

Erratum to: Energy Cost of Running Under Hypogravity in Well-Trained Runners and Triathletes: A Biomechanical Perspective – International Journal of Computer Science in Sport 18(2), Pages 60–80 (2019)

*Ueberschär, O.¹, Fleckenstein, D.^{1,2}, Warschun, F.¹, Walter, N.¹, Wüstenfeld, J. C.¹,
Wolfarth, B.^{1,3}, Hoppe, M. W.^{4,5}*

¹ Institute for Applied Training Science (IAT); Leipzig, Germany

² German Athletics Association; Dortmund, Leipzig, Darmstadt, Germany

*³ Department of Sports Medicine, Humboldt University / Charité – Universitätsmedizin,
Berlin*

*⁴ Department of Movement and Training Science, University of Wuppertal; Wuppertal,
Germany*

*⁵ Department of Orthopaedics, Trauma and Hand Surgery, Klinikum Osnabrück GmbH;
Osnabrück, Germany*

Despite careful cross-checking and review prior to publication of the above research article, an incorrect spreadsheet column assignment for step length during data curation resulted in incorrect scaling factors in some reported energy values. Although all general statements, results and relative numerical values of this study remained unaffected by this error, some absolute numerical values and plot axis labels need to be corrected. In addition, some equations have been changed to physically equivalent but numerically more robust expressions in the course of the recalculation for the sake of numerical stability. In the following, all those corrections and improvements are listed as erratum:

• **Page 67:**

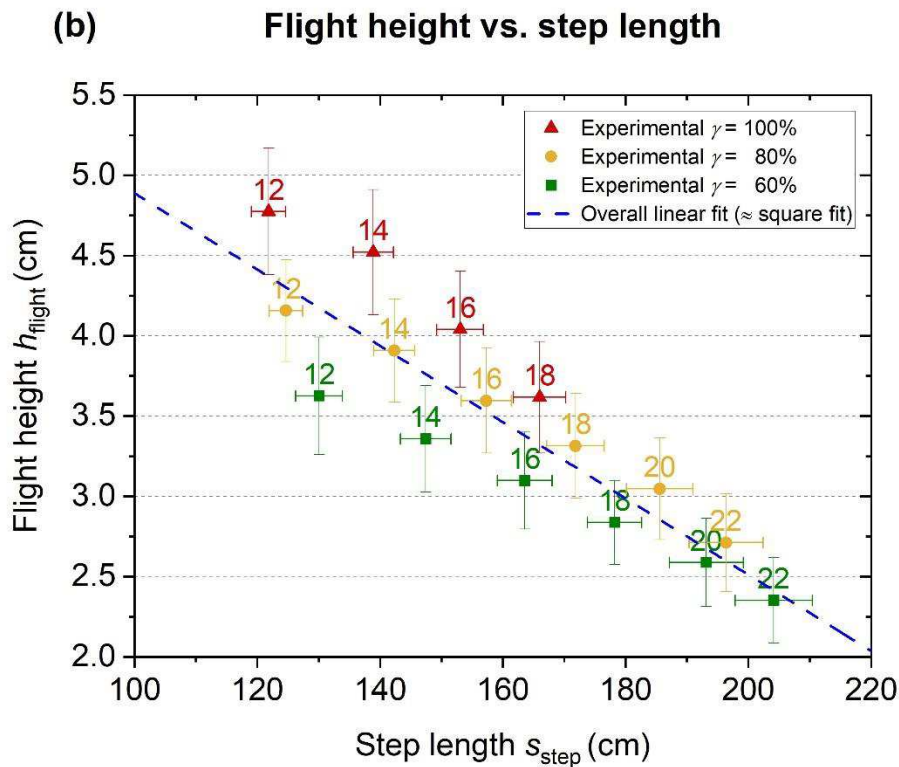
- Eq. (8) is better computed as $s_{\text{step}} = \frac{1}{2} v_{\text{run}} T_{\text{stride}}$.
- The correct units are $[W_{\text{tot}}] = [W_{\dot{V}_{\text{O}_2}}] = [W_{\text{La}}] = \text{J m}^{-1} \text{kg}^{-1}$.

