# Informed Consent

**Information**

You are invited to participate in a research study. The purpose of this study is to determine if relaxation has a meaningful impact on maintaining sustained attention. You will perform a finger-tapping task and a rapid serial visual presentation (RSVP) task in no particular order. During the finger-tapping task you will be asked to tap your finger in a steady rhythm for 4 minutes by pressing the space bar on the keyboard. Try your best to maintain the original rhythm for the entire duration of the task. During the RSVP task, you will be presented with a series of rapidly-presented letters. Within that stream are one or two numbers (1 to 9). You will be asked to make a mental note of the numbers presented, and to indicate at the end of the trial which numbers were shown, and in what order. These responses will be made on a number pad. Sometimes during the trial you may be presented with a blank screen. Please ignore that. This RSVP task should take approximately 11 to 14 minutes.

After completing both tasks, you will be asked to participate in 20 minutes of guided relaxation exercises presented via audio recording. Please follow the instructions provided. Try not to force yourself while doing this. There is no right or wrong way to complete this.

After 20 minutes of relaxation, you will be asked to once again redo the finger tapping and RSVP tasks. The duration of both will be the same as the previous session.

Throughout this study, you will be connected to an electroencephalogram (EEG). There is absolutely no pain involved with being connected to the EEG. You will be asked to wear a cap on your head with a small amount of gel. This cap is connected to the EEG amplifier and allows us to measure your brain activity during the experiment. We will also place small electrodes under your eye, attach these electrodes to the same EEG amplifier, and then measure the strength of your eye-blink response. This too is completely painless. Although the research cannot be fully explained at this time, a complete explanation will be provided at the conclusion of your participation today. The study should take two hours, and you will receive 2.0 research credits for your participation.

**Risks**

Although there are no foreseeable risks involved in participating in this study, you should be aware of a few things. First, EEG studies involve placing electrolyte gel in your hair, and this (i) involves a trained research assistant placing blunt electrodes directly onto (touching) your scalp and (ii) can become messy. Rest assured, however, that you will also have the opportunity at the end of the study to wash, style, and dry your hair.

**Benefits**

You will have the opportunity to observe the methods that researchers use to study the neural and psychophysiological factors related to people’s decision making, thus improving your understanding of psychological research methods. You will also contribute to the body of knowledge of people’s brain and psychophysiology as they make decisions. You will also be exposed to effective relaxation techniques, which are associated with cognitive and emotional benefits.

**Confidentiality**

Your responses will be kept completely confidential. Confidentiality of your research records will be strictly maintained by assigning all the data you provide a code number. Your confidential data will be kept in a locked   
office in the psychology department that can be accessed only by the research supervisor and authorized researchers, and will be destroyed seven years after the completion of this study, in accordance with American Psychological Association guidelines. The results of this study may be reported in conference presentations and journal articles. Note, however, that the responses of individual participants will not be identified in any reports of this research; only aggregated data (e.g., averages from the projected 75 participants) will be reported.

**Compensation**

You will receive 2.0 research credits towards the introduction to psychology extra credit option, and $20 for your participation in this study. If you begin the study but choose to withdraw prior to its completion or ask to have your data deleted, you will still receive your full 2.0 research credit and $20. Of course, once your data have been turned in, it cannot be withdrawn because it is anonymous.

**Contact and Feedback**

If you have questions at any time about the study or the procedures, you may contact the principle researchers, John Eusebio (john.eusebio@mail.utoronto.ca) or Dr. Michael Inzlicht (michael.inzlicht@utoronto.ca), at the Department of Psychology, University of Toronto, Scarborough Campus. This project has been reviewed and approved by the University Research Ethics Board. If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact the University of Toronto Research Ethics Board (ethics.review@utoronto.ca). If you are interested in viewing the results of this study, please feel free to contact the principal researcher, John Eusebio (john.eusebio@mail.utoronto.ca).

