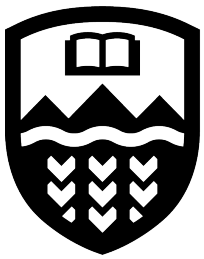

UNIVERSITY OF ALBERTA

PSYCH 282: Behaviour Modification - Fall 2025

# Assignment 1:

# Gathering Baseline Data

Instructor: **Dr. Jeffrey M. Pisklak**

## General Instructions

Assignment 1 is the first part of a larger behaviour modification project you will engage in that also encompasses Assignment 2. Assignment 1 consists of you defining a personal behaviour and measuring it for a baseline period of 21 days. Assignment 2 will extend this by incorporating a behaviour modification plan (i.e., treatment) to either increase or decrease the behaviour you have defined and measured in Assignment 1.

For Assignment 1 specifically, you will need to collect data measuring your target behaviour for a span of 21 days. You will be plotting your collected data using a programming language called **R** via a free online service called **Google Colaboratory** (don't worry, no programming experience is necessary, it will be easy). The information and data you collect in this first assignment will be used to inform your second assignment. Thus, Assignment 1 is fundamentally a period of *baseline* data collection. Please appreciate that the behaviour you define and measure in this assignment is not "hypothetical," you are expected to measure *your* actual *real*-world behaviour.

Sections 1, 2, and 3 below describe what is required.

# 1 Identify a specific target behaviour by providing a label and operational definition

Before we can begin measuring any behaviour, we need to have a clear sense of what it consists of. For instance, if you ultimately want to increase the amount of studying you do, you need to define (objectively) what counts as "studying" (note that "studying" is just the behaviour's *label* in this case).

- The behaviour you define should be something you do or don't want to engage in on a regular basis. Please refer to lecture notes and/or textbook Ch. 2 for tips on defining behaviours.
- Your definition should describe only one dimension of behaviour (e.g., frequency, duration, latency, etc.), not multiple dimensions. Moreover, the dimension you choose should be quantitative in nature (i.e., your measurement should generate numeric values that can be plotted on a graph's y-axis).
- For your definition, do NOT include criteria that cannot, in principle, be objectively measured; as by another person, recording device, etc. i.e., Thought's, feelings, etc. are NOT permitted.
- Your definition should have good interobserver reliability. i.e., Another person, using the same definition to record the same behaviour should be able to obtain the same results/measurements. Marks will be not be awarded for definitions that are too vague or ambiguous.
- Practicality needs to be considered (especially for highly frequent behaviours). You should define your behaviour in such a way that measuring it is an easy process. Marks will not be awarded for impractical definitions.
- When writing your definition, think carefully about possible threats to its internal validity. For example, Figure 2 shows a definition for measuring the duration of piano practice. At first glance, this seems fine—unless you tend to bring distractions (like your phone) to the piano. If much of that "practice time" is actually spent scrolling, the duration measure becomes contaminated and no longer reflects true practice. In cases like this, you should refine your definition by adding conditions (e.g., "practice time excludes phone use") to ensure it accurately captures the behaviour of interest.

### Unacceptable Behaviours:

You are free to measure any behaviour you wish, provided it does not fall under any of the following categories:

- Another organism's behaviour
- Anything against the Code of Student Behaviour
- Any illegal activity

- Anything involving substances such as alcohol, tobacco, herbal remedies, medications, or illicit drugs. However, you may include more commonly accepted substances like caffeine (e.g., coffee), as long as they are consumed at a level most people would consider reasonable.
- Sexual behaviours
- Weight loss (this is not a behaviour, it is a consequence of behaviour such as eating, exercise, etc.)
- Any behaviour that could reasonably be construed as a serious psychological or medical disorder.

Using any of these will result in a mark of zero on your submission and you will be prohibited from completing Assignment 2, with the weight of both assignments transferred to your final exam. If you are uncertain whether your choice of behaviour falls within any of these categories, please contact the instructor immediately.

## Some Suggestions:

The following are some suggestions of behaviours students frequently choose to measure. Originality is encouraged but not necessary. Note that these are *labels* not *definitions*.

