Weekly Summary – Part A

Name: ***** *****

Article: Onishi, K. H., & Baillargeon, R. (2005). Do 15-month-old infants understand false beliefs? Science, 308(5719), 255-258.

a) Review of the main points of the paper (2-3 sentences): Researchers have previously believed that children younger than the age of four do not have a fully functional and representational theory of mind, due to their inability to perform on verbal false belief tests. However, the researchers Onishi and Baillargeon have created a novel nonverbal task to assess the ability of 15-month-old infants in the prediction of an actor's behavior based on their personal true or false belief about a toy's current location. The positive results of this task support the view that children represent the accurate or inaccurate mental states of others and their subsequent goal directed behavior.

b) Two strengths of the research (and explain why): 1) I liked the use of three varying familiarization trials within the study. In doing so, I believe the infants became acquainted with the objects within the experiment such as the yellow and green boxes and the toy watermelon slice. I also believe that shifting the watermelon piece during this trial alerted the infants to attend to the movement of that specific piece and was therefore quite useful for the following true or false belief task. 2) Secondly, I believe the use of two varying true-belief and two false-belief conditions was useful as both constructs can now be generalized across two differing actions. In other words the actor's knowledge of the toy's displacement was represented in different ways, allowing the infants theory of mind to be examined across different manipulations.

c) Two weaknesses of the research (and explain why): 1) I did not like that the pre-trials differed greatly in terms of length. I believe this was problematic as approximately one quarter of participants were unable to sustain their attention for the duration of the pre-trial. This finding is also problematic for the attention required during the belief-induction trial, as some infants would have already maintained their attention for three times longer than the infants in the other condition. This could be avoided however by either lengthening the 8 s pre-trial or shortening the 24 s trial. 2) I did not like the use of one sole actor. I would be interested to see the results of a similar experiment, which demonstrated a second actor physically hiding the toy watermelon slice. Not only would this be more realistic but also it would require infants to understand the mental representation of two actors rather than one. Lastly, by having two actors, the experiment would more closely resemble the Sally and Anne test, allowing the differences between verbal and non-verbal tasks to be examined more closely.

d) One quiz question that you might pose to your classmates with the correct answer: Q: Why would children look reliably longer at reaches to the empty location by the actor on true belief trials? What can be inferred? A: By looking reliably longer at reaches to the empty box, it can be inferred that infants understand the actor has a true belief about where the object is located and expect the actor to search on the basis of this true belief. This understanding produces longer looking time when the actor violates the child's expectation that the actor will search based on their true belief.

e) One research question to pursue in the future (and explain why): Could nonverbal false-belief tasks be adapted for Autistic populations of children? This population would allow for a more in depth investigation into the effect of eye gaze on goal directed behavior. The implications of this research question involve the nature and potentially the early detection of autism spectrum disorder in children.

Weekly Summary – Part B

Name: ***** *****

Article: Onishi, K. H., & Baillargeon, R. (2005). Do 15-month-old infants understand false beliefs? Science, 308(5719), 255-258.

Question 1: Were the participants 'cherry picked' to support the prediction of the researchers? More specifically were the 14 infants eliminated for inattentiveness, looking more than 3 SD beyond the condition mean, fussiness, parental interference (less so) or observer error, done so justifiably?

Question 2: The authors posed a potential interpretation of the data, being that infants learn a superficial expectation that a person looking for an object will search for it where she last saw it disappear. However, the actor is wearing a visor. Does this negate the infant's ability to see their eye gaze? If not, what is the purpose of the actor's visor?

Question 3: The authors' state that all but 5 infants were able to sustain their attention during the pretrial, which lasted either 8 s or 24 s. Is this not problematic that approximately one quarter of participants were unable to look continuously during the pretrial?

Article: Southgate, V., Senju, A., & Csibra, G. (2007). Action anticipation through attribution of false belief by 2-year-olds. Psychological Science, 18(7), 587-592.

Question 1: The authors explain the possibility that the reality bias could interfere with a child's ability to respond to a false-belief task accurately. Despite this, they mention that children show evidence of false belief understanding at age 3 when a cookie was once on the scene, but was later eaten. Could this be a more evolutionarily adaptive response? In other words, is the understanding of false beliefs about food more adaptive and therefore evident at a younger age?

Question 2: The authors did not include a true-belief condition, as they believe the findings of these conditions to be manifestations of the reality bias. However, wouldn't the inclusion of such a condition work as a control in the comparison of their findings?

Question 3: The authors only included children who correctly anticipated the outcome of the second familiarization trial. Is this justifiable, or does this only work to reinforce their predictions?

Article: Perner, J., & Ruffman, T. (2005). Infants' insight into the mind: How deep? Science, 308(5719), 214-216.

Question 1: Despite the evidence that 15 month olds can infer false-beliefs of others, would it not be premature to propose an innate and evolutionary understanding of the mind? In other words, is it not possible that the critical period is simply earlier than previously thought, rather than inborn?

Question 2: If deaf children raised by hearing parents suffer from a language delay and thus reflect a late understanding of false beliefs, is the same true for other children with disorders that affect language and communication?

Question 3: If the recency of the stimuli is problematic in the arrangements of "actor-object-location", could repeating the sequences be beneficial?

Article: Scott, R. M., & Baillargeon, R. (2009). Which penguin is this? Attributing false beliefs about object identity at 18 months. Child development, 80(4), 1172-1196.

Question 1: Could knowledge about the identity of an object be more valuable to infants and therefore more readily understood in comparison to the location of an object? Similarly would the ability to separate pieces of an object be more interesting or even magical to infants and therefore more likely to capture their attention?

Question 2: In an application of system-based accounts, could the different findings between verbal and nonverbal false belief tests be accounted for through unconscious rather than conscious psychological reasoning? Meaning, is there a shift from unconscious reasoning to conscious reasoning before the age of 4?

Question 3: If children have difficulty tapping into an actor's false belief representation and inhibiting their tendency to respond based on the knowledge of an object's current location, why would the removal of the object from the scene allow for children to perform with more success? Would they not be more likely to look in the direction where the actor had fled the scene?