

2013

# The effect cognitive load has on eye blinking

Ledger, H.

Ledger, H. (2013) 'The effect cognitive load has on eye blinking', The Plymouth Student Scientist, 6(1), p. 206-223.

<http://hdl.handle.net/10026.1/14015>

---

The Plymouth Student Scientist  
University of Plymouth

---

*All content in PEARL is protected by copyright law. Author manuscripts are made available in accordance with publisher policies. Please cite only the published version using the details provided on the item record or document. In the absence of an open licence (e.g. Creative Commons), permissions for further reuse of content should be sought from the publisher or author.*

## **Appendix A**

### Information Sheet

This experiment is designed to track movement of the eyes throughout various conditions; the conditions consist of watching a series of slides, each containing visual and audio information about everyday objects. The information will be either congruent or incongruent and we are interested in seeing whether different types of information affect eye movement. In order to track eye movement, a technique called EOG (Electrooculography) will be used; this technique involves electrodes being placed around the eyes and a synchronised webcam will record the face so as to verify eye movements visually. All results will be kept anonymous and participants maintain the right to withdraw at any point during or after the experiment. The video will only be used for analysis purposes.

If you are happy to participate, please sign and date below:

Date: \_\_\_\_\_

Sign: \_\_\_\_\_

## **Appendix B**

A list of the 24 objects used in Experiment One and Two.

1. Action Man
2. Apple
3. Ball
4. Banana
5. Book
6. Cap
7. Chocolate Bar
8. Glasses
9. Glove
10. Jam Jar
11. Ketchup
12. Keys
13. Mobile Phone
14. Mug
15. Pen
16. Remote Control
17. Scissors
18. Shampoo
19. Shoe
20. Sock
21. Sweets
22. Teddy
23. Toy monkey
24. Watch

## Appendix C

### Debrief

Thank you for participating in this experiment! The real aim of this experiment was to see if different types of information affect your blink rate, you couldn't be told this at the beginning of the experiment as this would have affected how you blink naturally. The theory is that increased cognitive load results in fewer blinks, this experiment included information that manipulated cognitive load to see if this was the case. All results will be kept anonymous and if at any point you wish to withdraw your results then please contact me with your participant number. If you have any questions or problems then don't hesitate to contact either myself or Ed Symes.

Thanks again!

### Contact Details

Hayley Ledger

[hayley.ledger@students.plymouth.ac.uk](mailto:hayley.ledger@students.plymouth.ac.uk)

Ed Symes

[E.Symes@plymouth.ac.uk](mailto:E.Symes@plymouth.ac.uk)

## Appendix D

A list of the descriptive sentences used in Experiment Two

1. I like to play with this action man
2. I like to eat this apple
3. I like to bounce this ball
4. I like to eat this banana
5. I like to read this book
6. I like wearing this cap
7. I like to eat this chocolate bar
8. I like to wear these glasses
9. I like to wear this glove on my hand
10. I like to spread this apricot jam on my toast
11. I like this tomato sauce on my chips
12. I like to unlock the door with these keys
13. I like to make calls on this mobile phone
14. I like to drink tea and coffee from this mug
15. I like to write things with this pen
16. I like to change the channels with this remote
17. I like to cut things with these scissors
18. I like to use this shampoo
19. I like to wear this shoe
20. I like to wear this sock on my foot
21. I like to eat these sweets
22. I like to cuddle this teddy bear
23. I like to play with this toy monkey
24. I like to tell the time on this watch

## Appendix E

### Raw Data from Experiment One – eye blinks observed

ppt	A	B	C	D
1_1	18	9	7	12
2_1	35	31	37	25
3_1	32	18	17	55
4_1	47	57	41	42
5_1	54	41	32	13
6_1	129	98	96	81
7_1	20	15	5	10
8_1	57	42	49	48
9_1	40	41	23	17
10_1	63	39	52	59
11_1	35	43	29	64
12_1	59	63	52	49
13_1	41	53	40	10
14_1	41	39	32	24
15_1	97	82	79	76

## Appendix F

### Raw Data from Experiment Two – eye blinks observed

ppt	A	B	C	D
1_2	62	50	33	40
2_2	61	31	47	47
3_2	24	25	21	26
4_2	42	35	40	39
5_2	35	33	32	34
6_2	25	18	16	18
7_2	39	37	40	60
8_2	38	33	43	32
9_2	34	24	18	15
10_2	15	30	5	25
11_2	76	60	55	59

12_2	41	41	36	34
13_2	92	100	74	48
14_2	38	23	25	18
15_2	40	30	37	39