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LETTER TO THE EDITOR

Authors' Reply to Wewege et al.: Comment on: "The training of short distance sprint performance in football code athletes: a systematic review and meta-analysis"

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Dear Editor,

We would like to thank Wewege et al. [1] for their kind and constructive comments regarding our recent systematic review and meta-analysis [2], which acknowledged our detailed methodology and pre-registration. Our review found 121 studies, including 3419 athletes related to training interventions to improve football code athletes' short-sprint performance. We would also like to thank Wewege et al., [1] for highlighting some limitations within our statistical approach, where they suggest a between-group effect would have been more appropriate to evaluate the causality of the sprint training interventions rather than the pooling of within group change from pre- and post-intervention data.

We agree with Wewege et al. [1] that a between-group effect may be more appropriate to analyse training causality. However, given our aim was to synthesise findings from the full range of research available, a pairwise meta-analysis was not optimal due to the multiple research designs included within our systematic review. We took a similar approach to previous meta-analyses within sports performance [3–5]. The research designs within our systematic review included comparisons across multiple training subgroups (i.e., primary, secondary, combined-specific, tertiary, combined and sport only), comparing experimental randomised control trials (e.g., [6]), cross over trials (e.g., [7]), between quasi-experimental parallel designs (e.g., tertiary vs. combined; [8]), within training mode comparisons (e.g., secondary vs. secondary; [9]) and exploratory research with no comparative group ($n = 7$; e.g., [10]). When considered alongside how our review addressed previous limitations within the literature (e.g., several methods not accounted for, small samples of the available literature or a lack of focus on football code athletes) and the further analysis undertaken within our meta-analysis (i.e., heterogeneity, sensitivity, small study effects, moderator analysis) we still believe our review is able to advance the knowledge of short-sprint development.

In summary, Wewege et al. [1] highlight some important considerations for the statistical approach used within the meta-analyses using comparative groups. Although the nature of applied research means that no study alone is likely to prove causality, through a narrower research design and an increase in randomised control trials, future research may support our findings whether mode-specific training interventions improve short-sprint performance in football code athletes. Our findings suggest that short-sprint performance can be enhanced by increasing either or both the magnitude and the orientation of force an athlete can generate in the sprinting action, which agrees with previous reviews [11, 12].

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Conflict of Interest Ben Nicholson, Alex Dinsdale, Ben Jones and Kevin Till declare they have no potential conflicts of interest concerning the content of this letter.

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