

Validation of YouTube as an Experimental Platform Using a Stroop Task



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Abstract

Knapp (2014) proposed that YouTube could be used as an experimental platform for simple research designs. This proposal was tested using the Stroop task (Stroop, 1935) that Knapp (2014) created as a proof of concept. Results indicate that YouTube can be used as a viable experimental platform for simple and powerful designs.

The Goals

- Determine whether YouTube can detect known powerful effects.
- Identify weaknesses in using YouTube as an experimental platform.
- Identify solutions to minimize weaknesses.

Stimuli <http://youtu.be/djUgM2GjudE>

Instructions

Name The Color The
Word Appears In

GREEN = red
GREEN = blue
GREEN = green

The Colors

BLUE, GREEN,
ORANGE, PURPLE,
YELLOW, RED.

Incongruent / Order 1

BLUE, YELLOW, PURPLE,
RED, ORANGE, ORANGE,
RED, GREEN, BLUE,
GREEN, BLUE, YELLOW,
PURPLE, GREEN, PURPLE,
YELLOW, RED, ORANGE.

Congruent / Order 2

BLUE, GREEN, PURPLE,
PURPLE, YELLOW, BLUE,
YELLOW, GREEN, ORANGE,
ORANGE, GREEN, RED,
ORANGE, PURPLE, BLUE,
RED, YELLOW, RED.

Design & Procedure

Tacit consent

Consent information followed by “If you still agree to participate, please choose the appropriate starting condition.”

Counterbalanced by birth month.

Birth Month	Task 1	Task 2
Jan., May, Sep.	Incongruent/1	Congruent/2
Feb., Jun., Oct.	Congruent/1	Incongruent/2
Mar., Jul., Nov.	Incongruent/2	Congruent/1
Apr., Aug., Dec.	Congruent/2	Incongruent/1

Progression through linked annotations.

“Choose the appropriate starting condition”

“Start HERE”

“If this is the first part you completed, click here.”

“Debriefing”

Tips

Use a powerful manipulation.

When using time based dependent variables, one should strive to design manipulations that will produce effects of several seconds.

- Especially important for small-n and within-subjects designs.
 - E.g. a research methods class of ~20.
 - E.g. a student research project.

Keep it simple.

No opportunity to clarify instructions.

- From this experiment:
 - 1 subject reported participating in a condition that didn't exist.
 - 7 subjects reported times before the stimuli appeared.
- From student research projects
 - Emails have went to the wrong contacts.
 - Separate contact information by function (e.g. report results, learn more, or report ethics violations).
 - Use high contrast fonts to ensure legibility.

Avoid using pause.

Pausing works inconsistently

- Participants reported problems with pausing and relied on reading the time off the video player.

Watch out for iProducts.

Browser incompatibilities break links

- One participant was unable to progress using the linked annotations on portable Apple hardware.
 - Warn participants to avoid frustration.

