

PSY246 ~ Cognition

Tutorial 1 ~ Stroop Effect

Automaticity

Many behaviours can become automatized. Can we think of an example of automatic behaviour?

- o Word Reading

Several characteristics of an automatic process:

- o Fast
- o Require less attentional capacity
- o Unavailable to consciousness
- o Inflexible
- o Unavoidable

Word Reading is Fast

Reading Words vs. Naming Objects/Colours

Stimulus	Reading Aloud Name	Naming Stimulus
Colour: multiple repetition	Red 460-550	

J.R. Stroop's Experiment (*Word reading is unavoidable*)

1. Black words

Read aloud each word written in black ink

RED BLUE GREEN BROWN YELLOW

2. Colour Patches

Name the colour of each patch

XXXXX XXXXX XXXXX XXXXX XXXXX

3. Colour Naming

Name the colour of each, ignore the word's meaning

The Stroop Task

What methods did we employ?

On each trial, you were shown a word (RED, GREEN or BLUE) that was printed in either red, green, or blue font colour. Your task was to classify, as quickly as possible, the font colour, regardless of the word name.

The Independent Variable

Whether the colour word and font colour were a match or not aka. Congruent (RED BLUE GREEN) or incongruent (RED BLUE GREEN)

The Dependent Variable

Time from stimulus onset you took to respond (indicate the font colour). Only correct responses were scored. Incorrect responses were kept and repeated later in the experiment.

What type of design is this?

Within subject design

How did Stroop's participants indicate their response?

Spoken colour naming (aloud)

How did we capture participant responses?

Manual key press responses

Why does this matter?

Manual key press responses are slower than naming but the interference effect (though reduced) still occurs

What do we predict participants will do?

Colour naming should be faster for the congruent condition compared to incongruent condition

Is this what we found?

Yes

How would you analyse these results?

Paired sample t-test

Explanation

What caused the Stroop Effect?

The reason for the Stroop effect is that for us reading is automatic

Reading appears to be automatically elicited, so the colour names are always processed very quickly, regardless of the ink colour you are trying to name. On the other hand, identifying colours is not a task that observers have to report on very often, and, because it is not automatized, it is slower.

The main thing to take away from the experiment is that fast and automatic processing of the written colour name interferes with the non-automatic reporting of the ink colour.

Stroop effects (impaired colour naming) can be obtained with kids ~ 7 years ... what does this imply?

Interference by Words