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CORRECTION

Correction to: The skin blood flow response to exercise in boys and men and the role of nitric oxide

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One of the co-authors, Raffy Dotan, wishes to remove his name from the original version of this article. The corrected author group should be:

Alexandra Woloschuk · Gary J. Hodges · Raffaele J. Massarotto · Panagiota Klentrou · Bareket Falk.

The original article has been corrected.

In addition, authors would like to clarify some text in the Discussion. The clarification is given below.

We describe the skin blood flow response, as measured with laser Doppler fluxmetry, to 30 min of cycling at 60% VO_{2max} in thermoneutral conditions, in boys and men. As illustrated in the Results section, skin blood flow (SkBF) began to increase earlier in the boys (Fig. 3), but the relative increase (% from baseline) at 30 min was similar in the two groups (Fig. 2). We interpreted their earlier rise in SkBF as a greater vasodilatory response in the boys compared with the men, as supported by the calculated area-under-the-curve. However, considering that the relative increase in SkBF was similar in the two groups at 30 min of exercise, we recognize that it may be misleading to state that the vasodilatory response was greater in the boys. Thus, in the next paragraph, we would like to highlight in greater detail the implications of the boys' earlier rise, yet similar relative increase in SkBF to heat-dissipation.

The similar relative SkBF increase at 30 min of exercise in the two groups might seem incongruent with the premise of children's greater reliance on dry heat dissipation, which requires greater cutaneous blood flow relative to adults. However, one should also take into account the boys' 38% greater body-surface-area-to-mass ratio (344 $cm^2\ kg^{-1}$) compared with the men's (249 $cm^2\ kg^{-1}$), along with their 47% greater BSA-to-workload (203 vs. 138 $cm^2\ W^{-1}$). That is, relative to the heat produced (assuming similar efficiency (Rowland et al. 1990)), the boys had nearly 1.5 times the surface area from which to dissipate heat. Thus, although there was no group difference in specific SkBF increase (per unit of surface area), the combined effect of greater relative body surface area and higher skin temperature (even after taking into account differences in ambient temperature), suggests an advantage for the boys in dry-heat-dissipation capacity relative to the men. The men's relative sweating rate was ~ 43% higher than the boys', allowing them to dissipate more heat via evaporation. That is, the boys' advantage in dry-heat-dissipation capacity was roughly matched with the men's higher relative sweating rate. Taken together, the lower sweating rate and the greater dry-heat dissipation capacity in the boys support the notion that children's thermoregulatory heat-dissipation 'strategy' relies more on dry heat dissipation via greater SkBF, compared with adults, who rely more on sweat evaporation (Falk and Dotan 2008, 2017; Rowland 2008).

In summary, the vasodilatory response to exercise was initiated earlier in boys compared with men, resulting in a greater initial SkBF response, although the relative increase in SkBF after 30 min was similar in the two groups. Due to the boys' larger BSA-to-mass ratio, the relative skin area available for dry-heat dissipation was greater in the boys and their higher skin temperature may have further helped in dry-heat dissipation. It is unknown whether the similar

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increase in relative SkBF in children and adults over 30 min of exercise would persist under more demanding conditions of higher metabolic and/or ambient heat loads.

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