Concepts of God

• Children’s abstract concepts
  – Children learn abstract concepts from their cultural environment, not direct observation

• Children’s concepts of supernatural agents
  – Abstract concepts
Concepts of God

• Theorists believed that children apply their concept of human beings to God $^{1,2}$

• Anthropomorphism
  – Applying human properties to God or other agents or objects

Properties of God

• God’s Knowledge $^1$
  – 3 YO: God and humans have non-limited knowledge
  – 5 YO: Only God has non-limited knowledge

• God’s Mortality $^2$
  – 3 YO: God and humans not limited by biological constraints
  – 5 YO: Only God has not limited by biological constraints

• Category Properties $^3$
  – Children attribute more psychological, biological, and physical properties to God than their parents do

Socio-cultural Input

- God’s Knowledge
  - Age trajectory replicated among Maya children
  - Religiously schooled children view knowledge capabilities of other minds differently

- God’s Mortality
  - Religious schooling had little impact on children’s view of God’s mortality

Development of Religious Concepts

- Religious concepts are supported by developing cognitive abilities
  - Children conceptualize God’s knowledge as non-limited because prior to 4.5-YO, all agents have non-limited knowledge

- Requisite cognitive abilities must be developed in order for socio-cultural input to take root in a child’s mind

References:
1) Knight et al., 2004  2) Lane et al., 2012  3) Giménez-Dasi et al., 2005
1) Barrett et al., 2001  2) Rottman & Kelemen, 2013
Development of Religious Concepts

- Socio-cultural Input
  - Important for the development of religious concepts

- However, this is undefined
  - Which socio-cultural input?
  - What processes lead socio-cultural input to be internalized as religious concepts?

Aims of Current Study

1. Examine the development of anthropomorphic concepts of God in early childhood

2. Examine the transmission of parent’s concepts of God to children
Study

- Longitudinal Study on Children's Religious Concepts
  - Five Waves of Data Collection
    - 6 months to 1-year apart
  - Early Childhood
    - 3 ½ to 5 ½ at Wave 1
  - Multiple Religious Affiliations
    - Protestant Christian
    - Roman Catholic
    - Muslim
    - Non-Affiliated

Study

- Wave 1 Religious Cognition Measures
  - Agent Properties
    - Physical, Psychological, Biological, Emotional
    - God and Humans
  - Agent Knowledge
    - Theory-of-Mind Scales
    - God and Humans
  - Possible/Impossible Events
    - Religious & Non-Religious
    - With and Without Appealing to God
  - Understanding of Prayer
    - Function of Prayer’s Behaviors
    - Inflexibility of Prayer’s Behaviors
    - Influence on Social Identification
Study

- **Child Measures**
  - Religious Cognition
  - Religious Exposure
  - Executive Functioning

- **Parent Measures**
  - Religious Cognition
  - Religious Exposure
  - Religiosity, Spirituality, Belief in God
  - Ethnotheories of Religious Upbringing

---

**Anthropomorphism of God**
- 9 questions about the anthropomorphic psychological, biological, and physical properties of God
- Averaged for an overall anthropomorphism of God score:
  - Not Anthropomorphic [-2] to Anthropomorphic [+2]

**Examples**
- Psychological
  - Could God forget things?
  - Could God get bored?
- Biological
  - Could God get sick?
  - Does God need to eat food and drink water?
- Physical
  - Could God get wet when it rains?
  - Could you touch God with your hand?
Study

• Participants

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Female %</th>
<th>Age M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protestant</td>
<td>59</td>
<td>56%</td>
<td>4.62 (.64)</td>
</tr>
<tr>
<td>Catholic</td>
<td>30</td>
<td>70%</td>
<td>4.89 (.71)</td>
</tr>
<tr>
<td>Muslim</td>
<td>34</td>
<td>44%</td>
<td>4.72 (.71)</td>
</tr>
<tr>
<td>Non-Affiliate</td>
<td>22</td>
<td>68%</td>
<td>4.71 (.62)</td>
</tr>
</tbody>
</table>

