

Superlab Study Creation: Experimental Task to Assess Memory Recall

For your Research Methods II study, you need to use Superlab within the Psychology Labs to create an experimental task to assess memory recall. This document outlines the steps to follow to create this experimental task, so **please ensure you read it carefully and do not miss any steps!** Another additional tip: save regularly as you go – if the system crashes, you may lose hours of work and have to start again!

An introduction to Superlab

There are three main elements within Superlab that you need to be aware of. Imagine that the Superlab programme is a lever arch file, and that the following are items that belong within that file:



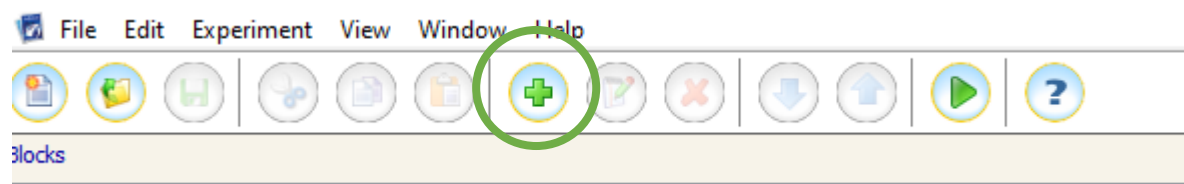
Blocks – think of these as your dividers. They keep 'blocks' of information together so that you can pinpoint exactly where something is.

Trials – think of these as the individual pieces of paper that you put into the dividers (blocks). These have lots of writing, drawing, highlighting etc on them, so can contain multiple pieces of information per page/trial.

Events – think of these as the singular or individual 'words', or bits of information that get placed onto your paper. Each event is a single thing – you can use the same event in multiple trials, just as you can use the same 'word' on multiple pages.

Step 1.

Even though the above explains Blocks first, we are going to start backwards and start creating our events first (we need writing to go onto things before we can organise them!)



Tap your cursor into the 'event's box, then click the green plus (pictured above) to create a new event.

The first event we need is a set of instructions that will tell participants what they are about to do.

Event name: Instructions1

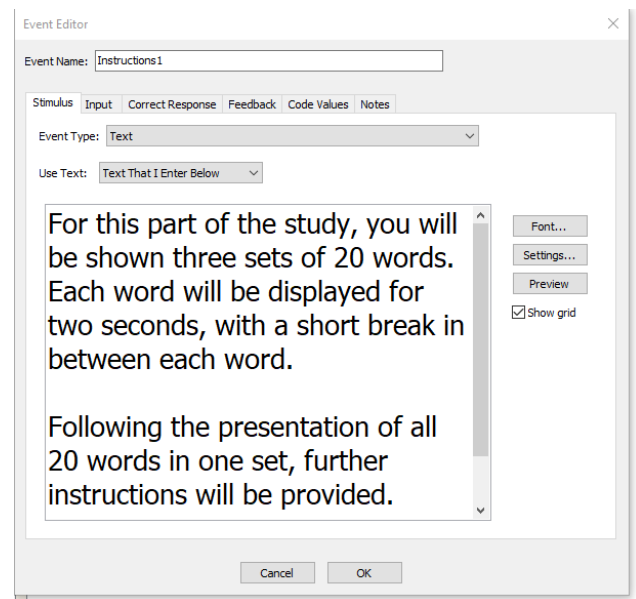
Stimulus tab: Event type - Text

The text below is an example to explain what participants will be doing here:

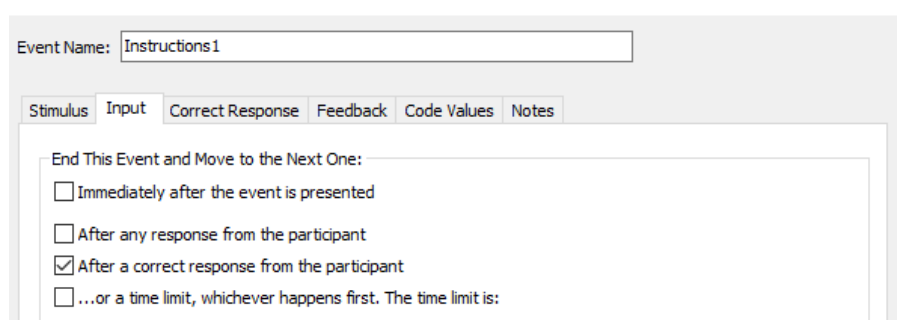
For this part of the study, you will be shown three sets of 20 words. Each word will be displayed for two seconds, with a short break in between each word.

