



Oral-motor development and complementary feeding approach in 8-month-old infants

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Introduction

- In baby-led weaning (BLW) infants independently feed on finger foods from the onset of complementary feeding rather than being spoon-fed puréed food by their caregiver (parent-led weaning, PLW)¹
- BLW infants are likely to be exposed to more textured food from an earlier age²
- BLW may benefit language development through an earlier practice of complex oral-motor and fine-motor skills
- Previous research has showed:
 - In animal models, early chewing experiences are related to the secretion of brain-derived neurotrophic factor³, and to cognitive achievements⁴
 - Mastication of textured foods promotes the strengthening of facial muscles and craniofacial growth⁵
 - Difficulties in oral-motor movements co-occur with language dysfunction
 - Eating unaided at the onset of complementary feeding is positively related to later language outcomes in 8-24-month-olds⁶

Aims

To assess the relationship between early feeding experiences, oral-motor development and developmental outcomes in 8-month-olds

Participants

72 Italian typically developing 8-month-old infants (36 girls)

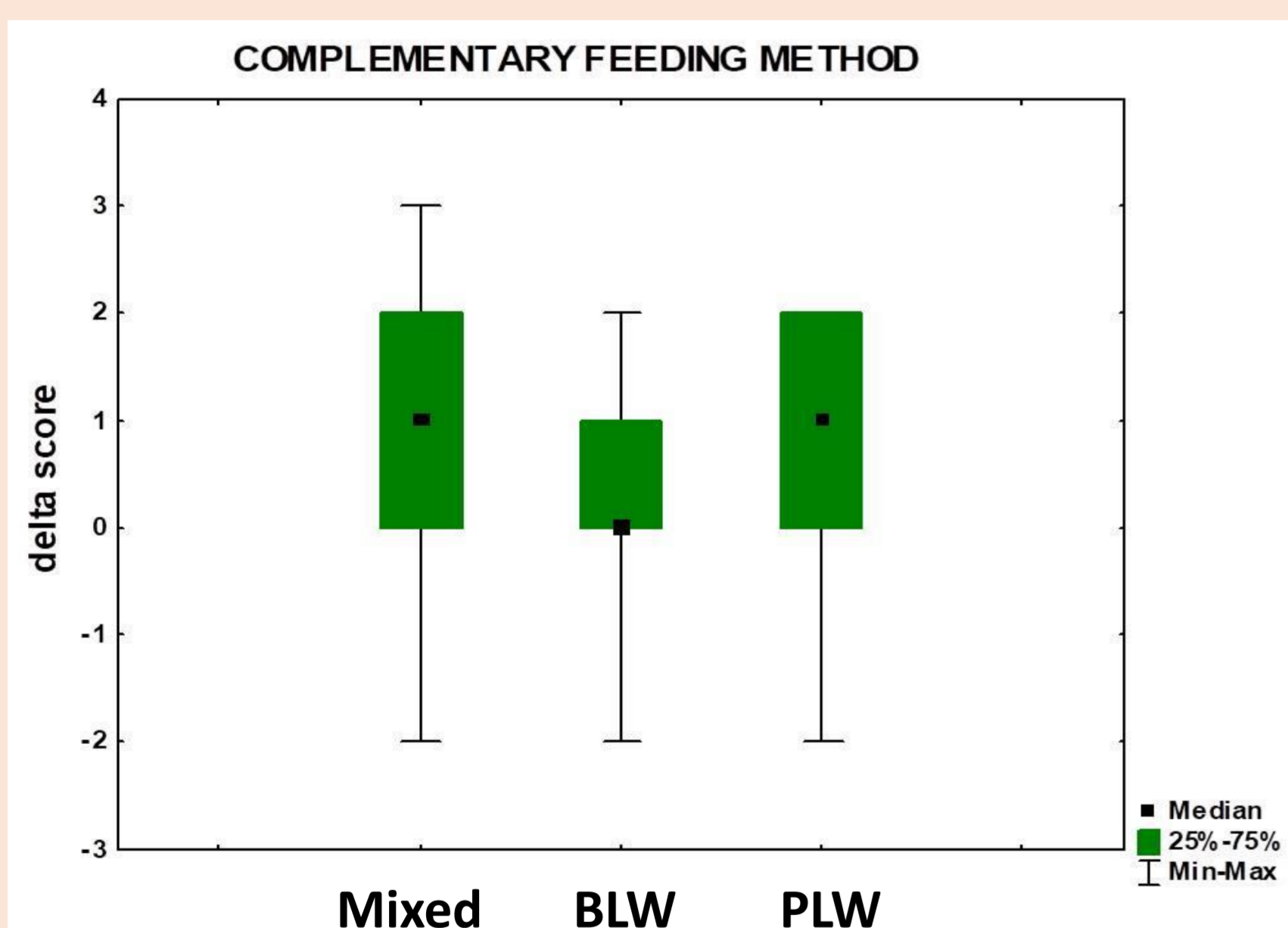
Self-reported Measures

- Socio-demographic data and questions about development (e.g., crawling)
- Complementary feeding method (BLW, PLW, or mixed)
- Developmental Profile-3 (DP-3)⁷
- MacArthur–Bates CDI: Words and Gestures, Short Form⁸

