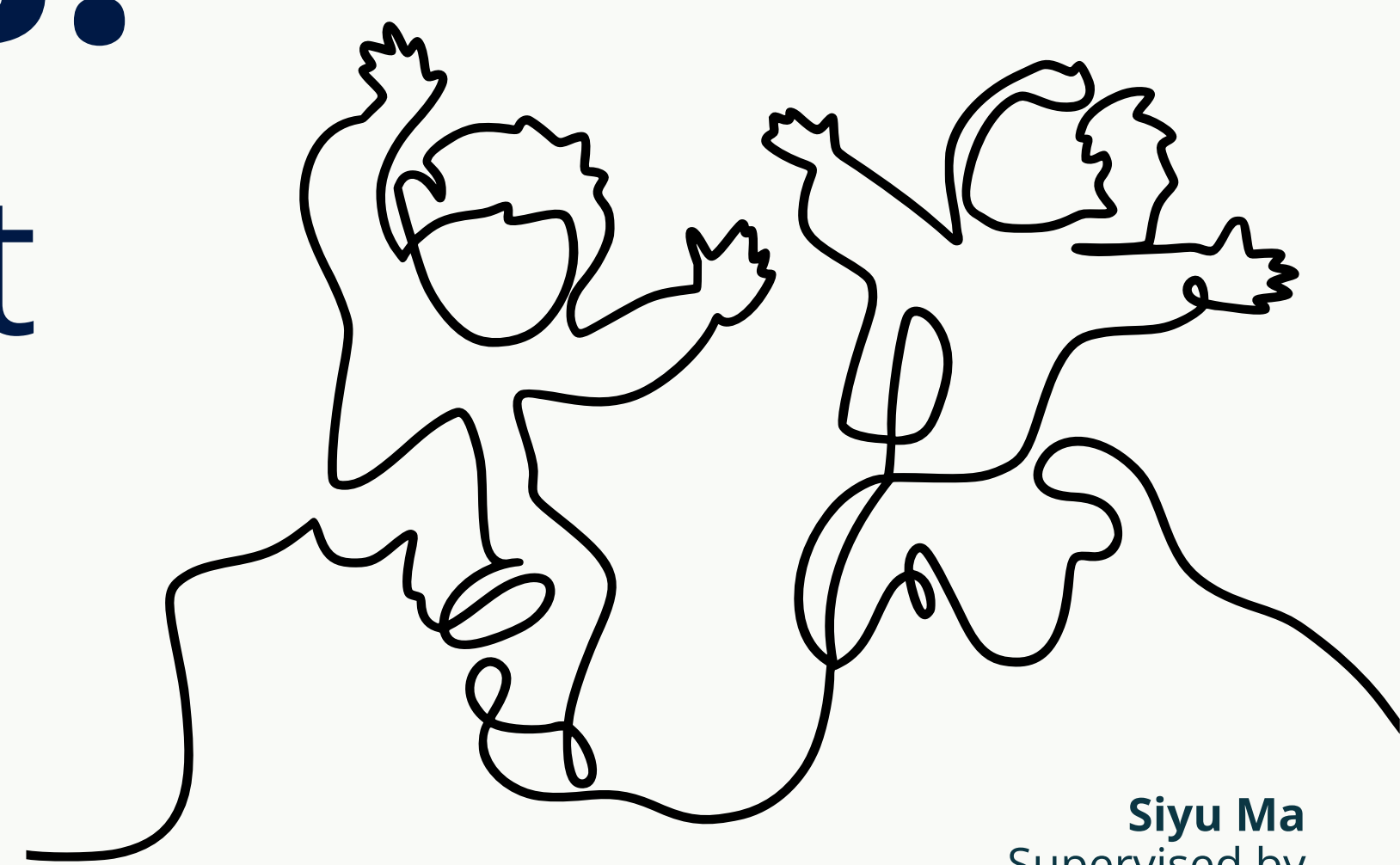


Beyond Parents:

