

## Attachment 24

### Pattern Comparison

**Name of test:** Pattern Comparison

**Estimated time burden:** 2½ minutes

**Estimated number of items:** Up to 6 practice items, then as many as possible in 90 seconds (up to 130)

Materials:

Laptop & mouse

Monitor & response device

Ball (for children to hold in non-dominant hand)

Description:

This task is designed to measure processing speed; the test itself takes only 90 seconds to administer and requires participants to discern whether two side-by-side pictures are the same or not. Children make this decision by choosing either a smiley face that corresponds with a "yes" response or a frowny face that corresponds with a "no" response. Adults make this decision with "yes" or "no" buttons on the screen. Responses are automatically recorded by the computer.

Before the test, younger children are administered 2 demonstration items and 5 practice items; older children and adult participants are administered 6 practice items. All participants use the response device to make their choice. Practice items are not timed.

During the practice items only, a recorded computer voice will follow each item presentation.

If the item is correct, the computer will say: "Great job!" or "That's right."

If the item is incorrect, the computer will say: "Let's try again" and the item will appear again.

Prompts: Some children and adults need reminders to stay on task. Although the examiner may give prompts, less is better as this is a timed task and each prompt should be succinct (examples: "**look at the screen,**" "**is this the same,**" "**is this the same, yes or no,**" "**remember to choose a button,**" "**remember the smiley means yes and the frown means no,**" "**remember to choose as quickly as you can**").

Handedness: All participants will be asked to use the index finger of their dominant hand with the response device.

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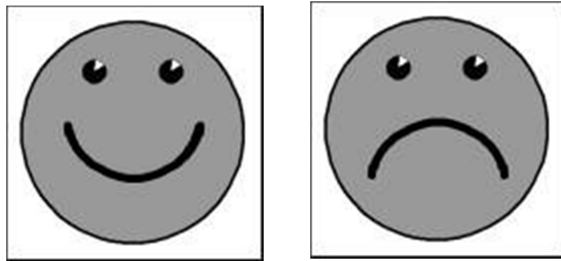
Public reporting burden for this collection of information is estimated to average 2 1/2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: NIH, Project Clearance Branch, 6705 Rockledge Drive, MSC 7974, Bethesda, MD 20892-7974, ATTN: PRA (0925-xxxx\*) EXP: (xx/xxxx). Do not return the completed form to this address.

*Administration Instructions, Ages 3–7:*

Say: “**I would like you to use the pointer (index) finger** (show the child the appropriate finger) **on this (dominant) hand to answer. If you want you can hold this ball in your other (non-dominant) hand so that you don’t get mixed up.**”

Once it is clear the child knows which finger to use, the examiner should click on the **Start Test** button and proceed with the following screen before the practice items for the young children:

Say: “**Let’s look at these two faces. One of them is a SMILEY face and the other is a FROWN face.** (Examiner should point to the pictures as he/she mentions them.)”



Say: “**Now I am going to show you some more pictures. On each screen, there will be two pictures. Sometimes the pictures look alike or the same, and sometimes the pictures do not look alike and are NOT the same. When the pictures look alike or the same, you should choose the SMILEY face** (examiner demonstrates with the response device how to choose). **When they do NOT look alike or the same, you should choose the FROWN face** (examiner demonstrates with the response device how to choose).”

When the examiner sees that the child understands the two faces, the examiner should say: “**Let’s choose the SMILEY face and then look at some pictures together.**” Again, the examiner should demonstrate how to use the response device.

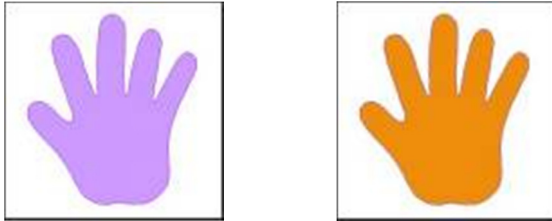
*Ages 3-7 Demonstration Item 1:*



Say: “**Look at the boxes on the screen** (point to both boxes); **in them are two pictures – this picture** (point to box on left) **and this picture** (point to box on right). **These two pictures look alike or the same, so we’ll choose the SMILEY face. Let’s choose the SMILEY face together.**” Examiner should demonstrate how to use the response device.

The computer says: "**Great job!**" The next item will appear.

Ages 3-7 Demonstration Item 2:



Say: "**Look at these pictures here** (point to both boxes). **This picture** (point to box on left) **and this picture** (point to box on right) **do NOT look alike or the same. This picture** (point to box on left) **is purple but this picture** (point to box on right) **is orange. This means the pictures are NOT alike, not the same. So we'll choose the FROWN face. Let's choose the FROWN face together.**" Examiner should demonstrate how to use the response device.

