

Scenarios 7-18

Scenario 7 - False Belief - Reality Known (from OSF)

7a. Here is Diana. This morning at school, Diana put her toy in this drawer, because she didn't want anyone to find it.

7b. But while Diana was outside, someone did find it! And moved it from inside the drawer, to inside the desk.

7c. So now it's playtime and Diana wants her toy.

Q - Where will Diana look for her toy? In the drawer, or in the desk?

Q - And where is her toy really? In the drawer, or in the desk?

Emotion Recognition Question - Look, Diana found her toy! How do you think Diana feels about finding her toy? (Happy/Angry/Sad/Scared; Correct Answer: Happy)

Scenario 8 - False Belief - Reality Known

8a. Here is Gabriel. This afternoon at school, Gabriel put his pencil in his pencil box.

8b. But while Gabriel was outside, someone used his pencil! After using Gabriel's pencil, the person put the pencil in a basket.

8c. So now it's time for class, and Gabriel wants his pencil.

Q - Where will Gabriel look for his pencil? In the box, or in the basket?

Q - And where is his pencil really? In the box, or in the basket?

Emotion Recognition Question - Look, Gabriel found his pencil! How do you think Gabriel feels about finding his pencil? (Happy/Surprised/Angry/Sad/Scared; Correct Answer: Happy)

Scenario 9 - Moral Reasoning based on false beliefs (from OSF)

9a. This morning when she came to school, Allie put her yellow pencil on this shelf, above the backpack shelf.

9b. And then she went outside to play - see? Here's Allie playing outside. And while she was outside playing, Allie's yellow pencil fell down from on top of the backpack shelf to behind the backpack shelf, see?

9c. Then Mike comes in, and Mike puts his pencil above the backpack shelf. Mike's pencil is also yellow! But Allie is still outside playing, so she didn't see what Mike was doing.

9d. Now, when Allie comes in from outside, where will she look first for her pencil: up on top of the backpack shelf, or behind the backpack shelf?

9e. Let's see what she does. Oh look, here is Allie reaching for this pencil up on top of the shelf. And now Mike sees Allie reaching for that pencil... the pencil Mike thinks is his!

Emotion Recognition Question - Look, Mike sees Allie reaching for the pencil! How do you think Mike feels about Allie reaching for that pencil? (Happy/Calm/Angry/Scared; Correct answer is Angry)

Is Allie being mean and naughty for taking Mike's pencil?

Should Allie get in trouble with the teacher for taking Mike's pencil?

Can you help Mike find his pencil? Is it on top of the shelf or behind the shelf?

Can you help Allie find her pencil? Is it on top of the shelf or behind the shelf?

Scenario 10 - Moral Reasoning based on false beliefs

10a. This afternoon when he came home, Bobby put his soccer ball on the table.

10b. And then he went outside to play - see? Here's Bobby playing outside. And while he was outside playing, Bobby's soccer ball fell off the table and onto the floor.

10c. Then Bobby's sister Anna comes in. Anna also has a soccer ball! Anna puts her soccer ball on the table. Bobby is still outside playing, so he didn't see what Anna was doing.

10d. Now, when Bobby comes in from outside, where will he look first for his soccer ball: on the table, or on the floor?

10e. Let's see what he does. Oh look, here is Bobby reaching for the soccer ball on the table. And now Anna sees Bobby reaching for that soccer ball.... The soccer ball Anna thinks is hers!

Emotion Recognition Question - Look, Anna sees Bobby reaching for the soccer ball!
How do you think Anna feels about Bobby reaching for that soccer ball?
(Happy/Calm/Angry/Scared)

Is Bobby being mean and naughty for taking Anna's soccer ball?

Should Bobby get in trouble with their mom for taking Anna's soccer ball?

Can you help Anna find her soccer ball? Is it on the table or on the floor?

Can you help Bobby find his soccer ball? Is it on the table or on the floor?

Scenario 11 - 2nd Order Theory of Mind (on OSF)

11a. This morning, Dad asked Emma what toy she would like to take to school, and Emma told him that she would like to play with her green ball at recess.

