Lab 6 Island Design

NAME: Yiran Hu   NetID: yiranhu3

Q1.

I will use "drink Cola Caffeinated" as treatment factor and use "time of swimming freestyle 50m" as response variable. I think it's useful to know whether drinking truly has some effects on swimming.

Q2.

Population: University students in Hofn, Arcadia and Colmar

Q3.

Does drinking Cola Caffeinated affect the swimming freestyle 50m performance for University students across the three islands?

Q4.

a.

I choose randomized controlled experiment with post-measures only design.

b.

I want to use random assignment with blocking. Firstly, block people by gender because I think swimming performance depends on gender. Male may swim faster than female on average. Then randomly assign people in each block to treatment and control groups.

c.

The treatment group needs to drink 250 ml Cola Caffeinated before swimming. The control also needs to take a placebo which is drinking 250 ml water. The treatment group and control group should do the test at the same time and place in the same day. This will mitigate the potential impact of the "timing effect".

Q5.

a. group selection: not apply

Because the treatment and control group are all university students and I will use randomly assignment with blocking to guard against systematic differences.

b. setting: apply

Reactance: Students will probably know they are being studied if I ask them to drink Cola Caffeinated. But this is not very serious because this experiment is not a pre-post design. I already have a control group. Researcher Effect: The researchers may know what this experiment is going to do and interact with participants in a different way.

But the Placebo Effect and Environment Condition Differences in Setting Effects does not apply. Because the control group will take a placebo and the environment setting is the same.

c. Timing: not apply

The applicants will drink Cola Caffeinated or water at the same time, and take swimming test at the same place.

d. Test Familiarity: not apply

Because participants will not get an opportunity to practice or learn from the test. This is a randomized controlled experiment.

Q6.

ID	Name	Village	Household_Num	Age	Group	Measurement
1	Florian Carlsen	Colmar	Colmar University	30	Treatment	55.5
2	Leonard Gordon	Arcadia	University of Arcadia	54	Control	81.6
3	Malte Guenther	Hofn	Hofn University	22	Treatment	64.9
4	Vidya Lyer	Colmar	Colmar University	37	Control	78.3
5	Sage Kimura	Arcadia	University of Arcadia	25	Treatment	69.2
6	Melodie Pereira	Colmar	Colmar University	28	Control	61.9
7	Mason Solberg	Arcadia	University of Arcadia	48	Treatment	57.2
8	Illona Sorensen	Hofn	Hofn University	31	Treatment	62.9
9	Maximilian Sorensen	Hofn	Hofn University	46	Control	79.7
10	Oviyan Tiwari	Colmar	Colmar University	18	Control	73.0