**19-10-2015**

**Design**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| STUD | I | **Experimental items** | | | | **Filler** |
| *Environment* | | *Target* | |
| **Env-T** | **Env-F** | **Target 1** | **Target2** |  |
| Maximal reading true | None reading true (non-lower bounded) | Non-Maximal reading true | | Unrelated |
| C-C1-C2 | | Collective | Collective | Collective | Collective | Baseline |
| D-D1-D2 | | Distributive | Distributive | Distributive | Distributive | Baseline |
| B-D1-D2 | | Baseline | Baseline | Collective | Collective | Baseline |
| B-C1-C2 | | Baseline | Baseline | Distributive | Distributive | Baseline |
| C-C1-D2 | | Collective | Collective | Collective | Distributive | Baseline |
| C-X-D2 | | Collective | Collective | X | Distributive | Baseline |

Experimental trials (sentence-picture pair) can belong to one out of four possible **Conditions** (*Environment True, Environment False, Target 1 or Target 2*). Depending on the study / group of subjects (see table above), the condition will involve also one of two picture types (A and B) and one out of three predicate types (Distributive, Collective and Baseline).

In every condition, items present one of two numeral configurations and one of two shapes (crosses and dots). In Type A pictures, Numeral configuration determines also the object of the collective predicate (square or triangle).

**[[EXCEPT for LAST GROUP, where conditions are different]]**

**Condition (4) \* Numeral (2) \* Shape (2) \* Repetitions (4) [1] = 42 experimental items**

[1] Note: In Type A pictures, the repetitions are controlled for distributive predicate, using the same amount of “above” than “below”.

* Shapes: dots / crosses
* Predicate-Numeral:

|  |  |  |  |
| --- | --- | --- | --- |
| TYPE | Numerals | Collective | Distributive |
| Type A | 4-7 | form a **triangle**  are arranged as a **triangle** | are above/below the line |
| 5-9 | form a **square**  are arranged as a **square** | are above/below the line |
| Type B | 4-6 | surround their letter | connected to their letter |
| 5-7 |

**Images** were created according to the design above, controlling for numeral-predicate and the condition. Notice that in terms of pictures there is no difference between Target 1 and Target 2: in both cases the picture makes true the non-maximal reading of the predicate (non-upper bounded).

Pictures for Environment-False have always less shapes than the ones bounded by the modified numeral.

In these attempts, I tried to also increase the variability by combining different images in one (the same image can serve for more than one sentence). In other words, in the creation of images I combined the conditions, while all the variables were different.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Type A** | | | | |
|  | | *Between 5 and 9 dots* ***[are above the line/form a square]*** | | |
|  | | True | False | Target |
| *Between 4 and 7 crosses* ***[are below the line/form a triangle]*** | True |  | Macintosh HD:Users:moramaldonado:Dropbox:2015-PhD:Meetings and summaries:PROPOSALS MAXIMALITY:falseXtrie_A.png |  |
| False | Macintosh HD:Users:moramaldonado:Dropbox:2015-PhD:Meetings and summaries:PROPOSALS MAXIMALITY:truexfalse_A.png |  |  |
| Target |  |  | Macintosh HD:Users:moramaldonado:Dropbox:2015-PhD:Meetings and summaries:PROPOSALS MAXIMALITY:target_A.png |
| **Type B** | | | | |
|  | | *Between 4 and 6 dots* ***[are connected to their letter/surround their letter]-*** | | |
|  | | True | False | Target |
| *Between 5 and 7 crosses* ***[are connected to their letter/surround their letter]-*** | True |  | Macintosh HD:Users:moramaldonado:Dropbox:2015-PhD:Meetings and summaries:PROPOSALS MAXIMALITY:falseXtrue_B.png |  |
| False | Macintosh HD:Users:moramaldonado:Dropbox:2015-PhD:Meetings and summaries:PROPOSALS MAXIMALITY:trueXfalse_B.png |  |  |
| Target |  |  | Macintosh HD:Users:moramaldonado:Dropbox:2015-PhD:Meetings and summaries:PROPOSALS MAXIMALITY:target_B.png |

**Idea of Script for TYPE A**

PREDICATES =[]

SHAPES =[dots,crosses]

CONDITION = [false,true,target]

for p1 and p2 in PREDICATES:

for s1 and s2 in SHAPES:

for c1 and c2 in CONDITION:

while p1!= p2 ; c1!=c2; s1!=s2:

1. create image where p1,c1,s1 is **above** p2,c2,s2

img\_name = C1\_P1\_S1\_ABOVE\_C2\_P2\_S2\_Color

1. create image where p1,c1,s1 is **below** p2,c2,s2

img\_name = C1\_P1\_S1\_BELOW\_C2\_P2\_S2\_Color

**Fillers** were included to create cases where the same pictures give rise to different truth-conditions. Sentences in fillers are Baseline type of predicate.

|  |  |  |  |
| --- | --- | --- | --- |
| Picture | Env-T | Env-F | Target |
| Expected truth-value in Experimental Items | True | False | ¿? |
| Expected truth-value in Fillers | False | True | ½ True, ½ False |
| Sentences | There are [COLOR] shape. | | |

**Procedure**

Training phase: A short training phase could precede the test phase, in order to train participants to understand correctly the meaning of the predicates, independently of the modified numerals.

Sentences use the indefinite

“The dots surround their letter.”

We could have a couple of them, at least 1 for each predicate and maybe 1 for condition (false, true, target).

Test phase: Participants are required to do a truth-judgment task, where they have to decide whether a picture makes the sentence true or false.

In order to reduce ignorance inferences, the sentence is presented 300ms before the picture.

Participants

Analyses

Expected outcomes