# *Contingency Naming Test*

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## CNT Stimulus Card

The stimulus card for the four task trials is a single laminated sheet of white paper with three rows of nine designs colored blue, green or pink. Each design has a larger external and smaller internal shape (circle, square, triangle). Three designs on each row have an arrow over them that point right to left. The sequence of shapes and colors is fixed across administrations. A single row of nine designs, used for practice trials, appears on the reverse side of the stimulus card.

**Note**: For the purposes of standardization, it is **essential** that these colors be true. For example, the pink should not be purple or red. If the colors of the stimuli are not accurate, please contact the Neuropsychology Subcommittee representative for a more appropriate stimulus card.

## Administration Instructions

***Overview***

Because the CNT involved both teaching and testing of naming rules, it can be somewhat complicated to learn. The instructions below are highly detailed to avoid uncertainties in administration. Keep in mind, however, that the task is not difficult to administer once the specific steps are mastered. The procedures for each subtest are similar with minor variations as described in the instructions. Each subtest involves a practice trial in which the stimulus sheet comprised of a single row of 9 colored shapes is presented to the child, followed by a test trial in which the stimulus sheet is turned over and the child presented with 3 rows of 9 colored shapes each.

The procedures for administering each **practice trial** include the following steps:

1. The examiner states the naming rule.

2. The examiner illustrates the rule by pointing to and providing the name for the first instance of each name (e.g., in Subtest 1, the first three colors in left to right order from the child's perspective, or in Subtest 2 the first three different shapes--in this case the first, second, and fourth designs in the row).

3. The examiner points again to each illustration, asks the child to name the design, and corrects the child if the child forgets the name or gives the wrong name. (Note that the re-pointing to designs with corrections provided if the child cannot supply the correct answer is referred to as the "instructional" component of the task in the instructions.)

4. The examiner has the child point to and name each design in the practice row according to the naming rule (from left to right, child's perspective). The examiner marks the score sheet to indicate uncorrected errors and self-corrections (correct responses not marked), but does not time or interrupt the child with corrections while the child is doing this. The details of scoring are described in the instructions and a sample score sheet is provided for purposes of illustration.

5. If the child makes no uncorrected errors, the examiner turns over the stimulus sheet to the test side and administers the test trial for that subtest. However, if the child has made one or more uncorrected errors, the examiner then points to each design (in left to right order, child's perspective) for which the child provided an incorrect name and asks the child to name that design again. (The examiner does not ask the child to name the designs that were correctly named or for which the child made a self-correction). As in step (3) above, if the child does not correctly name the design, the examiner provides it for the child (and in Subtests 3 and 4 reminds the child of the rule prior to providing the correct name).

6. If the child has made at least one uncorrected error the first time through the practice row, the procedure of having the child name the practice row and correcting the child's error(s) as in step (5) above is repeated. So long as the child makes at least one uncorrected error, this process continues to a maximum of 5 practice tries. Once the child is able to name all the designs in the practice row without making an uncorrected error, the examiner turns over the stimulus sheet to the test side and administers the test trial for that subtest. If the child is still making one or more uncorrected errors the fifth time through the practice row, the examiner again corrects the child's error(s) but then turns the stimulus sheet over to the test side and administers the test trial.

The procedures for administering each test trial include the following steps:

1. The child is given the basic directions for pointing to and naming each design in sequence.

2. The examiner starts a stopwatch after saying "Ready, go" and records the child's errors and self-corrections. No corrections or further instructions are provided by the examiner during the test trial, except as needed to remind the child to point to each design or to bring the child back to the next design in the sequence if the child skips a design or row or starts naming the designs without pointing.

3. The examiner stops the stopwatch as soon as the child has named the last design, and then turns over the stimulus sheet to the practice row and begins instructions for the practice trial of the next subtest.

