The effect of humour on social learning in infants in a tool use task

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- **Humour has** a **positive effect on learning** in adults and children[(1)].
- **What about infants?** ➡ **They perceive humour around 5 month of age**[(2)].
- Our team investigated **the effect of humour** on **social learning** in **18-month-**old infants[(3)]. They had to retrieve an **out of reach toy** using a tool like object **after demonstration** by an experimenter.

Our previous findings

Two types of demonstrations	Neutral	Humorous	
Infants' emotional responses (during demonstration)	😐	😐	😄
Success in using the tool (after demonstration)	25%	19%	94%

<u>Aim:</u> Assess the replicability and the generalisibility of the previous study to different ages.

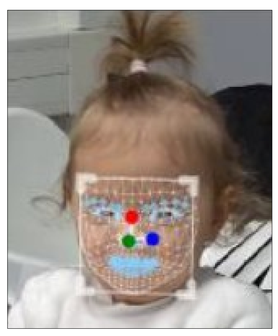
Material and Methods

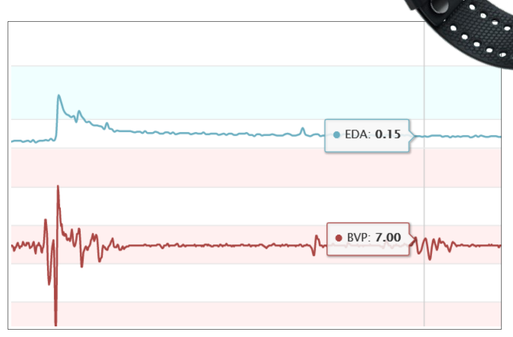
- N= **92 infants** aged from **14 to 22 month of age** in **the same tool use context** than in Esseily *et al.* (2015)[(3)]
- Infants had 3 trials before and 3 trials after demonstration of the use of the tool. Each trial was **scored from 1 (failure to retrieve the object with the tool) to 4 (full success)**.

Behavioural Analysis
(using The Oberver XT by Noldus)

Temperament Questionnaire[(4)]

A Multidimensional Method

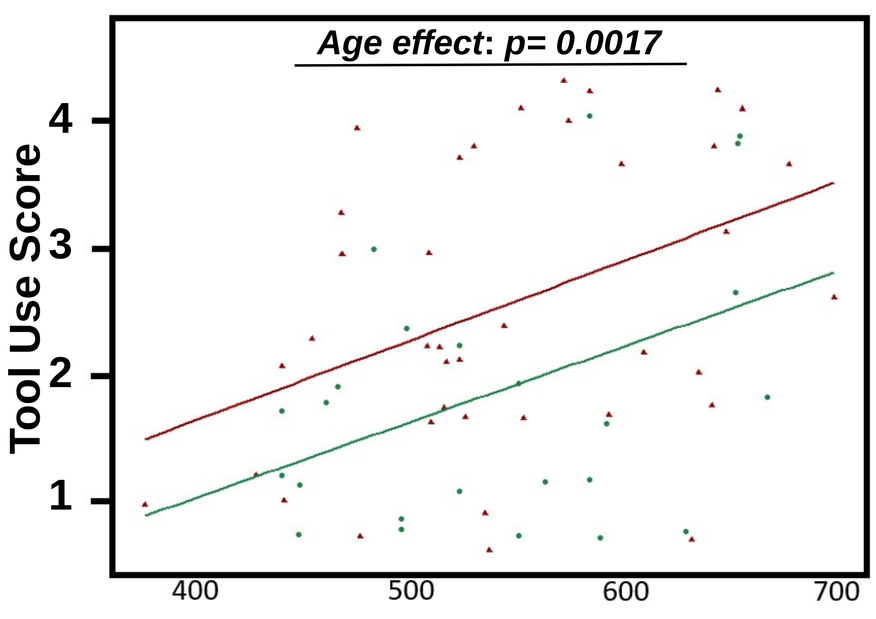


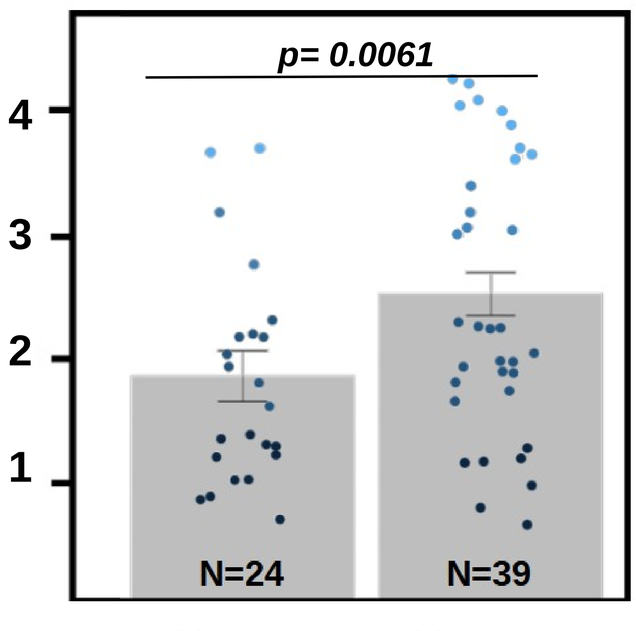


Facial Expression Analysis
(using BabyFace Reader by Noldus)

Physiological Analysis
(using E4 from Empatica)

Preliminary results and Discussion





Condition	The score shown on the graphs represents the highest score of the trials after demonstration.
Neutral Humour	All p-values were extracted from a LM with 10 000 permutations

- Infants exposed to a **humourous** demonstration seem to **learn better** than infants exposed to a **neutral** demonstration, **regardless if they laughed or not**.
- In contrast with Esseily *et al.*'s observations[(3)], **infants who laughed did not learn any better** than other **infants exposed to a humorous demonstration**.
- The **testing conditions** (*i.e.*, testing at home, wearing the mask, *etc.*) may have influenced infants' behaviour towards a **better learning performance than in our previous study** particularly **in non-laughing infants**.
- Surprise induces better retention of information and learning[(4,5)]. One explanation for the observed effect in the humorous demonstration may be the **surprise effect** created by the humour events.

Conclusion and futures directions

In this task, the humorous demonstration seems to have an effect on infants imitative learning. It will be interesting to follow up on this study by testing separately humour and surprise. Further investigations through the use of facial expression analysis combined with physiological analysis may give us some cues about the emotional state of infants during the demonstration. In this way, it will be possible to assess not only if surprise has an effect on learning but also to consider the effect of the intensity of the emotion.

Bibliograhy

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