Supplementary material for the manuscript "Identity among Brazilian student-athletes using multilevel regression and poststratification"

Validation of the factorial structure of the Portuguese version of the Baller Identity Measurement Scale (BIMS-PT)

An exploratory factor analysis (Principal Component Extraction; Varimax Rotation with Kaiser's normalization) was used to examine the number of factors within the BIMS-PT, starting from the proposed four-factor model of the BIMS and testing different models (e.g., three-factor or two-factor) in case the original model was not confirmed. We adopted the criteria of values ≥ 0.40 for an item loading on factor and no less than three items in a factor (Hair, Black, Babin, & Anderson, 2009). Overall, the exploratory factor analysis indicated that the BIMS-PT version presented a two-factor structure (Kaiser normalization = 0.84). Six items (e.g., number 1, 3, 6, 7, 8, and 10) loaded one factor only, whereas items number 2, 4, 5, and 9 loaded both factors. Overall, seven items loaded the factor named "Affectivity" (α = 0.80) and seven items in the factor named "Social Identity" (α = 0.74).

To examine the internal consistency of each factor, the Cronbach`s alpha coefficients >70 were considered acceptable. Furthermore, a confirmatory factor analysis (CFA) was applied to examine the factorial structure of the model, using Chi-square (X^2), Chi square ratio (X^2/df), Turcker Lewis Index (TLI ≥ 0.95), Akaike Information Criteria (AIC), normed fit index (NFI ≥ 0.95), root mean square error of approximation (RMSEA ≤ 0.05), P of CLOSE fit (PCLOSE; p>0.05), and comparative fit index (CFI ≥ 0.95). The CFA indices showed to be acceptable: Chi-square (X^2) = 34.548; Chi-square ratio = 1.33; TLI = 0.992; AIC = 112.548; NFI = 0.981; RMSEA = 0.026; PCLOSE = 0.977; and CFI = 0.995.

Variation among student-athletes´ identity responses when aggregated by gender, sport type (individual and team sports), competitive level (local, state and national level) and university type (public and private).

Varying intercept models assuming student-athletes (level-1) nested by group (level-2, e.g. gender) were used. The group-level parameters were used to measure the proportion of total variance which fell between-group, i.e. variance partition coefficient (Goldstein, 2011). Variance partition coefficients >0.05 derived from the varying intercept models were interpreted as indicating a substantial variation for group.

Supplementary table 1. Estimates and variance partition coefficients (95% confidence intervals) of BIMS-PT factors responses among Brazilian student-athletes by gender, competitive level, type of sports, and type of university.

	Affectivity		Social Identity	
	Estimations (95% CI)	Variance partition coefficient (95% CI)	Estimations (95% CI)	Variance partition coefficient (95% CI)
Gender		0.00 (0.00 to 0.19)		0.00 [a]
Male	3.30 (3.14 to 3.45)		4.77 (4.66 to 4.90)	
Female	3.10 (2.97 to 3.24)		4.76 (4.65 to 4.87)	
Competitive level		0.21 (0.06 to 0.55)		0.08 (0.02 to 0.32)
Local level	3.90 (3.75 to 4.04)		5.13 (5.00 to 5.25)	
State level	3.10 (2.91 to 3.30)		4.78 (4.60 to 4.96)	
National level	2.64 (2.51 to 2.77)		4.47 (4.36 to 4.59)	
Type of sports		0.16 (0.00 to 0.80)		0.00 [a]
Individual sports	3.32 (3.10 to 3.54)		4.69 (4.51 to 4.87)	
Team sports	3.15 (3.04 to 3.27)		4.79 (4.70 to 4.88)	
Type of university		0.25 (0.05 to 0.95)		0.11 (0.02 to 0.44)
Private	2.62 (2.50 to 2.74)		4.47 (4.36 to 4.58)	
Public	3.76 (3.64 to 3.87)		5.08 (4.97 to 5.19)	

[a] The 95% confidence intervals were too large and unreliable implying that no substantial variance was present at level-2, which means no differences between players when grouped at level-2