**Subtest 1**

**Practice trial.** Place the practice side of the stimulus card (the one with the single row of designs) in front of the child. Say:"***This is a naming test. In this test I'm going to ask you to name some colors and shapes. The first rule I want you to learn is to name the colors."*** Point to the first instances of each color (from left to right) and say, ***"We'll call this color green, this color pink, and this color blue."*** Then point again to each color in that same order, asking the child, "***what's this?***" as you point to each color. Correct the child immediately if the child misnames the color during this "instructional" component of the practice trial (note that the same immediate corrections are made during the "instructional" components of the practice trials for each subtest).

Then say, *"**For practice, name the things in this row using the rule you just learned. Point with your finger to keep your place. Start from this side and move across this way, from left to right.**"*

Record errors and self-corrections (note that self-corrections are errors that the child spontaneously corrects). Errors are recorded by drawing a line through the letter signifying the correct response on the response sheet, and self-corrections by circling the letter signifying the correct response on the response sheet. When the child makes an error and then hesitates before a self-correction, the correct response will have a line drawn through it (indicating the initial error) and then a circle around it (indicating the self-correction). In this case, the circle supersedes the line in scoring (i.e., it counts only as a self-correction, not an error). When the child correctly names a stimulus but then spontaneously misnames it, or when the child misnames the stimulus, self-corrects, and then misnames it again (although rare occurrences), the last name that the child applies is the one that is scored (i.e., an error in these instances). A self-correction is any response for which the child has supplied an incorrect name, or even part of an incorrect name. For example, if the child says "peh" as if to start to say "pink" but then correctly says "blue," this is still a self-correction. Similarly, saying "cir" counts as an attempt to say circle, and starting to say "square" without saying the full word also counts. The only time a partially spoken word does not count as a response is if too little of the word was spoken to allow a reasonable guess as to which word was intended (e.g., if the child made an "s" sound, the word could either be square or circle, hence this would not count as a response). This scoring rule sounds more complicated than it needs to be, but was employed in an effort to measure impulsive tendencies.

If the child does not remember to point to each design while naming it, remind the child to do so. Some coaching on the "pointing" rule may be needed initially to establish this response set. In reminding the child to point, just say "***Remember to point to each one to keep your place.***" Repeat this direction as often as needed until the child begins to point reliably, and reintroduce this instruction at any point in the practice of test trials if the child stops pointing (pointing is fundamental to the task and insures that the child is not skipping any designs and that the examiner knows which design is being named).

After the child names all of the practice designs in left to right order, point to the designs on which uncorrected errors were made (in left to right order) and ask the child to name them again by saying "**what's this?**" as you point to each design. If the child does not provide the correct response, immediately name the design for the child (e.g., "***this is pink,***" or "***this is a square***"). Note that this "instructional" feedback is given only after the child has named all the designs in the row, and that the child's responses to feedback are not recorded. Also be sure not stop the child or provide any feedback while the child is naming the row and you are recording their responses (think of the naming as "practice" as opposed to "instructional" feedback).

If the child has made no uncorrected errors, the test trial is then administered (i.e., even if self-corrections were made). If the child has made one or more uncorrected errors, point to each misnamed design (in left to right order) and ask the child to name it by saying "***What's this?***" Immediately correct any naming errors as you review the designs on which uncorrected errors were made (again, this follows the principle of immediate correction during "instructional" components of the task). Then say: "***Let's name the things in this row again.***" Remind the child as needed to "***start from this side and move across this way***"

(pointing to direct the child), and to "***point with your finger to keep your place***" to orient the child to these task demands.

Continue readministering the practice row until the child is able to complete it without making an uncorrected error, up to a maximum of 5 trials. If 5 trials have been administered without the child having met the criteria of no uncorrected errors, go on to the test trial (the reason for this is that continued attempts to review after this many trials can become excessively frustrating).

For all subtests, circle the number by each practice trial just before you administer it so that you can keep track of which practice trial is being scored. This helps avoid scoring the wrong row on the response sheet (which can happen as you are watching the child while scoring). The highest number circled also serves as the "trials to criterion" measure for that practice trial.

