

Impact of adiposity, age, sex and maternal feeding practices on eating in the absence of hunger and caloric compensation in preschool children

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ABSTRACT

Background/Objectives: Between the ages of 3 and 5 years, children may become less responsive to internal cues of satiation and more responsive to external cues, which may induce overeating and lead to weight gain. This study aimed to compare eating in the absence of hunger (EAH) and caloric compensation in 3- to 6-year-old children, and to relate the measurements with children's adiposity, age, sex and maternal feeding practices.

Methods: According to a within-subject three sequential condition design, food intake in children (n=236) was measured at lunch during three sessions, once a week. The same meal (565 kcal) was offered at each session. The first session (control) was only composed of the meal. Thirty minutes before the second meal, children were offered an energy preload (137 kcal; caloric compensation condition). Ten minutes after the third meal, children were exposed to a post-meal snack (430 kcal; EAH condition). Individual caloric compensation score (COMPX) and EAH score were calculated. Maternal characteristics were measured by questionnaire. Child anthropometrics were measured by a medical doctor.

Results: On average, children compensated 52 ± 4 % of the energy preload and ate 24 ± 1 % of the energy provided by their meal in the absence of hunger. COMPX and EAH score were not correlated and did not vary with children's adiposity or age. EAH score was higher in boys ($P=0.006$). Maternal use of food as reward was associated with higher EAH score ($P=0.01$) but greater COMPX ($P=0.005$).

Conclusions: As early as the age of 3 years children did not fully compensate the energy brought by a snack and ate in the absence of hunger. Parents should be advised to avoid these situations where overeating may occur and to limit the use of food as reward.