11b. Then Emma went to her room to get ready for school. While she was getting ready, she changed her mind, so she yelled to her dad, "Actually, may I please have my red ball instead?" and kept getting ready for school. But Dad did not hear Emma ask for her red ball.

Which toy does Dad think Emma wants to bring to school - her green ball or her red ball?

11c. Dad didn't hear Emma say she wants her red ball. So dad thinks Emma wants her green ball. Dad goes to pack Emma's bag, but can't find her green ball in the toy box! But dad finds a purple ball in the toy box, so he packs the purple ball for Emma instead.

11d. On the way to school, Dad tells Emma, "I'm so sorry - I couldn't pack the toy that you wanted because I couldn't find it".

Emotion Recognition - How does Emma feel about not getting the toy she wanted?
[Sad/Scared/Happy/Proud; Correct answer: Sad]

What toy does Emma want? The green ball, the red ball, or the purple ball?

What toy did Dad pack for Emma? The green ball, the red ball, or the purple ball?

Scenario 12 - 2nd Order Theory of Mind

12a. George and Kat are playing together. They look outside and see a new toy shop across the street. Kat decides to go buy some new toys at the toy shop. Kat asks George what toy he would like to have, and George says he would like a new basketball.

12b. While Kat is walking to the toy shop, George changes his mind and yells to Kat, "Actually, can I please have some crayons?" But Kat did not hear George ask for crayons.

Which toy does Kat think George wants from the toy shop - a basketball or crayons?

12c. Kat didn't hear George say that he wanted crayons. So Kat thinks George wants a basketball. Kat goes to the toy shop, but then the shop owner says that they don't have any basketballs! But they do have storybooks, so Kat buys a storybook for George instead.

12d. Kat comes back and tells George, "I'm so sorry - I couldn't buy you a basketball because the store didn't have any."

Emotion Recognition - How does George feel about not getting the toy he wanted?
[Sad/Scared/Happy/Proud; Correct answer: Sad]

What toy does George want? A basketball, storybook, or crayons?

What toy did Kat buy for George? A basketball, storybook, or crayons?

Scenario 13 - False beliefs about moral harms/deception (on OSF)

13a. Teacher Amy tells all of the kids to take one storybook from the bag that she brought - there is one storybook for every kid.

13b. Now there are two storybooks left, and Brian and Megan are the last two kids without storybooks. But when Brian goes to get his storybook, he decides to take both storybooks, even though he knows that Megan doesn't have a storybook yet, and that everyone is only supposed to have one. Brian hides the extra storybook in his desk.

13c. Teacher Amy asks Brian, "Is there a storybook leftover, so Megan can have one?" and Brian tells Teacher Amy "No, there is no storybook left - they are all being used right now."

Is Brian lying?

Is there still a storybook left, that isn't being used right now?

13d. Megan is sad that she doesn't have a storybook, and asks Teacher Amy - is there an extra storybook for me? And Teacher Amy says, "I'm so sorry Megan, but there are no storybooks left, they are all being used right now."

Is Teacher Amy lying?

Is there still a storybook left, that isn't being used right now?

Emotion Recognition Question - How does Megan feel about being the only child without a storybook - Sad, Happy, Calm, Proud? (Correct answer is sad)

Scenario 14 - False beliefs about moral harms/deception

14a. Dad tells James and Sophie to get ready for school. Dad tells them to put on their shoes.

14b. Sophie can't find one of her shoes! She's looking everywhere but she can't find it.

Emotion Recognition Question - How does Sophie feel about losing her shoe? (Happy/Sad/Angry/Proud; correct answer is Sad)

14c. Sophie can't find her shoe because earlier in the day, when no one was looking, James played a trick on Sophie and hid her shoe in the toy box.

14d. So Sophie looks everywhere and she can't find her shoe. Dad gets mad at Sophie, because she lost her shoe and now they are late for school.