Data Collection

Response Time

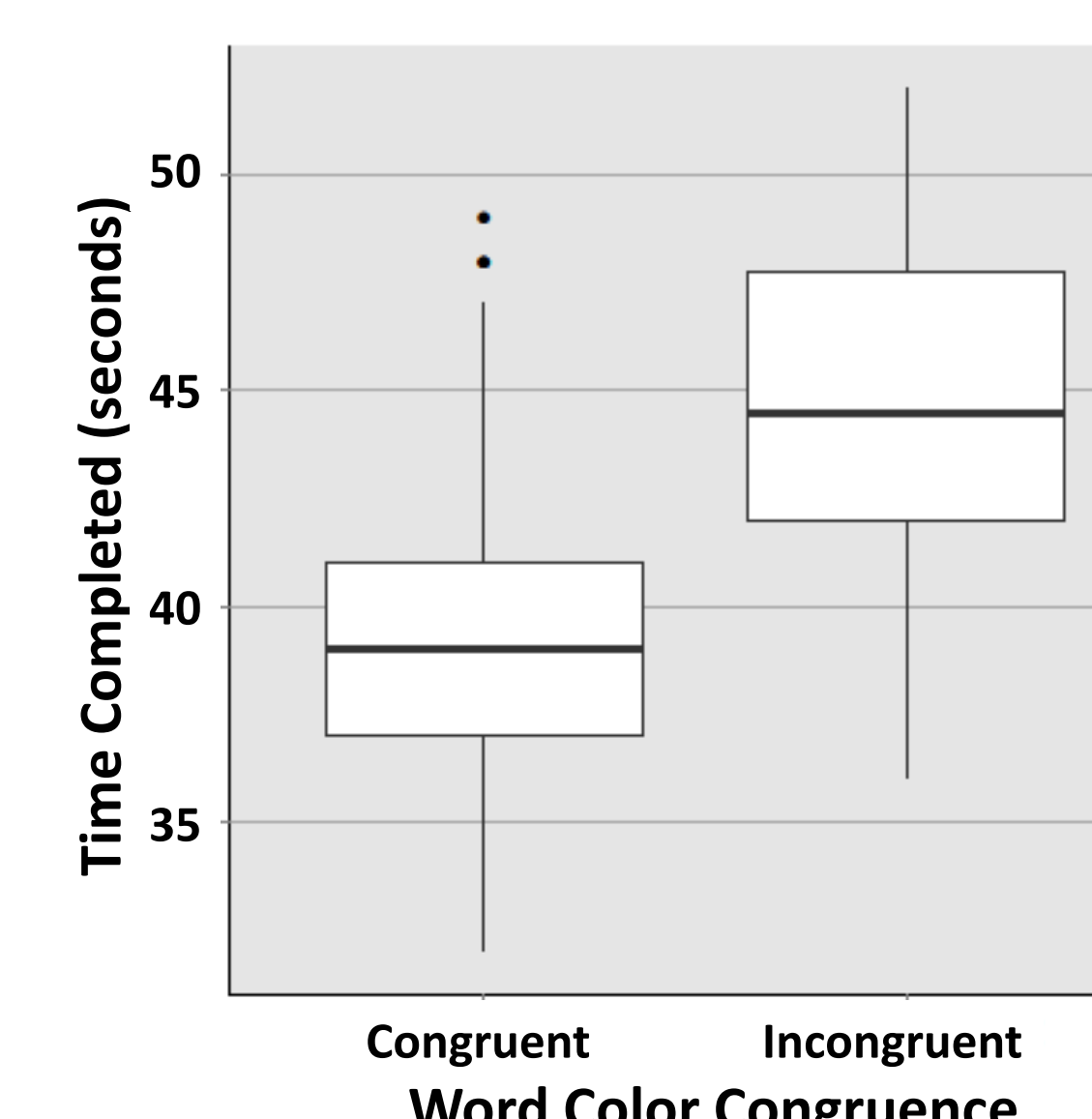
Pause video
and / or
read time from YouTube timer.

Data Submission

YouTube comment
or
E-mail experimenter

Results

- 54 students from 5 classes emailed me that they had completed the experiment.
- 8 participants reported impossible results (see Tips) and were excluded from the analyses.
- Performance in incongruent slower than congruent, $t(45) = 6.6$, $p < .001$.



Summary

- Despite several weaknesses, YouTube can be a viable platform for experimental research.
- YouTube is particularly well suited for simple designs with powerful manipulations.
- Participants can't be trusted to follow instructions, so keep them simple.

References

- Knapp, W. H. (2014, May). *YouTube as an Experimental Platform*. Poster session presented at the 21st Annual APS-STP Teaching Institute of the 26th Annual Convention of the Association for Psychological Science, San Francisco.
- Stroop, J. R. (1935). *Studies of interference in serial verbal reactions*. *Journal of Experimental Psychology*, 18, 643-662. doi:10.1037/h0054651