Following the presentation of all 20 words in one set, further instructions will be provided.

Press SPACE BAR to continue.

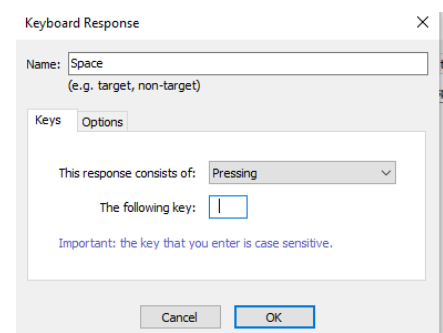


You want to ensure participants can only carry on if they press the SPACE BAR (as that is what you have instructed them to do). Select the input tab and select 'After a correct response from the participant' as shown below.



Next, select the Correct Response tab and add the 'correct response' of the space bar tap.

- Select 'Edit responses' at the bottom right,
- Select 'Keyboard single keys',
- Click 'New...' at the bottom of the box,
- Name: Space
- In the box that is after 'The following key', just tap the space bar once (you won't be able to see this in the box as it is just a space, but it will be there if you have pressed the space bar'.
- Click ok, then Done



Finally, on the right-hand side, select the dropdown box that says '...the correct response is' and select 'One or more of the following', then select your newly created 'Space'. Then press OK to save the event.

TIP: Within Superlab, your events need to be 'in order' (explained more later on). So even though we want 60 events in total as we have 60 words across the three conditions, we are going to do 20 at a time.

Step 2.

Events for emotion-induced words. There are 60 words in total, so you are going to need to create 60 events (one for each individual word). Name them something that you will remember (e.g., Positive 1, Neutral 1, etc) so that you know exactly which ones need to be in which 'block'. **Note: CREATE JUST ONE FIRST!**

Again, tap into the events box and click the green plus.

Event name: Positive 1

Event type: Text

First word: Beauty (another note: you will want to Preview this and check the size.

Recommended that you increase the text size to at least 72 for each word... you can do this by clicking Font on the right-hand size and changing the text size).

Next, we want the word to display on the screen for 2000ms (2 seconds). Select the input tab, and select '... **or a time limit, whichever happens first. The time limit is:**' and put '2000' into the box underneath.

IMPORTANT: Once you have done this, you need to **deselect** the default option of 'After any response from the participant' to ensure that the screen **only** moves on after the 2 seconds, and not any sooner.

The screenshot shows the 'Event Name: Positive1' at the top. Below it are tabs for 'Stimulus', 'Input', 'Correct Response', 'Feedback', 'Code Values', and 'Notes'. The 'Input' tab is selected. Under the heading 'End This Event and Move to the Next One:', there are four options with checkboxes: 'Immediately after the event is presented', 'After any response from the participant', 'After a correct response from the participant', and 'Only after a time limit. The time limit is:'. The last option is checked. Below this, there is a 'Fixed:' dropdown menu, a text box containing '2000', and the unit 'milliseconds'.

Click ok and the event will be saved. This is the format for all 60 words, so you can copy and paste the event and change the word that is presented within the event to save you having to alter the timings for 60 events. BUT – beware of the note above re: having things in order.

Now, we can finish the other 19 positive words. Highlight the Positive1 event in the events box, then select Edit (top menu bar) and select Copy. Then go back to edit, and this time press Paste. You will have a new event called Positive2. Keep doing this until you get to Positive 20, then go back into each event and change the word to the word on your list of words.

