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Psych 350  
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**Grade: 96**

Ideographic Analyses

As a person who has significant difficulty with stress management, I was particularly motivated to determine the factors that contribute to the generation and alleviation of stress in my life. The first variable that came to mind as being relevant to stress was the amount of sleep obtained each night. It has been my experience that when I do not get enough sleep, I am more susceptible to stress and generally less equipped to deal with it successfully. The next factor I considered to be a predictor of stress levels was physical activity. Despite living a relatively sedentary life in the past, I have recently made an effort to incorporate more physical activity into my daily routine that I believe has had a positive effect on my mood and levels of stress. The final two variables I considered for my analysis were the amount of time I spend on both work and leisure activities. For these variables, I chose to measure the hours of school work I do each day along with the amount of television I watch. Although seemingly counterintuitive, I believe that the amount of schoolwork I do may actually contribute to *lower* levels of stress as opposed to higher ones. I believe this may be the case because I often find looming deadlines to be a significant contributor of stress, and the process of relieving those worrisome responsibilities may in turn relieve general stress. Because television is my go-to choice for unwinding after long days, I predicted that the amount I watch each day would also have a similar effect on stress-relief. With respect to how the variables other than stress I measured relate with each other, I expect there to be certain correlations. Intuitively, I would expect that more time watching television will correspond to less time spent on school work and vice-versa. As a person with a rich history of all-nighters to meet deadlines, I would also expect that time spent doing schoolwork will negatively correlate with the amount of sleep obtained in a particular day. With these predictions in mind, I measured the variables of stress, sleep, physical activity, schoolwork done, and television consumed along with the correlations between each over the course of 15 days.

All of variables I analyzed, with the exception of stress levels, were able to be measured by indicating the time spent on them each day. These variables are continuous and were measured numerically in either hours or minutes. For the variable of sleep, I split the measurement into two numerical values to differentiate between sleep at night and naps during the day. To track stress levels, on the other hand, I used a survey of three questions that rated stress on a scale with five levels ranging from ‘strongly disagree’ to ‘strongly agree,’ with a ‘neutral’ rating in between for good measure. The questions I used were “I am generally experiencing stress,” “I feel mentally overwhelmed,” and “I feel worried.” These measurements were also continuous and quantified on a scale from 1 to 5, with 1 indicating strong disagreement (low stress), 5 indicating strong agreement (high stress), and 3 being neutral. After all three measurements were taken, I took the average of each measurement to determine a single numerical value for the stress experienced each day.

After averaging the 15 daily measurements taken for each variable, I found certain values to be more surprising than others. Although I typically consider myself to be a relatively stressed person, I found to my surprise that my average level of stress was right below neutral at 2.96, with a standard deviation of .95. Having a reputation as an avid sleeper, I also expected the amount of sleep obtained each night to be much higher than the average of 6.2 hours that I observed (with a standard deviation of 1.86 hours). This average, however, excludes the length of naps taken during the day which averaged a whopping 1.8 hours with a standard deviation of 1.9. With naps taken into account, average time spent sleeping each day averaged a respectable 8 hours – though this is still lower than I expected. The relatively high deviation within both measures of sleep are consistent with the admittedly erratic nature of my sleep schedule. While I tried to be diligent with respect physical activity, I failed substantially and only exercised 5 out of the 15 days considered. This led to a massive standard deviation of 27.2 minutes, with a couple of outliers bringing the average to 15.3 minutes per day. Daily time spent watching television and doing schoolwork was much less surprising, with averages of 2.13 and 1.73 hours, respectively. The standard deviations of these variables, however, were remarkably high. Time spent watching television had a standard deviation of 1.6 and schoolwork had one of 1.87. I believe these large deviations can be attributed to the outlying values corresponding to days I spent either binge-watching television shows or pulling an all-nighter.

With the exception of nightly sleep and schoolwork, the trends I observed within each variable over time were relatively promising. I found that my stress levels, time spent napping, and time spent watching television have all been decreasing over time! Although the times spent napping and watching television are understandably subject to confounding variables related to the events of each day, I would like to believe that my conscious effort to reduce the time I indulge in each activity played a role in their decreasing trend. The decrease in stress over time, however slight it may have been, was an unexpected yet pleasant surprise. Time spent on physical activity has shown to be increasing over time, however this trend is most likely due to the outliers towards the end of my data collection that positively skewed the trendline. As mentioned above, sleep and schoolwork have exhibited virtually no trend over time. Although there was a major outlier in time spent on schoolwork, its position in the middle of the data collection gives it very little leverage to skew the trendline in either a positive or negative direction. (See appendix A)

