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Deactivation by Unpriming: Does Decrease of Influence mean Lowering of Activation Level?

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The “Abridged” Version:

Question: Unpriming means a decrease in the influence of primed knowledge, but does it also mean a lowered activation level?

Method: Measuring the effect of unpriming with Lexical Decision Task instead of random answering.

Findings: The answer is **NO**. Reaction times were faster after individuals first acted upon the primed concept (unpriming).

Deactivation by Unpriming: Does Decrease of Influence Mean Lowering of Activation Level?

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The Background

❖ What is Unpriming?

- ❖ It is a decrease in the influence of primed knowledge following a behavior expressing that knowledge (Sparrow & Wegner, 2006).
- ❖ Across 5 experiments, Sparrow & Wegner (2006) demonstrated this effect by using the Random Answering Paradigm:
 - Random Answering Paradigm: Participants were asked to answer easy yes/no questions randomly (e.g., flip mental coin in head to decide answer).
 - Participants are normally biased towards the correct answer because of the automatic activation of the correct answer in the mind.
 - But if they were asked to provide the correct answer beforehand, expression removed the correctness bias.
- ❖ The removal of biasness was inferred as the reduction of influence of the primed knowledge.

Interesting stuff! But . . .

❖ Is Unpriming a Result of Decreased Activation Level?

- ❖ To understand the mechanism of unpriming, conceptual replication of the unpriming studies was done by utilizing a different methodology.
- ❖ Instead of the Random Answering Paradigm, we used the Lexical Decision Task (LDT) as our DV:
 - LDT is designed to access the accessibility of concepts and its related words.
 - A word that is easily accessible (activated) in the mind will result in a shorter reaction time.

❖ What is the Significance of Studying Unpriming Effect?

- ❖ Unpriming warrants further investigation as it has potential in turning off unwanted primed effects e.g., stereotype, rumination of problems.
 - E.g., Jones & Fernyhough (2008) mentioned that unpriming was a possible avenue to consider when treating persecutory delusions.

The Hypothesis

- ❖ If unpriming lowered the influence of primed knowledge by lowering its activation level, then participants should show slower (vs. control condition) reaction time on the LDT.

Methodology of Present Studies

- ❖ **In Study 1**, participants completed a computer task that had 2 separate components:

➢ Part 1

1. Read easy question on the screen (e.g., “What is the opposite of heavy”?)
2. After reading the question:
 - **Unpriming Condition (n=29):** answer the question correctly by typing the answer out in the blank provided.
 - **Control Condition (n=30):** press a spacebar to move on to the next screen after reading the question.
3. Part 2 starts after 4 questions were answered/read.

➢ Part 2

1. **Lexical Decision Task:** To identify, as fast as possible, a string of letters on screen as a word or a non-word.
2. In each trial, the string of letters can be either a target word (answer a presented question), a unrelated word, or a non-word. Part 2 had 6 trials of LDT.

- A block of task was made up of Part 1 (4 questions) and Part 2 (6 trials). Participants completed a total of 8 blocks of tasks.

- ❖ **In Study 2**, methodology was the same, except in Part 1:

1. After reading the question:
 - **Unpriming Condition (n=30):** indicate whether they knew the answer to the question by pressing Yes or No
 - **Control Condition (n=31):** indicate whether an average NTU (out-group member) student will know the answer to the question by pressing Yes or No.

Following Sparrow and Wegner (2006), this was a different operationalization of unpriming. They found that mere expression of whether the self knew the answer also resulted in unpriming.

Study 1 Results

	Unpriming Condition	Control Condition
Non-word (ms)	608	627
Target Word (ms)	514	540
Unrelated Word (ms)	531	563

Although the results were not significant, the pattern of the reaction time towards target words indicates that the activation level of the primed words was higher in an unprimed individual (vs. control).

Study 2 Results

	Unpriming Condition (Self)		Control Condition (Others)
Non-word (ms)	660		696
Target Word (ms)	532	< ($p = .001$)	654
Unrelated Word (ms)	571		559

The pattern of reaction time towards target words indicates that the activation level of the primed words was higher in an unprimed individual (vs. control).

Thus, unpriming results in a higher activation level of primed words as compared the control conditon.

