

Hunger Associations With Meal Timing and Adherence to Potential Meal Timing Recommendations for Weight Loss

Ellie Wei,¹ Susan Roberts,² Nicole Spartano,¹ Owen Maroney,³ Rashmi Sharma,³ Jude Deeney,¹ and Megan McCrory⁴

¹Boston University School of Medicine; ²Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University; ³Purdue University; and ⁴Boston University

Objectives: Poor meal timing (MT) habits, such as irregular day-to-day eating and eating late at night, increase the risk for weight gain and developing chronic diseases such as type 2 diabetes and cardiovascular disease. We examined two potential barriers to improving MT habits, overall hunger level and time of day of greatest hunger, in relation to MT habits. We hypothesized that a greater overall hunger level and later onset of greatest hunger would associate with unhealthier MT habits and lower adherence to MT recommendations.

Methods: This was a secondary analysis of data from a cross-sectional study on diet and energy regulation in 116 healthy, non-smoking adults (63% F; aged 29.4 ± 11.9 y; BMI 24.3 ± 3.8 kg/m²; race/ethnicity distribution: 76% white, 15% Asian American, 9% Black/African American/other). Three poor MT habits were examined: eating later in the day (later midpoint of ingestive period), eating late

at night (2000–2259) and overnight (2300–0459); and having a shorter overnight fast. Hunger, assessed by the Eating Inventory, and self-reported time of day of greatest hunger, were examined in relation to MT patterns and categorical MT outcomes which, based on the literature, could represent desirable target cutoffs for improvements of MT habits (i.e., potential MT recommendations). MT was determined using the Meal Pattern Grid modified to assess MT on both weekdays and weekend days.

Results: After inclusion of all covariates (age, sex, race, physical activity, bed time, dietary restraint and disinhibition scores, sleep duration, and sleep quality), a higher hunger score was associated with a ≥ 13 h overnight fast ($p < 0.05$), suggesting that participants were able to achieve a longer overnight fast despite being hungrier. Additionally, higher hunger was marginally associated with eating less often late at night (8:00–10:59 pm) ($p = 0.08$). Time of day of greatest hunger was not associated with any MT variables examined.

Conclusions: Our findings did not support the hypothesis that greater hunger prevents healthier MT patterns that have a longer interval of overnight fasting. Future studies are needed to determine if dietary approaches to reducing hunger promote adherence to healthy MT patterns.

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