**Participation**

Your participation in this study is completely voluntary. You may withdraw from the study at any time without penalty or loss of benefits to which you are entitled. You are also free to omit the answer to any question.

**Uploading Data to Research Database**

In line with scientific practice and research transparency, the data we collect (responses and any coded data) will be made available on a research forum for open science practice ([https://osf.io/](https://osf.io/%22%20%5Ct%20%22_blank)). All data that is uploaded, including transcribed video/audio files, will be coded scores, and not actual video/audio data itself. In addition, all information/data will be given a random ID and therefore, will not contain any personally identifiable information.

**Consent to Participate**

I have read and understand the above information. I have received a copy of this form. I agree to participate in this study.

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Consent to have Data Uploaded to Research Database**

I agree to have my data made available on a research database, which will be accessed by the scientific and psychological academic community. I am aware that any information of my data will not include personally identifiable information.

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# Debriefing Form

Thank you very much for participating in today’s session. We are very grateful for your feedback and hope you found the experience interesting and enjoyable.

At the beginning of today’s session, we told you we were studying how guided relaxation affects attention. We have some more specific goals that we couldn’t tell you about at the beginning. The reason we concealed our specific purposes is because, often, when people know the exact purpose of a study, they respond in ways that support the hypotheses, rather than responding naturally. We felt that we could obtain natural responses and more valid results if you did not know our full purpose. We hope that you understand our decision and that you do not feel upset about being partially misled.

The primary purpose of our study is to determine if mindfulness meditation induces a more open form of attention, allowing for better recognition and processing of stimuli. Sometimes in our daily life our mind becomes overwhelmed by all that we have process, and we may miss something important by focusing too much on one thing. We used a combination of behavioral methods, as well as electroencephalogram (EEG) to investigate the neural and psychophysiological correlates of human attention. Half of the participants in this study were randomly assigned to mindfulness meditation, and the other have to somatic relaxation.

The finger-tapping task you completed is a deceptively simple task designed to detect the “mode” of processing your brain is using at any given moment. When you press the button at an inconsistent pace (off-rhythm), your brain is likely exerting effort to maintain performance. However, if you keep a steady rhythm, your brain is likely more relaxed and open to experiences. This latter state is known as being “in the zone” (former state is “out of the zone”). The rapid serial visual presentation (RSVP) task is designed to measure how fixated you become on a given stimulus (the first number, T1), and if this fixation prevents you from detecting a stimulus closely following it (the second number, T2). We wanted to investigate if meditation can induce “in-the-zone” processing, and if this processing can help people avoid fixating on T1 and detect T2. We are also investigating the neurological correlates of your behavioural performance and meditation to see what the underlying mechanisms behind this change are. We wanted to see if any changes we may find are unique to meditation, or if simply relaxing is enough.

We believe that meditating induces “in-the-zone” processing via the default mode network – a brain network associated with rest and introspective thought. This mode of processing may be more sustainable, as your brain does not become fatigued by forcefully attending to a single thing, and may leave more resources for other stimuli.

The research is still in progress, so we would really appreciate if you do not tell others about the specific details of this study. If you have any other questions, please feel free to ask or you may contact the researchers, John Eusebio (john.eusebio@mail.utoronto.ca) or Dr. Michael Inzlicht (michael.inzlicht@utoronto.ca), at the Department of Psychology, University of Toronto, Scarborough Campus.

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact the University of Toronto Research Ethics Board, [ethics.review@utoronto.ca](https://utoronto-my.sharepoint.com/personal/john_eusebio_mail_utoronto_ca/Documents/Labs/Inzlicht%20Lab/outside_project/ethics/ethics.review@utoronto.ca).

Thank you again for participating!