A Multi-informant Look at Home Environment and Sibling Relationship



Siyu Ma

Supervised by

Professors Sonali Nag & Lars Malmberg



Introduction

- Most learning begins at home, long before formal schooling.
- The **home learning environment (HLE)**, the home attributes that support children's learning (e.g., books at home, home tutoring, home-school connections), plays a vital role in child development.
- Siblings often act as natural teachers, playmates, and role models, but the roles of **siblings and sibling relationship quality (SRQ)** in shaping the HLE remain underexplored, particularly in Chinese two-child families.
- The SRQ reflects the emotional and behavioural dynamics between siblings, typically manifested as warmth and closeness, conflict and jealousy.
- Through a **multi-informant lens**, this analysis investigates how caregivers, first-borns, and second-borns perceive the HLE and SRQ, and examines similarities and differences in their reports.

Preliminary Findings

Exploratory structural equation models (**ESEM**) identified informant-specific factor structures. Correlated-uniqueness multitrait-multimethod models (**CU-MTMM**) assessed convergence and divergence across informants.



Caregiver-related Home Learning Environment

- Distinct factor structures across informants (e.g., caregiver-reported educational investment, second-born-reported family enrichment practices).
- Good convergent, discriminant, and cross-informant validity in CU-MTMM.
 - **Caregiver** and **second-born** reports align moderately.



Sibling-related Home Learning Environment

- Distinct factor structures across informants.
- Ongoing model refinement, early evidence shows:
 - Moderate to high **caregiver** ↔ **first-born** agreement
 - Weak **second-born** convergence



Sibling Relationship Quality

- **Caregivers** emphasised conflict and jealousy, while **first-borns** highlighted more positive relational qualities.
- Moderate agreement emerged on conflict, but little overlap on positive aspects.

Methods



Caregivers (N = 134; 93.3% mothers)

- Individual interviews (in person/online)
- Reported on caregiver-related & sibling-related HLE and SRQ



First-borns (N = 123; 72 females;

$M_{age} = 10;1$ years)

- Individual interviews (in person/online)
- Reported on sibling-related HLE and SRQ



Second-borns (N = 134; 66 girls;

$M_{age} = 5;5$ years)

- Individual interviews (in person)
- Reported on caregiver-related & sibling-related HLE and SRQ



Procedure & Measures

- 134 two-child families recruited from 14 public kindergartens in Shaoxing, China
- HLE questionnaires almost identical
- SRQ tailored by informant (quantitative for caregivers & first-borns; qualitative for second-borns)



Discussion



Home learning environment (HLE) is perceived differently across informants, not contradictory, but complementary.



Convergence varies by role: older siblings align more closely with caregivers' view of the HLE.



Regarding sibling relationship quality (SRQ), caregivers see tensions, whereas first-borns see connections.



Capturing family dynamics across informants is complex. Future work should integrate second-borns' qualitative perspectives and consider the evolving nature of HLE and SRQ.

Bibliography

1. Gregory, E. (2001). Sisters and brothers as language and literacy teachers: Synergy between siblings playing and working together. *Journal of Early Childhood Literacy*, 1(3), 301-322. <https://doi.org/10.1177/14687984010013004>
2. Nag, S., Vagh, S. B., Dulay, K. M., Snowling, M., Donolato, E., & Melby-Lervåg, M. (2024). Home learning environments and children's language and literacy skills: A meta-analytic review of studies conducted in low- and middle-income countries. *Psychological Bulletin*, 150(2), 132-153. <https://doi.org/10.1037/bul0000417>
3. Vagh, S., & Nag, S. (2025). A home language and literacy environments theoretical model: Evidence from systematic reviews of naturalistic variation across diverse contexts. In G. K. Georgiou & T. Inoue (Eds.), *Home literacy environment and literacy acquisition: Evidence from different languages and contexts*. (pp. 51-68). Springer. https://doi.org/10.1007/978-3-031-87124-5_4

