

# Lexical Decision Task Used to Measure Self-Schema Activation and its Effect on Word Recognition



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## Introduction

- External focus of attention: focus on the effect of a movement
  - Example: a golfer focusing on the flight of the ball (effect of the movement)
- Internal focus of attention: focus on a specific body part or the movement of the body
  - Example: a golfer focusing on their arms during the swing
- Previous research has shown that an external focus of attention is more effective for the performance and learning of motor tasks (Wulf, 2013)
- The mechanism behind this phenomenon remains unknown
- Lewthwaite and Wulf have proposed that self-schema activation may cause interference by occupying cognitive resources, thereby generating a decline in performance (2010)
- A measure with which to quantify self-activation is missing from attention focus literature
- Such a measure would be useful in future research seeking to determine the mechanism behind the external focus benefit.



## Purpose

- To validate a measure of self-activation

## Practical Application

- If the measure explored in this experiment proves to be an effective method with which to measure self-activation, this measure could be used in future research to determine if a link exists between self-activation and the performance differences notices with internal versus external attentional foci.

## Methods

- Thirty One participants from the undergraduate student population at the University of Ottawa. Informed consent and approval from the Research Ethics Board were obtained before trials began.
- Subjects participated in a one minute writing task in one of two groups:
  - Experimental group: wrote about their personal experiences in university or their experiences throwing objects (intended to activate the self-schema by having participants think about themselves).
  - Control group: wrote about objects in the room.
- Subjects performed a lexical decision task in which they identified whether the stimulus was a word or a non-words.
- Example of Self-activation word: MINE
- Example of control word: SEND
- Example of non-word: DIRP
- This procedure is based on the study done by Hall & Crisp (2010).

## Results

- Reaction time difference scores (control word – self word) were analyzed in an independent t-test. The control group showed a larger reduction in reaction time to self-words relative to control words compared to the self group,  $t(19) = 2.088$ ,  $p = 0.05$ . to control words, it is clear that control group participants reacted significantly faster to self-words ( $p = 0.05$ ). This effect was not observed with the experimental (self-focus) group.

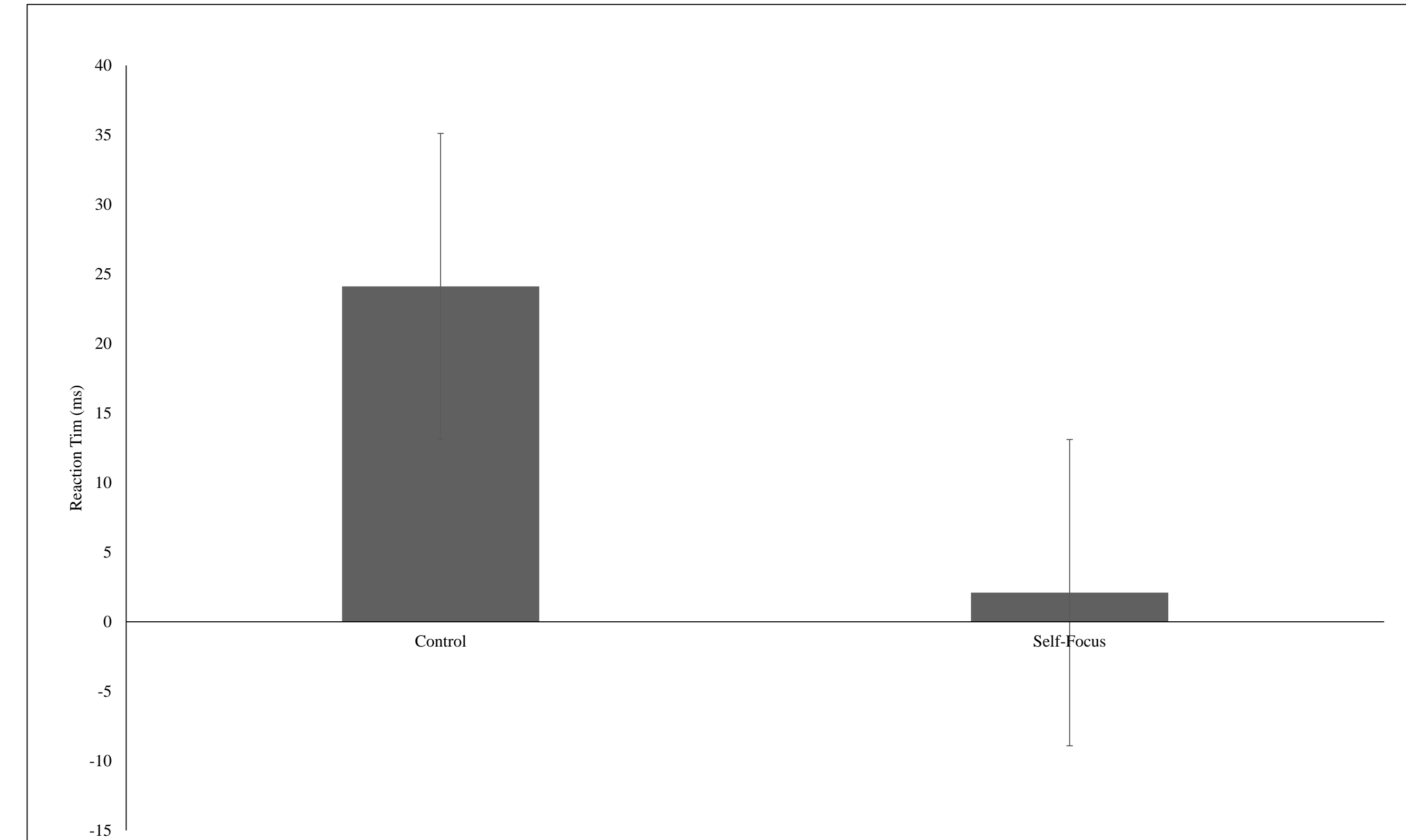


Figure 1. Reaction time differences (ms) to self words compared to words for both the self-focus (experimental) and control groups

## Conclusion

- We are unsure as to why the control group demonstrated a faster relative reaction time to self words. Further experimentation is required to understand this trend
- Based on the finding that the experimental group (who were intentionally self-activated) responded to self-words slower than non-self-activated participants, this lexical decision task is not a valid method for testing self-activation.

## References

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