The computer says: "**Great job!**" The next item will appear.

Say: "**Now you do some to practice. Your job is to choose the SMILEY face if the pictures look alike or are the same and to choose the FROWN face if the pictures do not look alike or are not the same.**"

Ages 3-7 Practice Item 1:



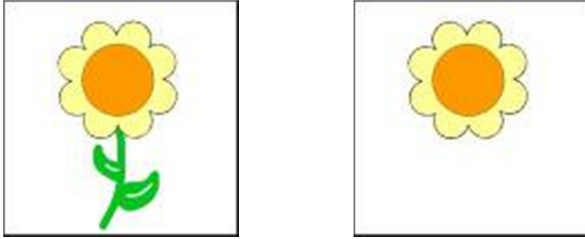
Say: "**Are these the same? Remember, choose the SMILEY face if they look alike or are the same and chose the FROWN face if they do not look alike or are NOT the same.**" (The examiner can discontinue asking the question or prompting when the child understands the instructions.)

If correct (**SMILEY face**), the computer says: "**Great job!**" The next item will appear.

If incorrect (**FROWN face**), the computer says: "**Let's try again. The pictures look alike, the same. Both pictures are flowers that are the same size and color, so choose the SMILEY face.**" The **SMILEY face** will flash and the item will stay on the screen. Once the child has chosen the **SMILEY** face, the computer will say: "**Great job,**" and the next item will appear.

If the child does not choose the **SMILEY face** on the second try, the examiner should choose it for him/her and say: **"This is the SMILEY face."**

Ages 3-7 Practice Item 2:



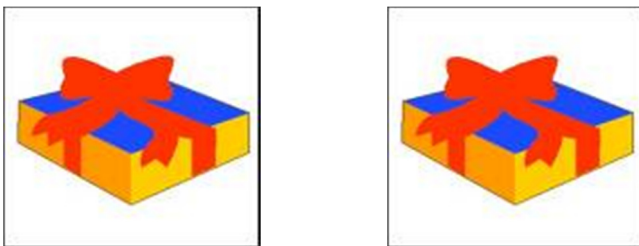
Say: **"Are these the same? Choose the SMILEY face if they look alike or are the same and choose the FROWN face if they do not look alike and are NOT the same."**  
(The examiner can discontinue asking the question or prompting when the child understands the instructions.)

If correct (**FROWN face**), the computer says: **"Great job!"** The next item will appear.

If incorrect (**SMILEY face**), the computer says: **"Let's try again. These pictures do not look alike and are NOT the same. One picture (point to box on left) is a flower with a stem and one picture (point to box on right) is only the top of a flower, with no stem. Choose the FROWN face."** The **FROWN face** will flash and the item will stay on the screen. Once the child has chosen the **FROWN face**, the computer will say: **"Great job,"** and the next item will appear.

If the child does not choose the **FROWN face** on the second try, the examiner should choose it for him/her and say: **"This is the FROWN face."**

Ages 3-7 Practice Item 3:



Say: **"Are these the same? Choose the SMILEY face if they look alike and are the same and choose the FROWN face if they do not look alike and are NOT the same."**  
(The examiner can discontinue the prompts and questions when the child understands the instructions.)

If correct (**SMILEY face**), the computer says: **"Great job!"** The next item will appear.

If incorrect (**FROWN face**), the computer says: **"Let's try again. These pictures look alike, the same. Both are pictures of a present or gift box, so choose the SMILEY face."** The **SMILEY face** will flash and the item will stay on the screen. Once the child

has chosen the **SMILEY face**, the computer will say: “Great job,” and the next item will appear.

If the child does not choose the **SMILEY face** on the second try, the examiner should choose it for him/her and say: “This is the **SMILEY face**.”

Ages 3-7 Practice Item 4:



Say: “Are these the same? Choose the **SMILEY face** if they look alike or are the same and choose the **FROWN face** if they do not look alike or are NOT the same.” (The examiner can discontinue the prompts and questions when the child understands the instructions.)

If correct (**FROWN face**), the computer says: “Great job!” The next item will appear.

If incorrect (**SMILEY face**), the computer says: “Let’s try again. These pictures do not look alike and are NOT the same. One flower is purple and the other flower is red; so choose the **FROWN face**.” The **FROWN face** will flash and the item will stay on the screen. Once child has chosen the **FROWN face**, the computer will say: “Great job” and the next item will appear.

If the child does not choose the **FROWN face** on the second try, the examiner should choose it for him/her and say: “This is the **FROWN face**.”

