Dr. Robyn Langdon
Macquarie Centre for Cognitive Science
Macquarie University
Sydney, NSW 2109
AUSTRALIA
rlangdon@maccs.mq.edu.au

To Whom It May Concern:

After downloading the files from the website, you should have a copy of the 4-card picture sequences used in the *Cognition* study (Langdon & Coltheart, 1999), a response sheet, and a sheet of the current administration and scoring instructions. We ask that you reference the task appropriately in any publications. There are 2 practice sequences and 16 experimental sequences. There are four types of experimental sequences: mechanical, social script, false belief and capture (4 sequences of each type; 4 cards in each sequence). Each file is labeled with the sequence type, sequence number and card number. There's also an alternate set of cards, labeled "fbeliefold" that can be used instead of False-Belief story 1. I think that False-Belief story 1 may be slightly more difficult. I leave it up to you to decide which to use.

The pictures were presented on cards, thick enough so that the line drawing could not be seen from the back of the card. The drawings were all black on white with no other distinguishing marks on the face of the cards. There was a small number on the back of each card to identify which sequence it came from. The four cards of each sequence were then kept together in a similarly labeled envelope. You will probably need to mark the backs of individual cards with random meaningless symbols (eg. #, *, $, &; or coloured dots) so that it's easy for you to record the order in which subjects arrange cards and to then calculate a position score.

In the original version of the task each subject saw a random order of the 16 sequences and the cards in each sequence were randomly ordered and positioned in a 2 x 2 square layout. More recently I have used a predetermined random order of cards for each sequence and have placed the cards upside down side by side in a line. I have also been using a pre-arranged fixed random order of sequences. I find that this simplifies administration; the change hasn't had any effect on the pattern of results that I usually find when testing clinical patients with schizophrenia. I will include a response sheet that I have recently used. In this case we used coloured dots on the backs of the cards (B=blue; O=orange; Y=yellow; G=green); the coloured dots were placed on each card sequence as per the listing in the 'Correct Order' column. The 'Layout Order' column indicates the order in which cards were placed face down in front of subjects.

Best wishes,

Robyn Langdon
Australian Research Council Australian Research Fellow

Picture Sequencing Task

Hold up one of the practice sequences and say, **"In each of these envelopes I have four cards. On the back of each card is a number. The number does not mean anything. I simply use the numbers to pre-arrange a mixed-up order of stories for each person to see. There are also coloured dots. I simply use these to record the order of cards when you've arranged them. I am going to put these four cards face-down in front of you."** Place the cards in the pre-arranged order on the table face-down.

Say, **"When we are ready to start, I will ask you to turn the cards over. You can do that in any order that you like, that's entirely up to you. Once you have turned the cards over, your task is to line the cards up in a straight line, like a comic-strip, first card here, second card here, etc."** (Point to where you want the cards lined up on the table.) **"You need to arrange the cards in the correct order so that they show a logical sequence of events."**

Say**, "When you are happy that you have the cards in the correct order, or that you have done your best to work out an order that makes the most sense, I want you to say 'finished'. I will be using this stopwatch to record how long you take from the time that I say turn the cards over 'now' to the time that you say 'finished'. Having said that, I don't want you to worry about being timed. It is more important to get the cards in the correct order than it is to be fast. Let's try the first story. This is a practice so that you can get used to doing the task. When I say 'now', I want you to turn the cards over. Ready, turn the cards over now".**

Start the stopwatch on 'now', and proceed to give the participant feedback as to whether they were correct or not. Also use this teddy-bear picture sequence to point out to subjects that these are not the sort of picture sequences where every detail of the story is shown on every card. For example.. **"Notice that in this sequence you can't tell that the boy wants the teddy-bear until the last card. In all of the sequences that you will do the cards are like that. You will need to make some inferences to work out how best to put the cards together"**.

Say, **"Now we'll do a second practice"** and proceed as above.

Say, **"Now we'll move on to the other stories. There are 16 stories in total. You may find that some of these stories are less straightforward than others. If you find a set of cards confusing, just do your best to put the cards in an order which you think is the most sensible. You will see the 16 stories in a mixed-up order. That means that the stories will not start out easy and get progressively harder. You might do one story that seems a bit confusing and then the very next story could be very easy. Just work through each story at your own pace. Do you have any questions? OK, let's start with this story".**

Lay the first story out in the predetermined order (L-R for participant. R-L from examiner's view) and Say "**You can turn the cards over now"**. Begin timing.

Stop timing when the participant indicates they are finished and record the order of the

cards on the score sheet and the time taken. Pickup from R-L from examiner's view and fan downwards. Record any errors before allowing the participant to fix them.

Scoring

Each sequence has a scoring ranging from 0 to 6, calculated as follows:

If the correct card is in the first position	2 points
If the correct card is in the last position	2 points
If the correct card is in the second position	1 point
If the correct card is in the third position	1 point

(This scoring equates the beginning middle and end of stories – eg. If the first and fourth card are correct, the two interim cards are either both correct or both incorrect)

Options

You may want to ask the participant to "tell the story that the cards tell". Stories are then tape recorded and scored for use of mental state language as per Langdon et.al. (1997, *Cognitive Neuropsychiatry*).

Hints

Label the backs of the cards with meaningless symbols (!, *, etc) or coloured dots in order to record order of cards and then check with correct order when scoring.
Mark top of reverse side of cards in some way to ensure that when they are initially placed facedown, none of them are upside down.

Key for Story Number Listed on Response Sheet

Story Number	Story Type
1	Practice 1
2	Practice 2
3	Social Script 1
4	Social Script 2
5	Social Script 3
6	Social Script 4
7	Mechanical 1
8	Mechanical 2
9	Mechanical 3
10	Mechanical 4
11	Capture 1
12	Capture 2
13	Capture 3
14	Capture 4
15	False-Belief 1

16	False-Belief 2
17	False-Belief 3
18	False-Belief 4

Picture Sequencing Task

Story	Layout order	Time taken	Subject order (colour id → no. id)	Correct order	Score	Story
Prac 1						Prac 1
Prac 2						Prac 2
3	OGYB			BYGO		3
9	YGBO			BYGO		9
17	OBYG			GYOB		17
12	GYOB			GYBO		12
18	YBOG			BGOY		18
10	YOBG			GYBO		10
5	YGBO			YOBG		5
14	OYBG			YBOG		14
8	YBOG			GBYO		8
15	BGYO			YOGB		15
7	GOYB			OBYG		7
11	BGYO			YBGO		11
4	BGOY			OBYG		4
13	GBOY			OBYG or OBGY		13
16	GYOB			BOYG		16
6	GYBO			OYGB		6