Q - Is it fair that Dad is mad at Sophie for losing her shoe? Yes or no? [correct answer: no]

Q - Is Dad mad at James? Yes or no? [no]

Q - Is Sophie mad at James? Yes or no? [no]

14e. When James sees that Dad is mad at Sophie, he goes to the toy box and gets the shoe, and gives it back to Sophie.

Q - Is Dad mad at Sophie now? Yes or no? [no]

Q - Is Dad mad at James now? Yes or no? [yes]

Q - Is Sophie mad at James now? Yes or no? [yes]

14f. James tells Sophie that he's very sorry, and Sophie and Dad forgive James. They all hug.

Emotion Recognition Question - How does Sophie feel now that everyone is hugging (Happy/Angry/Surprised/Disgusted; correct answer: happy)

Scenario 15 - Interpretation

15a. This is Mark. Mark is playing a really silly game today and not saying any words all day long. Instead, Mark's drawing pictures. Mark is at the library, deciding which book he would like to read. Mom shows Mark two books - a book about cups and a book about hills.

15b. Mark draws a picture of a hill, to tell Mom that he wants to read the book about hills. But when Mark gives Mom the picture, she holds it upside-down, so that it looks like a cup!

Q - What did Mark mean to draw? A hill or a cup? [Hill]

Q - When Mom sees the picture, what book will she give Mark? The book about the hill or the book about the cup? [Cup]

Q - What book does Mark really want? The book about the hill or the book about the cup? [Hill]

Emotion Recognition Question - Look, Mom realized her mistake and gave Mark the book he really wanted! How do you think Mark feels about getting the book he wanted? (Happy/Proud/Scared/Disgusted)

Scenario 16 - Interpretation

16a. Alex, Beth, and Johnny are playing a game at the park. Here's how the game goes: One kid hides, but draws a clue in the sandbox so the other kids can find them.

16b. Johnny decides to hide behind a flower bush. So he draws a clue. Johnny means to draw a flower bush, but the drawing looks like a rock! Then Johnny goes to hide behind the flower bush.

Q - What did Johnny mean to draw? A flower bush or a rock?

Q - When Alex and Beth see this clue, where will they look first for Johnny? Behind the flower bush or behind the rock?

Q - Can you help them find where Johnny really is? Behind the flower bush or behind the rock?

[image of Alex and Beth finding Johnny]

Emotion Recognition Question - Look, Alex and Beth found Johnny, and won the game! How do you think Alex and Beth feel about winning the game?
(Proud/Disgusted/Sad/Scared)

Scenario 17 - Reference (Hard)

17a. This is Josh. And earlier today, Josh was tidying his room. Josh put his [big] basketball on his desk, his [medium-sized] soccer ball on his table, and his [small] baseball down here, on this shelf.

17b. Josh's mom just walked in and Josh asks his mom to get one of the toys. And Josh tells his mom, "I want the small ball!"

Q - Which ball will mom get for Josh? [basketball, soccer ball, baseball; correct answer is soccer ball, because mom can't see baseball]

Q - Which ball does Josh want? [basketball, soccer ball, baseball; correct answer is baseball]

17c. Emotion Recognition Question - Josh wanted the baseball but mom gave him the soccer ball! How do you think Josh feels about receiving the wrong toy?
[Sad/Scared/Happy/Proud; Correct answer is Sad]

Scenario 18 - Reference (Hard)

18a. This is Mika. Mika's mom owns a bookshop, and sometimes Mika helps out. Earlier today, Mika was organizing books on tables and shelves. Mika put a [very large] stack of blue books on the desk, a [medium-sized] stack of red books on the table, and a [small] stack of yellow books on the shelf.

18b. Mika's mom just walked in. Mom asks Mika for one of the books. Mika remembers where the book is, and tells mom, "The book is in the small stack!"

