**Social Referencing Uncertainty Script**

Setup:

****Arrange black tablecloth on large table with crayon marks in the correct locations (the center line should cross over the hole in the middle of the table)

Place large barbershop chair at one side of the table (facing away from door)

Arrange stimuli and label cards in segmented box according to condition, and place on stool next to Experimenter’s side of table

Arrange camera facing child at a 45 degree angle. Make sure entire table is in view.

Set up all chairs in back of child’s chair (make sure parent is in the camera shot)

Recruitment:

I’m a researcher from the Psychology department at Stanford, and we have a study going on today to learn more about how children learn new words. It involves a 5-minute game where children are asked to put different toys in a bucket, and the session will be videotaped. Would you and your child be interested?

Timing:

Metronome (Blinky iPhone app; turn off auto-lock in General Settings) on 50bpm

Introduction:

Obtain consent from parent, and have parent fill out demographics form.

Tell parent, we are interested in how children perform without their parents’ help on this task, so we ask parents not to give any instruction or input during the game.

To child*: I’m going to show you some different toys, and I’m going to tell you which ones to put in the bucket. If you do a good job and choose the right toys, you’ll get a sticker at the end! Let’s practice.*

Procedure:

Training trials (includes feedback)

1. (banana) *Can you put the banana in the bucket?*
2. (cup and cow) *Can you put the cow in the bucket?*

*Demonstrate if child does not put object in bucket.*

*Correct child if they choose the wrong item, or put both items in bucket.*

All trials:

-Place objects simultaneously on the 2 crayon marks closest to Experimenter

-*Hey look there’s a \_\_\_ here.*

*-*Wait 2 beats (based on peripheral view of metronome) while gazing at center dot

*-Can you put the \_\_\_ in the bucket?*

-Push both objects simultaneously to the 2 crayon marks closest to child (look at child after pushing)

*-Okay!*

Condition 1

|  |  |  |
| --- | --- | --- |
| Novel 1 | stimuli%20pics/novel_1.jpg | *“Blicket”* |
| Novel 2 + Novel 3 | stimuli%20pics/novel_2.jpgstimuli%20pics/novel_3.jpg | *“Modi”* |
| Familiar 1 | stimuli%20pics/familiar_1.jpg | *“Grapes”* |
| Familiar 2 + Familiar 3 | stimuli%20pics/familiar_5.jpgstimuli%20pics/familiar_3.jpg | *“Lion”* |
| Novel 4 | stimuli%20pics/novel_4.jpg | *“Dawnoo”* |
| Novel 5 + Novel 6 | stimuli%20pics/novel_5.jpgstimuli%20pics/novel_6.jpg | *“Gazer”* |
| Familiar 4 | stimuli%20pics/familiar_4.jpg | *“Sunglasses”* |
| Familiar 5 + Familiar 6 | stimuli%20pics/familiar_2.jpgstimuli%20pics/familiar_6.jpg | *“Pig”* |
| Novel 7 | stimuli%20pics/novel_7.jpg | *“Toma”* |
| Novel 8 + Novel 9 | stimuli%20pics/novel_8.jpg**../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg** | *“Hiftam”* |
| Familiar 7 | stimuli%20pics/familiar_7.jpg | *“Helicopter”* |
| Familiar 8 + Familiar 9 | stimuli%20pics/familiar_8.jpgstimuli%20pics/familiar_9.jpg | *“Apple”* |