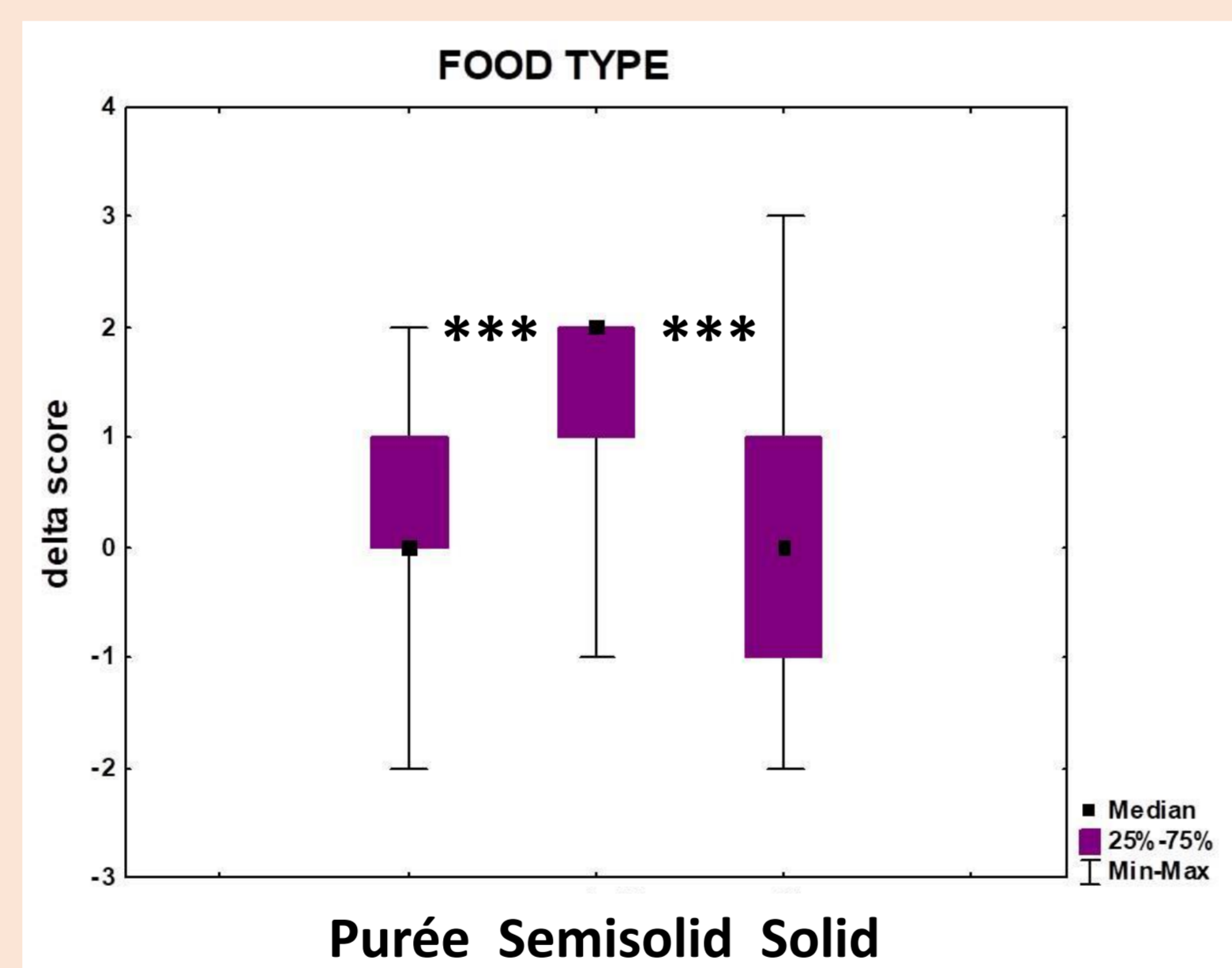
Observational Measures

- From video recordings of one meal for each participant we obtained:
 - Delta score, i.e., index of oral-motor functioning coded through an adaptation of the Schedule for Oral Motor Assessment (SOMA)⁹ (difference between the SOMA score obtained and the cut-off indicating atypical performance)
 - Type of food (solid, semisolid, or purée; 12 children received 2 food types)
 - Proportion of self-feeding (self-feeding episodes/self-feeding+parent-feeding)