Results

• Religious Background Differences
  – F(3, 141) = 4.925, p = .003, $\eta^2_p = .095$
Results

• Regression
  – Outcome Variable
    • Children’s Anthropomorphism of God
  – Predictor Variables
    • Children’s Age
    • Parent’s Anthropomorphism of God
    • Interaction between Age and Parent’s concept

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>B SE</th>
<th>β</th>
<th>95% CI for B Lower</th>
<th>95% CI for B Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.454</td>
<td>0.103</td>
<td>-0.338**</td>
<td>-0.633</td>
<td>-0.245</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.108</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Change</td>
<td></td>
<td></td>
<td>18.474**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.471</td>
<td>0.103</td>
<td>-0.351**</td>
<td>-0.675</td>
<td>-0.268</td>
</tr>
<tr>
<td>Parent’s Concept</td>
<td>0.269</td>
<td>0.086</td>
<td>0.239**</td>
<td>0.098</td>
<td>0.439</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Change</td>
<td></td>
<td></td>
<td>9.730**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-0.21</td>
<td>0.172</td>
<td>-0.156</td>
<td>-0.55</td>
<td>0.13</td>
</tr>
<tr>
<td>Parent’s Concept</td>
<td>0.24</td>
<td>0.087</td>
<td>0.213**</td>
<td>0.068</td>
<td>0.411</td>
</tr>
<tr>
<td>Age X Parent’s</td>
<td>0.268</td>
<td>0.142</td>
<td>0.242†</td>
<td>-0.013</td>
<td>0.549</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.174</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F Change</td>
<td></td>
<td></td>
<td>3.557†</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† < .10.  * p < .05.   ** p < .01.
Results

Childhood Cognition Lab

Results

Childhood Cognition Lab
Discussion

• Summary of Findings
  – Muslim children anthropomorphize God significantly less than Protestant and Catholic children
  – Anthropomorphism of God decreases with age
  – Parents’ concept of God is positively related to children’s concept of God

• Interaction
  • As age increases, the relationship between children’s and parents’ concept of God becomes stronger

• Result
  – Anthropomorphism of God decreases with age

• Explanation
  – Children are increasingly able to understand the abstract nature of God
Discussion

• Result
  – As age increases, the relationship between children’s and parents’ concept of God becomes stronger

• Explanation
  – Children are internalizing their parent’s concept of God

Discussion

• Result
  – Muslim children anthropomorphize God significantly less than Protestant and Catholic children

• Explanation
  – Muslim parents also anthropomorphize significantly less than other religious groups
  – More evidence to support hypothesis that children internalize parent’s concepts
Discussion

• Implications
  – Parents act as one vehicle by which socio-cultural input is transmitted to the child (via the parents’ belief system)

• Future Directions
  – Utilize the longitudinal data to determine causal relationships

Acknowledgements

• Collaborators
  – Rebekah Richert, PhD
  – Anondah Saide
  – Kirsten Lesage
  – Insia Hirawala
  – All of our Undergraduate Research Assistants in the CCL!

• Funding Sources
  – Social Science Research Council
  – John Templeton Foundation

• All the families who are participating in our study
Other Correlations

- Children’s Anthropomorphism
  - Children’s Religious Exposure
    - $r = -0.087$, $p = 0.296$
  - Knowledge Attribution of Mom
    - $r = -0.384$, $p < 0.001$
  - Knowledge Attribution of God
    - $r = -0.157$, $p = 0.063$
Other Correlations

- Children’s Anthropomorphism
  - Parents’ Belief in God
    - $r = .113, p = .187$
  - Parents’ Belief in Soul
    - $r = .092, p = .279$
  - Parents’ Religiosity
    - $r = -.062, p = .468$
  - Parents’ Spirituality
    - $r = .075, p = .384$

- Children’s Anthropomorphism
  - Parents’ Religious Exposure
    - $r = -.091, p = .281$
  - Parents’ Age
    - $r = -.117, p = .167$
  - Parents’ Gender
    - $r = .072, p = .396$