**Test trial.** Turn the stimulus card over to the test side (the one with three rows of 9 designs) and say: *"**Now using the rule you just learned, I want you to name the things on this card. Start with the top row, then the middle, and then the bottom moving across this way, from left to right as you go.**"* Point to each row and to the direction in which the designs are to be named as you give this direction. "***Go as quickly as you can without making mistakes. Remember to use your finger to keep your place. Ready, go.***" Record the time taken, errors, and self-corrections. Note that no feedback is provided to the child on test trials.

On this trial and all subsequent practice and test trials, make sure to require that the child point to each design while naming it. If the child fails to point, repeat the direction to "***remember to point with your finger to keep your place,***" but keep the timer running while giving this reminder. To insure correct scoring, the child has to point to each design named. For this reason, if the child has named one or more designs without pointing, have the child begin naming the designs at the point where pointing was discontinued and say "***start again from here and keep going.***" Use this same procedure if the child skips designs or rows. Keep the timer running in these instances. The only instances in which to restart test trial after beginning it is when the examiner is unable to determine where to restart child or when there is a temporary disruption (e.g., due to knock on door or another person entering room, lights going out, child having a long coughing episode or disengaging from task).

The task is discontinued if the child is unable to follow basic task demands despite multiple reminders and practice trials. One example would include the inability of the child to point at the designs while naming them, despite multiple reminders and practice. Another example would be the child who is unable to learn the names for the colors and shapes (e.g., even after the practice trials, consistently calls the "square" a "box," or can't retrieve the names for certain colors or shapes). The task is also discontinued if it the child is becoming emotionally upset. This is uncommon but can occur in children who have great difficulty learning the more complex naming rules used in Subtests 3 and 4 and who do not cope well with the accompanying frustration. If the test is discontinued, be sure to record the reasons for this.

**Subtest 2**

**Practice trial.** Turn the stimulus card to the practice side and say, *"**The next rule for you to learn is to name the shapes, the heavy outside ones.**"* Point to the first three instances of each different outside shape (i.e., the first, second, and fourth designs) and say, *"**We will call this one a circle, this one a triangle, and this one a square.**"* Then ask the child to name the

three shapes (in that same order) by saying "**W*hat's this?***" as you point to each of the designs. Provide immediate "instructional" feedback as you did in the practice trial of Subtest 1.

Then say, "***For practice, name the things in this row using the rule you just learned. Point with your finger to keep your place. Start from this side and move across this way from left to right."*** Follow the same procedures for administration and scoring as employed in the practice trial of Subtest 1.

**Test trial.** Turn the stimulus card to the test side and say: ***"Now using the rule you just learned, I want you to name the things on this card. Start with the top row, then the middle, and then the bottom moving across this way, from left to right as you go."*** Point to each row and to the direction in which the designs are to be named as you give this direction. "***Go as quickly as you can without making mistakes. Remember to use your finger to keep your place. Ready, go."*** The instruction to point with the finger, and to go from left to right across the top, middle, and bottom rows, can be continued on this and subsequent practice and test trials, or phased out if reminding is not necessary. Record the time taken, errors, and self-corrections.

**Subtest 3**

**Practice trial.** Turn the stimulus card to the practice side and say, ***"Now I'd like to teach you a trickier rule. To learn this rule you'll have to pay attention to the little shapes inside the bigger ones."*** Point to some of the internal shapes. "***The rule goes like this, when the inside shape matches the outside shape, you say the color."*** Point to the first design and say, "***These two shapes match so you'd call this green. When the inside shape doesn't match the outside shape, you say the shape, the heavy, outside one."*** Point to the second design and say, ***"These two shapes don't match so you'd call this a triangle."*** Then ask the child to name the first two designs (in order) by saying "***What's this?***" as you point to each of the designs. Provide immediate "instructional" feedback as you did in the practice trial of Subtest 1. In providing feedback for incorrect responses on this subtest, repeat the rule and then give the correct response (rather than simply providing the correct color or shape as in Subtests 1 and 2). For example, if the child calls the first design a circle, say: "***Remember that when the inside shape matches the outside shape, you say the color, so you'd call this one green.***" For designs for which the child incorrectly provided a color name, say: "***Remember that when the inside shape doesn't match the outside shape, you say the outside shape, so you'd call this one …***"

