Planning Experiments

Research Question

Are certain types of music more conducive to people developing relationships than others?

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Method

Apparatus: 1 rental party space, 100 pulse tracks, 100 audio tracks

Conditions: Genre of music track being played in the venue

Measures: Location of participants heads based on pulse tracks

Procedure: 50 men and 50 women, all of them of heterosexual orientation. Men and women are randomly divided into pairs (50*2) for three consecutive days, each party lasts 1 hour (15 songs in length) and only the same type of music is played in the

background, selected randomly from a library of the same type of music. There will be three different types of music playing in the background for the three days. Participants will wear a heart rate monitor and recorder at all times and will be free to move around the venue with their partner, talking or whatever they choose.

Participants: Participants will be recruited by posting an ad on a dating site and we will record their age, and musical preferences.

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Results

Hypothesis One: Participants' hormone production will differ significantly at parties with different music genres

Hypothesis Two: There will be significant differences in the length of time participants talk at parties of different music genres

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Analysis

We will use data from the recorder to determine the length of chat for each group of participants and then use ANOVA to compare each type as this is a way to get the subjects to perform the experiment in 3 conditions.

We will also collect the standard deviation of each person's heartbeat over ten seconds (indicating the change in heart rate over a short period of time) and use ANOVA to compare each type of method as this is an experiment between subjects in 3 conditions.

The successful results of these two tests will show that not only do certain genres of music make people communicate more, but also that some genres make them have faster heart rates and produce more hormones.

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Analysis

I would include a bar graph of means of total time and standard deviation for each group with error bars

I would include a heat map showing total time at each x,y coordinate in the Space

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Discussion

confounding variables: musical tastes may vary from age to age, the

Experimental error: the participant may experience mood or physiological changes during the three days of participation in the experiment, resulting in changes in the length of communication or average heart rate

Improving internal effectiveness.

Blinding: keeping participants unaware of what intervention they are receiving to avoid influencing their perceptions and behaviours and thus the study results

Random selection: participants are chosen in a random way

Randomisation: randomly assigning participants to treatment and control groups and ensuring that there is no systematic bias between groups

External validity：

Perform post-processing or calibration: use statistical methods to adjust for issues related to external validity. For example, if a study has uneven groups for certain characteristics (e.g. age), reweighting may be used.

Try field experiments: research in a natural environment outside the laboratory.

The use of inclusion and exclusion criteria: finding age-appropriate participants through dating sites ensured that my experiment clearly defined the population being studied in the study (for those with a stronger desire to talk to the opposite sex).

Ethical issues：

In this experiment only heterosexuality was tested, this is due to the greater proportion of heterosexuality, which is more general, and the clearer and simpler grouping of the experiment. The results of the experiment may change depending on sexual orientation, and in future, if the opportunity arises, a few additional groups of control experiments with other sexual orientations could be added to check whether there are differences in the results.