





Supplementary Figure 4b: Multiple Mediator Model

Supplementary File 4a. Teacher behaviours - single mediator models testing the effect of the intervention on the proportion of time students spent in MVPA during PE lessons at maintenance assessment

Teacher behaviour mediators	Action theory test			Conceptual theory test			Direct effect			Significance of mediated effect			Absolute value Proportion (%) $ AB /(AB + C)$
	A	95% CI	P value	B	95% CI	P value	C	95% CI	P value	A*B	95% CI	P value	
Maximising Movement and Skill Development	10.94	5.25 to 16.63	0.000	0.45	0.25 to 0.66	<0.001	1.07	-2.32 to 4.46	0.535	4.97	0.69 to 9.25	0.023	82.28
Reducing Transition Time	12.66	10.82 to 14.51	0.000	0.48	0.14 to 0.82	0.006	-0.11	-3.23 to 3.01	0.945	6.05	1.58 to 10.53	0.008	98.21
Building Competence	7.35	3.51 to 11.19	0.000	0.31	-0.00 to 0.62	0.051	3.84	0.59 to 7.09	0.020	2.27	-0.42 to 4.96	0.098	37.15
Supporting Students	7.05	4.77 to 9.33	0.000	0.63	0.15 to 1.12	0.011	1.61	-1.32 to 4.54	0.283	4.46	0.39 to 8.54	0.032	73.48

Note: Mediating effects using a cluster-bootstrapped based product-of-coefficients test (47). A = unstandardised regression coefficient of treatment condition predicting change in the hypothesised mediator; B = unstandardised regression coefficient of change in hypothesised mediator predicting change in physical activity behaviour; C = unstandardised regression coefficient of the intervention predicting physical activity behaviour accounting for effect of the mediator; AB, product of coefficients estimate.

Supplementary File 4b. Teacher behaviours – multiple mediator model testing the effect of the intervention on the proportion of time students spent in MVPA during PE lessons at maintenance assessment

Teacher behaviour mediators	Action theory test			Conceptual theory test			Direct effect			Significance of mediated effect			Absolute value Proportion (%)
	A	95% CI	P value	B	95% CI	P value	C	95% CI	P value	A*B	95% CI	P value	$ AB /(AB + C)$
							-0.06	-0.19 to 0.06	0.320				
Maximising Movement and Skill Development	10.90	10.18 to 11.61	0.000	0.36	0.22 to 0.50	<0.001				3.91	2.31 to 5.51	<0.001	98.49
Reducing Transition Time	12.50	12.11 to 12.89	0.000	0.19	-0.07 to 0.44	0.147				2.32	-0.82 to 5.48	0.147	97.48
Building Competence	7.35	6.87 to 7.83	0.000	-0.20	-0.48 to 0.08	0.167				-1.47	-3.55 to 0.62	0.168	96.08
Supporting Students	7.01	6.63 to 7.38	0.000	0.38	-0.04 to 0.80	0.077				2.67	-0.29 to 5.62	0.077	97.80

Note: A = unstandardised regression coefficient of treatment condition predicting change in hypothesised mediators; B = unstandardised regression coefficient of change in hypothesised mediators predicting change in physical activity behaviour; C = unstandardised regression coefficient of the intervention predicting physical activity behaviour accounting for effect of the mediator; AB, product of coefficients estimate.