

## Response to commentary regarding the article: “Lifestyle mediates seasonal changes in metabolic health among the Yakut (Sakha) of Northeastern Siberia”

### Correspondence

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Dear Editor,

We would like to thank Werneck et al. for their thoughtful commentary regarding our recent submission to the *American Journal of Human Biology* (Levy et al., 2016). This article describes seasonal changes in biomarkers of cardio-metabolic health and their relationship to lifestyle characteristics among an indigenous Siberian population, the Yakut. Werneck et al. point out that our manuscript lacks the specific methods of analysis that are required to demonstrate statistically that lifestyle variables mediate or moderate seasonal change in health indicators. We agree that this is an important clarification. In order to claim that a variable either mediates or moderates the relationship between two variables, a specific set of criteria must be met (Baron & Kenny, 1986).

Like many published studies of the social and ecological determinants of health, we used the terms mediate and moderate in a broader sense rather than in a statistical sense. While our paper lacks mediation and moderation analyses, our primary findings still stand. In particular, Yakut adults exhibit modest changes in body composition and significant increases in cholesterol levels from summer to winter. Furthermore, these seasonal patterns differed between men and

women. Finally, Yakut adults that spent more time participating in subsistence activities appear to be more buffered from adverse seasonal changes in cholesterol levels. We agree with Werneck and colleagues that researchers should only use the terms mediation and moderation when the specific statistical criteria are met.

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### REFERENCES

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