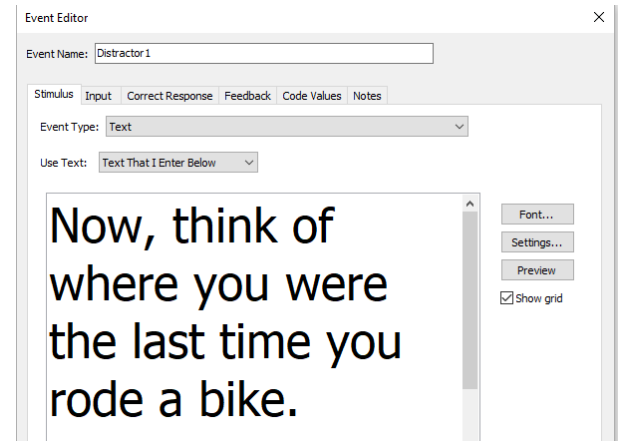
Step 3.

Following the presentation of each condition of words (positive, neutral, negative), you need to provide a distracter for one minute so that participants are prevented from memorising the words they have just seen.

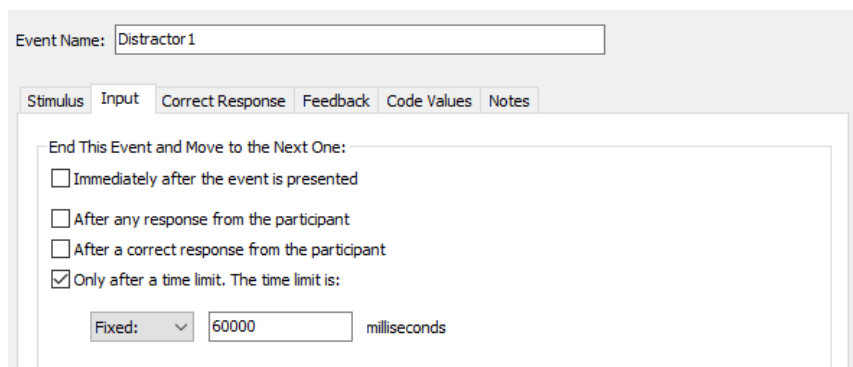
Create a new event again, and call this Distractor1. Event type: Text.

You can add anything you want here as a 'distractor', but something that works quite well is to get participants to think of something. Some examples below:

- Think of where you were the last time you rode a bike
- Think about the last time you ate chips
- Think about the last time you went to the beach
- Think about how you felt on your first day of university
- Think about the place you enjoy going out to eat the most
- Think about the last time you went to the cinema



On the Input tab, select ...'or a time limit..' and add the number '60000' into the box. This will keep the instructions on the screen for one minute..



Step 4.

Now we need an event that tells participants to write down the words they can remember from the 20 that they have just seen.

Add a new event, call this Recall1 In the text box, type something like:

Please write down as many of the words that you can remember from the 20 words you have just seen on the paper in front of you – SET 1.

Note: you will need to ensure you remember to have paper with you with the sets written on when you are collecting data.

Step 5.

Repeat Steps 1, 2, 3 and 4 for the Introduction of the next part of the task (Instructions2), the creation of Neutral words (20 altogether), another distractor (Distractor2) and another Recall event (Recall 2)

Your instructions this time could say something like the below:

Again, you are going to be shown another set of 20 words. Each word will be displayed for two seconds, with a short break in between each word.

Following the presentation of all 20 words, further instructions will be provided.

Press SPACE BAR to continue.

Step 5.

Repeat Steps 1, 2, 3 and 4 for the Introduction of the next part of the task (Instructions3 – text as above), the creation of Negative words (20 altogether), another distractor (Distractor3) and another Recall event (Recall 3)

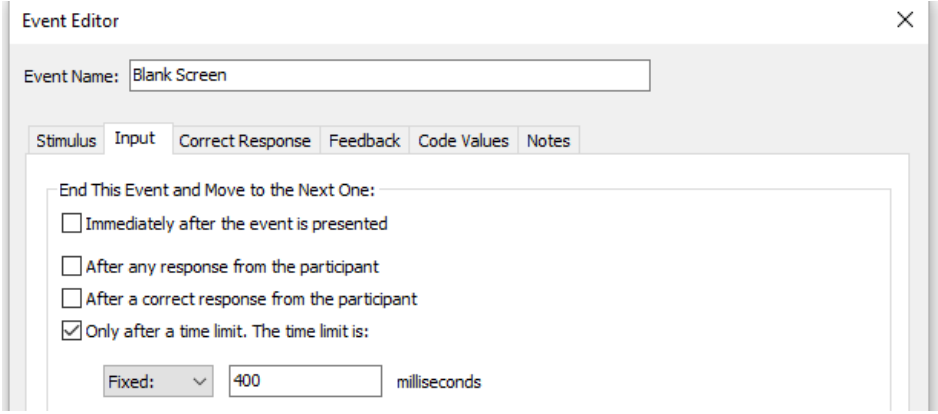
Step 6.

