I. project Identification

Project Acronym:

Project Title: No Effect or Distractor Suppression: Can Self-Related Stimuli Capture Attention?

Applicant: Yuanrui Zheng

Student number: 2799587

Main discipline for this proposal and other contributory disciplines, if applicable:

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| Experimental psychology, cognitive neuroscience |

Keywords (max. 8 separated by a semicolon “;”)

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| Self-related; Suppression; Attention capture |

**Abstract** (up to 1,500 characters, spaces included):

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| It is widely accepted and well-established that individuals are inherently inclined to be more attracted to self-related stimuli when compared to other stimuli. Nevertheless, previous studies have demonstrated that the distinct distraction caused by self-related stimuli versus other stimuli diminishes when self-related stimuli are presented more frequently. However, there are still two key questions regarding this elimination that need to be addressed. First, Does the non-significant difference of the previous studies attributable to implicit learning? Second, is the attention capture by self-related stimuli a result of their familiarity? Two cognitive experiments which combine perceptual matching task and additional singleton task will be conducted to examine the two questions in this study. To examine the latter, participants will be instructed to indicate the orientation of singleton in the target which is in a circle with another kind of shape and a learned self or other-related stimulus. The former, by investigating whether there will be a interaction between self-relevance and probability position of distractor. |

The research proposal consists of (word limit is without references):

Abstract (up to 1,500 characters, spaces included):

Section 1 & 2: max 500 words type here # words:

Section 3: max 500 words, plus figure of paradigm type here # words:

Section 4: max 500 words, plus figure of expected outcome type here # words:

Section 5: max 250 words type here # words:

**2. RESEARCH DESCRIPTION**

In these sections you need to discuss the following:

1. Aims and background of the research proposed

2. Position in the context of existing research

3. Methodology of the research proposed (description of the method, task, number of subjects)

4. Planned data analysis

5. Expected Results and Conclusions

**Aims and Background**

Self-related stimuli are those that represent or are associated with the self, such as one's own name, self-face, or even geometric shapes that are linked to the self(Humphreys & Sui, 2016). A wealth body of evidence suggests that the self-related stimuli have the ability to modulate attention. For instance, subjects exhibited longer response times when required to respond to a trial that included a distractor related to their last name. Nevertheless, some studies have suggested that the impact of self-related distractors on attention can be attributed to their sudden presentation. Specifically, researchers manipulated the task by increasing the frequency of self-related stimuli and found that the effect disappeared(Harris & Pashler, 2004). While the manipulation and results were involved discussions about the rules of studying distractors (Wöstmann et al., 2022), these findings did not definitively reveal whether the absence of the effect resulted from the specific distractor consistently appearing in a certain position, prompting subjects to exert stronger distractor suppression during the task, or if there genuinely was no effect of the self-related distractor on the task. Furthermore, these findings did not allow for effective control of confounding variables, as both the name and the emotional content might be more familiar to the subjects compared to the other words. The current research aims to investigate whether self-related stimuli capture attention more effectively than other stimuli, and whether distractors are selectively suppressed in a particular location, with the degree of suppression at that location being influenced by different stimulus types.

**Introduction**

**Methodology**

**Planned Data Analysis**

**Expected Results and Conclusions**

**References**

Harris, C. R., & Pashler, H. (2004). Attention and the Processing of Emotional Words and Names. *Psychological Science*, *15*(3), 171–178. https://doi.org/10.1111/j.0956-7976.2004.01503005.x

Humphreys, G. W., & Sui, J. (2016). Attentional control and the self: The Self-Attention Network (SAN). *Cognitive Neuroscience*, *7*(1–4), 5–17. https://doi.org/10.1080/17588928.2015.1044427

Wöstmann, M., Störmer, V. S., Obleser, J., Addleman, D. A., Andersen, S. K., Gaspelin, N., Geng, J. J., Luck, S. J., Noonan, M. P., Slagter, H. A., & Theeuwes, J. (2022). Ten simple rules to study distractor suppression. *Progress in Neurobiology*, *213*, 102269. https://doi.org/10.1016/j.pneurobio.2022.102269