# The Big Five Inventory (BFI)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Disagree strongly | Disagree a little | Neither agree nor disagree | Agree a little | Agree strongly |  |
|  | 1 | 2 | 3 | 4 | 5 |  |

|  |  |
| --- | --- |
| 1. Is talkative | 1. Tends to be lazy |
| 1. Tends to find fault with others | 1. Is emotionally stable, not easily upset |
| 1. Does a thorough job | 1. Is inventive |
| 1. Is depressed, blue | 1. Has an assertive personality |
| 1. Is original, comes up with new ideas | 1. Can be cold and aloof |
| 1. Is reserved | 1. Perseveres until the task is finished |
| 1. Is helpful and unselfish with others | 1. Can be moody |
| 1. Can be somewhat careless | 1. Values artistic, aesthetic experiences |
| 1. Is relaxed, handles stress well | 1. Is sometimes shy, inhibited |
| 1. Is curious about many different things | 1. Is considerate and kind to almost everyone |
| 1. Is full of energy | 1. Does things efficiently |
| 1. Starts quarrels with others | 1. Remains calm in tense situations |
| 1. Is a reliable worker | 1. Prefers work that is routine |
| 1. Can be intense | 1. Is outgoing, sociable |
| 1. Is ingenious, a deep thinker | 1. Is sometimes rude to others |
| 1. Generates a lot of enthusiasm | 1. Makes plans and follows through with them |
| 1. Has a forgiving nature | 1. Gets nervous easily |
| 1. Tends to be disorganized | 1. Likes to reflect, play with ideas |
| 1. Worries a lot | 1. Has few artistic interests |
| 1. Has an active imagination | 1. Likes to cooperate with others |
| 1. Tends to be quiet | 1. Is easily distracted |
| 1. Is generally trusting | 1. Is sophisticated in art, music, or literature |

# Toronto Mindfulness Scale

Circle Run: 1 2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Instructions**: We are interested in what you **just experienced**. Below is a list of things that people sometimes experience. Please read each statement. Next to each statement are five choices: “not at all,” “a little,” moderately,” “quite a bit,” and “very much.” Please indicate the extent to which you agree with each statement. In other words, how well does the statement describe what you just experienced, just now? | **Not at all** | **A little** | **Moderately** | **Quite a bit** | **Very much** |
| 1. I experienced myself as separate from my changing thoughts and feelings. | 0 | 1 | 2 | 3 | 4 |
| 1. I was more concerned with being open to my experiences than controlling or changing them. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious about what I might learn about myself by taking notice of how I react to certain thoughts, feelings or sensations. | 0 | 1 | 2 | 3 | 4 |
| 1. I experienced my thoughts more as events in my mind than as a necessarily accurate reflection of the way things ‘really’ are. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious to see what my mind was up to from moment to moment. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious about each of the thoughts and feelings that I was having. | 0 | 1 | 2 | 3 | 4 |
| 1. I was receptive to observing unpleasant thoughts and feelings without interfering with them. | 0 | 1 | 2 | 3 | 4 |
| 1. I was more invested in just watching my experiences as they arose, than in figuring out what they could mean. | 0 | 1 | 2 | 3 | 4 |
| 1. I approached each experience by trying to accept it, no matter whether it was pleasant or unpleasant. | 0 | 1 | 2 | 3 | 4 |
| 1. I remained curious about the nature of each experience as it arose. | 0 | 1 | 2 | 3 | 4 |
| 1. I was aware of my thoughts and feelings without overidentifying with them. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious about my reactions to things. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious about what I might learn about myself by just taking notice of what my attention gets drawn to. | 0 | 1 | 2 | 3 | 4 |