Q - Which stack of books will mom look in? [blue, red, yellow; correct answer is red because Mom does not see yellow books]

Q - Which stack of books was Mika talking about? [blue, red, yellow; correct answer is yellow]

18c. Emotion Recognition Question - Mom looks in the wrong stack of books and can't find the book that she wanted. How do you think Mom feels about not finding the book she wanted?[Sad/Scared/Happy/Proud; Correct answer is Sad]

Original booklets: <https://osf.io/g5zpv/>

Abbreviated ToM Battery

Green Questions - part of Manuel's false-belief items that hang together

Blue Questions - part of the same stories, easy to add for time

Orange Questions - reality check questions, can potentially delete

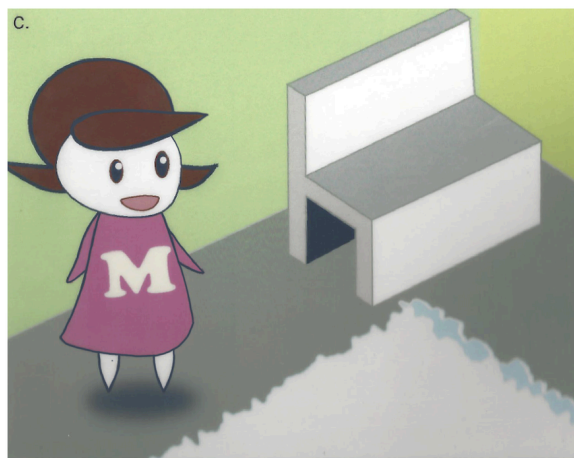
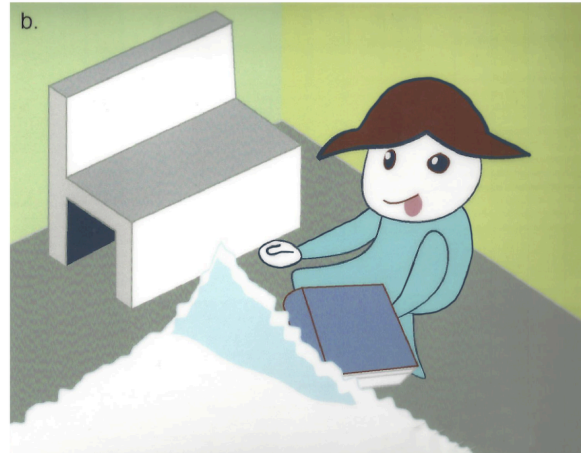
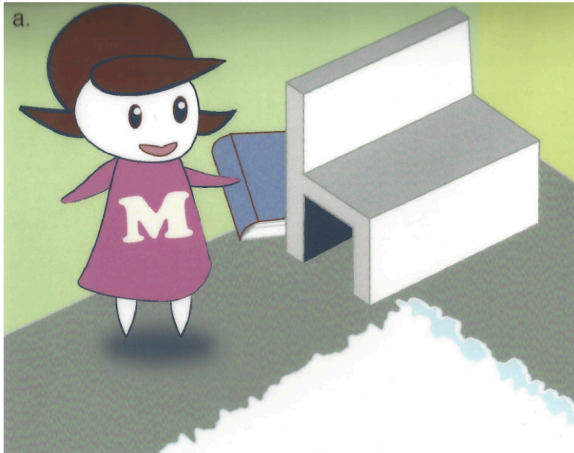
Emotion Recognition Questions

Scenario 1.

1a. Here is Madison. This morning, Madison put her book behind the chair, because she didn't want anyone to find it.

1b. But when Madison was outside playing, someone did find it! And hid it under the rug.

1c. So now it's reading time and Madison wants her book.