Condition 2

|  |  |  |
| --- | --- | --- |
| Novel 2 | stimuli%20pics/novel_2.jpg | *“Blicket”* |
| Novel 3 + Novel 4 | stimuli%20pics/novel_3.jpgstimuli%20pics/novel_4.jpg | *“Modi”* |
| Familiar 2 | stimuli%20pics/familiar_5.jpg | *“Brush”* |
| Familiar 3 + Familiar 4 | stimuli%20pics/familiar_3.jpgstimuli%20pics/familiar_4.jpg | *“Sunglasses”* |
| Novel 5 | stimuli%20pics/novel_5.jpg | *“Dawnoo”* |
| Novel 6 + Novel 7 | stimuli%20pics/novel_6.jpgstimuli%20pics/novel_7.jpg | *“Gazer”* |
| Familiar 5 | stimuli%20pics/familiar_2.jpg | *“Pig”* |
| Familiar 6 + Familiar 7 | stimuli%20pics/familiar_6.jpgstimuli%20pics/familiar_7.jpg | *“Shovel”* |
| Novel 8 | stimuli%20pics/novel_8.jpg | *“Toma”* |
| Novel 9 + Novel 1 | **../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg** stimuli%20pics/novel_1.jpg | *“Hiftam”* |
| Familiar 8 | stimuli%20pics/familiar_8.jpg | *“Truck”* |
| Familiar 9 + Familiar 1 | stimuli%20pics/familiar_9.jpgstimuli%20pics/familiar_1.jpg | *“Grapes”* |

Condition 3

|  |  |  |
| --- | --- | --- |
| Familiar 1 | stimuli%20pics/familiar_1.jpg | *“Grapes”* |
| Familiar 2 + Familiar 3 | stimuli%20pics/familiar_5.jpgstimuli%20pics/familiar_3.jpg | *“Lion”* |
| Novel 1 | stimuli%20pics/novel_1.jpg | *“Blicket”* |
| Novel 2 + Novel 3 | stimuli%20pics/novel_2.jpgstimuli%20pics/novel_3.jpg | *“Modi”* |
| Familiar 4 | stimuli%20pics/familiar_4.jpg | *“Sunglasses”* |
| Familiar 5 + Familiar 6 | stimuli%20pics/familiar_2.jpgstimuli%20pics/familiar_6.jpg | *“Pig”* |
| Novel 4 | stimuli%20pics/novel_4.jpg | *“Dawnoo”* |
| Novel 5 + Novel 6 | stimuli%20pics/novel_5.jpgstimuli%20pics/novel_6.jpg | *“Gazer”* |
| Familiar 7 | stimuli%20pics/familiar_7.jpg | *“Helicopter”* |
| Familiar 8 + Familiar 9 | stimuli%20pics/familiar_8.jpgstimuli%20pics/familiar_9.jpg | *“Apple”* |
| Novel 7 | stimuli%20pics/novel_7.jpg | *“Toma”* |
| Novel 8 + Novel 9 | stimuli%20pics/novel_8.jpg**../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg** | *“Hiftam”* |

Condition 4

|  |  |  |
| --- | --- | --- |
| Familiar 2 | stimuli%20pics/familiar_5.jpg | *“Brush”* |
| Familiar 3 + Familiar 4 | stimuli%20pics/familiar_3.jpgstimuli%20pics/familiar_4.jpg | *“Sunglasses”* |
| Novel 2 | stimuli%20pics/novel_2.jpg | *“Blicket”* |
| Novel 3 + Novel 4 | stimuli%20pics/novel_3.jpgstimuli%20pics/novel_4.jpg | *“Modi”* |
| Familiar 5 | stimuli%20pics/familiar_2.jpg | *“Pig”* |
| Familiar 6 + Familiar 7 | stimuli%20pics/familiar_6.jpgstimuli%20pics/familiar_7.jpg | *“Shovel”* |
| Novel 5 | stimuli%20pics/novel_5.jpg | *“Dawnoo”* |
| Novel 6 + Novel 7 | stimuli%20pics/novel_6.jpgstimuli%20pics/novel_7.jpg | *“Gazer”* |
| Familiar 8 | stimuli%20pics/familiar_8.jpg | *“Truck”* |
| Familiar 9 + Familiar 1 | stimuli%20pics/familiar_9.jpgstimuli%20pics/familiar_1.jpg | *“Grapes”* |
| Novel 8 | stimuli%20pics/novel_8.jpg | *“Toma”* |
| Novel 9 + Novel 1 | **../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg**stimuli%20pics/novel_1.jpg | *“Hiftam”* |

**Experiment 2**

Setup, recruitment, timing: same as Experiment 1.

