RISE RESEARCH INNOVATION SCHOLARSHIP ENTREPRENEURSHIP

Submission ID: 395
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Category: Health Sciences
Undergraduate

Northeastern University

The Relationship Between Infant Development and Body Composition

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Purpose

- Infancy is a critical phase in cognitive, behavioral, motor, and physical development when fundamental behaviors are established.[1]
- Body composition changes throughout infancy, and infant body composition is influenced by maternal prenatal and postnatal conditions, but little is known about its effects on infant cognitive and motor development.[2]
- This project provides an overview of the protocol methods and participant demographics of the current 28 mother-child dyads.

Methods

- Self-Report Surveys: Demographics, Infant Behavior, Infant Sleep, Unpredictability in Infancy Behavior, Ages and Stages, Edinburgh Postnatal Depression Scale

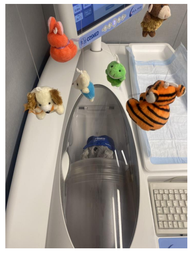
- Bayley Scales of Infant and Toddler Development Screening Test
  - Used to assess cognition, fine motor, and gross motor.

- Air Displacement Plethysmography Technique

BodPod:

Guardians & Infants (>10kg)

PeaPod:

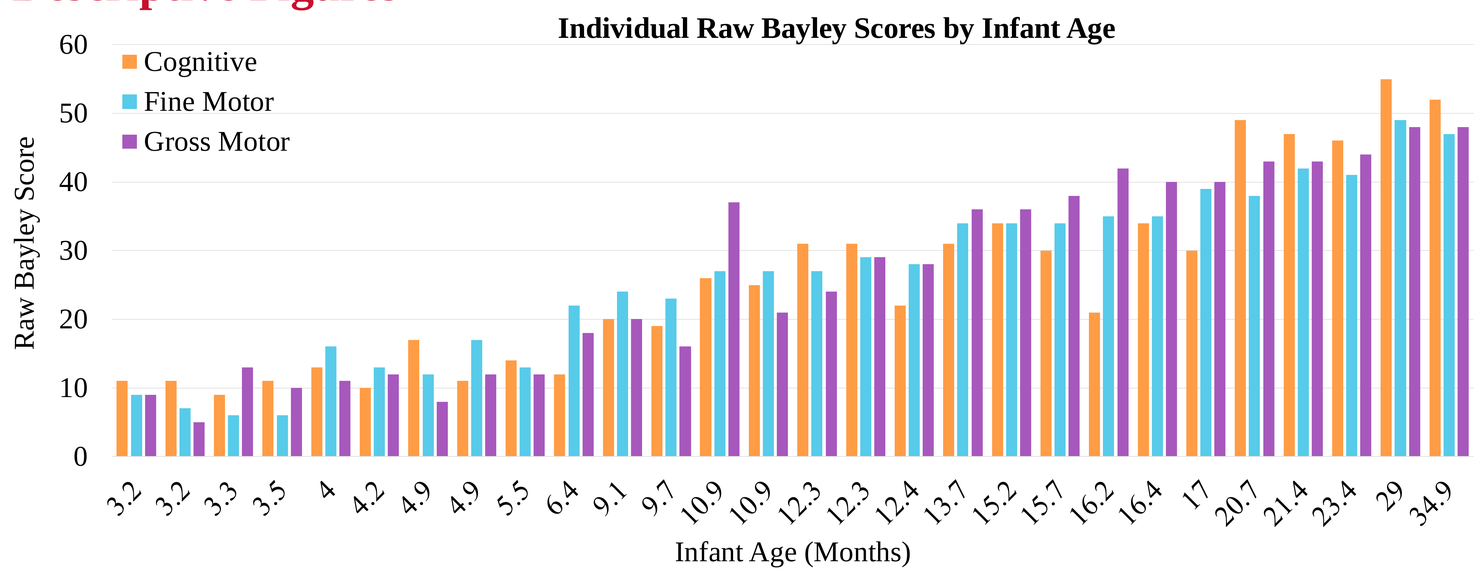


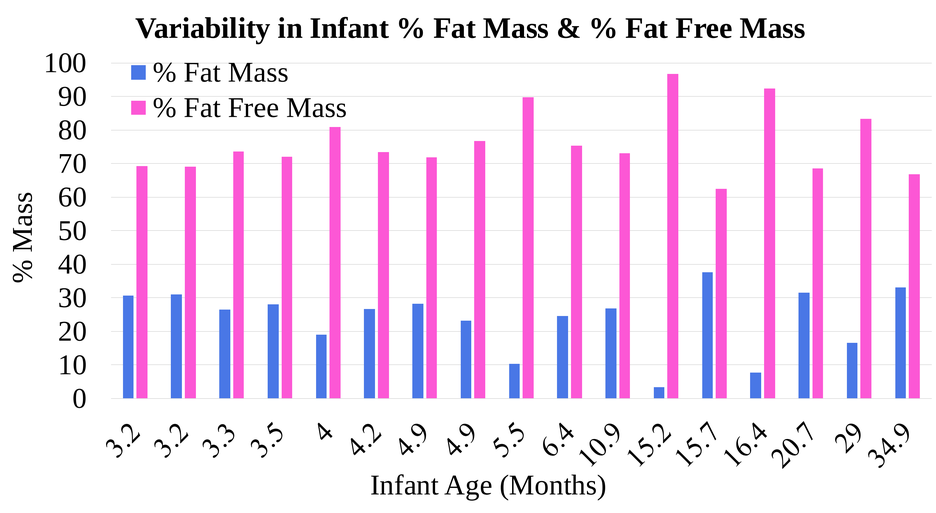
Infants (<10kg)

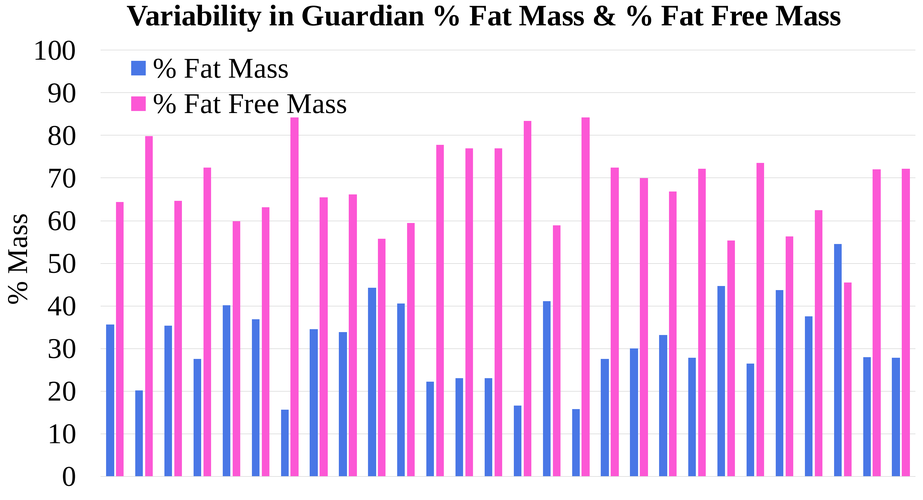
Demographics

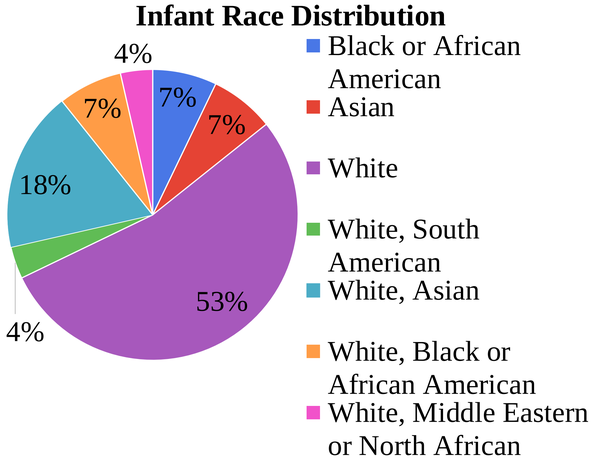
Variable	Mean (SD)
N, Female (n, %)	28, 16 (57.1%)
Age (Infant), months	12.29 (8.19)
Age (Guardian), years	34.83 (4.02)
Mothers Education (≥ Master's Degree) (n, %)	18, 64.2%
Infants Born Prematurely (n, %)	3, 10.7%

Descriptive Figures









Future Directions

- Follow-up visits every three months for current and future participants.
- Analysis of guardian and infant body composition measures and infant Bayley Scores.
- Long Term Question: Is infant physical growth (in terms of fat and fat free mass) related to infant cognitive and motor development?

References

[1] Centers for Disease Control and Prevention. (n.d.). *Module 2: Understanding Children's Developmental Milestones*. Centers for Disease Control and Prevention. https://www.cdc.gov/ncbddd/watchmetraining/module2.html

[2] Abera, M., et al. (2018). Body composition during early infancy and developmental progression from 1 to 5 years of age: The Infant Anthropometry and Body Composition (iABC) cohort study among Ethiopian children. *British Journal of Nutrition, 119*(11).