During interpersonal interactions, communicators tend to express communicative intention via ostensive signals, such as eye contact and one’s own name speech. For addressee, it is critical to recognize ostensive signals directing at them in order to communicate with others successfully. Though addressee may deduce communicative intention according to context, ostensive signals create a shortcut for detecting communicative intention. Behavioral and neural evidence indicated that the ability to detect communicative intention from ostensive signals emerges at the first year from birth.

Therefore, we reviewed an extensive body of evidence from prior work, which implicating that the medial prefrontal cortex is crucial for infants to process communicative intention from ostensive signals. Moreover, the familiarity of communicator and smile by communicator are beneficial for infants to detect ostensive signals.

Finally, infants’ behavioral and neural response to ostensive signals have the potential to be early markers to predict some developmental disorders, especially for autism spectrum disorder.

Several advices were proposed for future directions:

(1) future studies should investigate and verify the infants’ neural mechanism of processing ostensive signals with some emerging methods, such as brain-to-brain synchronization and multi-modal imaging.

(2) pay more attention to the other factors underlying the detection of communicative intention, such as individual’s difference and growth environment.

(3) continue investigating the potential of signals to contribute to the early differentiation of typical and atypical development in young infants. Besides, more longitudinal studies with intensive time points are needed.