

Efforts to track food intake on smartphone app impacted by day of week but not season of year

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Dietary self-monitoring is a key component of successful behavioral weight loss interventions and is essential for facilitating other behavior

change techniques (eg, setting goals, providing behavioral feedback). Few studies, however, have examined weekly and seasonal patterns of dietary self-monitoring, particularly when using a smartphone application (app). A new study published in the *Journal of Nutrition Education and Behavior* found that the amount of time in a study and day of the week were associated with dietary self-monitoring but not season.

"A key question we wanted to answer is what impact the holiday season has on individuals' efforts to monitor their calorie intake," said lead author Christine A. Pellegrini, PhD, Assistant Professor of Exercise Science at the University of South Carolina and Adjunct Assistant Professor of Preventive Medicine at Northwestern University Feinberg School of Medicine.

Study participants were randomized into one of three [weight](#) loss conditions as part of the E-Networks Guiding Adherence to Goals in Exercise and Diet (ENGAGED) study. One group of 32 adults with a body mass index that classified them as obese was asked to self-monitor dietary intake on the ENGAGED study smartphone app. The app contained a database of over 50,000 generic and name brand foods. Daily dietary self-monitoring data were obtained from the app over the six-month study. For each day in the study, the number of foods, calories, and fat grams that were recorded were analyzed and a daily average for each participant was calculated.

After analysis of the data, a reduction in the number of foods reported by each person was seen with each successive day in the study. There was also a weekend effect such that participants reported significantly fewer foods between Thursday and Sunday relative to Monday. The study, however, determined that although more [food](#) was reported in January, an overall seasonality effect was not observed.

"Adults generally gain weight during the holidays and self-monitoring

can help to manage weight during this period," reported Pellegrini. "Weight loss is a common New Year's resolution and may explain the increased number of foods reported in January; however, the typical pattern of self-monitoring during the holidays is not well established."

Self-monitoring is a common and effective strategy for weight loss, yet little is known about the factors that influence self-monitoring consistency in adults participating in a weight management program. In this study, several time-varying factors including time in a study and day of the week were found to be associated with individuals' dietary self-monitoring patterns. Factors that influence these variations warrant further investigation in order to identify methods and additional strategies to better understand and improve dietary self-monitoring adherence. For example, text messages, which have the ability to provide feedback, reminders, and encouragement to self-monitor in real-time, have shown promise in helping with [weight loss](#) and self-monitoring adherence. Based on this study's findings, providing these prompts on weekends may improve adherence to self-monitoring recommendations.

More information: "Daily and Seasonal Influences on Dietary Self-monitoring Using a Smartphone Application," *Journal of Nutrition Education and Behavior* , [DOI: 10.1016/j.jneb.2016.12.004](https://doi.org/10.1016/j.jneb.2016.12.004)

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