PSYCH 350 Major Project 2

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Although this project was a project for a psychology course, I was excited to measure some variables that I am interested in and see how those variables related to one another. Three measurements that I decided to measure were coffee intake, exam/quiz, and mood. What I expected from choosing these measurements was that exam/quiz is positively correlated to both coffee intake and mood (especially stress, anxiety, and digestive problems) because at least from my experience, I felt like I tend to drink more coffee when I have an exam and be more anxious, stressed or nauseous when I have an exam. Moreover, I kept track of my dream as fourth measurement just to see whether it has any relationships with other three variables I am trying to measure.

More specifically, for coffee intake I measured how many cups of coffee I drank that day and also how many cups of water I had which is a continuous measurement. Exam/quiz was measured in a binary way; I measured whether I had an exam that day, quiz that day, assignment due that day and also whether I have an exam that week, and quiz that week as well. For the mood, I measure the degree of anxiety, stress, digestive problems, thirst, and headache in four levels – not at all, a little, quite a bit, very much – which is also a continuous measurement.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| coffee | 15 | 0 | 1 | .47 | .516 |
| water\_cups | 15 | 5 | 7 | 6.40 | .737 |
| stress | 15 | 2 | 3 | 2.33 | .488 |
| anxiety | 15 | 1 | 3 | 2.40 | .632 |
| digestiveProblem | 15 | 1 | 3 | 2.40 | .632 |
| thirst | 15 | 2 | 4 | 2.67 | .617 |
| headache | 15 | 1 | 4 | 2.33 | .976 |
| Valid N (listwise) | 15 |  |  |  |  |

**Figure 1.1: Descriptive Statistics of Coffee Intake & Mood Variables**

**Figure 1.2: Frequencies of Exam/Quiz Variable, Examtoday**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 13 | 86.7 | 86.7 | 86.7 |
| 2 | 2 | 13.3 | 13.3 | 100.0 |
| Total | 15 | 100.0 | 100.0 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 15 | 100.0 | 100.0 | 100.0 |

**Figure 1.3: Frequencies of Exam/Quiz Variable, quiztoday**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 7 | 46.7 | 46.7 | 46.7 |
| 2 | 8 | 53.3 | 53.3 | 100.0 |
| Total | 15 | 100.0 | 100.0 |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 12 | 80.0 | 80.0 | 80.0 |
| 2 | 3 | 20.0 | 20.0 | 100.0 |
| Total | 15 | 100.0 | 100.0 |  |

**Figure 1.4: Frequencies of Exam/Quiz Variable, hwtoday**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Figure 1.5: Frequencies of Exam/Quiz Variable, examthisweek** | | | | | |
|  | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 3 | 20.0 | 20.0 | 20.0 |
| 2 | 12 | 80.0 | 80.0 | 100.0 |
| Total | 15 | 100.0 | 100.0 |  |

**Figure 1.6: Frequencies of Exam/Quiz Variable, quiz\_or\_hw\_thisweek**

Looking at Table 1.1-1.6, we can see that the average coffee intake was .47 cups per day and water intake was 6.4 cups per day. Mood variables were mostly moderate ranging between 2.33 and 2.67 which is between ‘a Little’ (2) and ‘Quite a Bit’ (3). For exam/quiz variables the frequency of saying yes when asked whether I have an exam today was 13.3 percent, a quiz today was 0 percent, an assignment due today was 53.3 percent. Also, frequency of saying yes when asked whether I have an exam this week was 20 percent, and a quiz this week was 80 percent. These data when looked at by themselves were not particularly interesting to me but mostly it matched what the average/frequencies that I expected of. Interestingly, the highest average among mood variable was thirst which I think is because I had a sore throat for most days of October which probably affected the degree of thirst I felt throughout the whole period.

**Figure 2.1 Coffee & Water Intake Plot Overtime**

**Figure 2.2 Exam & Quiz Tracker Plot Overtime**

**Figure 2.3 Exam & Quiz Tracker This Week Plot Overtime**

**Figure 2.4 Mood Tracker Plot Overtime**

Looking at Figure 2.1-2.4, we can see that most variables do not have an obvious pattern like increasing or decreasing overtime. Both coffee intake and water intake had a relatively small variance with a small fluctuation over the whole period. For exam/quiz we can see that I did not have many major exams that could be stressful and potentially effective unlike quiz or small assignments that are less stressful. For mood variables, however, headache variable seems to have the biggest variance with the biggest fluctuations going up and down during the 15-day period.

According to Figure 3, which calculated the correlation between all the variables I have, the largest positive correlation between variables was r = .6 which means that digestive problem and quiz or homework have a moderate positive relationship. Other variables with moderate positive relationship were coffee & exam this week (r = .535) coffee & stress (r = .472), water & thirst (r = .471), exam & stress (r = .555) and exam this week & anxiety (r = .491). All these correlations squared with my expectations about three main variables. The correlation between water & thirst was bigger than I personally expected because I feel like there wasn’t a recognizable difference in water intake for the whole period but correlation coefficient of .471 is a moderate effect size. I assume that thirst would probably cause me to drink more water rather than drinking water causing thirst. However, there were some unexpected negative correlation between homework today and headache (r = -.378) which is a moderate negative correlation between two. Although this correlation was not one of the thoughts I put in when choosing these variables, it is interesting to note that these two have a negative correlation.

Overall, it was meaning for me to measure a variable that I want to measure in a given period quite regularly. I have never been measuring a variable for certain time so it naturally made me think of other variables that might be related to the variables that I am measuring and also just other thoughtful observations. Although looking at the variables individually it was not obvious that those variables were related, the correlation was recognizable then what I expected – something lower than r = .5. My primary interest – relationship between exam/quiz & coffee and exam/quiz & mood seemed to be supported by the data I have collected.

Although I believe the project was interesting to measure, it would have been better if (1) I was more consistent on the day I took the module and (2) I had more variable that might have influenced the three variables I am measuring. Since the data was collected when I wanted to take the module, there are some gaps of couple days between the measures due to busy schedules and exams. This might be the reason that I had 0 percent frequency for ‘quiz today’ variable. The whole analysis would have been more accurate and reliable if I have collected the data consistently, say every day. Also, if I had more time and was actually willing to do a more concrete data analysis, I would add more variables to the original ones such as whether I am feeling sick that day or I had an meeting or fight with my boyfriend that day because it isn’t only the academic measurements (exams and quiz) that affect my mood (stress or anxiety). There are other confounding variables that I was not able to measure in three modules. After all, there are some limitations since this project cannot take into account all the possibilities of each variable, it is meaningful enough that I collected some data of variables that I want to track of and analyzed them to see whether those variables relate to one another.

**Appendix A.1: Exam/Quiz Tracker**

userName,moduleName,authorName,date,time,year,dayOfYear,daysSince2012,inputType,item1,item2,item3,item4,item5,item6,item7,item8,item9,item10,endline

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**Appendix A.2: Mood Tracker**

userName,moduleName,authorName,date,time,year,dayOfYear,daysSince2012,inputType,item1,item2,item3,item4,item5,item6,item7,item8,item9,item10,endline

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**Appendix A.3: Coffee Intake Tracker**

userName,moduleName,authorName,date,time,year,dayOfYear,daysSince2012,inputType,item1,item2,item3,item4,item5,item6,item7,item8,item9,item10,endline

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