

Gradient Y-N

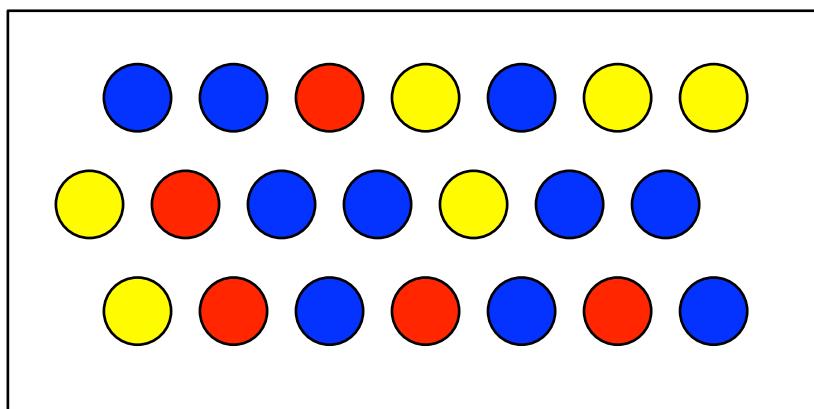
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Task

- Force choice task: is what the sentence says TRUE or FALSE about the picture?
- The sentence is always about blue dots
- Example trial:

Most of the dots are blue



True

False

Design

- Manipulations
 - Target-to-non-target ratio
 - Number of colors (blue + yellow; or blue + yellow + red)
- Each picture contains 20 or 21 dots (in the former case delete any one of the dots)
- Target determiner: *Most*
- Filler determiners: *Many, More than n, More than {n%, n/m}*
- 36 target trials + 24 x 3 filler trials = 108 trials in total
- In half of the trials of each filler determiner the sentence is true; in the other half it is false (for *many*, which is vague, we will use easy pictures)

- Target items: *Most*
 - (blue:yellow) or (blue:yellow:red)
 - The numbers in parentheses are Weber fractions (=blue/yellow)
 - The sentence is true under both proportional and superlative readings in the white cells (=they act as controls)
 - The sentence is false under both readings in the shaded cells
 - The sentence is true only under the superlative reading in the green cells (targets, to be compared with gray cells with identical Weber ratios)
 - **Prediction:** existence of superlative reading will be detected by difference between the green and gray cells that have the same Weber ratio. *More than half* should be uniform across all columns, *most* will show effect if the superlative reading exists.

Gradient ratios:

2C	8:12 (0.67)	9:12 (0.75)	9:11 (0.82)	10:11 (0.91)	10:10 (1)	11:10 (1.1)	11:9 (1.22)	12:9 (1.33)	12:8 (1.5)
3C unbalanced	8:11:1 (0.73)	9:11:1 (0.86)	9:10:1 (0.9)	10:10:1 (1)	10:9:1 (1.11)	11:9:1 (1.22)	11:8:1 (1.38)	12:8:1 (1.5)	12:7:1 (1.71)
3C mildly balanced	8:9:3 (0.89)	9:9:3 (1)	9:8:3 (1.13)	10:8:3 (1.25)	10:7:3 (1.42)	11:7:3 (1.57)	11:6:3 (1.83)	12:7:2 (1.71)	12:6:2 (2)
3C balanced	8:6:6 (1.33)	9:6:6 (1.5)	9:6:5 (1.5)	10:6:5 (1.67)	10:6:4 (1.67)	11:5:5 (2.2)	11:5:4 (2.2)	12:5:4 (2.4)	12:4:4 (3)

- Most items borrowed from the Likert scale version of the gradient experiment.
- Filler items 1: Many

Trial Name	Ratio	Total#	# of Colors
Many-t01	18:3	21	2C
Many-t02	16:5	21	2C
Many-t03	14:7	21	2C
Many-t04	18:2	20	2C
Many-t05	17:3	20	2C
Many-t06	15:5	20	2C
Many-t07	17:2:2	21	3C
Many-t08	15:5:1	21	3C
Many-t09	13:3:5	21	3C
Many-t10	16:1:3	20	3C
Many-t11	14:3:3	20	3C

Many-t12	13:6:1	20	3C
Many-f01	5:16	21	2C
Many-f02	8:13	21	2C
Many-f03	7:14	21	2C
Many-f04	4:16	20	2C
Many-f05	5:15	20	2C
Many-f06	6:14	20	2C
Many-f07	5:6:10	21	3C
Many-f08	6:8:7	21	3C
Many-f09	3:9:9	21	3C
Many-f10	7:8:5	20	3C
Many-f11	4:6:10	20	3C
Many-f12	6:7:7	20	3C

- Filler items 2: More than 11

Trial Name	Ratio	Total#	# of Colors
Mtn-t01	15:6	21	2C
Mtn-t02	13:8	21	2C
Mtn-t03	19:2	21	2C
Mtn-t04	12:8	20	2C
Mtn-t05	18:2	20	2C
Mtn-t06	15:5	20	2C
Mtn-t07	12:7:2	21	3C
Mtn-t08	13:3:5	21	3C
Mtn-t09	18:2:1	21	3C
Mtn-t10	14:4:2	20	3C
Mtn-t11	12:5:3	20	3C
Mtn-t12	17:1:2	20	3C
Mtn-f01	10:11	21	2C
Mtn-f02	9:12	21	2C
Mtn-f03	5:16	21	2C
Mtn-f04	10:10	20	2C
Mtn-f05	8:12	20	2C
Mtn-f06	7:13	20	2C
Mtn-f07	9:6:6	21	3C
Mtn-f08	3:7:11	21	3C
Mtn-f09	4:8:9	21	3C
Mtn-f10	10:5:5	20	3C
Mtn-f11	9:4:7	20	3C
Mtn-f12	5:9:6	20	3C

- Filler items 3: More than n%, n/m

Trial Name	Ratio	Total#	# of Colors	Det
Prop-t01	13:8	21	2C	50%
Prop-t02	6:15	21	2C	10%
Prop-t03	7:14	21	2C	1/5
Prop-t04	18:2	20	2C	75%
Prop-t05	8:12	20	2C	1/4
Prop-t06	17:3	20	2C	3/4
Prop-t07	7:8:6	21	3C	25%
Prop-t08	4:7:10	21	3C	1/8
Prop-t09	17:1:3	21	3C	4/5
Prop-t10	10:8:2	20	3C	33%
Prop-t11	18:1:1	20	3C	80%
Prop-t12	15:4:1	20	3C	2/3
Prop-f01	4:17	21	2C	30%
Prop-f02	12:9	21	2C	90%
Prop-f03	1:20	21	2C	2/7
Prop-f04	9:11	20	2C	50%
Prop-f05	7:13	20	2C	¾
Prop-f06	7:13	20	2C	2/5
Prop-f07	10:4:7	21	3C	60%
Prop-f08	5:9:7	21	3C	3/7
Prop-f09	15:2:4	21	3C	5/6
Prop-f10	14:1:5	20	3C	80%
Prop-f11	3:10:7	20	3C	40%
Prop-f12	10:5:5	20	3C	3/5

