1. The research question

   Can bodily and physiological responses tell us if a viewer is watching a horror film.

2. Method

   * Apparatus: Heart rate tracker, Pupilometer, Blood pressure tracker, Cameras
   * Conditions: Horror movie chosen to show viewers.
   * Measures: Adrenalin, blood pressure, pupil dilation, gasping, muscle contraction
   * Procedure: Participants in the study will be exposed to a horror film that they have not seen before. Variables such as heart rate, blood pressure, bodily responses will be monitored and recorded using the above given apparatus. After recording these details, it will be compared to their resting rates of the same variables. The data will be studied to find commonalities in changes in heart rate and blood pressure, patterns in pupil dilation and muscle contraction. If there are enough similarities, I will be able to conclude that a person's responses can tell us what kind of movie he is watching, in this case, horror film or not.
   * Participants: Participants will be recruited by an open survey to recruit individuals who are open to watching a horror film.

   Age: 20-30 (-The resting heart rates of individuals between this age group seems to be the same between 140-160 Beats per minute and while watching a horror film 157-164 and above. -Muscle contraction, pupil dilations and blood pressure tend to be similar in a healthy individual of this age group)

   While factors such as gender and occupation don't have any bearing on this specific research question, a person needs to be healthy and not have any conditions that alter the standard rates of each of the given variable. Thus while recruiting participants, a health based questionnaire will be included in order to maintain the minimum requirement.

3. Results

   * What hypotheses will you be testing?

Hypothesis 1: Bodily and physiological responses change/increase when watching horror films.

Null Hypothesis: Bodily and physiological responses remain the same when watching horror films.

4. * What plots and statistical tests will you use? (May have to look back to week 3 for this)

Analysing results:

1)Using the Paired T-test

Using this test will measure the differences in readings of people before watching the film and during. Then I will record the differences in readings and the p-value will indicate the accuracy in the test as the confidence variable.

5. Discussion

Possible confounding variable:
A person's affinity towards horror films can significantly alter his responses. The viewer might not jump, gasp, or realise an increase in blood pressure. If the person is unaffected by jump scares or other horror film techniques the responses recorded will be null. Similarly, if a viewer hates horror films, his responses might be inflated as every little scene might cause an exaggerated response in the person.
Experimental errors:

1) If any of the devices used suffers a technical default, this will result in inaccurate readings.
2) Inflated readings might skew the data towards a particular conclusion
3) Ratings caused by external factors might also affect the readings.

6. Reflect on how you have balanced internal and external validity in your experiment design

Internal validity of this design can be maintained by creating a lab design of the real-world scenario. By understanding what the person views as a horror genre, his affinity to it and how he would respond to the movie is a normal setting are important to maintaining the internal validity of the experiment.

External validity can be compromised by building extremely accurate internal validity scenarios. As more and more factors are controlled, its real-world depiction might not be as accurate as in the real world, the factors can vary.

In order to balance them, first I would hold an experimental research and then check the results in a real-world scenario to understand if the results can be extrapolated to normal viewers without understanding any prerequisite material about them.

7.Consider any ethical issues that may arise. How have you accounted for this in your experimental design?

While this research does not hold any major ethical issues, it is always problematic to have humans be part of experiments. Physiological responses are closely connected to a person's emotional psyche and thus the results cannot be 100% accurate. A viewers previous experiences with horror films can affect their current responses to it and thus, there is always an ethical dilemma to carrying out such designs.