In between the display of each word shown to participants, there needs to be a screen that is displayed to demonstrate a 'break'. This will just be a blank screen, but this blank screen still needs to be created for it to display in the programme.

So, create a new event called 'Blank Screen' and the event type is Text.

In the text box, just type a 'space' (press the space bar once).

On the input tab, select the bottom ...'or a time limit' option, add '400' into the box, and then deselect 'After any response from the participant'.



The screenshot shows the 'Event Editor' window with the following details:

- Event Name:** Blank Screen
- Input Tab:** Selected, showing the 'End This Event and Move to the Next One:' section.
- Options:**
 - ☐ Immediately after the event is presented
 - ☐ After any response from the participant
 - ☐ After a correct response from the participant
 - ☒ Only after a time limit. The time limit is:
- Time Limit:** Fixed: 400 milliseconds

Then, click OK to save.

Step 7.

Debrief information

As the computer task is going to be completed last, you will be showing your debrief information on Superlab. The debrief form is quite long, so you are going to want to use TWO events to cut the information in half.

New event – Name: Debrief. Event type: Text.

Paste in HALF of the debrief form (up to the point where you explain confidentiality fits well).

New event – Name: Debrief2. Event type: Text

Paste in the second half of the debrief form (from 'If taking part in this study has raised any questions...').

Your full list of events should now look like this...

- | | | |
|--|--|---------------------------------------|
| ☐ Instructions1 | ☐ Neutral5 | ☐ Negative9 |
| ☐ Positive1 | ☐ Neutral6 | ☐ Negative10 |
| ☐ Positive2 | ☐ Neutral7 | ☐ Negative11 |
| ☐ Positive3 | ☐ Neutral8 | ☐ Negative12 |
| ☐ Positive4 | ☐ Neutral9 | ☐ Negative13 |
| ☐ Positive5 | ☐ Neutral10 | ☐ Negative14 |
| ☐ Positive6 | ☐ Neutral11 | ☐ Negative15 |
| ☐ Positive7 | ☐ Neutral12 | ☐ Negative16 |
| ☐ Positive8 | ☐ Neutral13 | ☐ Negative17 |
| ☐ Positive9 | ☐ Neutral14 | ☐ Negative18 |
| ☐ Positive10 | ☐ Neutral15 | ☐ Negative19 |
| ☐ Positive11 | ☐ Neutral16 | ☐ Negative20 |
| ☐ Positive12 | ☐ Neutral17 | ☐ Distractor3 |
| ☐ Positive13 | ☐ Neutral18 | ☐ Recall3 |
| ☐ Positive14 | ☐ Neutral19 | ☐ Blank Screen |
| ☐ Positive15 | ☐ Neutral20 | ☐ Debrief |
| ☐ Positive16 | ☐ Distractor2 | ☐ Debrief2 |
| ☐ Positive17 | ☐ Recall2 | |
| ☐ Positive18 | ☐ Instructions3 | |
| ☐ Positive19 | ☐ Negative1 | |
| ☐ Positive20 | ☐ Negative2 | |
| ☐ Distractor1 | ☐ Negative3 | |
| ☐ Recall1 | ☐ Negative4 | |
| ☐ Instructions2 | ☐ Negative5 | |
| ☐ Neutral1 | ☐ Negative6 | |
| ☐ Neutral2 | ☐ Negative7 | |
| ☐ Neutral3 | ☐ Negative8 | |
| ☐ Neutral4 | | |

Step 8.

Now that you have all the events created, you can start putting it into some form of structure and creating the order in which you want Superlab to display the information to your participants. We are moving on to TRIALS, now, so tap your cursor into the Trials box first.

Next, select Edit in the top menu banner, and Select 'Many New Trials'.

The total number of trials you need for the creation of this task in full is 70, so type in 1 through 70 in the Trial Name and then click done. The 70 trials will then all be within the Trials section.

Step 9.

