

Online Supplements for:

**Psychometric Properties of a French Version of the Perceived Motor Competence in Childhood
(PMC-C) Questionnaire**





Table S1. *French Items of the PMC-C*

Table S2. *Standardized Parameters Estimates from the Two Second Order Factor CFA of the PMC-C*

S1. *Differential Item Functioning as Function of Body Mass Index Percentile*

Table S3. *Goodness-of-Fit Statistics of Differential Item Functioning of Body Mass Index Percentile Values for the PMC-C*

Table S1.*French Items of the PMC-C*

Items
(T1) Je peux lancer une balle ou un ballon loin.
(R1) Je suis bon(ne) pour courir vite
(C1) Je peux bien attraper une balle ou un ballon lancé avec force.
(H1) Je peux très bien sauter sur une jambe.
(K1) Je peux frapper fort un ballon avec le pied.
(L1) Je peux sauter sur les deux jambes plusieurs fois de suite.
(B1) Je peux très bien faire rebondir un ballon.
(J1) Je peux sauter très loin vers l'avant avec les deux jambes.
(T2) Je peux bien lancer une balle ou un ballon sur une cible.
(R2) Je suis bon(ne) pour courir aussi vite que possible.
(C2) Je peux bien attraper une petite balle (par exemple, une balle de tennis).
(H2) Je suis bon(ne) pour sauter sur une jambe.
(K2) Je suis bon(ne) pour frapper un ballon avec le pied.
(L2) Je suis bon(ne) pour sauter.
(B2) Je peux bien faire rebondir un ballon en changeant de main.
(J2) Je suis bon(ne) pour sauter très loin vers l'avant avec les deux jambes.
(T3) Je suis bon(ne) pour lancer une balle ou un ballon.
(R3) Je peux bien courir vite.
(C3) Je peux bien attraper une balle ou un ballon.
(H3) Je peux sauter très loin sur une jambe.
(K3) Je suis bon(ne) pour frapper un ballon avec le pied sur une cible.
(L3) Je peux bien sauter haut.
(B3) Je peux contrôler un ballon en le faisant rebondir.
(J3) Je suis bon(ne) pour sauter vers l'avant avec les deux jambes.
Answer Scale
1= Fortement en désaccord

2 = En désaccord

3 = D'accord

4 = Fortement d'accord


Notes. B = Bouncing; C = Catching; K = Kicking; H = Hopping; J = Jumping L = Leaping; PMC-C=Perceived Motor Competence in Childhood Questionnaire; R = Running; T = Throwing.

Table S2.*Standardized Parameters Estimates from the Two Second Order Factor CFA of the PMC-C*

Items	Throwing (λ)	Running (λ)	Catching (λ)	Hopping (λ)	Kicking (λ)	Leaping (λ)	Bouncing (λ)	Jumping (λ)	δ	
T1	.715								.489	
T2	.652								.575	
T3	.882								.222	
R1		.908							.176	
R2		.889							.209	
R3		.963							.072	
C1			.617						.620	
C2			.748						.440	
C3			.895						.200	
H1				.803					.356	
H2				.934					.127	
H3				.551					.696	
K1					.836				.301	
K2					.922				.149	
K3					.433				.813	
L1						.789			.377	
L2						.956			.086	
L3						.757			.427	
B1							.854		.271	
B2							.693		.520	
B3							.729		.468	
J1								.797	.365	
J2								.829	.312	
J3								.906	.179	
ω	.797	.943	.802	.816	.792	.876	.804	.882		
Second order	Throwing	Running	Catching	Hopping	Kicking	Leaping	Bouncing	Jumping	ω	
Object control	γ	.996	-	.852	-	.875	-	.944	-	.956
	ζ	.007	-	.275	-	.235	-	.109	-	
Locomotion	γ	-	.881	-	.818	-	.992	-	.893	.943
	ζ	-	.224	-	.332	-	.017	-	.202	

Notes. λ = factor loadings; γ = 2nd order factor loading; δ = uniquenesses; ζ = 2nd order measurement error; ω = McDonald's omega coefficient of composite reliability; B = Bouncing; C = Catching; CFA = confirmatory factor analyses; K = kicking; H = hopping; J = jumping L = leaping; PMC-C = Perceived Motor Competence in Childhood Questionnaire; R = running; T = throwing.

S1. Differential Item Functioning as Function of Body Mass Index Percentile

Body mass index (BMI) values were converted to sex- and age-specific z-scores based on the World Health Organization (WHO) growth reference data (Onis et al., 2007). Sex- and age-specific z-scores were estimated using lambda (L), mu (M), and sigma (S) values from the WHO growth reference data (available at <https://www.who.int/toolkits/growth-reference-data-for-5to19-years/indicators/bmi-for-age>, consulted November 17th, 2020). Given that child's age was reported by the parents and not estimated using the date of birth, mid-year (e.g., 5.5 years values for a child of 5 years) L, M, and S values were used. Finally, sex- and age-specific z-scores were converted into percentile values [range = 0.002 to 99.999; $M = 51.57$, $SD = 33.22$). These percentile values were used to examine the association between BMI percentile values and PMC-C responses

The goodness-of-fit statistics of the models estimated with BMI percentile values are reported in Table S3. These results showed that the saturated (model 2), first-order factors-only (model 3) and second-order factor-only (model 4) models did not result in a substantial improvement in model fit when compared to the null effects model (model 1). Thus, these results suggested a lack of DIF, and failed to support significant associations between BMI percentile values with responses on the PMC-C scales.

References

Onis, M.D., Onyango, A.W., Borghi, E., Siyam, A., Nishida, C., & Siekmann, J. (2007). Development of a WHO growth reference for school-aged children and adolescents. *Bulletin of the World Health Organization*, 85, 660-667.

Table S3.

Goodness-of-Fit Statistics of Differential Item Functioning of Body Mass Index Percentile Values for the PMC-C

Model	N ^o	Description	$W\chi^2(df)$	CFI	TLI	RMSEA	RMSEA 90% CI	CM	$\Delta W\chi^2(df)$	ΔCFI	ΔTLI	$\Delta RMSEA$
DIF: Body mass- index percentile values	1	Null effects	487.695(268)*	.962	.957	.065	.056-.074	-	-	-	-	-
	2	Saturated	515.528(244)*	.953	.942	.076	.067-.085	1	19.88(24)	-.009	-.015	+.011
	3	Factors only - 1 st order factor	527.823(260)*	.953	.946	.073	.064-.082	1	6.20(8)	-.009	-.011	+.008
	4	Factor only - 2 nd order factor	532.923 (267)*	.954	.948	.072	.063-.081	1	0.23(1)	-.008	-.009	+.007

Notes. $W\chi^2$ = robust weighed least square chi-square; Δ = change from previous model; $\Delta W\chi^2$ = chi square difference test (calculated with the Mplus DIFFTEST function); CFI = comparative fit index; CM = comparison model; df = degrees of freedom; DIF = differential item functioning; PMC-C = Perceived Motor Competence in Childhood Questionnaire; RMSEA = root mean square error of approximation; 90% CI = 90% confidence interval; TLI = Tucker-Lewis index. $W\chi^2$ values are not exact, but “estimated” as the closest integer necessary to obtain a correct p value so that $W\chi^2$ and the resulting CFI values can be non-monotonic with model complexity. * $p < .01$.