Introduction:

Obtain consent from parent, and have parent fill out demographics form.

Tell parent, we are interested in how children perform without their parents’ help on this task, so we ask parents not to give any instruction or input during the game.

To child: *Let me show you my game. I’m going to put two toys on the table, and I’m going to ask you to put one of the toys in the bucket. Remember, just put* ***one*** *of the toys in the bucket!*

***“I want you to try really hard to put the right toy in the bucket, but if you have to guess that’s ok.”***

Procedure:

Training trials (includes feedback)

1. (Banana and teddy bear) *“Can you put the banana in the bucket?”*

2. (Shoe and dumpling press) *“Can you put the* ***tupa*** *(made-up word) in the bucket?”*

3. (Garlic peeler and cable holder) *“Can you put the* ***bugorn*** *(made – up word) in the bucket?”*

*Demonstrate if child does not put object in bucket.*

*Correct child if they choose the wrong item, or put both items in bucket.*

All trials:

-Place objects simultaneously on the 2 crayon marks closest to Experimenter

* In **helpful-gaze** condition, look at the object on the side of the table that is marked on the box of toys (indicated on the script in the rightmost column, either “L” or “R”, until experimenter says, “Can you put the ….”
* In the **no-helpful-gaze** condition, look at the dot in the center of the table until the experimenter says, “Can you put the…”

-*Look, there’s a \_\_\_ here.*

*-*Wait 2 beats (based on peripheral view of metronome).

*-Can you put the \_\_\_ in the bucket?*

-Push both objects simultaneously to the 2 crayon marks closest to child (look at child after pushing)

*-Thank you!*

Rules for experimenter vocalization during trials:

* If the child is taking **excessively** long (e.g., longer than 10 seconds) to choose an object or put one in the bucket, or if the child is off-task or non-cooperative, prompt the child again with “Can you put the \_\_\_\_\_ in the bucket?”
* If the child asks which object you are referring to, respond with “Which one do you think is the \_\_\_\_\_” if necessary.
* **Otherwise, do not interrupt the child’s exploration of the items with speech.**
* **If the child seems distressed after a long period of time of not knowing which is the correct object, you can say “You can take a guess if you’re not sure.”**

Condition 1

|  |  |  |  |
| --- | --- | --- | --- |
| Familiar 1 +Familiar 2 | stimuli%20pics/familiar_1.jpgstimuli%20pics/familiar_5.jpg | “Grapes” | L |
| Novel 1 + Novel 2 | stimuli%20pics/novel_1.jpg | “Blicket” | L |
| Familiar 3 + Novel 3 | stimuli%20pics/familiar_3.jpgstimuli%20pics/novel_2.jpg | “Modi” | R |
| F4 + F5 | stimuli%20pics/familiar_4.jpg | “Sunglasses” | R |
| N4 N5 | stimuli%20pics/novel_3.jpg | “Gazzer” | L |
| F6 N6 | stimuli%20pics/familiar_2.jpgstimuli%20pics/novel_4.jpg | “Dawnoo” | R |
| F7 F8 | stimuli%20pics/familiar_6.jpgstimuli%20pics/familiar_7.jpg | “Helicopter” | R |
| N7 N8 | stimuli%20pics/novel_5.jpgstimuli%20pics/novel_6.jpg | “Toma” | L |
| F9 N9 | stimuli%20pics/novel_7.jpg | “Hiftam” | R |
| F10 F11 | stimuli%20pics/familiar_8.jpgstimuli%20pics/familiar_9.jpg | “Apple” | R |
| N10 N11 | stimuli%20pics/novel_8.jpg | “Coro” | L |
| F12 N12 | **[cow] ../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg** | “Jeeter | L |

