Becoming an older sibling: Cooperative caregiving and conflict among young children in Central Africa

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Purpose

1. Explore the importance of transitions in siblinghood to child flourishing
   • Trends in research and theory
2. Consider cultural, biological, and socio-ecological features that surround transitions in siblinghood
3. Provide a perspective of transitions in siblinghood among the Aka and Bofi foragers in Central Africa
Transitions in Siblinghood and Child Flourishing

- Normative transition for most children in many parts of the world

- Prevalent assumption by developmental researchers, theorists, clinicians, and physicians that becoming an older sibling is stressful for children and parents
  - Historically, often depicted as one of the most traumatic experiences that young children experience (e.g., Adler, 1957; A. Freud, 1946; S. Freud 1900/1953)

- Family crisis and stressful life event perspective

- Tremendous popular literature (i.e., books for parents) that lend advice on how to help children through the transition
Is it safe to assume that becoming an older sibling is stressful?

Trends in Transitions in Siblinghood Research

- Mostly among White, middle-class families in U.S. or Europe
  - Extremely limited information on siblinghood transitions in other contexts and other parts of the world

- Mostly only mothers included in studies
  - In Volling’s (2012) systematic review of the literature, she found that only 20% of studies included fathers
  - None have included other caregivers

- Mostly studies of first born children
  - First born children are assumed to experience the most stress as they arguably undergo a more dramatic transition than later born children
Is it safe to assume that becoming an older sibling is stressful?

Common themes in findings

- After birth of new sibling, mother-child interactions change (e.g., Bayder, Greek, & Brooks-Gunn, 1997; Dunn & Kendrick, 1980, 1982; Trause, 1978)
  - Maternal warmth and involvement tends to decrease
  - Maternal punitive and restrictive behavior tends to increase

- Limited studies with fathers
  - Warm and involved fathers relate to lower stress for children during the transition (e.g., Legg, et al. 1974)

- Some children experience stress/conflict, some experience developmental growth, and for some children no behavioral changes are associated with the transition (Volling, 2012)

- Considerable individual variation in family and child patterns
Parental investment theory and parent-offspring conflict theory (Trivers, 1972, 1974)
- Tradeoff between current and future offspring
- During pregnancy and after arrival of new baby ➔ shift in allocation of investment, decrease through transition for young child as investment in new baby increases
- Children likely to resist any decrease in parental investment, as might occur during pregnancy and with new sibling (Parent-Offspring Conflict Theory; Trivers, 1974)
- Sibling competition for parent investment

Grandmothers provided support to families at key times, like during pregnancy or after infant arrives to supplement decreases in provisioning from mothers (e.g., Hawkes, O’Connell, & Blurton Jones, 1997; Hawkes, 2003)
Cultural Perspective

- Developmental Niche (Super & Harkness, 1997)

- Children’s development is structured by culture
  - Social and physical settings
  - Child care practices
  - Psychology of caregivers (e.g., cultural models of child development)

- Transitions in siblinghood are embedded in these contexts

- Important to consider cultural factors related to transitions in siblinghood
Exploratory Questions informed by trans-disciplinary perspective

1. What are Aka and Bofi forager cultural models related to the transition to older siblinghood?
2. Does pregnancy and the arrival of an infant sibling coincide with a shift in caregiving and social experiences?
3. Does pregnancy and the arrival of an infant sibling coincide with changes in child distress or conflict or in children’s positive social behavior?
Methods

Collected for a larger study related to social-emotional aspects of child rearing

Data Collection
- Focal child observations
  - 12 daylight hours (6-10 am, 10am-2pm, 2-6pm on 3 different days)
  - On-the-mark coding at 30-second intervals
- Demographic interviews
- Qualitative interviews related to child rearing, pregnancy, and transitions in siblinghood
- Ethnographic fieldwork (25 months)

Sample
- 58 families (Bofi foragers n=35; Aka n=23) with a child between 1 1/2 - 4 years of age (i.e., the ‘focal child’)
- Bofi foragers in Lobaye region of Central African Republic
- Aka foragers in Likouala region of the Republic of Congo
Field Sites

Tropical Forests of Africa

Central African Republic (C.A.R.)

