Commentary on Viewpoint: Perspective on the future use of genomics in exercise prescription

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TO THE EDITOR: Dr. Roth’s (1) thoughtful and carefully worded essay about the use of genomic information to individualize exercise prescription is usefully focused on three possible consequences: positive, none, and negative. Figure 1 is presented to suggest that large numbers of apparently normal subjects may show negative responses to exercise as assessed by four glucose metabolic parameters, making a case for genomic consideration of exercise prescription. My question for Dr. Roth is whether the deviations in Figure 1 represent anything more than random noise. They are presented as absolute changes, which are hard to interpret when the mean values are not given. Are the “negative” responses significantly negative: 1) statistically, and/or 2) biologically, or do they just represent measurement variance? Not working in this area, I need his help in answering this question.

I suggest it would be inappropriate to overreact to “negative” responders to exercise as determined by any outcome variable if the data represent just random measurement variance. It would be equally inappropriate to ignore the basis for their negative responses if they can be shown to be real and not just part of measurement variance. However, in this case, it would obviously be important to identify non-genomic explanations for the negative responses before blaming genes.

Let me also suggest that for positive responders, ignoring individual genomic information may also be inappropriate: Why not use this information if an even better exercise response could be achieved?

REFERENCES