Last Word on Viewpoint: Expending our physical activity (measurement) budget wisely

Lisa H. Colbert1 and Dale A. Schoeller2

Departments of 1 Kinesiology and 2 Nutritional Sciences, University of Wisconsin, Madison, Wisconsin

Submitted 6 June 2011; accepted in final form 6 June 2011

TO THE EDITOR: We thank those who took the time to write commentaries on our Viewpoint (see Ref. 2). While we were surprised that many were in basic agreement, we were pleased by the many insightful disagreements. Clearly there will always be specific situations that will necessitate self-report, but we still argue that whenever possible, objective measures should be the measurement of choice as they will provide more accuracy for the measurement of physical activity (PA) and as also commented on, for the measure of sedentary time. We do agree that the use of a combination of objective and self-report methods may often be ideal. For example, an objective device cannot provide information regarding motivations for PA or context. More than one response referenced the study by Atienza et al (1), in which self-reported PA was independently associated with various health biomarkers even after adjustment for accelerometer-determined PA. We would point out that although true, the accelerometer had much stronger associations and also picked up more relationships (e.g., systolic blood pressure, triglycerides, glucose, etc.) than did self-report, adding credence to our suggestion that to further define relationships in smaller cohorts, objective monitoring would be a better use of one’s measurement budget. We also agree that the doubly labeled water method may not be the ideal criterion method for validating survey instruments. In a head-to-head comparison of self-report and objective measures of free living PA energy expenditure, we know of no better criterion measure; however, doubly labeled water does not provide a criterion measure of frequency, duration, or intensity of PA. Finally, perhaps the greatest unease with objective measures of PA is the large number of options available for purchase. If there were only one, it would be easier to shift to a “simple” objective measure, but there are dozens to pick from and the outputs from each are often different. Although these new tools provide greater objectivity, an investigator is still faced with the difficulty of selecting one device just as they are faced with selecting between multiple survey instruments. Indeed, the wide array of tools will probably complicate the problem of comparisons between studies as well as comparison of secular trends across decades. We don’t have a simple solution to this, but do suggest there be efforts to provide standard measures and outputs in order to improve science’s ability to extract broad implications by combining findings from multiple studies.

REFERENCES