Study Sites

Republic of Congo

Vegetation Type
- Mangrove
- Inland Swamp Forest
- Lowland Rainforest
- Montane Rainforest
- Degraded Rainforest
- Cloud Covered (Obscured)
- Non-Forest
- No Data
- Open Water

Sources: World Conservation Monitoring Centre's Biodiversity Map Library and The World Bank.
Ethnographic Background

- Semi-nomadic foragers
- Cooperative net-hunting – men, women, children together
  - Couples gather together
  - Some gendered division of labor, but flexibility
- Men and women make relatively balanced contributions to child care
  - Cooperative caregiving
- Core cultural values: egalitarian (gender and age); extensive sharing; respect for personal autonomy
- On average, women give birth to about 6 children
- High child mortality rates (approximately 40%)
Focal Child Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
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<tbody>
<tr>
<td><strong>N</strong></td>
<td>58</td>
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<tr>
<td>Mean Age (months)</td>
<td>39.9</td>
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<tr>
<td>Mother Pregnant</td>
<td>32.8%</td>
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<tr>
<td>Infant Sibling</td>
<td>25.9%</td>
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<tr>
<td>Mother not pregnant and no infant sibling</td>
<td>41.4%</td>
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<tr>
<td>Gender (female)</td>
<td>48.3%</td>
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<tr>
<td>First born</td>
<td>44.8%</td>
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<tr>
<td>Monogamy</td>
<td>81.0%</td>
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Question 1

What are Aka and Bofi forager cultural models of pregnancy and transition to older siblinghood?
## Cultural Models of Pregnancy and Becoming an Older Sibling

<table>
<thead>
<tr>
<th>Child Agency</th>
<th>Dangerous and Fearful Time</th>
<th>Cooperative Care</th>
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<tbody>
<tr>
<td>- Parents don’t lead the process, children do</td>
<td>- Mother’s pregnancy causes breast-milk to go “bad” and makes children sick</td>
<td>- Father and grandmothers help with young child, especially after new infant sibling is born</td>
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<td>- Seeing the big belly or growing belly causes children (due to fear) to move away from mothers and play more with other children</td>
<td>- “Bad” milk (because of pregnancy) causes children to stop nursing and this makes them sick and potentially die</td>
<td>- Child co-sleeping with father or grandmother after birth of new infant sibling</td>
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<tr>
<td>- Some (few) children like the new baby and want to be near the baby and stay close to mother and new infant</td>
<td>- When baby in womb touches/kicks the child, this causes serious illness in child and potential death</td>
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<td>- Most children are afraid of growing belly and of new infant sibling</td>
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</table>
Does pregnancy and the arrival of an infant sibling coincide with a shift in caregiving and social experiences?
Children’s Experiences with Various Caregivers and Social Partners

- Caregivers and social partners
  - Mothers
  - Fathers
  - Adult alloparents (predominantly grandmothers and aunts)
  - Child alloparents and social partners

- Involvement with Focal Children
  - Vocal interactions
  - Holding
  - Close proximity (within one foot)

- Factors considered
  - Children’s age
  - Sibling transition stage (m not-pregnant, m pregnant, infant sibling)
  - Birth order (first born, later born)
  - In preliminary analyses only – cultural group and child gender
MANOVA of Maternal Involvement

Vocalizing to child, Holding child, In Close Proximity to child (within a foot)

Fixed factors:
- Children’s age
- Sibling transition stage
- Birth order

Main Effects for:
- Children’s age, Wilks’ λ = .87, F[2,51]=3.72, p=.03
- Sibling transition stage, Wilks’ λ = .78, F[2,51]=3.35, p=.01
- No birth order effects
Mother Vocalizations to Child in relation to Age

- 1-2 year olds
- 3-4 year olds

Percentage of observation mother present

0 0.5 1 1.5 2 2.5 3

1-2 year olds
3-4 year olds
Mother Vocalizations to Child in relation to Sibling Transition Stage

- M not pregnant
- M pregnant
- Infant sibling

Percentage of observation mother present
Mother Holding Child in relation to Age

- 1-2 year olds
- 3-4 year olds
Mother Holding Child in relation to Sibling Transition Stage

