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LETTER TO EDITOR

Mass balance and energy balance in body weight regulation: A response to Theodorakis' comments

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Dear Editor,

I wish to begin by expressing my sincere gratitude to Dr. Theodorakis for his interest in my recent article[1] and for taking the time to engage with its content through his letter to the editor.[2] Such scholarly dialog is invaluable in advancing our collective understanding of complex topics like body weight regulation.

My article aims to introduce the core ideas of the mass balance model, a novel paradigm for understanding body weight dynamics initially proposed by my esteemed colleague, Dr. Arencibia-Albite.[3,4] Given that my work builds directly upon this foundation, I strongly encourage readers – particularly those intrigued by this approach – to consult Dr. Arencibia-Albite's comprehensive publications. These articles provide a detailed exploration of the model's intricacies, offering the depth and rigor necessary to fully appreciate its theoretical and practical implications.

However, I must address a misinterpretation raised by Dr. Theodorakis, who suggests that my research claims "energy balance has no impact on body mass," calling this view "scientifically inaccurate."[2(p142)] I respectfully note that this does not accurately reflect the position presented in my paper. Rather than dismissing the role of energy balance, the mass balance model integrates and builds upon it by situating it within a broader context of mass dynamics. My article does not deny the role of energy intake and expenditure in influencing body mass. Instead, it posits that these energy-related processes ultimately exert their effects through corresponding changes in mass input and output, as articulated by the mass balance framework. This perspective complements – rather than contradicts – the energy balance theory, positioning mass balance as a critical lens through which energy-related processes can be more accurately understood in the context of weight stability and change.

To clarify further, Dr. Arencibia-Albite's study demonstrates that weight stability can coexist with a persistent energy imbalance – challenging the traditional assumption that energy balance is the sole determinant of steady body weight. My study builds on this insight, emphasizing that mass balance provides a unifying mechanism to explain such phenomena. The synergy between our contributions underscores the importance of reading both works together to fully appreciate the scope of the mass balance paradigm.

Finally, I am pleased to share that Dr. Arencibia-Albite is preparing a forthcoming publication that will further refine the mass balance model and address common misconceptions about its application. This upcoming work is expected to provide additional clarity and resolve lingering questions, and I look forward to its contribution to the ongoing discourse.

In closing, I appreciate Dr. Theodorakis' engagement and welcome the opportunity for continued discussion on this topic. The complementary nature of my study and

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Dr. Arencibia-Albite's foundational work highlights the potential for collaborative exploration to deepen our understanding of body weight regulation – an endeavor I hope will inspire further research and refinement.

Conflict of interest

The author declares no conflict of interest.

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