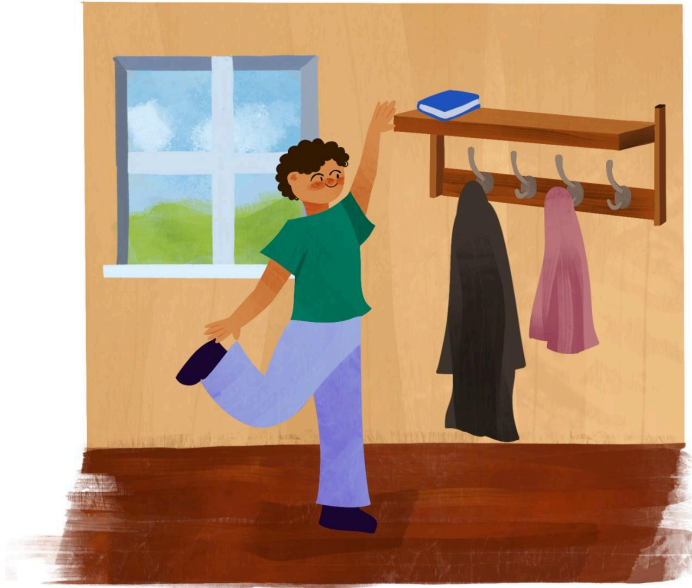
Q- Where will Madison look for her book? Behind the chair or under the rug?

Q- And where is her book really? Is it behind the chair or under the rug?

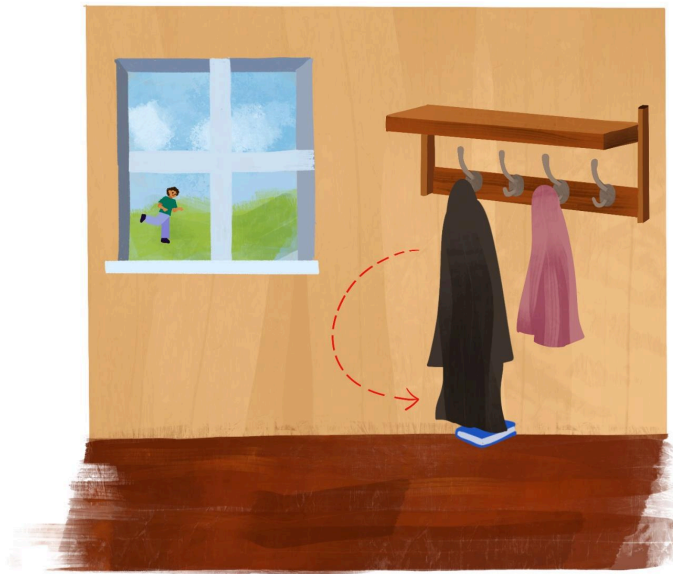
Emotion Recognition Question - Look, Madison found her book! How do you think Madison feels about finding her book? (Happy/Sad/Angry/Scared)

Scenario 2.

2a. This morning when he came to school, Ethan put his favorite book above the coat hooks. Ethan's book is blue!



2b. And then he went outside to play, see? Here's Ethan playing outside.

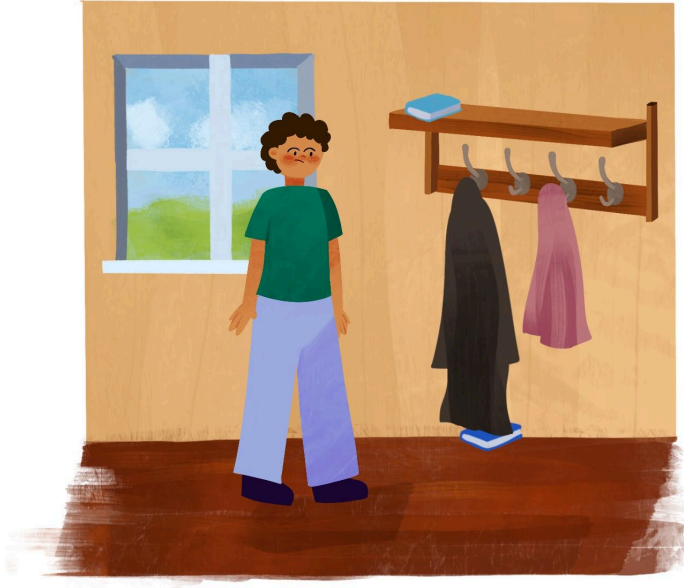


2b. And while he was outside playing, Ethan's book fell down from above the coat hooks to behind the coats, see?

2c. Then Hannah comes in and Hannah puts her book up here, above the coat hooks. Hannah's book is also blue! Ethan is still outside playing, so he didn't see what Hannah was doing.