# Toronto Mindfulness Scale

Circle Run: 1 2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Instructions**: We are interested in what you **just experienced**. Below is a list of things that people sometimes experience. Please read each statement. Next to each statement are five choices: “not at all,” “a little,” moderately,” “quite a bit,” and “very much.” Please indicate the extent to which you agree with each statement. In other words, how well does the statement describe what you just experienced, just now? | **Not at all** | **A little** | **Moderately** | **Quite a bit** | **Very much** |
| 1. I experienced myself as separate from my changing thoughts and feelings. | 0 | 1 | 2 | 3 | 4 |
| 1. I was more concerned with being open to my experiences than controlling or changing them. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious about what I might learn about myself by taking notice of how I react to certain thoughts, feelings or sensations. | 0 | 1 | 2 | 3 | 4 |
| 1. I experienced my thoughts more as events in my mind than as a necessarily accurate reflection of the way things ‘really’ are. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious to see what my mind was up to from moment to moment. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious about each of the thoughts and feelings that I was having. | 0 | 1 | 2 | 3 | 4 |
| 1. I was receptive to observing unpleasant thoughts and feelings without interfering with them. | 0 | 1 | 2 | 3 | 4 |
| 1. I was more invested in just watching my experiences as they arose, than in figuring out what they could mean. | 0 | 1 | 2 | 3 | 4 |
| 1. I approached each experience by trying to accept it, no matter whether it was pleasant or unpleasant. | 0 | 1 | 2 | 3 | 4 |
| 1. I remained curious about the nature of each experience as it arose. | 0 | 1 | 2 | 3 | 4 |
| 1. I was aware of my thoughts and feelings without overidentifying with them. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious about my reactions to things. | 0 | 1 | 2 | 3 | 4 |
| 1. I was curious about what I might learn about myself by just taking notice of what my attention gets drawn to. | 0 | 1 | 2 | 3 | 4 |

# Philadelphia Mindfulness Scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Instructions**: Please indicate how often you experienced each of the following statements **within the past week**. Please read each statement. Next to each statement are five choices: “never,” “rarely,” sometimes,” “often,” and “very often.” Please indicate the extent to which you agree with each statement. | **Never** | **Rarely** | **Sometimes** | **Often** | **Very Often** |
| 1. I am aware of what thoughts are passing through my mind. | 0 | 1 | 2 | 3 | 4 |
| 1. I try to distract myself when I feel unpleasant emotions. | 0 | 1 | 2 | 3 | 4 |
| 1. When talking with other people, I am aware of their facial and body expressions. | 0 | 1 | 2 | 3 | 4 |
| 1. There are aspects of myself I don’t want to think about. | 0 | 1 | 2 | 3 | 4 |
| 1. When I shower, I am aware of how the water is running over my body. | 0 | 1 | 2 | 3 | 4 |
| 1. I try to stay busy to keep thoughts or feelings from coming to mind. | 0 | 1 | 2 | 3 | 4 |
| 1. When I am startled, I notice what is going on inside my body. | 0 | 1 | 2 | 3 | 4 |
| 1. I wish I could control my emotions more easily. | 0 | 1 | 2 | 3 | 4 |
| 1. When I walk outside, I am aware of smells or how the air feels against my face. | 0 | 1 | 2 | 3 | 4 |
| 1. I tell myself that I shouldn’t have certain thoughts. | 0 | 1 | 2 | 3 | 4 |
| 1. When someone asks how I am feeling, I can identify my emotions easily. | 0 | 1 | 2 | 3 | 4 |
| 1. There are things I try not to think about. | 0 | 1 | 2 | 3 | 4 |
| 1. I am aware of thoughts I’m having when my mood changes. | 0 | 1 | 2 | 3 | 4 |
| 1. I tell myself that I shouldn’t feel sad. | 0 | 1 | 2 | 3 | 4 |
| 1. I notice changes inside my body, like my heart beating faster or my muscles getting tense. | 0 | 1 | 2 | 3 | 4 |
| 1. If there is something I don’t want to think about, I’ll try many things to get it out of my mind. | 0 | 1 | 2 | 3 | 4 |
| 1. Whenever my emotions change, I am conscious of them immediately. | 0 | 1 | 2 | 3 | 4 |
| 1. I try to put my problems out of mind. | 0 | 1 | 2 | 3 | 4 |
| 1. When talking with other people, I am aware of the emotions I am experiencing. | 0 | 1 | 2 | 3 | 4 |
| 1. When I have a bad memory, I try to distract myself to make it go away. | 0 | 1 | 2 | 3 | 4 |