Late eating is associated with an unhealthy diet

Eveningness preference ("late chronotypes") and night eating syndrome (NES) are associated with higher evening/nocturnal food intake and higher body mass index (BMI) [1,2]. Beyond consuming large portions of food in the evening, diet quality in late eaters might also be a factor contributing to weight gain [3].

**Method**

Female university students (N = 133; age M = 20.08 ± 2.68 years, range 18-45; BMI M = 22.01 ± 2.66 kg/m², range 15.11-29.67) completed several questionnaires. Height, weight, and body composition were measured.

The Night Eating Questionnaire (NEQ) assesses core aspects of NES on the subscales (1) morning anorexia (i.e., skipping breakfast), (2) evening hyperphagia (i.e., consuming large amounts of daily energy intake in the evening), (3) mood/sleep (i.e., worsening of mood in the evening and sleep problems), and (4) nocturnal ingestions (i.e., getting out of bed to consume food during the night). Higher scores indicate higher night eating severity [4].

The Food Frequency List (FFL) asks about how frequent certain foods are consumed. A Diet Quality Index can be calculated based on the recommendations of the German Nutrition Society, with higher scores representing a healthier, balanced diet [5].

The total score of the NEQ, and particularly its subscale evening hyperphagia, was negatively correlated with the Diet Quality Index of the FFL, indicating eating a more unhealthy diet with increasing night eating scores (Fig. 1; Tab. 1).

When examining specific food categories, higher NEQ scores were associated with more frequent intake of chocolate, cakes and cookies, candy, cheese, fruit juice and sugary soft drinks. Higher scores were also associated with less frequent intake of fresh fruits (Tab. 1). However, neither NEQ scores nor the Diet Quality Index were associated with BMI or body fat.

Habitual late eating was associated with low diet quality. Specifically, higher evening hyperphagia was related to more frequent consumption of energy dense, processed foods and sugary drinks and less frequent consumption of fresh fruits.

Results are in line with findings on less healthy diets in late chronotypes [6,7]. Consuming these foods and beverages in the evening may negatively influence postprandial metabolism and the peripheral circadian system [3]. Future studies may examine the interplays between meal timing, food choices, and meal sizes in order to reveal the exact mechanisms between late eating and possible future weight gain.

**References**


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**Results**

**Background**

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