**Reverse Correlation Validation** January 2016

**Debriefing form**

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Thank you for participating in our research. During the study you compared images presented to you with a mental image of either a target ‘+’ or ‘x’ that you were given, identifying images that contained the target. Some participants were given instructions to actively search for the target in the images shown, while others were given instructions to passively search for the target, waiting until the target ‘popped’ into mind when looking at the image shown.

As you may have found, none of the images presented to you had your targets in them. Instead, they were composed of entirely random white noise. As a result, the images in which you identified having the target were in fact images that have some vague similarity to the target you had in mind. The images that you classified will be randomly split into two groups.

By taking the average of the images in the first group that were classified as containing the target, we are able to create a representation of what type of target you were looking for. This technique is known as **reverse correlation** and results in a classification image, a representation of the target you were looking for while completing the task. Once we have calculated the classification image, we are able to make predictions about how you classified the images in group two.

The goal of this experiment is to show that this technique allows you to make accurate predictions about future behavior. In order to show this, predictions of your behavior is expected to be most accurate when doing so based on your own classification image, second most accurate when doing so based on another participants’ classification image assigned to the same target, and least accurate when participants’ classification image assigned to a different target. The accuracy of behavior prediction in this experiment is the **dependent variable**.

This research can help better the understanding of how the human brain is so efficient at recognizing objects in the environment, and will aid in developing a new technique that will allow researchers to have concrete measurements of participants’ mental representations of objects.

If you have any questions or concerns about this experiment, please call Patrick Laflamme or James Enns at the phone number above or email: Patrick.laflamme@psych.ubc.ca

Thanks again for your participation.

For additional reading, consider:

Gosselin, F., & Schyns, P. G. (2003). Superstitious Perceptions Reveal Properties of Internal Representations. *Psychological Science*, *14*(5), 505–509. http://doi.org/10.1111/1467-9280.03452