• **Page 68:** The correct coefficient values are $\delta_{\text{step}} = 5.66 \pm 0.43$, 5.26 ± 0.12 and $5.64 \pm 0.01 \text{ ms (km h}^{-1}\text{)}^{-1}$.

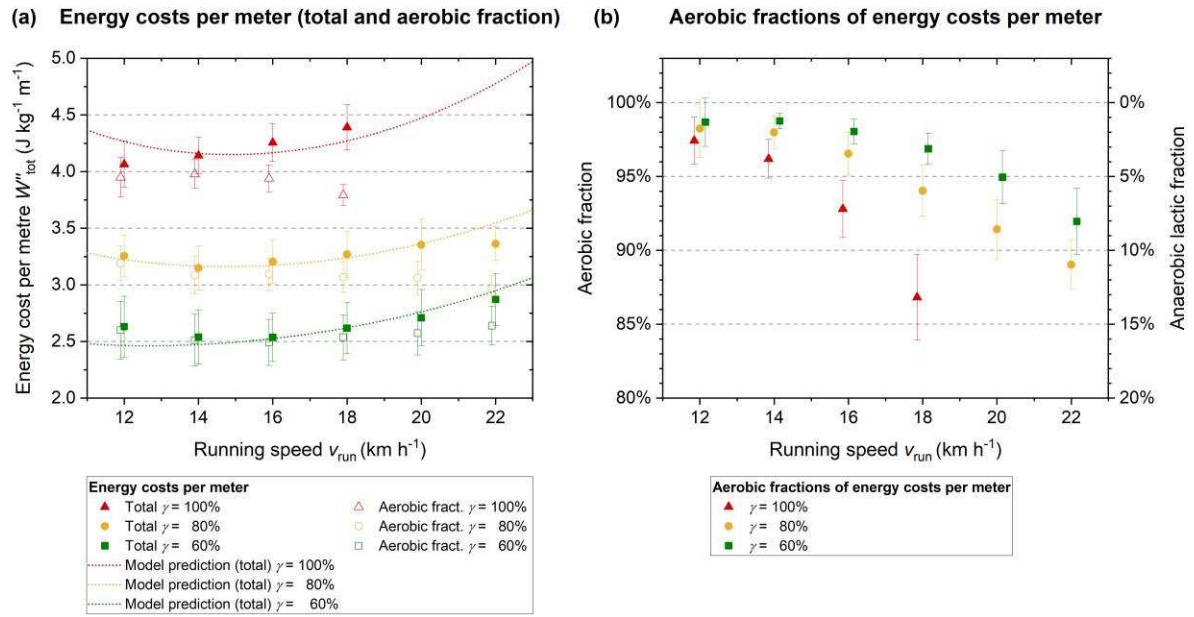
• **Page 69:**

- Numerical values in Eq. (13) correctly read

$$h_{\text{flight}} = 0.0727 \pm 0.0048 - (0.0238 \pm 0.0029) s_{\text{step}}$$
- Figure 4 (b) with correct scaling is shown below.



- **Page 71:** The correct unit of the ordinate axes in Figure 5 (a) and (b) is J kg^{-1} .
- **Page 72:** Figure 6 depicts values in joules per meter and kilogram body mass. The correct plots are shown below.



- **Page 73:** Eq. (17) is better computed using Eq. (9), (8) and (11) as

$$W''_{\text{tot}} = \frac{1}{s_{\text{step}}} \left(\frac{1}{2} \eta^{-1} v_{\perp}^2 + 4A\gamma^2 g_0^2 \right) = \frac{\frac{1}{2} \eta^{-1} v_{\perp}^2 + 4A\gamma^2 g_0^2}{T_{\text{step}}^{(0)} v_{\text{run}} - \delta_{\text{step}} v_{\text{run}}^2}$$

- **Page 75:** The correct extrapolated maximal step length is 3.06 ± 0.21 m.