- Study Duration
- Exercise Frequency
- Exercise Duration
- Bed Making Frequency
- Tooth Brushing
- Procrastination
- Swearing
- Note writing
- Phone Screen Time

## Other Tips and Things to Avoid:

- Do NOT define your behaviour in terms of a personal goal you have. E.g. "*I want to drink 8 glasses of water each day*." **A behavioural definition is not a goal**, it is an objective criteria for determining when a specific behaviour has occurred so you can measure it.
- Remember that Assignment 2 will require developing a treatment to increase or decrease your behaviour. This means that (for Assignment 1) you need to define a behaviour that you could, in theory, create a behavioural treatment for. For example, students often make the mistake of defining a target behaviour like *"Exercise duration"* as *"the number of kilometres I can run on the treadmill in a 1-hour interval."* The problem with this definition is that your behaviour, in this case, is contingent on your cardiovascular fitness level. That is not something you can create a behavioural treatment for because, the number of kilometres you can run on the treadmill in a 1-hour interval is not a self-control issue, it's a "how fit are you issue." What you can do instead is create treatments to enhance your cardiovascular fitness, but those would be measuring something different. Specifically, they would be measuring things like how often you use the treadmill, how many times a week do you exercise, what kinds of foods are you consuming, etc. All of those behaviours will impact your fitness level overtime. Consequently, those are the kinds of behaviours you should be trying to measure and (in Assignment 2) modify. You should not be defining it in a way that is dependent on your current fitness level.
- Does your definition make it obvious what dimension of behaviour is being recorded? E.g., Latency, duration, frequency, topography, etc. If you can't answer this, your definition is probably not very good.

- Does your definition require an observation period to be specified? Some behaviours occur so frequently or so infrequently that it's impractical to track them 24 hrs a day. In these cases, it could be advantageous to specify a specific period of time or even a specific context in which the measurement will take place.
- Pilot test your definition before formal recording begins. i.e., Try recording your behaviour for a day and see how practical it is and if any improvements are needed. When you do this, try to imagine what the recording process would be like if someone else was tasked with recording *your* behaviour using the definition *you* have created. Could they do it and would they get the same results you get?
- This assignment does NOT require you to specify a reason for choosing your behaviour. Please keep that to yourself.
- Be realistic about the kinds of behaviour you could choose for *this* assignment. With the fast pace of the semester, time is limited. If you choose something that is only possible to record once a week (e.g., tardiness attending softball practice) you will not be able to obtain the necessary 21 days worth of data before the due date.

## 2 Specify the recording instrument(s) you will use to record/log your behaviour as it occurs

- This could include things like timers, binders, files on a computer. i.e., Anything you are using to record or track your data should be specified.
- Practicality needs to be considered (especially for highly frequent behaviours).
- Marks will be deducted if your recording instrument is too impractical.

## 3 Collect baseline data for at least 21 days and plot it

Once all 21 (or more) days of your data is collected, your final graph should look something like Figure 1 (albeit with different values and a different y-axis).

As mentioned in the General Instructions, you will be using an open-source programming language called **R** via a free online service called **Google Colaboratory** to plot your data. If you have no programming experience whatsoever, don't worry, as none is necessary. This facet of the assignment is meant to serve as an introduction to statistical computing and **there will be dedicated lecture time set aside (see syllabus) specifically for learning these tools**. There is no software you will need to download or install on your computer, all that is required is a stable internet connection and web browser. We will also briefly discuss why you would want to use a programming language like R, in place of expensive proprietary software like Microsoft Excel and SPSS.

### Other Plotting Considerations

- Your behaviour should be plotted across days (i.e., days on x-axis, behaviour on y-axis).
- Excessive and/or unnecessary use of colours, fonts, symbols, and other superfluous effects will be penalized.
- Keep the plot simple and easy to read.
- If your behaviour never occurs (i.e., your graph is all 0s) you will *not* lose marks. However, for full marks you will need a minimum of 21 data points (i.e., 21 days).
- The data you collect does not need to be plotted across consecutive days. i.e., if you miss a day because you forgot to record your behaviour, just record for an additional day to make up for the one you missed.