Then say: "***For practice, name the things in this row using the rule you just learned. Point with your finger to keep your place. Start from this side and move across this way from left to right."*** Follow the same procedures for administration and scoring as employed in the practice trial of Subtest 1. The only difference is that the rule for naming the designs is restated before providing the correct name as part of "instructional" feedback, as illustrated in the above paragraph.

**Test trial.** Turn the stimulus card to the test side and say: ***"Now using the rule you just learned, I want you to name the things on this card. Start with the top row, then the middle, and then the bottom moving across this way, from left to right as you go."*** Point to each row and to the direction in which the designs are to be named as you give this direction. "***Try to go quickly without making mistakes, but if you have to slow down so as to not make mistakes, it's better to do it that way. Remember to use your finger to keep your place.***

***Ready, go."*** Again, the instruction to point with the finger, and to go from left to right across the top, middle, and bottom rows, can be phased out at this point if not earlier if reminding is no longer necessary. Record the time taken, errors, and self-corrections.

**Subtest 4**

**Practice trial.** Turn the stimulus card to the practice side and say, ***"The rules get more difficult as you go along but that makes the test more interesting. This time you'll use the same rule you just learned to name everything except for the ones with backwards arrows over them. When you see a backwards arrow, that means to do it the backwards way. To do it the backwards way, you name the color instead of the shape or the shape instead of the color. That's really tricky so let me show you what I mean."*** Demonstrate the rule for three designs with arrows over them (in order from left to right) as follows:

Point to the first design in the row (leftmost one from child's perspective) with an arrow over it, cover the arrow with a finger, and say, ***"If the backwards arrow wasn't here you would call this a triangle, because the shapes don't match."*** Remove the finger and show the arrow. ***"But the backwards arrow is here, and to do it the backwards way you say the color pink instead."***

Point to the second design in the row with an arrow over it, cover the arrow with a finger, and say, ***"If the backwards arrow wasn't here you would call this pink, because the shapes match."*** Remove the finger and show the arrow. ***"But the backwards arrow is here, and to do it the backwards way you say the shape square instead."***

Point to the third design in the row with an arrow over it, cover the arrow with a finger, and say, ***"If the backwards arrow wasn't here you would call this a circle, because the shapes don't match."*** Remove the finger and show the arrow. ***"But the backwards arrow is here, and to do it the backwards way you say the color pink instead."***

Then ask the child to name these three designs (again in left to right order) by saying "***What's this?***" as you point to each of the designs. Provide immediate "instructional" feedback as you did in the practice trial of Subtest 1. In providing feedback for incorrect responses on this subtest (as on Subtest 3), repeat the rule and then give the correct response. For example, if the child calls the first design a triangle, say: "***Remember that if the backwards arrow wasn't here you would call this a triangle, because the shapes don't match, but the backwards arrow is here, and to do it the backwards way you say the color pink instead."***

Then say: "***For practice, name the things in this row using the rule you just learned. Point with your finger to keep your place. Start from this side and move across this way from left to right."*** Follow the same procedures for administration and scoring as employed in the practice trial of Subtest 1. The only difference is that the rule for naming the designs is restated before providing the correct name as part of "instructional" feedback, as illustrated in the above paragraph.

