Psych 350

Project 2

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The three variables I chose to study are whether or not I drank a cup of coffee in the morning (or grapefruit juice or water), how many hours of sleep I got the night before, and energy level (low, medium, or high) at 3:00pm. I chose to study these in hopes of maximizing the effectiveness of my morning routine. I chose the 3pm time-frame because this is when I have my last classes of the day and when I notice my exhaustion most.

My intuition going into this study was that my energy level would be lowest without coffee and with fewer than 6 hours of sleep and highest when coffee was combined with water on a good night’s sleep (7-8 hours) because I believe coffee has a dehydrating effect, so if I can counter that effect with water, I think I’ll be best off; and that grapefruit juice, when combined with a good night’s sleep, would result in medium energy levels at 3pm.

The 3 question modules I created were a triple coffee/juice/water binary, which allows for more than one selection; a numerical entry module for assessing how many hours of sleep the participant had the night before; and a scale (continuous) module with 3 options (low, medium, and high) for determining the participant’s energy level at 3pm

The average amount of sleep I got each night was 7 (surprisingly good!), the standard deviation of the values is 1. My average energy level at 3pm was 2.2 (not that great) with a standard deviation of .86. I drank coffee and water most frequently, but not together, and grapefruit juice least frequently.

Sleep affected my energy level at 3pm the most. Sometimes I even felt pretty good at 3pm on days without coffee, if I was able to get a good night’s sleep the night before. Sometimes coffee was helpful for feeling awake at the end of the day, but without a good night’s sleep, it was just not effective. I was partially correct in my hypothesis that coffee when mixed with water will yield the best energy level at 3pm.

The Cohen’s d between amount of sleep and energy level at 3pm is 5.1467 with an effect size of .932, which tells me this is a very strong effect. Energy level at 3pm and coffee consumption have a Cohen’s d of -0.849 and an effect size of -0.391, which makes me seriously question my morning coffee consumption. Energy level at 3pm and grapefruit juice consumption have a Cohen’s d of -0.94 and an effect size of -0.425, which makes me also seriously question my morning grapefruit juice consumption. Energy level at 3pm and water consumption have a Cohen’s d of -0.849 and an effect size of -0.391, same as coffee, which could explain the slight benefit when I drank them together.

Through this study, I learned that my best bet for feeling awake and able to participate in class at 3pm is to stay hydrated and maybe drink a little bit of coffee, IF I got enough sleep the night before, if I didn’t, it seems I would be best off skipping the coffee and only focusing on staying hydrated. In terms of maximizing the effectiveness of my morning routine, I think I still have a bit more work to do, but this was a good start.

