**Homework 1**

**Research Methods**

**In the below scenarios, identify the independent variable and dependent variable.**

1. Researchers want to find out if children who play video games regularly perform better on a test of working memory compared to children who never play video games.
   1. IV: Children who play video games and those who don’t play video games
   2. DV: How well the memory of the kids
2. An organizational psychologist wants to investigate whether workplaces that provide free lunch to their employees have higher employee satisfaction ratings than workplaces that do not provide free lunch.
   1. IV: Those who amount of food the worker gets
   2. DV: The satisfaction of the worker (happiness, productivity, etc.)
3. A developmental psychologist conducts research to compare if children perform better on a cognitive skills test after watching Sesame Street or SpongeBob SquarePants.
   1. IV: Kids who watch SpongeBob/Sesame Street and those who don’t
   2. DV: The cognitive skills of the child
4. A personality researcher wants to find out if the extraversion/ introversion personality trait influences the genre of video game a person chooses to play.
   1. IV: If the person is extroversion or introversion
   2. DV: The type of games played.
5. Researchers want to explore whether video games could be a useful tool in training surgeons. They design an experiment in which surgeons-in-training are assigned to play video games for varying lengths of time, then tested on their laparoscopic surgery skills and suturing ability.
   1. IV: The amount of time spent on playing the video game
   2. DV: How well they perform on their laparoscopic surgery

**Short answer: Consider the following scenario and answer the questions.**

Researchers want to investigate the relationship between playing video games and problem solving ability.

1. Formulate a hypothesis.
2. Identify your IV, DV, and potential control variables.
3. Explain how you operationalize your IV and DV.
4. Design an experiment that would test your hypothesis.
5. Explain what you would expect to find if your hypothesis is supported.

1.Hypothesis: Those who play video games have better problem-solving ability then those who don’t.

2.

IV: Those who play video games and those who don’t play video games

DV: How well their problem-solving ability are.

Control: Those who don’t play video games.

3.

Operationalize IV: We would like to study the effects of video games and its relationship with one’s problem-solving ability. So, for this case, our IV would it those who play and those who don’t play video games.

Operationalize DV: Observing the subject’s problem-solving ability and comparing their results to the other subjects.

4.

Designing the experiment:

Splitting the group into 2 groups (Those who play and those who don’t play video games), all subjects will go through the same problem in which they need to solve it. They will then be timed on how long it took for them to solve the problem.

5.

If my hypothesis is true, then the subjects who played video games will have better problem solving abilities than those who did not played it as they will solve it at a faster time compared to those who don’t play video games.