**Introduction**

- **Bayesian theories of cognition** assume human beings are equipped with a strong mechanism of probabilistic inference which allows the learning processes to take place. A particularity of these models is the special status given to individuals' prior knowledge. Prior knowledge is a central part in the learning process as it would be taken into account in making inferences and updated by environmental information (Perfors, Tenenbaum, Griffiths & Xu, 2011).

- **Developmental Language Disorder (DLD)** is characterized among others by difficulties in word learning (Kan & Windsor, 2010). Children with DLD also seem to exhibit a larger panel of cognitive difficulties which we still fail to fully understand. Bayesian theories of cognition can be applied to word learning with the case of category learning and inductive generalization (Perfors, Tenenbaum, Griffiths & Xu, 2011).

**Aim**

Does children with DLD behave as expected by Bayesian theories of cognition when achieving a novel word learning task?

**Methods**

- **Participants**
  - 20 children with DLD (French speaking)

- **Non-word learning task** (inspired by Tenenbaum & Xu, 2007)
  - 2 x 3 familiar semantic categories
  - 3 levels of taxonomy
  - 4 conditions:
    - 1 vs 3 exemplars
    - 3 exemplars: subordinate, base, superordinate
  - Choice among 24 images

**Results**

<table>
<thead>
<tr>
<th>Age</th>
<th>NVIQ</th>
<th>ELDP</th>
<th>EVIP</th>
<th>ECOSSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>120.4</td>
<td>96.2</td>
<td>-2.115</td>
<td>86.00</td>
</tr>
<tr>
<td>SD</td>
<td>22.6</td>
<td>13.34</td>
<td>0.87</td>
<td>12.81</td>
</tr>
</tbody>
</table>

A distributional pattern of responses across categories and levels of taxonomy is shown. The figures represent the percentage of responses across different levels of taxonomy. The hypothesis of the increased number of responses at the superordinate level is supported by the statistical analysis, which indicates a significant effect of category and level interaction (BF10 = 5.810^+42).

**Conclusions**

- Children with DLD’s choices depend on level of taxonomy.
- Children with DLD’s choices differ when 3 exemplars from the superordinate level compared to 1 exemplar or 3 exemplars from subordinate or basic level.
  - An adaptation of their choices is possible when given more information but not for all cases.
- Do children with DLD behave as their typically developing pairs or
  - do they need more/less information to adapt their choices when superordinate/subordinate exemplars are given?
  - do they have similar a priori knowledge?

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