Ages 3-7 Practice Item 5:



Say: “Are these the same? Choose the **SMILEY face** if they look alike and are the same and choose the **FROWN face** if they do not look alike or are not the same.” (The examiner can discontinue the prompts and questions when the child understands the instructions.)

If correct (**SMILEY face**), the computer says: **“Great job!”** The practice items are complete and the next screen will come up.

If incorrect (**FROWN face**), the computer says: **“Let’s try again. These pictures look alike. Both are pictures of red flowers, so choose the SMILEY face.”** The **SMILEY face** will flash and the item will stay on the screen. Once the child has chosen the **SMILEY face**, the computer will say: **“Great job!”** and the practice items are complete.

If the child does not choose the **SMILEY face** on the second try, the examiner should choose it for him/her and say: **“This is the SMILEY face.”**

**NOTE: If the child has not correctly chosen the SMILEY or FROWN face in two trials on any of the 5 practice items, discontinue testing. Click END TEST and write an explanatory comment. The computer will move on to the next test to be administered.**

Before the examiner clicks on the **Continue** button, say: **“Now we’ll do some more. Remember, choose the SMILEY face if the pictures look alike or are the same and choose the FROWN face if the pictures do not look alike and are NOT the same. Make a choice as quickly as you can.”**

When 90 seconds of testing time has elapsed, the test will end (if a child is working on an item when time is up, he/she will be permitted to complete it).

*Administration Instructions, Ages 8–85:*

Say: “I am going to show you some pictures. On each screen there are two pictures. Sometimes the two pictures are the same, and sometimes the two pictures are NOT the same. If the pictures look the same, choose the YES button. If they do NOT look the same, choose the NO button. If you make a mistake during the practice, you will hear a message to try again. I would like you to use your RIGHT/LEFT (dominant hand) index finger (show the participant the appropriate finger) to respond.” If a child or adult is having trouble using only one hand, the examiner may give them a ball to hold in their non-dominant hand during the task.

Say: **“Let’s begin our practice.”**

Ages 8-85 Practice Item 1:



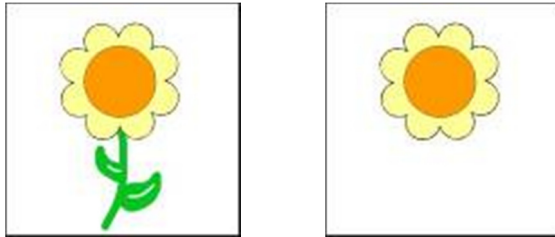
Say: **“Are these the same?”**

If correct (**YES**), the computer says: **“That’s right!”** The next item will appear.

If incorrect (**NO**), the computer says: **“Let’s try again. These pictures look alike or are the same; both pictures are flowers, so choose YES.”** The **YES** button will flash and the item will stay on the screen. Once the participant has chosen the **YES** button, the computer says, **“That’s right!”** and the next item will appear.

If the participant does not choose the **YES** button on the second try, the examiner should choose it for him/her and say: **“This is the YES button.”**

Ages 8-85 Practice Item 2:



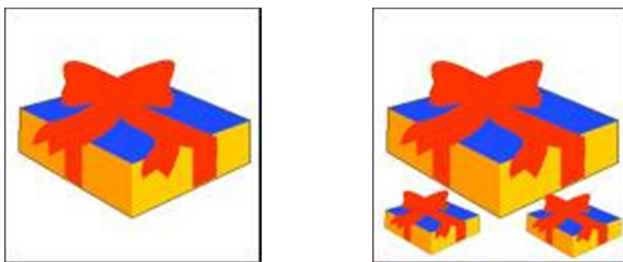
Say: **“Are these the same?”** (The examiner can discontinue the prompts when the participant understands the instructions.)

If correct answer (**NO**), the computer says: **“That’s right!”** and the next item will appear.

If incorrect (**YES**), the computer says: **“Let’s try again. These pictures do not look alike and are not the same; one picture (point to box on left) is a flower with a stem. The other picture (point to box on right) is the top of a flower, with no stem. They are **NOT** the same; choose NO.”** The **NO** button will flash and the item will stay on the screen. Once the participant has chosen the **NO** button, the computer says, **“That’s right!”** and the next item will appear.

If the participant does not choose the **NO** button on the second try, the examiner should choose it for him/her and say: **“This is the NO button.”**

Ages 8-85 Practice Item 3:



Say: **“Are these the same?”** (The examiner can discontinue the prompts when the participant understands the instructions.)

If correct answer (**NO**), the computer says: **“That’s right!”** The next item will appear.

