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The recent article by Cheung et al.[1] provided a review of studies examining the effects of gender-affirming hormone therapy (GAHT) on physical performance, with a focus on the inclusion of transgender people in competitive sports.

The authors state throughout that differences between sexes are mitigated when absolute measures are 'corrected' by stature (termed height by the authors) or mass. The use of 'corrected' is questionable, as this suggests absolute data are 'incorrect'. When data are expressed relative to morphology they are 'adjusted' not 'corrected'. Even accepting this terminology, much of the argument is based on adjustment of absolute measures by stature, rather than the standard mass, without justification. Nonetheless, there is no attempt to address performance advantages provided by greater stature that overwhelmingly occurs in males[2,3]. Importantly, when GAHT is applied prior to puberty, males still reach their expected stature[4]. Thus, taking the author's argument to its logical conclusion: if sex categories were to be removed (assuming relative measures based on stature are equal between the two sexes), stature categories would be required instead to ensure competition was still fair.

Differences in absolute measures[5] are reported but largely ignored by the authors. Whilst transwomen (TW) and females were found to have similar relative $\dot{V}O_2$peak and strength after 14 years, this likely only occurred due to TW being ~16kg heavier and ~13cm taller than females due to their male morphology. Relative measures of strength will always 'favour' the smaller person (who in this context will typically be female) due to the non-linear relationship between muscle mass and force[6]. Indeed, for two hypothetical athletes of 95kg and 65kg who have equal relative strength, the heavier person will always outperform the lighter person in a test of force. Even when matched by mass, males outperform females in strength events[7], therefore disparities in morphology between TW and females renders any extrapolation of relative measures to a real-world context null. As such, absolute measures should always be considered alongside relative measures, as TW retain significant advantages over females in absolute strength (16%), $\dot{V}O_2$peak (22%), $\dot{V}O_2$ at the anaerobic threshold (18%), and O_2pulse (17%)[5]. Omitting any discussion of these results was a questionable choice given the importance of these variables in understanding differences between performance standards[8].

The conclusions do not reflect the contents of the paper, instead focusing entirely on two studies from the same observational population without controls whilst ignoring the Alvares et al.[5] data in both the body of the conclusion and the abstract. Additionally, the conclusion states "*Reasonable accommodations for the inclusion of trans people are sport specific and could be based on the range of competitive advantages and abilities that are already accepted in the cisgender population*". For this to be a relevant conclusion, the authors would need to: state which specific 'advantages' they are referring to; provide evidence that these 'advantages' explain performance differences within sex and performance standards; demonstrate that these 'advantages' are equal to or greater than the inherent male performance advantages outlined by the authors themselves. As none of these details are provided, this paragraph is unsupported opinion.

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