Task user case

Task 1:

Instruction screen shows

A picture containing bird, flower, tree

Description automatically generated

X: Mouse clicking—no response

X: No action—no response

Press any key, trial begins

A screenshot of a cell phone

Description automatically generated

X: Press keyboard—no response

X: Click mouse anywhere else – no response

Click mouse on the scale – progress to the next trial

25 trials in total: 4 experimental conditions, 1 control condition

Task 2:

Instruction shows

A picture containing bird

Description automatically generated

X: Mouse clicking—no response

Press keyboard: move to the next screenA screenshot of a cell phone

Description automatically generated

X: No action—no response

A screenshot of a cell phone

Description automatically generated

X: Mouse clicking—no response

X: No action—no response

Press keyboard: move to the next screen, trial begins

Cross: none. Star: at least one. Trophy: both

Prompt on top of the screen in each trial

A picture containing drawing

Description automatically generated

2 seconds, no action from participants needed, progress to the next screen

A close up of a flower

Description automatically generated

Experiment ends, window closes.

Press ‘y’, ‘n’, or space to give the judgement, move on to the next trial. 60 trials in total.

X: Press keys other than ‘y’, ‘n’, or space, no response

X: Mouse clicking—no response

* Detailed information about experimental conditions in each task

Task 1:

Sentences of four experimental conditions and one control condition will be presented in random order for participants to judgement their grammaticality on a Likert scale of 1 to 5, 1 being unacceptable at all, 5 being perfectly acceptable. Experiment will only progress until the participant click on the scale without time restriction. Each condition has five sentences, and the control condition has five sentences. Detailed information of experimental conditions is provided in Table 1.

|  |  |  |
| --- | --- | --- |
| Scope assignment  Logical operator | Ambiguous | Unambiguous |
| Conjunction | *Pat didn’t enter the room and see her. (n=5)* | *It is not true that Pat entered the room and saw her.(n=5)* |
| Disjunction | *Pat didn’t enter the room or see her. (n=5)* | *It is not true that Pat entered the room or saw her.(n=5)* |

Table 1: sentence types in Task 1

Task 2:

After reading a story scenario, participants will be presented a picture for 2 seconds and asked to judge the truth value of statement based on the information provided in the story and picture. There is no time limit in making the judgement. Only “y”, “n”, and “space” (to skip the question) are accepted to progress forward to the next question. In total there will be 5(animals)\*3(award)\*4(judgement)=60 trials

A picture containing drawing

Description automatically generatedA close up of a necklace

Description automatically generated

“both” condition

*He didn’t eat the carrot and the pepper.*

*He didn’t eat the carrot or the pepper.*

*He ate both the carrot and the pepper.*

*He cate one of the vegetables.*

A picture containing drawing

Description automatically generatedA close up of a logo

Description automatically generated

“either” condition

A picture containing drawing

Description automatically generatedA picture containing object, clock, skiing, black

Description automatically generated

“none” condition

(2 second)

Figure 2: Flow of Task 2

Function user case:

Def ShowInstruction1():

Purpose of the function is to create the instruction window for Task 1.

The function takes no argument as input.

After the function being called, the variables window, kb, task1\_prompt, which are created and initialized in an earlier function, will be declared global. Then, the function will assign task1\_prompt a text stimulus presented in a window, with font height of 1, text width of 25, color in black, and a text being presented in the middle of the window.

The next while sentence will change the flow—when the participant doesn’t press the keyboard, the text stimulus window will be drawn and shown.

When the participant clicks the keyboard, the function ends and the program moves to the next step; if the participant makes no further move after the stimulus window shown, no progress will be made; if the participant clicks the mouse, no progress will be made either.