

## Joint Attention Coding guidelines

### Bids for joint attention

Bids can be:

- pointing/gesturing to the object
  - labeling the object or otherwise drawing the child's attention to the object (ex: "Look a duck!")
  - holding the object in the infant's line of sight and talking about the object (ex: "Yellow duck" or "Quack quack")
  - If more than 3 seconds elapse between two bids, even with the same object, they should be coded as two separate bids. Because it's difficult to determine the end of a bid, prolonged bids should be counted as multiple bids (e.g., if the mother plays with a toy to draw the infant's attention for 10s, that constitutes 3 bids).
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- ❖ Code all parent bids whether or not they result in an episode of JA, but only code infant bids when they result in an episode of JA
  - ❖ Do Not Code **Follow-in**: one agent plays with the toys themselves without trying to initiate any interactions (without a bid), while the other agent follows to look at the objects.

### Passive Joint Attention

Criteria:

- Begins with one member initiating the interaction (i.e., at the beginning of a bid)
  - Both members visually focused on the same single object for a minimum of 3 seconds
  - If either member looks away for less than 3 seconds and then returns to the same object, it will be considered part of the same episode
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- ❖ Episodes are coded as passive joint attention if the child never acknowledges the parent.

### Coordinated Joint attention

Criteria:

- Begins with one member initiating the interaction (i.e., at the beginning of a bid)
- Both members visually focused on the same single object for minimum of 3 seconds
- At some point in the interaction the child indicates awareness of interaction with some overt behavior toward the parent
  - looks to the mother's face
  - gestures (e.g., pointing towards object to draw parent's attention)
  - vocalizations (e.g. answering parents question, naming objects, making sounds)

- action response or turn-taking (e.g. taking the object their caregiver hands to them, acting in the same way the caregiver does))
  - Laughing does NOT qualify.
  - If the infant initiates a bid and shows awareness of caregiver during the bid, it is a coordinated JA (even if during JA infant doesn't do).
- If either member looks away for less than 3 seconds and then returns to the same object, it will be considered part of the same episode
- ❖ Episodes are coded as coordinated joint attention if the parent and child are focused on the same object for at least 3 seconds and the child acknowledges the parent.

### **Notes**

- “Focus on the object/ the same object”: what counts as “the object”:  
We define “the object” in loose terms:  
1) one puzzle piece and its corresponding hole on the board is one object, so if the parent points at the puzzle piece and point at the hole when the infant joins to look at them, it is one JA episode.  
2) parent holds up the drum stick and hits the drum when infant looks at them, it is one JA episode.  
\*\*Thus, if a bid on one object also involves attention with another object because of functional reasons, this is considered one JA episode.\*\*
- An error this coding scheme carries: JA length is generally longer than it actually is:  
What our code says: |JA Starts |JA ends  
What our code means: |Bid starts |JA starts |JA ends  
Error: |-----|
- If a bid with another object occurs during an JA episode (e.g. parent labels another thing, but returns to JA within 3s, while infant focuses on the original object always), ignore the bid.

Result in	Infant bid	Parent bid
JA + Child acknowledge		
JA + Child not acknowledge		
nothing		

cJA

pJA

bids

### Experiment 2 Coding Procedures Step by Step:

1. Code according to the “close camera” always. If close camera is not clear, synchronize the far camera with close, code according to “far camera”, and make a note “aligned with close” on Google sheet. If close camera cannot be used or missing, use far camera, and make a note “USE THIS”.
2. Convert Far camera from MPG to MOV before using.
3. Q: When to make a new episode?

A: Under two situations:

1) a parent bid (defined above)

xxx:xxx	yyy:yyy
<pJA>, <cJA>, 1	

2) a child bid that results in JA

xxx:xxx	yyy:yyy
<pJA>, <cJA>, 0	

3. Judge if it is pJA, cJA, or neither:

1) not a JA: parent and infant do not focus on the same object

Parent bid

xxx:xxx	yyy:yyy
0, 0, 1	

2) pJA: infant never acknowledges caregiver

Parent bid

xxx:xxx	yyy:yyy
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1, 0, 1
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Infant bid

xxx:xxx	yyy:yyy
1, 0, 0	

### 3) cJA: infant at some point acknowledges caregiver

Parent bid

xxx:xxx	yyy:yyy
0, 1, 1	

Infant bid

xxx:xxx	yyy:yyy
0, 1, 0	

### 4. Exact start of an episode:

Start of a sentence/ first touch of an object/ first shaking move in front of the infant

### 5. Exact end of an episode:

#### 1) When there is no JA like the situation below, end 3s after the bid

xxx:xxx	xxx+3 : xxx
0, 0, 1	

If another bid happens within the 3s:

- Start a new episode if it's with a different object
- Do nothing if it's with the same object

If another bid happens outside the 3s: Start a new episode

#### 2) When there is a JA, like all the other situations, end the episode when JA ends.

However, always play 3s more to see if parent/infant looks back within 3s. If any of them looks back, the episode continues. If not, end when JA ends.

A JA episode only ends when JA ends, and it's independent of bids.