.25	54.29	28.00
Cognitive Reaction Time AX	174 (91)	411.74	147.18	389.87	127.71	400.31	137.38
Cognitive Reaction Time AY	167 (87)	548.13	176.48	492.05	124.87	518.92	153.92
Cognitive Reaction Time BX	167 (88)	453.63	188.66	413.75	105.91	432.62	151.67
Overall Response Accuracy AX	173 (91)	48.51	19.50	56.55	17.99	52.74	19.10
Overall Response Accuracy AY	166 (87)	60.81	18.62	68.72	14.95	64.96	17.21
Overall Response Accuracy BX	167 (88)	55.85	17.06	58.24	15.60	57.11	16.30

Note: AX/AY/BX refers to the cognitive test condition (cue and probe).

**eTable 9. Sub-sample Variables Outcome Analyses**

Variable	Follow-up	N (n intervention)	Change from Baseline: Control	Change from Baseline: Intervention	Adjusted Difference (intervention v control)
Fundamental Movement Skills	12 Month	270 (137)	0.03 [-0.08, 0.13]	0.06 [-0.04, 0.17]	0.04 [-0.12, 0.19]
	24 Month	184 (79)	0.01 [-0.12, 0.14]	-0.08 [-0.21, 0.05]	-0.09 [-0.27, 0.09]
Response Accuracy AX	12 Month	146 (74)	5.15 [0.11, 10.35]	3.85 [-0.89, 8.74]	-1.30 [-8.44, 5.85]
	24 Month	116 (59)	4.91 [-0.63, 10.61]	2.42 [-3.06, 7.63]	-2.49 [-10.39, 5.24]
Response Accuracy AY	12 Month	142 (72)	3.20 [-2.78, 8.96]	6.07 [0.66, 11.40]	2.86 [-5.17, 10.70]
	24 Month	111 (56)	6.63 [0.34, 13.22]	9.47 [3.64, 15.36]	2.84 [-6.35, 11.77]
Response Accuracy BX	12 Month	137 (71)	5.62 [-0.48, 12.02]	2.88 [-3.26, 9.11]	-2.74 [-11.14, 5.62]
	24 Month	114 (57)	5.46 [-1.53, 12.51]	1.66 [-5.17, 8.16]	-3.81 [-13.12, 5.75]
Cognitive Reaction Time AX	12 Month	146 (74)	-55.23 [-83.05, -28.26]	-38.45 [-65.07, -12.43]	16.78 [-21.44, 55.02]
	24 Month	116 (59)	-44.62 [-75.24, -14.52]	-34.97 [-63.62, -6.83]	9.65 [-32.03, 51.26]
Cognitive Reaction Time AY	12 Month	142 (72)	-59.79 [-97.48, -20.15]	-23.11 [-59.39, 13.73]	36.67 [-15.57, 89.43]
Cognitive Reaction Time AY	24 Month	111 (56)	-122.56 [-164.03, -81.15]	-73.76 [-115.47, -31.96]	48.79 [-11.54, 109.73]
Cognitive Reaction Time BX	12 Month	137 (71)	-55.72 [-94.04, -19.21]	-33.88 [-69.55, 0.20]	21.84 [-27.68, 76.10]
	24 Month	114 (57)	-72.06 [-112.43, -33.36]	-67.95 [-103.74, -29.87]	4.11 [-49.53, 58.91]
Overall Response Accuracy AX	12 Month	146 (74)	3.47 [-0.59, 7.33]	3.16 [-0.81, 7.01]	-0.31 [-5.92, 5.24]
	24 Month	116 (59)	5.55 [1.10, 9.92]	5.44 [1.29, 9.54]	-0.11 [-6.12, 5.72]
Overall Response Accuracy AY	12 Month	141 (72)	4.13 [0.20, 8.05]	3.18 [-0.46, 6.96]	-0.95 [-6.24, 4.43]
	24 Month	111 (56)	0.30 [-3.70, 4.33]	-0.28 [-4.28, 3.67]	-0.59 [-6.23, 5.32]
Overall Response Accuracy BX	12 Month	136 (71)	1.95 [-2.69, 6.67]	0.09 [-4.55, 4.67]	-1.86 [-8.44, 4.87]
	24 Month	114 (57)	-0.73 [-5.64, 4.28]	1.45 [-3.37, 6.32]	2.18 [-4.66, 8.93]

Note: AX/AY/BX refers to the cognitive test condition (cue and probe).