

# Relation between complementary feeding approaches and child development in the first two years of life: a longitudinal study

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## Introduction

Complementary feeding is a crucial phase of infant development. Recently, there has been a growing interest in baby-led weaning (BLW), which is an alternative feeding approach in which infants self-feed with solid foods, rather than being spoon-fed with puréed foods by the caregiver, and participate in the family meals, sharing the family menu.

**A positive relationship between baby-led weaning and psychomotor development has been hypothesized<sup>1</sup>.**

## Aims

The SPOON Project aims to longitudinally investigate the relationship between features characterizing the BLW approach and psychomotor development, including adaptive behaviors, in the first two years of life.

## Methods

194 mothers completed the following questionnaires when their children were 4, 8, 12, 18 and 24 months of age:

- 1) Psychomotor child development (DP-3)<sup>2</sup>
- 2) Infant temperament (IBQ-R-SF)<sup>3</sup>
- 3) Complementary feeding approach<sup>4</sup>
- 4) Sociodemographic data, pacifier use, daycare attendance, duration of exclusive breastfeeding (months)

### Observational data:

For each child we observed and recorded a typical meal, starting at 8 months of age



## Variables

- **Scores on the DP-3 scales** (Adaptive behaviors, Motor, Cognitive, Social-Emotional, Communication)
- **Maternal self-report** about the **onset of crawling and independent walking**
- **Proportion of self-feeding**: proportion of episodes in which the infant eats independently (i.e., not fed by the caregiver)<sup>5</sup>
- **Frequency of child participation in family meals**
- Controlling for gender, siblings, breastfeeding, temperament, development at 4 months of age



## Results

### Proportion of self-feeding:

- at 8 months was positively, longitudinally related to the Adaptive Behavior score at 12 months (coeff. = 11.242,  $t = 3.83$ ,  $p < .001$ , CI = 5.452, 17.031);
- at 12 months was positively related to (i) an earlier onset of crawling assessed at 12 months (coeff. = -.836,  $t = -2.36$ ,  $p = .020$ , CI = -1.538, -.134), (ii) the achievement of independent walking at 12 months (coeff. = 1.008,  $z = 2.13$ ,  $p = .033$ , CI = .083, 1.933), and to (iii) Adaptive Behavior at 24 months (coeff. = 6.268,  $t = 2.24$ ,  $p = .026$ , CI = .742, 11.794).

### Frequency of child participation in family meals:

- at 8 months was positively, concurrently related to: (i) Adaptive Behavior (coeff. = 5.722,  $t = 4.24$ ,  $p < .001$ , CI = 3.059, 8.384), (ii) Cognitive score (coeff. = 2.699,  $t = 2.56$ ,  $p = .011$ , CI = .617, 4.781);
- at 12 months was positively, longitudinally related to (i) Adaptive Behavior at 24 months (coeff. = 4.032,  $t = 3.51$ ,  $p = .001$ , CI = 1.765, 6.298).

**Overall, our results suggest that two of the key features of the BLW approach, namely proportion of self-feeding and participation in family meals, are positively associated with developmental outcomes in the first two years of life.**

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REFERENCES:<sup>1</sup> Bocquet et al. 2022; <sup>2</sup> Alpern 2007; <sup>3</sup> Montirosso et al. 2011; <sup>4</sup> Addessi et al. 2021; <sup>5</sup> Di Prete et al. 2023