**Test trial.** Turn the stimulus card to the test side and say: "***Now using the rule you just learned, I want you to name the things on this card. Start with the top row, then the middle, and then the bottom moving across this way, from left to right as you go.***" Point to each row and to the direction in which the designs are to be named as you give this direction. "***Try to go quickly without making mistakes, but if you have to slow down so as to not make mistakes, it's better to do it that way. Remember to use your finger to keep your place.***

***Ready, go.***" Again, the instruction to point with the finger, and to go from left to right across the top, middle, and bottom rows, can be phased out at this point if not earlier if reminding is no longer necessary. Record the time taken, errors, and self-corrections.

## Scoring

Performance on the CNT is judged according to speed and accuracy.

1. *Failed to complete* refers to administrations in which children are unable to begin or finish a trial. For example, a trial may be abandoned when the child is unable to understand the instructions, or when the child becomes upset, or does not seem to know how to continue.

2. *Errors* occur when a wrong response is provided and left uncorrected. The total number of errors is recorded for each trial and summed across trials (total errors).

3. *Self-corrections* refer to responses that are initially incorrect but then corrected by the child. The total number of self-corrections is recorded for each trial and summed across trials (total self-corrections).

4. *Self-regulation* is a summary score that takes into account both errors and self-corrections. "Errors" is multiplied by two in order to weight uncorrected errors more heavily than self-corrections. Self-regulation is calculated for each trial and a total self-regulation score is calculated using the total number of errors and self-corrections recorded across trials. High values represent poor self-regulation. The formula for this variable is as follows:

5. Self-regulation = (2 x Errors) + Self-corrections.

6. *Time* refers to the time taken (recorded in seconds) to complete each trial, and summed across trials (total time).

7. *Efficiency* rewards speed and accuracy, taking into account both time and error parameters. Efficiency is calculated for each trial, and a total efficiency score is also calculated using total time and total errors. In order to normalize the distribution and provide greater balance between errors and time, a square root transformation of errors was performed. High values represent efficient performance and the formula for this parameter is as follows:
   efficiency = [(1/time) / SQRT(errors+1)] x 100.

**Name/ ID#:**_____
**Date:**_____
**Age:**_____
**Examiner:**_____

# Contingency Naming Test – Score Summary Sheet

| Score | | Trial 1 | Trial 2 | Trial 3 | Trial 4 | Total |
|---|---|---|---|---|---|---|
| **Errors (E)** | | | | | | |
| **Self-Corrections (SC)** | | | | | | |
| **Self Regulation (E x 2)+SC** | | | | | | |
| **Time** | Raw Score | | | | | |
| | Standard Score | | | | | |
| **Efficiency** | Raw Score | | | | | |
| **[(1/time) / SQRT (errors+1)] x 100** | Standard Score | | | | | |