2d. Q- Now, when Ethan comes in from outside, where will he look first for his book: up on the shelf, or behind the coats?



2e. Let's see what he does. Oh look, here is Ethan reaching for this book up on the shelf. And now Hannah sees Ethan reaching for that book.



Emotion Recognition Question - Look, Hannah sees Ethan reaching for that book [the book that actually belongs to Hannah]! How do you think Hannah feels about Ethan reaching for that book? (Happy/Calm/Angry/Scared)

Q - Is Ethan being mean and naughty for taking Hannah's book? Yes/No

Q - Should Ethan get in trouble with the teacher for taking Hannah's book? Yes/No

Q - Can you help Hannah find her book? Is it on the shelf or behind the coats?

Q - Can you help Ethan find his book? Is it on the shelf or behind the coats?

Scenario 3.

3a. Now, Joshua, Isabel, and Ivan are playing a game. Here's how the game goes: One kid hides, but draws a clue in the sandbox so the other kids can find them.

3b. So Ivan is going first. He draws this clue in the sandbox, and then he goes to hide.



Ivan hiding)

(3a - sandbox and 2 kids; 3b - inset of



3c. OK, now it's Joshua's turn to leave a clue, and hide. Isabel and Ivan will then try to use the clue to find him.



3d. Joshua decides to hide behind the drinking fountain. ~~So he draws a clue like this:~~
~~here is the bottom metal part of the fountain, and here is lots of water coming out of it.~~
He draws a clue in the sand. He tries to draw the bottom part and the water coming out of it. Joshua means to draw a fountain, but the drawing looks like a tree! Then Joshua goes to hide behind the fountain.



Q - What did Joshua mean to draw? A fountain or a tree?

**Q - When Isabel and Ivan see this clue, where will they look first for Joshua?
Behind the fountain or behind the tree?**

Q - Can you help them find where Joshua really is? Behind the fountain or behind the tree?

[image of Isabel and Ivan finding Joshua]

**Emotion Recognition Question - Look, Isabel and Ivan found Joshua, and won the game! How do you think Isabel feels about winning the game?
(Proud/Surprised/Sad/Scared)**

Scenario 4.

4a. Now the games are over, and it's almost time to go home. Mother tells the kids to find all of their toys.

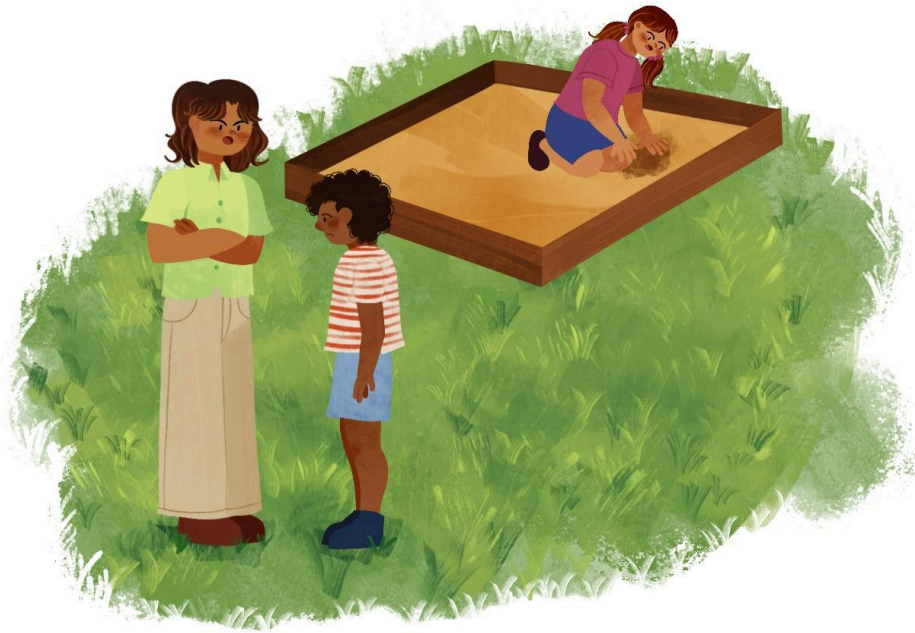


4b. Joshua brought his toy truck with him to the park, but now he can't find it. He's looking everywhere but he can't find it.



