

# Identifying the Correct Statistical Test

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This assignment uses the same research scenarios as in assignment 2. Look back at your graded assignment 2. Knowing the correct IVs, levels, DVs, and scales of measurement will help you with this assignment. Also, you can (should?) be using the decision trees posted to the webpage for assignment 5 as well as the visual guide to picking the correct test.

1. Is video game preference related to sex? To find out, a researcher asks 50 men and 50 women 18-25 years old whether they prefer violent or non-violent games. He records the number of people falling into each category combination (men-violent, men-nonviolent, women-violent, women-nonviolent).

2. Does adding hot spice to food promote weight loss? Does increasing water consumption promote weight loss? Participants were randomly assigned to either a spicy vs. bland diet. Within each of these groups, 1/3 were then randomly assigned to a low, medium, or high water consumption group. Six months later, the amount of weight lost or gained was recorded for each participant in the 6 groups.

3. Does choice of sport depend on gender? Men and women were asked whether they preferred to play team vs. individual sports. The number of people falling into the resulting 4 category combinations was recorded.

4. Does wearing “bling” during a speed dating session yield more dates on average? A group of 20 women participated in 30 individual speed dating sessions. Half the time, they wore “bling”, the other half the time they did not. Otherwise, what they said and their behavior toward the men was kept constant. The mean number of dates in the bling and non-bling conditions was calculated.

5. Is oxytocin hormone replacement therapy an effective treatment for women convicted of child abuse? To find out, a researcher randomly assigned women convicted of child abuse to either an oxytocin or placebo control group. After 6 months, the researcher recorded the number of nurturing, neutral, and aggressive behaviors toward a realistic, but cyborg child in a 24 hour period.

6. Does dog breed preference depend on the owners' socioeconomic status (SES)? Three dog breed groups were studied: toy, sporting, working. The number of owners who fell into low, medium, and high SES within each of the three dog breed groups was recorded.

7. Does consuming a high caloric drink immediately before a test improve test scores? To find out, participants consumed either a low, medium, or high caloric drink immediately before taking a multiple choice statistics test (lucky them!). The scores for the three groups were then compared.

8. Does personality type have an effect on responses to public displays of affection? Does the type of public display affect responses? 100 people were classified as either an extravert or an introvert. Each participant then watched three 30 second videos (in random order) of a couple in a busy park: holding hands, kissing, kissing and hugging. After each video, they were asked to rate how acceptable they believed the couple's behavior to be on a 5 point scale (1 completely unacceptable to 5 completely acceptable).

9. Do the number of swearwords in a two hour movie affect viewers' perception of the movie's level of violence? Participants were randomly assigned to watch one of three movies: no swearwords, 10 swear words, 100 swearwords. Perceptions of violence were assessed on a 10 point scale (1 entirely nonviolent to 10 extremely violent).

10. Are highway speeds and the number of decals on a car related? Specifically, do highway speeds increase with or decrease with the number of decals displayed on vehicles? Highway cameras equipped with radar took pictures of vehicles as they passed a checkpoint. The researcher then counted the number of decals on each vehicle and the speed of each vehicle in mph.