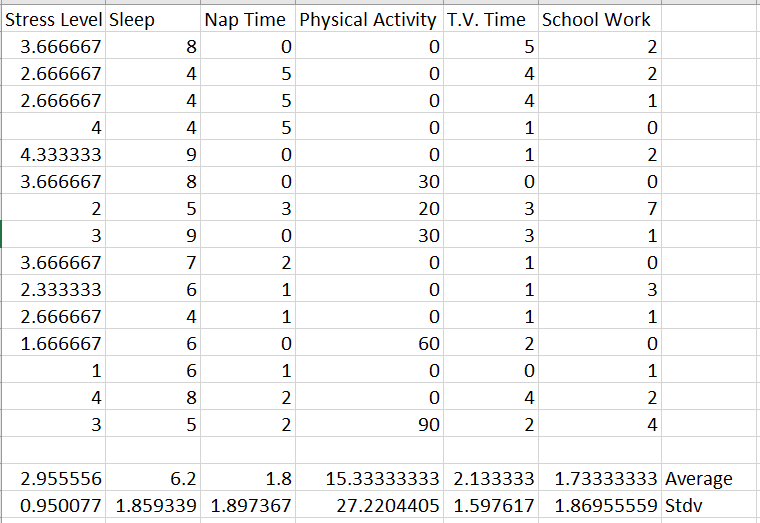
More interesting than the trends observed over time, however, are the correlations between each variable. Certain correlations did come as a surprise, such as the correlation of -.74 between time spent sleeping at night and napping during the day. It is understandable that a good night’s rest would lessen the need for a long nap. However, the strong *positive* correlation of .42 between stress levels and nightly sleep was in blatant opposition of my hypothesis that more sleep at night would lead to lower levels of stress during the day. After extensive introspection, I have considered the possibility that this correlation can be the result me using sleep as a sort of escape from the reality of my responsibilities, implying that more stress actually leads to more time spent sleeping. Physical activity and stress level had a moderate correlation of -.19 which was congruent with my expectation (along with established research), though the reliability of this result is relatively dubious due to the stark variability and outliers present in the measurements of my physical activity. Also consistent with my predictions was the correlation of -.21 between stress level and time spent on schoolwork, indicating that the more work I get done during the day, the less stressed I feel – though this correlation is also moderate. The correlation between stress and time spent watching television was a relatively low .11, however I admit I expected this value to be negative. The variable *least* correlated with stress was time spent napping, which had a *very* weak correlational coefficient of .01.

Aside from the relationship of each variable with stress, some other associations presented themselves that I found interesting. Contrary to my prediction that more time spent on schoolwork would lead to less time watching television, the correlation between the two variables was a positive and significant .30. However, I believe this result can be attributed simply to the practice of rewarding myself for positive behavior. Unfortunately, this positive finding was offset by the similar yet dangerously unproductive correlation of .29 between time spent napping and watching television. The correlation of -.15 between nightly sleep and schoolwork seems to support my hypothesis that I get less sleep on days I do a lot of work, but this association is weak at best. The somewhat moderate correlation of .18 between schoolwork and physical activity may imply that motivation extends to multiple domains, however the result is again dubious due the measurements of physical activity being unreliable. This uncertainty extends to the correlation of -.24 between physical activity and time spent napping, though the copious research linking exercise to increased energy levels nonetheless renders the result unsurprising. Lastly, the absolute values of the correlations between sleep, physical activity, and television time were all below .07, indicating little to no association between the variables.

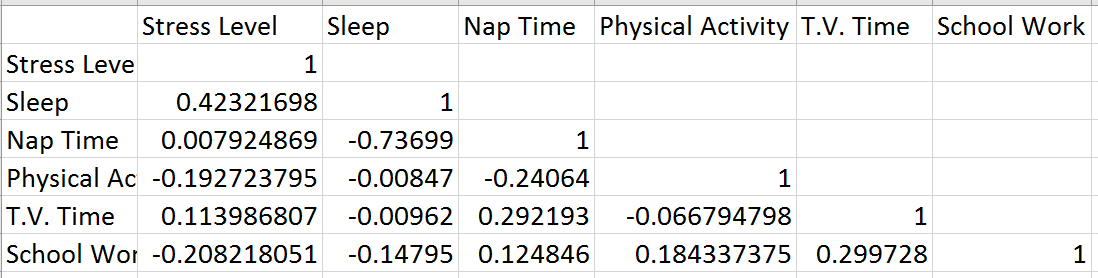
This ideographic analysis has confirmed some of my preexisting beliefs about how certain variables in my life are related, contradicted others, and most importantly has inspired insightful introspection regarding the possible causes of those contradictions. The strong, positive correlation between nightly sleep and stress negated my intuition, leading me to contemplate the cause behind it and conclude that it will probably be beneficial for me to find healthier ways to cope with stress (other than the escape sleep so graciously provides). On a lighter note, I inferred that rewarding schoolwork done with television time may be a particularly worthwhile endeavor judging from the significant positive correlation between the two variables – a result I was also not expecting to find. Also, my counterintuitive prediction that doing more schoolwork actually reduces stress was supported by the negative correlation I discovered between the two variables! Finally, although physical activity was a problematic variable to analyze, it nonetheless had positive effects across *all* other variables considered and has encouraged me to further explore the extent to which it can improve my well-being in the future.

Appendix A   
Plots & Statistical Analysis

Data Analysis



Correlation Matrix



Appendix B  
Raw Data

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