

# The role of facial features in 6- to 24-months old infants’ preferences for prosocial behaviors

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## (1) Background

Recent research (Hamlin et al., 2007, 2011) has shown an early emergence of social evaluation in human infants, as attested by a **preference for prosocial over antisocial characters**. Namely, infants aged 6 months displayed a strong preference for watching “moral plays” in which a puppet-agent helps or shares something with a patient compared to a puppet-agent who harms or does not share with a patient, thus showing abilities for social evaluation.



However, when evaluating others, behavior is not the only cue available and facial features may also play a role. Early on, infants pay much attention to faces : at 2-3 months of age, infants **prefer own-race vs other-race** faces (Kelly et al., 2007) as well as **attractive vs scrambled** faces (Fantz, 1961)

## (2) Research question

Which role play facial features in infants’ preferences for social behaviors ?

- => Does preference for prosocial behavior still hold when the character has :
- an unattractive (scrambled) face ?
  - an unfamiliar (other-race) face?

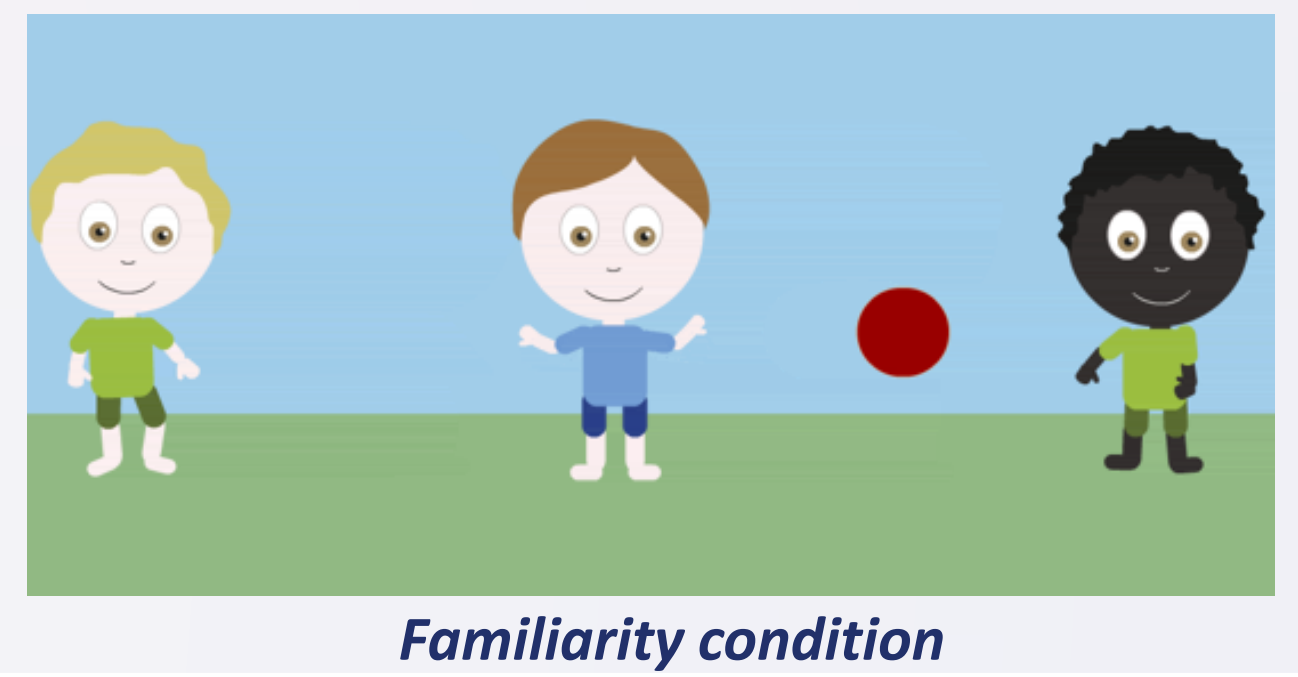
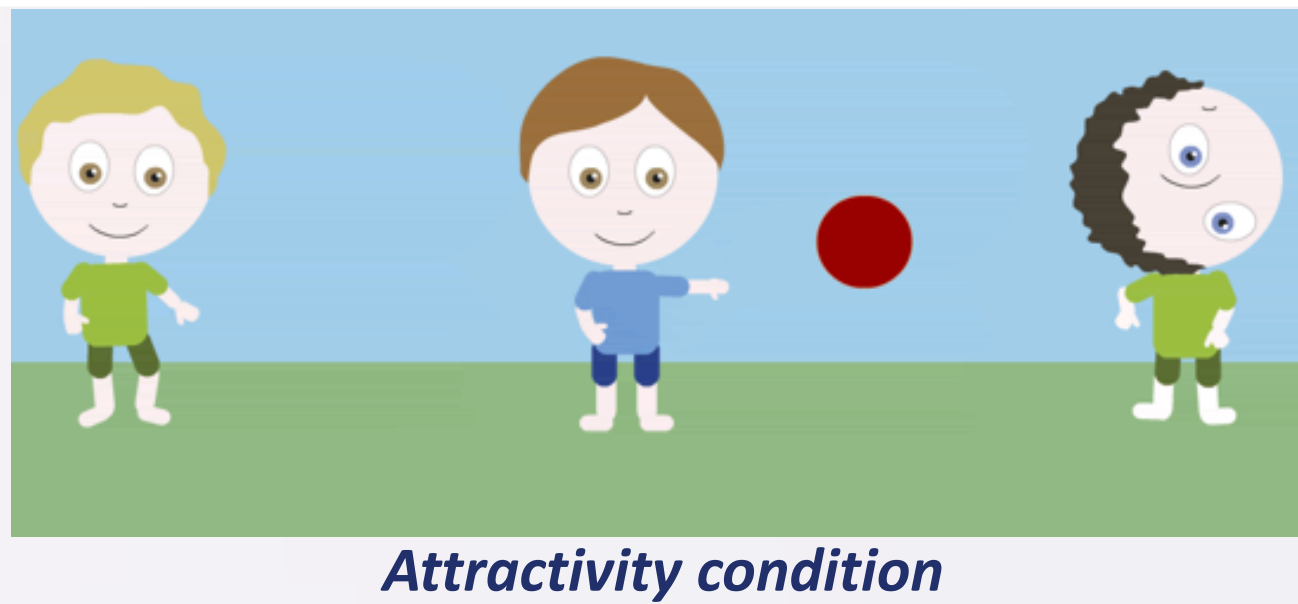
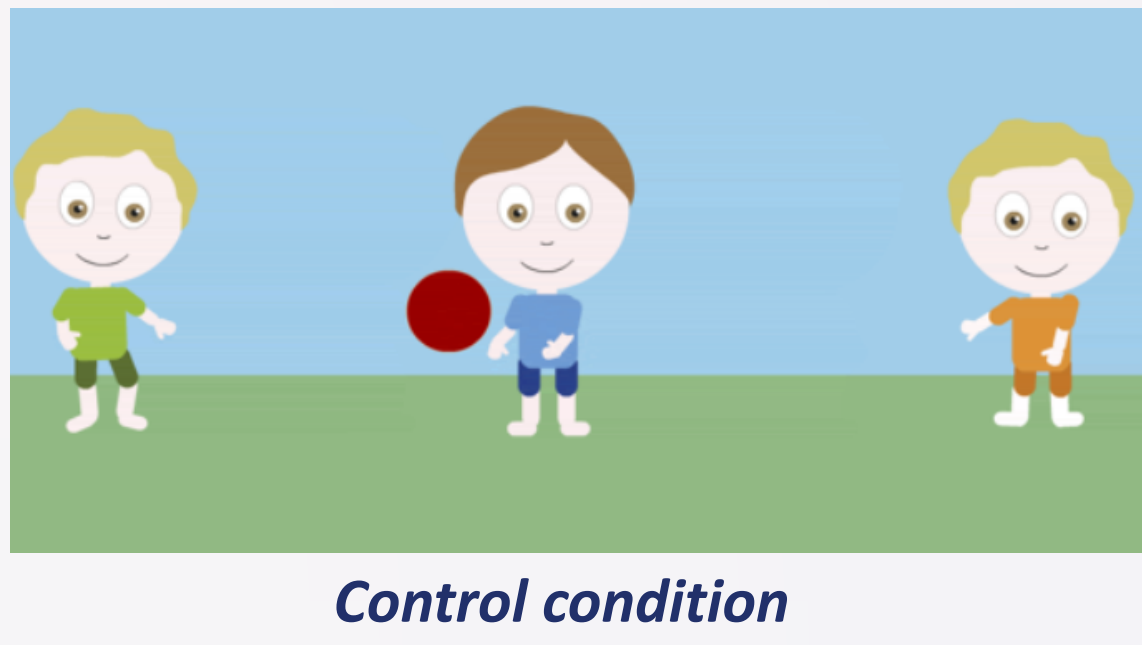
## (3) Method