Observations:_____
_____
_____

Mean and SD for age group and gender on the Time and Efficiency variables

| Age | Trial 1 | | Trial 2 | | Trial 3 | | Trial 4 | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Time M(SD) | Efficiency M(SD) | Time M(SD) | Efficiency M(SD) | Time M(SD) | Efficiency M(SD) | Time M(SD) | Efficiency M(SD) | Time M(SD) | Efficiency M(SD) |
| 7yr (n=22) | 28.9(6.3) | 3.2(1.1) | 44.2(14.2) | 2.4(0.8) | 77.8(16.8) | 0.9(0.4) | 91.3(19.3) | 0.5(0.3) | 241.8(28.5) | 0.2(0.1) |
| Male (n=7) | 29.1(6.0) | 3.0(1.0) | 48.7(19.4) | 2.2(1.1) | 85.0(24.2) | 0.7(0.3) | 88.2(15.1) | 0.4(0.1) | 254.2(27.9) | 0.1(0.1) |
| Female (n=15) | 28.8(6.7) | 3.4(1.2) | 42.1(11.2) | 2.5(0.7) | 74.4(11.7) | 1.1(0.4) | 92.3(20.9) | 0.5(0.3) | 237.6(28.4) | 0.2(0.1) |
| 8yr (n=34) | 24.8(5.2) | 4.0(1.0) | 37.8(13.3) | 2.7(1.0) | 65.1(13.0) | 1.3(0.4) | 80.2(19.7) | 0.7(0.3) | 205.0(31.4) | 0.2(0.1) |
| Male (n=18) | 25.6(5.8) | 3.8(1.0) | 40.9(15.4) | 2.5(1.0) | 65.9(12.6) | 1.4(0.4) | 80.8(19.5) | 0.8(0.3) | 208.2(28.4) | 0.2(0.1) |
| Female (n=16) | 23.9(4.6) | 4.2(0.9) | 34.3(9.9) | 3.0(1.0) | 64.3(13.7) | 1.3(0.4) | 79.6(20.6) | 0.7(0.3) | 202.1(34.7) | 0.2(0.1) |
| 9yr (n=26) | 21.7(4.2) | 4.7(1.0) | 28.3(8.0) | 3.7(1.0) | 57.3(11.2) | 1.6(0.5) | 75.2(13.8) | 1.0(0.4) | 182.6(28.2) | 0.4(0.2) |
| Male (n=15) | 22.9(4.2) | 4.5(0.8) | 30.7(8.6) | 3.3(0.8) | 58.3(11.2) | 1.5(0.4) | 74.7(15.0) | 1.0(0.4) | 186.5(29.4) | 0.3(0.1) |
| Female (n=11) | 20.2(4.0) | 5.0(1.1) | 25.0(5.8) | 4.1(1.1) | 56.0(11.6) | 1.7(0.6) | 76.0(12.6) | 0.9(0.5) | 177.2(26.9) | 0.4(0.2) |
| 10yr (n=49) | 20.7(3.9) | 5.0(1.0) | 27.1(6.8) | 3.8(1.0) | 52.9(11.2) | 1.7(0.5) | 74.8(18.6) | 0.9(0.5) | 175.5(31.4) | 0.4(0.2) |
| Male (n=21) | 21.4(3.4) | 4.8(0.8) | 29.6(7.9) | 3.5(1.0) | 53.3(11.4) | 1.7(0.5) | 75.9(18.4) | 0.9(0.5) | 180.1(29.8) | 0.3(0.2) |
| Female (n=28) | 20.1(4.2) | 5.1(1.1) | 25.2(5.2) | 4.1(0.9) | 52.7(11.3) | 1.8(0.6) | 74.0(19.0) | 1.0(0.4) | 172.0(32.6) | 0.4(0.2) |
| 11yr (n=59) | 19.5(4.0) | 5.1(1.1) | 24.0(5.2) | 4.2(1.0) | 50.7(11.9) | 1.8(0.6) | 72.7(20.8) | 1.0(0.5) | 166.8(36.4) | 0.4(0.2) |
| Male (n=29) | 20.4(4.3) | 4.8(1.1) | 24.0(6.0) | 4.3(1.1) | 51.1(12.2) | 1.8(0.6) | 72.6(23.0) | 1.1(0.5) | 168.2(39.6) | 0.4(0.2) |