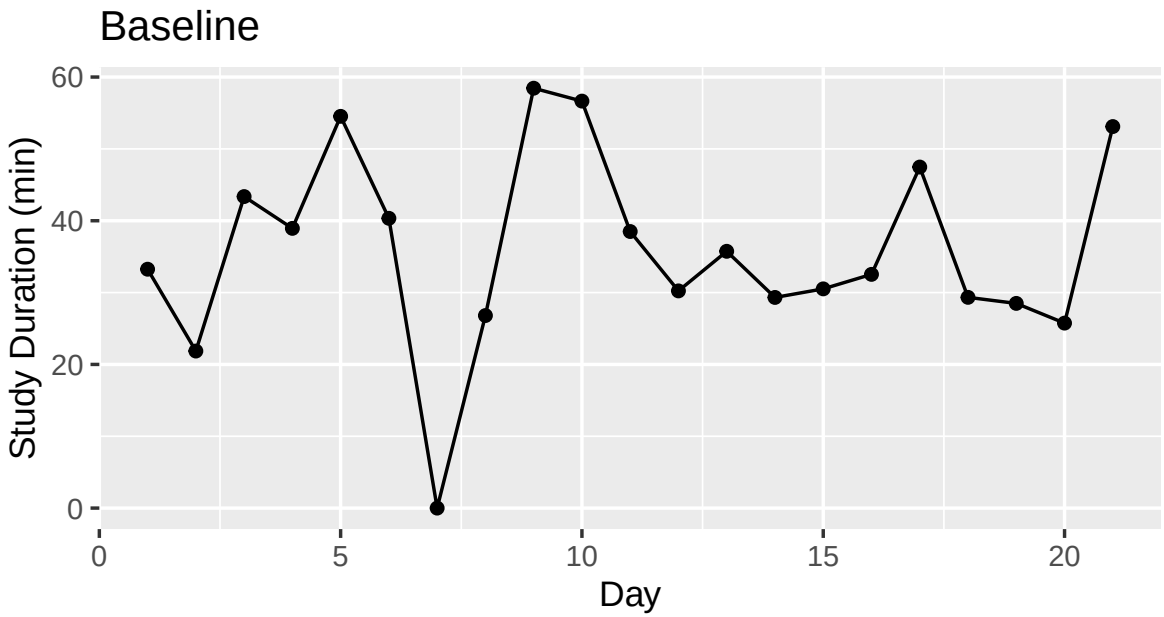


Figure 1: Example Plot

# 4 Submission Information

This assignment is worth 5% of your total grade and due **by 23:59 Friday October 17th**. You will submit your assignment via Canvas using the submission link provided on the course website.

## File Submission

In the file submission box, the following four files need to be uploaded:

1. Your plot as a separate image file. It must have a resolution of at least 300 dpi or be a vector-based graphic (this will be explained when we learn R).
2. A copy of the .CSV file containing your collected data.
3. A copy of your R code (the .IPYNB file).
4. A PDF, Word (.docx), or, Text (.txt) document containing the following info:
   (a) Target behaviour's label.
   (b) Target behaviour's operational definition.
   (c) The recording instruments you will use.

   Your text file contents should resemble Figure 2 below.

**Label:** Piano Practice Duration

**Operational Definition:** The amount of time elapsed from the moment I sit down at the piano to when I have gotten up to leave the piano.

**Recording Instruments:** The date and time of each measurement will be logged on a basic ruled notepad. A Casio brand G-Shock series solar powered wristwatch (model: GWM5610) will be used to obtain each start (sitting) and stop (standing) time that occurs, rounded to the nearest minute. The recorded times will be used to determine the duration, in minutes, by taking the difference between corresponding stop and start times (i.e., stop – start = duration).

Figure 2: Example of text file contents.

The file submission screen should resemble Figure 3 below. Ignore the “webcam photo” and ”Canvas Files” buttons. Only upload the four requested files.