- **M not pregnant**
- **M pregnant**
- **Infant sibling**

Percentage of observation mother present

- 35
- 30
- 25
- 20
- 15
- 10
- 5
- 0

**Notes:**

**M not pregnant**

**M pregnant**

**Infant sibling**
Mother Close Proximity to Child in relation to Age

Percentage of total observation

1-2 year olds

3-4 year olds

0 10 20 30 40 50 60 70

1-2 year olds

70
Mother Close Proximity to Child in relation to Sibling Transition Stage

- **M Not Pregnant**
- **M Pregnant**
- **Infant Sibling**

*Percentage of observation*

**Not Significant**
Paternal Involvement

MANOVA of Paternal Involvement

Vocalizing to child, Holding child, In Close Proximity to child (within a foot)

Fixed factors:
- Children’s age
- Sibling transition stage
- Birth order

Main Effects for:
- Birth order, Wilks’ λ = .87, F[2,46]=3.56, p=.04 [holding and proximity]
- No child age or sibling transition effects
Paternal Involvement relative to Birth Order

Percentage of observation

F Holding vs. F Proximity

- First Born
- Later Born
Non-Parental Adult (NPA) Involvement

MANOVA of NPA Involvement

- **Vocalizing** to child, **Holding** child, **In Close Proximity to child** (within a foot)
- **Fixed factors:**
  - Children’s age
  - Sibling transition stage
  - Birth order
- **Main Effects for:**
  - Birth order, Wilks’ $\lambda = .87$, $F[2,46]=3.56$, $p=.04$ [holding and proximity]
  - No child age or sibling transition effects
NPA Involvement relative to Birth Order

Percentage of observation

- NPA Holding
- NPA Proximity

First Born
Later Born
Child Caregivers and Social Partners

- MANOVA of Child Caregiver/Social Partner Involvement
  - Vocalizing to child, Holding child, In Close Proximity to child (within a foot)
  - Fixed factors:
    - Children’s age
    - Sibling transition stage
    - Birth order

- Main Effects for:
  - Birth order, Wilks’ $\lambda = .80$, $F[4,92]=2.74$, $p=.03$ [Proximity]
  - Sibling transition stage, Wilks’ $\lambda = .88$, $F[4,92]=3.17$, $p=.05$ [Proximity]
  - No child age effects
Close Proximity to Other Child in relation to Birth Order

First Born

Later Born

Percentage of observation
Close Proximity to Other Child in relation to Sibling Transition Stage

Percentage of observation

- **M Not Pregnant**
- **M Pregnant**
- **Infant Sibling**
Does pregnancy and the arrival of an infant sibling coincide with changes in child distress or conflict or in children’s positive social behavior?
Child Behaviors

❖ MANOVA of Child Behaviors: fussing & crying, smiling & laughing, play
❖ Fixed factors:
  ❖ Children’s age
  ❖ Sibling transition stage
  ❖ Birth order
❖ Main Effects for:
  ❖ Sibling transition stage, Wilks’ $\lambda = .75$, $F[6,104]=2.75$, $p=.02$ [fuss-cry and play only]
  ❖ No child age or birth order effects
Child Conflict/Distress-Related Behaviors in relation to Sibling Transition Stage

- Fuss-Cry

Percentage of observation

- M Not Pregnant
- M Pregnant
- Infant Sibling
Play in Relation to Sibling Transition Stage

Percentage of observation

Play (all types)

- M Not Pregnant
- M Pregnant
- Infant Sibling
Transition to becoming an older sibling isn’t necessarily stressful

- Fussing and crying was less frequent through subsequent stages
- Play was lowest among children whose mothers were pregnant

Cultural perspectives are important and help to explain behavioral patterns

- Aka and Bofi parents believe that children are very afraid of the “growing belly;” this may relate to the lower levels of play that children whose mothers were pregnant exhibited
Relative stability of father involvement through the transition may help children in their transition (consistent with developmental research)

Non-parental adults (mostly grandmothers and aunts) showed especially high involvement with first born children (who are likely to be most upset by the transition); this may help lessen potential stress through the transition

Integrating cultural, biological and development perspectives is important in addressing complex phenomenon such as transitions in siblinghood
Thank you!

- The Aka and Bofi forager communities
- National Institute of Child Health and Human Development
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