**Emotion Recognition Question - How does Joshua feel about losing his truck?
(Happy/Sad/Proud/Disgusted)**

4c. And that's because earlier in the day, when no one was looking, Isabel took the toy truck and buried it in the sandbox.



4d. So Joshua looks everywhere and he can't find his toy truck. Mother gets mad at Joshua, because he lost his truck.





Q - Is it fair that Mother is mad at Joshua for losing his truck? Yes or no?

Q - Is Mother mad at Isabel? Yes or no?

Q - Is Joshua mad at Isabel? Yes or no?

4e. When Isabel sees that Mother is mad at Joshua, she goes to the sandbox and digs up the toy truck, and gives it back to Joshua.

[4e Isabel digging up truck in sandbox while Mother talks to Joshua in the background]

Q - Is Mother mad at Joshua now? Yes or no?

Q - Is Mother mad at Isabel now? Yes or no?

Q - Is Joshua mad at Isabel now? Yes or no?

4f. Isabel tells Joshua that she's very sorry, and she gives him a big hug. Joshua gives her a big hug back, and Mother joins in.



[4f everyone hugging]

Emotion Recognition Question - How does Joshua feel now that everyone is hugging? (Happy/Sad/Surprised/Disgusted)

Scenario 5. (Reference, for difficulty)

This is Katie. And earlier today, Katie's mom was cleaning the house, while Katie watched. Mom left three cups in the kitchen.

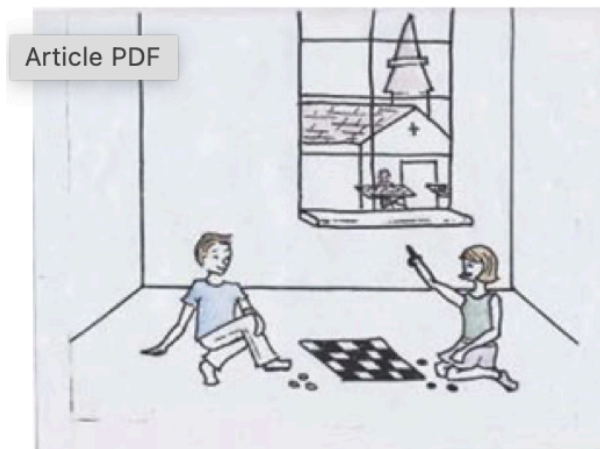
There is this small cup on the counter, this medium sized cup on this table, and this big cup down here, on this shelf. So Katie and Dad just walked in and Katie asks her dad to get her a cup. And Katie tells her Dad, "I want the big cup!"



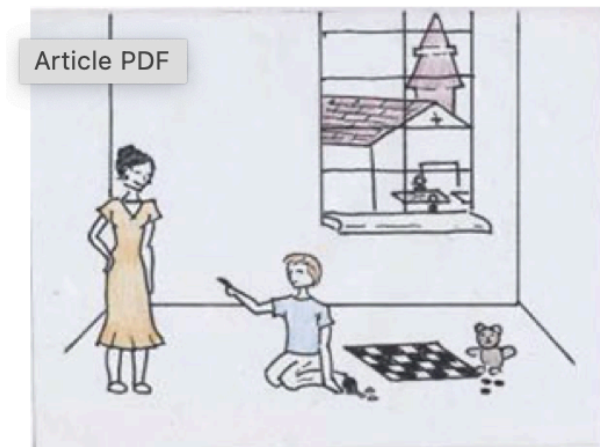
Q - Which cup will Dad give Katie?
[small cup, medium cup, large cup]
Q - Which cup does Katie want?

[Scenario 6] Second Order Theory of Mind

Sam and Maria are playing together. They look outside and see a new shop across the street. Maria tells Sam: "I am going to buy new shirts for us there," and she walks away.