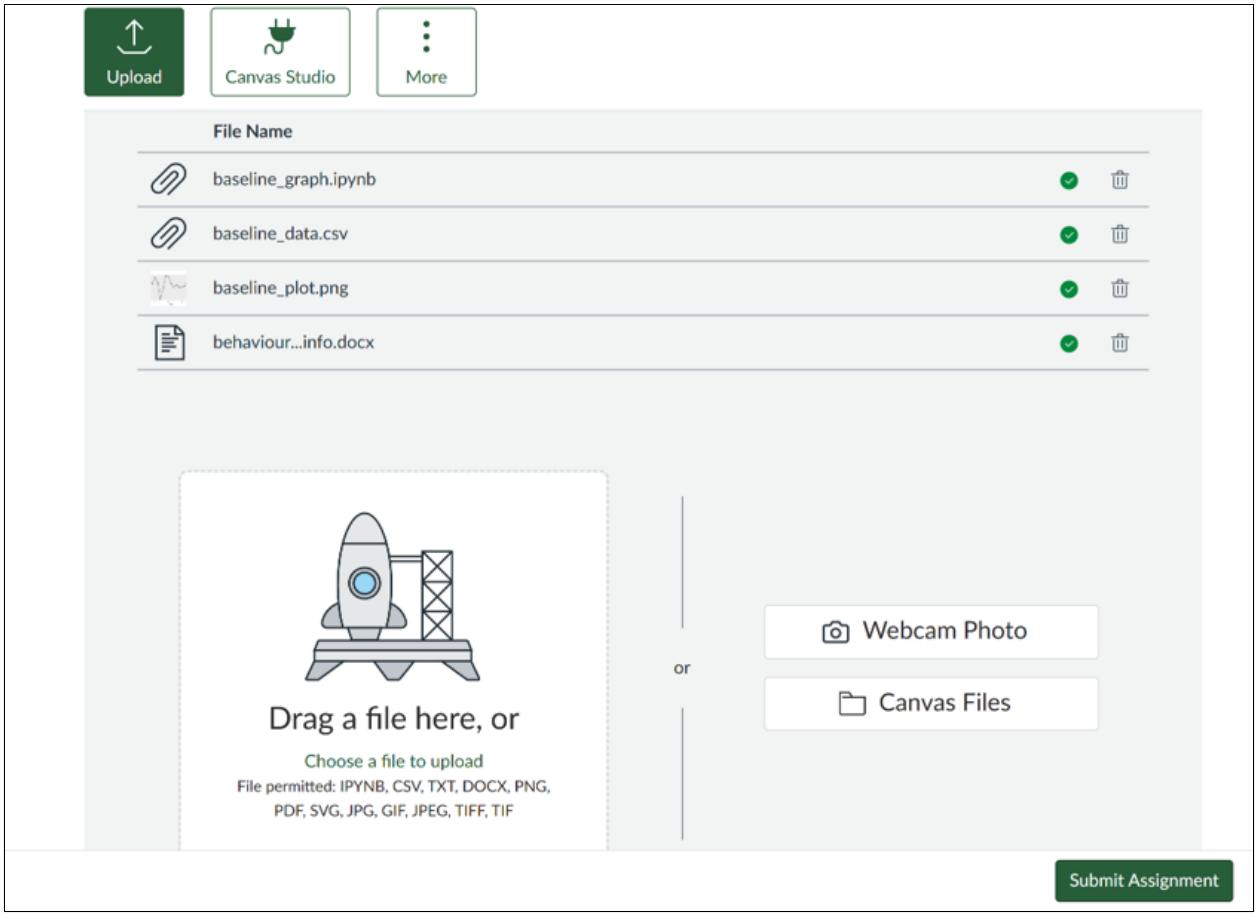


Figure 3: Example of the file submission screen.

## Other Notes

- Late submissions will **NOT** be accepted and will receive a score of 0. Note that "by 23:59 p.m." means anything submitted **at** or **after** 23:59 p.m. is considered late.
- If Canvas isn't working properly near the deadline, late submissions will still not be accepted. Submitting at the very last minute is done entirely at your own risk. To avoid problems, please plan to upload your work well before the deadline.
- If you accidentally submit the wrong files by mistake, you can resubmit the assignment on Canvas (provided the due date has not passed). Only your most recent submission will be graded, so double-check your work before submitting again. Files submitted after the due date will not be accepted.
- **If you are unable to complete your project, or have ethical concerns, contact the instructor immediately.**
- Please ensure that you are familiar with our class policy regarding "*exemption requests related to technical and non-technical issues*" (see the syllabus).
- Remember that **procrastination and last-minute completion carry inherent risks, for which responsibility rests with the student.**