“BrainFreeze” Interruption Lab Study

Experiment Script

## Introduction

Hello, my name is \_\_\_\_\_. Thank you for participating in our study. The first thing we’d like you to do is read over this consent form and sign it.

* *Give participant a consent form*

Thank you. I would also like you to fill out this short questionnaire before we begin, which should at most take a couple of minutes to complete.

* *Load the pre-study questionnaire for determining affect, fatigue, mental state. Participant completes questionnaire*

Now I’ll tell you about the study. Today, we are going to be working primarily with two puzzle tasks. During some trials of these tasks, you will be interrupted with one of two secondary tasks. The secondary tasks are purposefully disruptive and are meant to distract you and keep you from thinking about the primary task. We are interested in your performance on the primary puzzle tasks with and without the presence of interruptions.

This experiment involves only the use of the left-mouse button. No keyboard use will be necessary.

There are several phases to this experiment. First, you will experience the two secondary interrupting tasks in isolation. Following this, you will experience a demonstration of the first of the two primary tasks, and you will be given an opportunity to practice this task with and without the interrupting secondary tasks. When ready, you will then perform 3 sets of trials of this task, during which you must remain vigilant and respond to the secondary interrupting tasks as they occur. Upon completion of these trials, you will repeat this entire process for the second of the two primary tasks.

* *Open the BrainFreeze application. Referring to the experiment lookup table, enter the group ID, subject ID, interruption condition order, and main-task order on the splash page’s form. Click the “Full-Screen” button, then the “Next” button to enter the main experiment portal screen.*

## Interruption Tasks Examples

You will now perform the two secondary interrupting tasks in isolation. At the top right of this page, you will see two buttons: *Interruption Task 1 Example* and *Interruption Task 2 Example*. In *Interruption Task 1*, you will be shown an automated sequence of a dozen cartoon images. Your task is to watch these images passively, and to dismiss the interruption when prompted. Click on *Interruption Task 1 Example*.

* *User performs Interruption Task 1 Example.*

Good. In Interruption Task 2, you will again be shown an automated sequence of a dozen cartoon images; however you will not remain passive. Instead, your task is to click inside the box where the image is shown if the image you currently see repeats what you saw two images ago. You must be quick to do so before the sequence advances. Otherwise, do not click until you are prompted to dismiss the interruption. When ready, click on *Interruption Task 2 Example*.

* *User performs Interruption Task 2 Example.*

 I encourage you now to perform this example again to gain additional practice.

* *User performs Interruption Task 2 Example again.*

We are now ready to start the first of the two primary tasks.

## Task A (Sentence Comprehension)

In Task A, you will read instructions to arrange shapes on the screen, and subsequently carry out these instructions to the best of your recollection and understanding. It is best if you experience an example of this, so when ready, click the *Task A Example* button.

* *Participant* *completes Task A Example*

Good. Now you will perform a sequence 3 practice trials of this task. You will also need to respond to both types of interruptions which will occur during this sequence. An interruption may occur at a maximum of once per trial, and at any time during the trial. Upon completion of an interrupting task, you will dismiss the interruption by clicking “Continue” and return to the primary task trial which was interrupted. You are encouraged to complete each trial both as quickly and as accurately as possible.

* *Participant completes Task A Practice*

You will now complete the experimental trials, wherein your performance will be recorded, both in terms of speed and accuracy. You will perform 3 sets of 10 trials. You will be given an opportunity to rest in between each set. Once again, I will remind you that an interruption may occur at a maximum of once per trial, and at any time during the trial. Many trials will be uninterrupted. In addition, recall that the interrupting tasks have been intentionally designed to distract you and keep you from thinking about your primary task, so do not allow them to frustrate you to a great degree.

When ready, click on *Task A.1.*

* *Participant completes trial bank A.1*

When ready, click on *Task A.2*.

* *Participant completes trial bank A.2*

When ready, click on *Task A.3*.

* *Participant completes trial bank A.3*

This concludes Task A. [*If Task A occurs first*: You have completed the first of two main tasks. We will now complete the second task.]

## Task B (Square Puzzles)

In Task B, you will move lines to create complete squares in a specified number of moves. A complete solution will contain no incomplete squares and will require no more moves than is specified. It is best if you experience an example of this, so when ready, click the *Task B Example* button.

* *Participant* *completes Task B Example*

Good. Now you will perform a sequence 3 practice trials of this task. You will also need to respond to both types of interruptions which will occur during this sequence. An interruption may occur at a maximum of once per trial, and at any time during the trial. Upon completion of an interrupting task, you will dismiss the interruption by clicking “Continue” and return to the primary task trial which was interrupted. You are encouraged to complete each trial both as quickly and as accurately as possible, without performing more than the specified number of moves. Recall that a complete solution contains no incomplete squares.

* *Participant completes Task B Practice*

You will now complete the experimental trials, wherein your performance will be recorded, both in terms of speed and accuracy. You will perform 3 sets of 8 trials. You will be given an opportunity to rest in between each set. Once again, I will remind you that an interruption may occur at a maximum of once per trial, and at any time during the trial. Many trials will be uninterrupted. In addition, recall that the interrupting tasks have been intentionally designed to distract you and keep you from thinking about your primary task, so do not allow them to frustrate you to a great degree.

When ready, click on *Task B.1.*

* *Participant completes trial bank B.1*

When ready, click on *Task B.2*.

* *Participant completes trial bank B.2*

When ready, click on *Task B.3*.

* *Participant completes trial bank B.3*

This concludes Task B. [*If Task B occurs first*: You have completed the first of two main tasks. We will now complete the second task.]

## Conclusion

We’re almost done. Just a couple of things left.

Please fill out this questionnaire about your experiences today.

* *Load the post-study questionnaire. Participant completes the questionnaire.*

Thank you. Now if you will sign this receipt, I can give you your compensation for participating.

* *Participant signs receipt and receives compensation.*

Thank you very much for your time.