- ❖ **Participants** : N = 21 infants  
Mean age = 18 months ; Age range = 9 months-24 months.
- ❖ **Paradigm**: Following the example of Hamlin and Wynn (2011), we presented infants with short “moral plays” during which 3 characters were playing a ball game. Unlike Hamlin and Wynn who manipulated actual puppets, we built **short video cartoons** (duration = 11 seconds) with Adobe Flash™ .

### ❖ Stimuli : “Moral plays”

- Two events were presented to infants :
- A **prosocial event**, in which the actor gives the ball back to the protagonist
  - An **antisocial event**, in which the actors keeps the ball for himself and escape with the ball.
- Faces of the actors varied on :
- their **familiarity** to the infant : own-race (caucasian) face vs other-race (african) face
  - and their **attractivity** : symmetric vs scrambled

Infants watched 3 moral plays. At the end of each trial, they have to **choose** between the prosocial actor and the antisocial one : Preference for a character occurred when infants attempted to reach the character while simultaneously looking at him.



## (4) Results

	Prosocial	Antisocial	Khi² test α=0.05
Control condition			p= 0.04*
Attractivity condition			p=0.64 ns
Familiarity condition			p=0.09 ns

Results showed :

- Preference for the prosocial actor over the antisocial actor when both actors had attractive and familiar faces.
- No preference between prosocial and antisocial actors when the prosocial actor had unattractive facial features (a scrambled face).
- No preference for the prosocial actor over the antisocial actor even when the prosocial actor had unfamiliar (other-race) face.



## (5) Conclusion

1. Using short video cartoons, this research showed that **6- to 24-months old infants demonstrated a preference for prosocial behaviors** (over antisocial ones), when both characters had attractive and familiar faces.

- > This first finding extends previous findings by when Hamlin and Wynn (2011), who used puppets with 6-months old infants.
- > In our study, infants were older and video cartoons (instead of puppets) were used, which suggests that our specific stimuli were relevant to assess social evaluation in this age range.

2. **Manipulating attractivity and familiarity of faces**, we found that **facial features modulated infants’ social evaluation for characters**. Namely, preference for prosocial behavior vanished when the prosocial agent displayed an unattractive (scrambled) face and unfamiliar (other-race) face.

- > These findings are new, and suggest that infants are sensitive to facial features of a character, and not solely to behavior, when asked for social evaluation.

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Future research should determine which elements (e.g., facial, behavioral...) infants exactly take into account when producing social evaluation, and how these elements are weighted in the infant’s cognitive system in the developmental course toward a mature moral system.

### References

- Fantz, R.L. (1961). The origin of form perception. *Scientific American*, 204, 66-72.  
Hamlin et al. (2007). Social evaluation by preverbal infants. *Nature*, 450, 557–559.  
Hamlin & Wynn (2011). Young infants prefer prosocial to anti social others. *Cognitive Development*, 26, 30-39.  
Kelly et al. (2007). Cross-race preferences for same-race faces extend beyond the African versus Caucasian contrast in 3-month-old infants. *Infancy*, 11, 87–95.

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### Acknowledgments

We thank Vitrolles’s town council for their support, the staff of the nurseries for their very nice welcome, and the parents and infants for their kind participation. Thanks to Nina Taurel for her help in data collection.