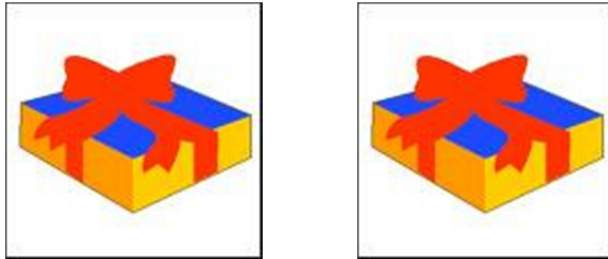
If incorrect (**YES**), the computer says: **“Let’s try again. These pictures do not look alike, are **NOT** the same. One (point to box on left) is a picture of one present and the other (point to box on right) is a picture of many presents. They are **NOT** the**



**same, so choose NO.”** The NO button will flash and the item stay on the screen. Once the participant has chosen the NO button, the computer says, “That’s right!” and the next item will appear.

If the participant does not choose the NO button on the second try, the examiner should choose it for him/her and say: “This is the NO button.”

Ages 8-85 Practice Item 4:



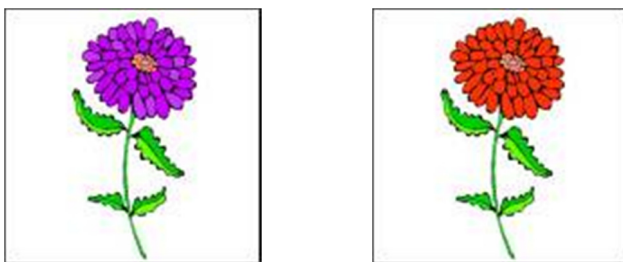
Say: “Are these the same?” (The examiner can discontinue the prompts when the participant understands the instructions.)

If correct (YES), the computer says: “That’s right!” The next item will appear.

If incorrect (NO), the computer says: “Let’s try again. These pictures are the same; both are pictures of one present, so choose YES.” The YES button will flash and the item will stay on the screen. Once the participant has chosen the YES button, the computer says, “That’s right!” and the next item will appear.

If the participant does not choose the YES button on the second try, the examiner should choose it for him/her and say: “This is the YES button.”

Ages 8-85 Practice Item 5:



Say: “Are these the same?” (The examiner can discontinue the prompts when the participant understands the instructions.)

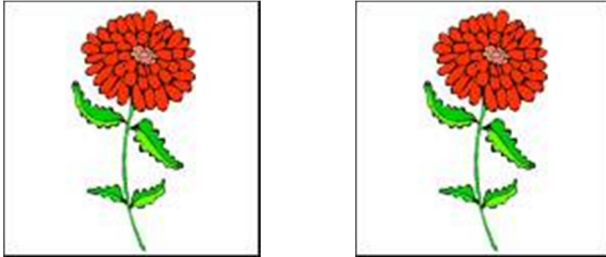
If correct answer (NO), the computer says: “That’s right!” The next item will appear.

If incorrect (YES), the computer says: “Let’s try again. These pictures are NOT the same; one (point to box on left) is a picture of a purple flower. The other (point to box on right) is a picture of a red flower. They are NOT the same, so choose NO.” The NO button will flash and the item will stay on the screen. Once the participant

has chosen the **NO** button, the computer says, “That’s right!” and the next item will appear.

If the participant does not choose the **NO** button on the second try, the examiner should choose it for him/her and say: “This is the **NO** button.”

Ages 8-85 Practice Item 6:



Say: “Are these the same?” (The examiner can discontinue the prompts when the participant understands the instructions.)

If correct (**YES**), the computer says: “That’s right!” The practice items are complete and the next screen will appear.

If incorrect (**NO**), the computer says: “Let’s try again. These pictures look alike and are the same; both are pictures of red flowers, so choose **YES**.” The **YES** button will flash and the item will stay on the screen. Once the participant has chosen the **YES** button, the computer says, “That’s right!” and the practice items are complete.

If the participant does not choose the **YES** button on the second try, the examiner should choose it for him/her and say: “This is the **YES** button.”

**NOTE: If the participant has not correctly chosen the YES or NO button in 2 trials on any of the 6 practice items, discontinue testing. Click END TEST and write an explanatory comment. The computer will move on to the next test to be administered.**

Before clicking on the **Continue** button, the examiner says: “Now we’ll do some more. Remember, use your right/left (dominant hand) index finger to respond. Choose **YES** if the pictures look the same and choose **NO** if they do NOT look the same. It is important that you choose as quickly as you can.”

Click on the **Continue** button and, if necessary, give prompts.

When 90 seconds of testing time has elapsed, the test will end (if a participant is working on an item when time is up, he/she will be permitted to complete it).