Condition 2

|  |  |  |  |
| --- | --- | --- | --- |
| Familiar 2 +Familiar 3 | stimuli%20pics/familiar_5.jpgstimuli%20pics/familiar_3.jpg | “Brush” | L |
| Novel 2 + Novel 3 | stimuli%20pics/novel_1.jpgstimuli%20pics/novel_2.jpg | “Blicket” | L |
| Familiar 4 + Novel 4 | stimuli%20pics/novel_3.jpg | “Modi” | R |
| F5 + F6 | stimuli%20pics/familiar_4.jpgstimuli%20pics/familiar_2.jpg | “Pig” | R |
| N5 N6 | stimuli%20pics/novel_4.jpg | “Gazzer” | L |
| F7 N7 | stimuli%20pics/familiar_6.jpgstimuli%20pics/novel_5.jpg | “Dawnoo” | R |
| F8 F9 | stimuli%20pics/familiar_7.jpg | “Dinosaur” | R |
| N8 N9 | stimuli%20pics/novel_6.jpgstimuli%20pics/novel_7.jpg | “Toma” | L |
| F10 N10 | stimuli%20pics/familiar_8.jpg | “Hiftam” | R |
| F11 F12 | stimuli%20pics/familiar_9.jpg**[cow]** | “Cow” | R |
| N11 N12 | stimuli%20pics/novel_8.jpg**../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg** | “Coro” | L |
| F1 N1 | stimuli%20pics/familiar_1.jpg | “Jeeter” | L |

Condition 3

|  |  |  |  |
| --- | --- | --- | --- |
| Novel 1 + Novel 2 | stimuli%20pics/novel_1.jpg | “Blicket” | L |
| Familiar 3 + Novel 3 | stimuli%20pics/novel_2.jpgstimuli%20pics/familiar_3.jpg | “Modi” | L |
| F4 + F5 | stimuli%20pics/familiar_4.jpg | “Sunglasses” | R |
| N4 N5 | stimuli%20pics/novel_3.jpg | “Gazzer” | R |
| F6 N6 | stimuli%20pics/novel_4.jpgstimuli%20pics/familiar_2.jpg | “Dawnoo” | L |
| F7 F8 | stimuli%20pics/familiar_6.jpgstimuli%20pics/familiar_7.jpg | “Helicopter” | R |
| N7 N8 | stimuli%20pics/novel_5.jpgstimuli%20pics/novel_6.jpg | “Toma” | R |
| F9 N9 | stimuli%20pics/novel_7.jpg | “Hiftam” | L |
| F10 F11 | stimuli%20pics/familiar_8.jpgstimuli%20pics/familiar_9.jpg | “Apple” | R |
| N10 N11 | stimuli%20pics/novel_8.jpg | “Coro” | R |
| F12 N12 | **../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg[cow]** | “Jeeter” | L |
| Familiar 1 +Familiar 2 | stimuli%20pics/familiar_1.jpgstimuli%20pics/familiar_5.jpg | “Grapes” | L |

Condition 4

|  |  |  |  |
| --- | --- | --- | --- |
| Novel 2 + Novel 3 | stimuli%20pics/novel_1.jpgstimuli%20pics/novel_2.jpg | “Blicket” | L |
| Familiar 4 + Novel 4 | stimuli%20pics/novel_3.jpg | “Modi” | L |
| F5 + F6 | stimuli%20pics/familiar_4.jpgstimuli%20pics/familiar_2.jpg | “Pig” | R |
| N5 N6 | stimuli%20pics/novel_4.jpg | “Gazzer” | R |
| F7 N7 | stimuli%20pics/novel_5.jpgstimuli%20pics/familiar_6.jpg | “Dawnoo” | L |
| F8 F9 | stimuli%20pics/familiar_7.jpg | “Dinosaur” | R |
| N8 N9 | stimuli%20pics/novel_6.jpgstimuli%20pics/novel_7.jpg | “Toma” | R |
| F10 N10 | stimuli%20pics/familiar_8.jpg | “Hiftam” | L |
| F11 F12 | stimuli%20pics/familiar_9.jpg**[cow]** | “Cow” | R |
| N11 N12 | stimuli%20pics/novel_8.jpg**../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg** | “Coro” | R |
| F1 N1 | stimuli%20pics/familiar_1.jpg | “Jeeter” | L |
| Familiar 2 +Familiar 3 | stimuli%20pics/familiar_5.jpgstimuli%20pics/familiar_3.jpg | “Brush” | L |

