

Researching Cognitive Transfer Effects of Diet on Physical Activity in Participants Randomly Assigned to Plant-Based or Omnivorous Diets

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Objective: To study changes in physical activity (PA) in African Americans in the Nutritious Eating with Soul (NEW Soul) study randomized to either a plant-based or healthy omnivorous (omni) diet.

Design, Methods, and Instruments: Participants were randomized to either a plant-based or omni diet (n=65). Dietary interventions were held weekly. Both groups were given the same PA recommendations: strength training twice per week and ≥ 75 minutes of vigorous or ≥ 150 minutes of moderate PA per week. The overall change in PA and the differences in PA between groups were analyzed with independent sample t-tests using SPSS software. The short-International Physical Activity Questionnaire was used to quantify PA in METS.

Results: Only participants with complete data were analyzed (n=50). Paired t-tests revealed PA significantly increased from baseline (1408.6 ± 1779.5) to 6 months (2034.1 ± 1967.79 METS) in both groups combined ($p=0.01$). Although the plant-based group had a higher mean increase in PA (n=23, $+780.4 \pm 1886.4$ METS) than the omni group (n=27, $+493.5 \pm 1441.2$ METS), no significant difference existed between the groups ($t=-0.61$, $p=0.54$).

Conclusion: Diet may play a role in increasing PA via cognitive transfer effects. Although not statistically significant, the direction of the findings supported our hypothesis that the vegan group would exhibit a greater increase in PA, and the overall change in PA was significant for both groups. Future research will examine objectively measured PA using a larger group of participants to ensure adequate statistical power. Our findings will contribute to the limited understanding of how diet affects PA.

The authors declare no conflicts of interest.