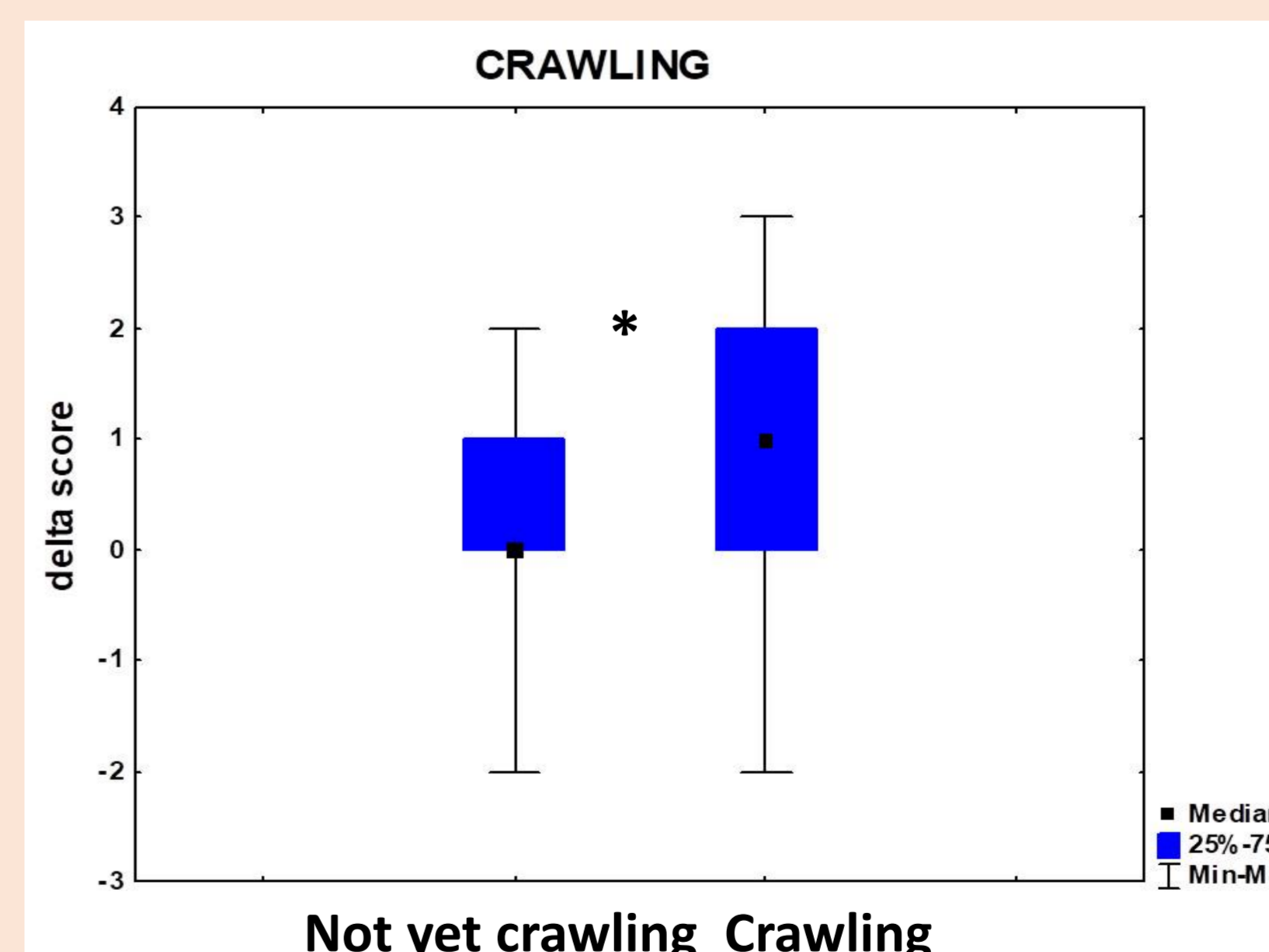
Results



The Delta score did not significantly differ depending on the complementary feeding method (Random-effects GLS regression: $\chi^2_2 = 1.21$, $p = .54$)



The Delta score significantly differed depending on the type of food (Random-effects GLS regression: $\chi^2_2 = 26.44$, $p < .001$)



The Delta score was higher for children already able to crawl (Random-effects GLS regression: $z = 2.31$, $p = .021$)

The Delta score was positively related to:

- Number of **gestures** ($z = 2.62$, $p = .009$)
- Number of **siblings** ($z = 3.12$, $p = .002$)

But **not significantly related to**:

- DP-3 scores
- language understanding
- language production
- proportion of self-feeding

Conclusions

In 8-month-old infants, oral-motor functioning did not differ according to the complementary feeding approach or self-feeding experience. However, children fed semisolid food showed better oral-motor skills than those fed either puréed or solid food, strengthening previous findings. Oral-motor skills did not correlate with developmental measures, possibly because of the infants' young age. Nonetheless, better oral-motor functioning paralleled gross motor development and gesture production, possibly anticipating a future enhanced spoken language development.

References

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