INTRODUCTION

• Goal structure understanding is a narrative comprehension process important for reading.
  • All narratives have goal structures that consist of goals (superordinate, subordinate), attempts, and outcomes (Trabasso & Nickels, 1992).
• Goal structure understanding is the ability to detect characters’ goals, to infer themes, and follow goal plans (Schank & Abelson, 1977).
• Significant growth between 3-5 years old; considered critical period (Brown, McFarlan & Burns, under review).
• Executive, alerting, and orienting attention network skills (Posner & Fan, 2007) may each affect comprehension in a different way.
• Previous research with older children with ADHD shows relations of executive and alerting skills to and narrative comprehension processes (Flory et al., 2006).
• The current study examined relations of young children’s attention network skills to goal structure understanding as demonstrated by narrations of characters’ goals, attempts, and outcomes.

METHOD

Participants
• 51 3- to 5-year-old children (M = 46.78 months, SD = 7.54).

Procedure
• Each participant narrated three wordless picture books typically used in narrative research with children.
  • Frog, Where Are You? (FWY)
  • A Boy, a Dog, and a Frog (BDF)
  • One Frog Too Many (OFTM)
• Goal structure understanding was coded using McFarlan & Brown method (under review)
  • Attention was measured by median reaction time on three attention network tasks.
  • Executive task measured speed of spatial conflict resolution.
  • Alerting tasks measured ability to maintain an alert state.
  • Orienting tasks measures spatial orientation of attention.

FROG, WHERE ARE YOU?

Total Goals = 10
Total Attempts = 7
Total Outcomes = 9

A BOY, A DOG, AND A FROG

Total Goals = 10
Total Attempts = 7
Total Outcomes = 9

ONE FROG, TOO MANY

Total Goals = 10
Total Attempts = 7
Total Outcomes = 9

Table 1. Mean Proportion (Standard Deviations) of Percentages of Goals, Attempts, and Outcomes Identified

<table>
<thead>
<tr>
<th></th>
<th>FWY (N = 16)</th>
<th>BDF (N = 18)</th>
<th>OFTM (N = 17)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (in months)</td>
<td>48.13 (7.23)</td>
<td>48.06 (6.24)</td>
<td>44.18 (8.74)</td>
</tr>
<tr>
<td>Goals</td>
<td>0.01 (0.06)</td>
<td>0.06 (0.06)</td>
<td>0.01 (0.02)</td>
</tr>
<tr>
<td>Attempts</td>
<td>0.37 (0.26)</td>
<td>0.37 (0.26)</td>
<td>0.36 (0.31)</td>
</tr>
<tr>
<td>Outcomes</td>
<td>0.17 (0.19)</td>
<td>0.17 (0.19)</td>
<td>0.16 (0.24)</td>
</tr>
</tbody>
</table>

ANALYSES

• After controlling for age, patterns of correlations between attention network skills and goal structure understanding depended on the specific wordless picture book.
  • For BDF, there was a significant positive correlation between goals and executive accuracy (r = .50, p = .041).
  • For OFTM, there was a significant negative correlation between attempts and executive reaction time (r = -.51, p = .045).
  • For OFTM, there was a significant positive correlation between outcomes and orienting reaction time (r = .69, p = .003).

DISCUSSION

• Young children’s attention network skills related to young children’s goal structure understanding.
  • Children with more executive flexibility identified more attempts and goals.
    • Increased executive flexibility may allow children to more readily identify information necessary for understanding characters’ goals (Trabasso et al., 1989; 1992).
    • Faster ability to inhibit the dominate response may allow younger children to identify the more complex characters’ attempts (Posner & Rothbart, 2007a).
  • Unexpectedly, children with slower reaction time in the orienting attention task identified more outcomes.
  • Future research may consider the following:
    • Examining if different character perspectives (or sub-goal structures) are important for narrative complexity.
    • The role attention network skills plays in depending on the complexity of the narrative.

ACKNOWLEDGEMENTS

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