| Female (n=30) | 18.5(3.5) | 5.4(1.0) | 24.0(4.5) | 4.2(0.9) | 50.4(11.9) | 1.7(0.6) | 72.7(18.7) | 1.0(0.5) | 165.3(33.4) | 0.4(0.2) |
| 12yr (n=60) | 18.4(3.3) | 5.5(1.1) | 22.6(6.4) | 4.5(1.1) | 47.3(10.5) | 1.9(0.6) | 65.6(15.3) | 1.1(0.5) | 153.8(29.0) | 0.4(0.2) |
| Male (n=30) | 18.9(3.6) | 5.5(0.9) | 24.8(8.0) | 4.1(1.1) | 48.2(12.3) | 2.0(0.6) | 63.6(14.7) | 1.1(0.5) | 155.5(32.9) | 0.4(0.2) |
| Female (n=30) | 17.9(2.9) | 5.5(1.2) | 20.4(3.0) | 4.9(0.9) | 46.3(8.5) | 1.9(0.7) | 67.5(15.8) | 1.0(0.5) | 152.1(24.9) | 0.4(0.2) |
| 13yr (n=50) | 16.5(4.6) | 6.2(1.4) | 20.9(5.4) | 5.0(1.2) | 44.6(11.0) | 2.1(0.7) | 61.3(16.2) | 1.2(0.6) | 143.3(32.9) | 0.5(0.2) |
| Male (n=28) | 17.8(5.6) | 5.8(1.5) | 21.9(5.8) | 4.8(1.1) | 46.2(10.8) | 2.0(0.6) | 63.2(16.4) | 1.2(0.6) | 149.0(34.4) | 0.5(0.2) |
| Female (n=22) | 15.0(2.2) | 6.7(1.1) | 19.8(4.7) | 5.1(1.3) | 42.6(11.2) | 2.2(0.8) | 58.8(16.0) | 1.3(0.6) | 136.1(30.0) | 0.5(0.2) |
| 14yr (n=37) | 16.8(3.2) | 6.0(1.1) | 21.4(6.0) | 4.9(1.0) | 41.9(7.4) | 2.2(0.5) | 58.9(12.2) | 1.4(0.5) | 139.1(22.0) | 0.5(0.2) |
| Male (n=21) | 17.8(3.4) | 5.6(1.1) | 22.0(3.9) | 4.7(0.8) | 44.1(7.4) | 2.1(0.5) | 60.9(12.9) | 1.3(0.4) | 144.8(19.9) | 0.5(0.2) |
| Female (n=16) | 15.6(2.6) | 6.6(1.0) | 20.7(8.0) | 5.1(1.2) | 39.0(6.4) | 2.4(0.5) | 56.4(11.2) | 1.4(0.5) | 131.6(22.9) | 0.5(0.2) |
| 15yr (n=44) | 15.9(2.8) | 6.3(1.1) | 18.6(3.9) | 5.4(1.0) | 41.3(12.3) | 2.3(0.7) | 57.2(20.1) | 1.4(0.6) | 133.4(34.3) | 0.5(0.2) |
| Male (n=20) | 16.8(3.0) | 5.8(1.1) | 19.6(3.9) | 5.2(0.9) | 45.6(15.7) | 2.1(0.8) | 59.9(26.6) | 1.3(0.6) | 143.2(45.2) | 0.4(0.2) |
| Female (n=24) | 15.2(2.4) | 6.7(1.0) | 17.8(3.8) | 5.6(0.9) | 38.1(7.9) | 2.4(0.7) | 55.1(13.1) | 1.4(0.6) | 126.1(21.5) | 0.6(0.2) |
| Total (n=381) | 19.6(5.3) | 5.3(1.4) | 25.6(10.1) | 4.2(1.3) | 51.0(14.8) | 1.8(0.7) | 69.0(19.7) | 1.1(0.5) | 164.5(41.3) | 0.4(0.2) |
| Male (n=189) | 20.2(5.2) | 5.1(1.3) | 26.8(11.0) | 4.1(1.3) | 52.0(15.1) | 1.8(0.6) | 68.7(19.8) | 1.1(0.5) | 166.5(40.8) | 0.4(0.2) |
| Female (n=192) | 18.9(5.3) | 5.5(1.5) | 24.4(9.0) | 4.4(1.3) | 50.1(14.5) | 1.9(0.7) | 69.2(19.6) | 1.1(0.5) | 162.5(41.8) | 0.4(0.2) |

Anderson, P., Anderson, V., Northam, E., & Taylor, H. (2000) Standardization of the Contingency Naming Test for school-aged children: A new measure of reactive flexibility. Clinical Neuropsychological Asessment, 1, 247-273.