

A Cross Sectional Study of Temporal Diet Quality in US Adults

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Abstract: In March 2020, the COVID-19 pandemic led to restricted vocational (Voc-PA) and recreational physical activity (Rec-PA) outside of the home. We conducted a nationwide survey in the United States (US) during the mitigation peak of the pandemic (June 2020) to assess health-related changes from the previous year. A diet quality (DQ) assessment tool weighted the relative healthfulness of eating occasions from foods prepared-at-home (Home) and away-from-home (Away). Previously validated instruments assessed PA and demographic variables; height and weight were self-reported to calculate body mass index (BMI). T-tests explored longitudinal, between-sex, and obesity status differences in DQ, PA, and BMI; Pearson correlations explored associations. Of 1648 respondents, 814 valid responses (56.8% female, 81.7% white) were analyzed. Overall and Home DQ was higher for females than males in 2020 ($p < 0.001$ for both). Respondents increased DQ from 2019 to 2020, primarily from Away ($p < 0.001$ for both sexes). Total Rec-PA and Voc-PA were higher in males ($p = 0.002$, $p < 0.001$) than in females in 2020; females reported higher other PA ($p = 0.001$). Change in BMI was inversely associated with a change in both DQ and PA ($p < 0.001$ for both). In this sample of US adults, early adaptations to the COVID-19 pandemic included improved DQ and BMI. Whether these short-term improvements were maintained warrant further investigation.

More details of the research can be found in the authors' published work

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Keywords: Diet, physical activity, pandemic, COVID-19, body mass index

Statement of Research Advisor

Ms. Gautreaux began this project with an extensive literature review that allowed her to develop and test her hypotheses regarding health behaviors during a lockdown. Corinne spent countless hours conceptualizing and coding a complex data set in addition to her rigorous analysis. Her findings will be an excellent addition to the healthcare literature as they combine validated and novel methods that advance our understanding of compulsory lifestyle adaptations.

- Andrew Frugé, College of Human Sciences

References

Gautreaux, C.E.; Smith, K.S.; Dolan, L.; Marlin, M.B.; Greene, M.W.; Novak, J.R.; Frugé, A.D. Early Pandemic Improvements in Diet Quality Are Associated with Increased Physical Activity and Weight Loss in US Adults. *Int. J. Environ. Res. Public Health* 2022, 19, 8289. <https://doi.org/10.3390/ijerph19148289>

Authors Biography



Corinne E. Gautreaux is a senior-year student pursuing a B.S. degree in Biomedical Sciences at Auburn University. She has been involved in the Dietary Chemoprevention, Gut Health, and Aging Lab for the past three years and was an Undergraduate Research Fellow for the College of Science and Mathematics during the Summer 2021 semester. She will be pursuing her professional education at medical school in the Fall of 2022.

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Kristen S. Smith is a doctoral student in the Dietary Chemoprevention, Gut Health, and Aging Lab completing a Ph.D. in nutrition at Auburn University. She will continue her research in cancer prevention and survivorship at the Moffitt Cancer Center in Tampa, FL.



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