This next part is going to be long and fiddly, so take it **one part at a time**.

We now need to attach the events to trials (put the words onto the pages). I have outlined below exactly how this needs to look, but am also including a warning here:

If your events are **not** in the exact same order as the picture I've added above, the order in which your events are displayed will be wrong. Superlab is a great tool, but it's also quite simple in its workings – it can only produce an 'order' if you have appropriately ordered your events.

Highlight the trial number and you will see the event boxes turn Blue (rather than grey). This mean you can select them. Each trial can hold multiple events, so just make sure you click all the events that are needed for each trial.

Trial	Events	Trial	Events
1	Instructions1	14	Positive13 Blank Screen
2	Positive1 Blank Screen	15	Positive14 Blank Screen
3	Positive2 Blank Screen	16	Positive15 Blank Screen
4	Positive3 Blank Screen	17	Positive16 Blank Screen
5	Positive4 Blank Screen	18	Positive17 Blank Screen
6	Positive5 Blank Screen	19	Positive18 Blank Screen
7	Positive6 Blank Screen	20	Positive19 Blank Screen
8	Positive7 Blank Screen	21	Positive20 Blank Screen
9	Positive8 Blank Screen	22	Distractor1
10	Positive9 Blank Screen	23	Recall1
11	Positive10 Blank Screen	24	Instructions2
12	Positive11 Blank Screen	25	Neutral1 Blank Screen
13	Positive12 Blank Screen	26	Neutral2 Blank Screen

27	Neutral3 Blank Screen	54	Negative7 Blank Screen
28	Neutral4 Blank Screen	55	Negative8 Blank Screen
29	Neutral5 Blank Screen	56	Negative9 Blank Screen
30	Neutral6 Blank Screen	57	Negative10 Blank Screen
31	Neutral7 Blank Screen	58	Negative11 Blank Screen
32	Neutral8 Blank Screen	59	Negative12 Blank Screen
33	Neutral9 Blank Screen	60	Negative13 Blank Screen
34	Neutral10 Blank Screen	61	Negative14 Blank Screen
35	Neutral11 Blank Screen	62	Negative15 Blank Screen
36	Neutral12 Blank Screen	63	Negative16 Blank Screen
37	Neutral13 Blank Screen	64	Negative17 Blank Screen
38	Neutral14 Blank Screen	65	Negative18 Blank Screen
39	Neutral15 Blank Screen	66	Negative19 Blank Screen
40	Neutral16 Blank Screen	67	Negative20 Blank Screen
41	Neutral17 Blank Screen	68	Distractor3
42	Neutral18 Blank Screen	69	Recall 3
43	Neutral19 Blank Screen	70	Debrief Debrief2
44	Neutral20 Blank Screen		
45	Distractor2		
46	Recall2		
47	Instructions3		
48	Negative1 Blank Screen		
49	Negative2 Blank Screen		
50	Negative3 Blank Screen		
51	Negative4 Blank Screen		
52	Negative5 Blank Screen		
53	Negative6 Blank Screen		

Step 10.

Nearly there!

Now to put everything into an organised manner and get the Trails into Blocks.

Tap into the Blocks box, and then go to Edit and select Many New Blocks.

You will need 10 blocks in total. Once these have been created. Highlight each block and attach the trials noted below to the appropriate block.

Block	Trials
1	1
2	2 to 21
3	22 and 23
4	24
5	25 to 44
6	45 and 46
7	47
8	48 to 67
9	68 and 69
10	70

Step 11.

Final step. Just one more thing to consider.

When the 20 words per set are being displayed, we don't want them to always display in the same order for each participant (we can't be sure that there isn't some other phenomena occurring, like the primacy-recency effect, if they are always in the same order). So, we want to use Superlab to randomise the order of the 20 positive, neutral and negative words.

We have attached all 20 positive words to Block 2, the neutral words to block 5, and the negative words to block 8, so these are the blocks we now want to alter the settings in.

First, double click Block 2 to open up the Editor. Select the Randomize tab and select 'Randomize the trials in this block'. The options below will un-grey – you can leave it as the default 'once per participant'.

Repeat the above for Blocks 5 and 8.

And that's the experimental task finished!

Make sure you RUN it through to ensure it works, that everything displays at the right time, etc.