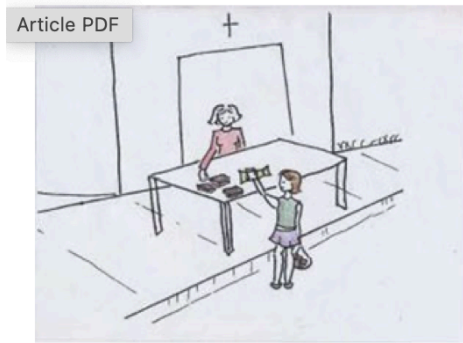


Mom comes home and she tells Sam that she just walked by the shop. “Are they selling shirts?” Sam asks. “No,” mom says, “They are only selling shoes”. “Maria will probably now get shoes at the shop,” Sam says.



Q - Does Maria know that they are selling shoes in the shop?

Maria has arrived at the shop. “I would like to buy shirts,” she says. “All we have left are socks,” says the shopkeeper. Since Maria also needs socks, she decides to get some socks.

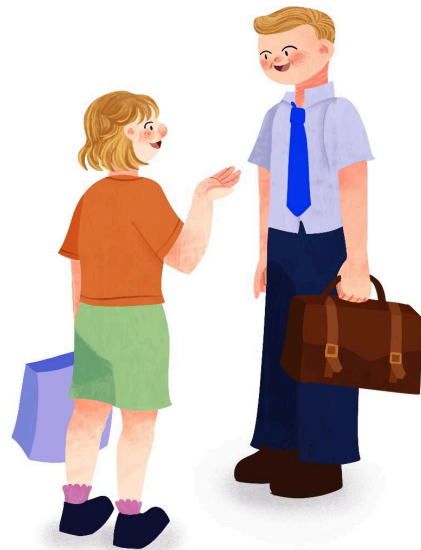


Q - Does Sam know that Maria bought some socks?

Q - What does Sam think they are selling at the shop?

On her way back, Maria meets her dad. She tells her dad: "I have just bought some socks. I am going to share them with my brother Sam. It is a surprise."

"That is nice of you," says dad. Then he asks Maria: "Does Sam know what you bought him?"



Q - What does Maria tell dad? (yes/no)

Then dad asks: "What does Sam think they are selling at the shop?"

Q - What does Maria tell dad? (Socks/shirts/shoes)

Q - What does Sam think they are selling at the shop? (Socks/shirts/shoes)

Hostile Attribution Vignettes

Vignette 1

[image1: zoomed in view of shoes walking to school] Imagine that you are walking to school and you're wearing your new shoes. You really like your new shoes and this is the first day you have worn them.

[image2: muddy shoes in puddle?] Suddenly, you are bumped from behind by a boy. You stumble and fall into a mud puddle and your new shoes get muddy.

Q1a. Do you think that the boy bumped you on purpose or by accident?

Q1e. Now pick one of the three choices as the one you would do:

[1] clean up my shoes

[2] walk away from the boy

[3] push the boy in the mud

Vignette 2

[image1] Imagine that you are on the playground. You and some other kids are having a race. A boy is standing on the side, bouncing a basketball.

[image2] The next thing you know is that the boy has bounced the ball and it has rolled under your feet, making you fall. You skin your knee and someone else wins the race.

Q2a. Do you think that the boy made you fall on purpose or by accident?

Q2e. Now pick one of the three choices as the one you would do:

[1] go to another area of the playground

[2] say something mean to him

[3] take care of my knee

Vignette 3

[image1] Imagine that you are working on an assignment at your desk.

[image2] You go to sharpen your pencil, and as you walk back to your desk there is a boy walking just in front of you. The boy passes your desk before you get there.

[image3] The next thing you know, the boy has knocked all of your papers off of your desk, and they are all over the floor.

Q3a. Do you think the boy knocked your papers onto the floor on purpose or by accident?

Q3e. Now pick one of the three choices as the one you would do:

[1] call him a name

[2] pick up the papers

[3] do nothing.

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