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Linear Speed and Cognitive-Motor Reactive Agility as Key Correlates of Elite Female Kho-Kho Performance: Evidence of an Elite Plateau

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1. Round 1

1.1 Reviewer 1

Reviewer:

In the Introduction, the claim “the interplay between linear speed and multi-directional agility is considered essential for executing both offensive chases and defensive evasions [2]” lacks a critical synthesis of conflicting evidence; I recommend expanding this paragraph to include contrasting findings or theoretical frameworks that challenge this assumption to strengthen conceptual rigor.

The paragraph beginning with “However, as competitive standards elevate...” introduces cognitive variables but does not clearly define how “reaction time” differs from “cognitive-motor reactive agility” used later in the study; this conceptual overlap should be explicitly disentangled to avoid construct redundancy.

In the Introduction, the sentence “Broad evaluations of selected physical fitness variables across various indigenous sports...have historically guided generalized training methodologies [8]” would benefit from a more critical tone; currently, it reads descriptively rather than analytically and does not sufficiently justify the need for the present study.

The reporting “The two significant correlations were of moderate magnitude according to Cohen’s guidelines” would benefit from explicitly stating the thresholds used (e.g., $r = 0.30-0.49$) for transparency and reproducibility.

The paragraph interpreting non-significant variables states “our data indicates that once athletes reach the national standard...” which implies causality; this should be rephrased to reflect correlational limitations inherent in the study design.

In the Discussion, the sentence “raw linear velocity is paramount” is overly deterministic and not fully supported by the modest correlation coefficient ($r = -0.379$); tempering the language would improve scientific accuracy.

Author revised the manuscript and uploaded the updated document.

1.2 Reviewer 2

Reviewer:

The statement “At the national level, foundational traits often reach a homogeneity described as an ‘elite plateau’” introduces a central theoretical construct, yet it is insufficiently operationalized; the manuscript should provide a clearer theoretical or empirical definition of “elite plateau” supported by prior literature.

In the Methods section, the description “Testing was conducted on the same morning as the competitive matches (approximately 2–4 hours prior)” raises concerns about potential acute fatigue, stress, or arousal effects; this should be discussed as a possible confound or controlled variable.

The measurement of Resting Heart Rate using “manual radial pulse method...counted for 30 seconds, then multiplied by two” may introduce measurement error; please justify the choice of this method over more reliable tools such as heart rate monitors and discuss implications for internal validity.

The description of the Cognitive-Motor Reactive Agility (CMRA) test states “No published reliability or validity data exist for this custom...test”; this is a critical methodological limitation, and the manuscript should include at least pilot reliability data or cite analogous validated protocols to support its use.

In the same section, the phrase “a single fully randomised sequence of all five colours was presented” raises concerns regarding trial variability and learning effects; multiple trials should be considered or justification provided for using a single trial.

The “In-Game Performance Evaluation” paragraph relies on expert ratings but does not report inter-rater reliability; the sentence “scores from the three judges were aggregated” is insufficient without reporting ICC or similar statistics to demonstrate scoring consistency.

In the Statistical Analysis section, the decision “results are therefore interpreted at the conventional $\alpha = 0.05$ level” despite Bonferroni-adjusted non-significance is methodologically contentious; this requires stronger justification or a more conservative interpretation of findings.

The statement “Multiple linear regression was not conducted” highlights a missed analytical opportunity; given the multidimensional nature of predictors, regression or partial correlation analyses are necessary to establish independent effects.

In the Results section, the phrase “The correlation matrix reveals a distinct bifurcation” is interpretive rather than purely descriptive; consider moving such interpretive language to the Discussion section to maintain structural clarity.

Author revised the manuscript and uploaded the updated document.

2. Revised

Editor’s decision after revisions: Accepted.

Editor in Chief’s decision: Accepted.