Condition 5

|  |  |  |  |
| --- | --- | --- | --- |
| Familiar 3 + Novel 3 | stimuli%20pics/novel_2.jpgstimuli%20pics/familiar_3.jpg | “Blicket” | L |
| F4 + F5 | stimuli%20pics/familiar_4.jpg | “Sunglasses” | L |
| N4 N5 | stimuli%20pics/novel_3.jpg | “Modi” | R |
| F6 N6 | stimuli%20pics/familiar_2.jpgstimuli%20pics/novel_4.jpg | “Gazzer” | R |
| F7 F8 | stimuli%20pics/familiar_7.jpgstimuli%20pics/familiar_6.jpg | “Helicopter” | L |
| N7 N8 | stimuli%20pics/novel_5.jpgstimuli%20pics/novel_6.jpg | “Dawnoo” | R |
| F9 N9 | stimuli%20pics/novel_7.jpg | “Toma” | R |
| F10 F11 | stimuli%20pics/familiar_9.jpgstimuli%20pics/familiar_8.jpg | “Apple” | L |
| N10 N11 | stimuli%20pics/novel_8.jpg | “Hiftam” | R |
| F12 N12 | **[cow] ../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg** | “Coro” | R |
| Familiar 1 +Familiar 2 | stimuli%20pics/familiar_1.jpgstimuli%20pics/familiar_5.jpg | “Grapes” | L |
| Novel 1 + Novel 2 | stimuli%20pics/novel_1.jpg | “Jeeter” | L |

Condition 6

|  |  |  |  |
| --- | --- | --- | --- |
| Familiar 4 + Novel 4 | stimuli%20pics/novel_3.jpg | “Blicket” | L |
| F5 + F6 | stimuli%20pics/familiar_2.jpgstimuli%20pics/familiar_4.jpg | “Pig” | L |
| N5 N6 | stimuli%20pics/novel_4.jpg | “Modi” | R |
| F7 N7 | stimuli%20pics/familiar_6.jpgstimuli%20pics/novel_5.jpg | “Gazzer” | R |
| F8 F9 | stimuli%20pics/familiar_7.jpg | “Dinosaur” | L |
| N8 N9 | stimuli%20pics/novel_6.jpgstimuli%20pics/novel_7.jpg | “Dawnoo” | R |
| F10 N10 | stimuli%20pics/familiar_8.jpg | “Toma” | R |
| F11 F12 | **[cow]** stimuli%20pics/familiar_9.jpg | “Cow” | L |
| N11 N12 | stimuli%20pics/novel_8.jpg**../../Pictures/Photos%20Library.photoslibrary/Thumbnails/2016/04/10/20160410-020519/eglwVsCZRSiNQ6lDH7gKXg/thumb_IMG_3287_1024.jpg** | “Hiftam” | R |
| F1 N1 | stimuli%20pics/familiar_1.jpg | “Coro” | R |
| Familiar 2 +Familiar 3 | stimuli%20pics/familiar_5.jpgstimuli%20pics/familiar_3.jpg | “Brush” | L |
| Novel 2 + Novel 3 | stimuli%20pics/novel_1.jpgstimuli%20pics/novel_2.jpg | “Jeeter” | L |