The Importance of Sleep

By: Tabara Fall

This past year, I have realized more than ever the importance of sleep. Prior to this experiment, I would already record my sleep hours as part of my daily journaling. I paid attention to how the quantity and quality of my sleep drastically impacted my day-to-day life as it influenced my mood, headaches, and productivity. From those uncritical, surface-level reflections, I learned to value and prioritize my sleep as I noted having fewer headaches, better moods, and increased productivity when I had enough sleep. Regardless, this was all before embarking on our concise experiment and gathering substantial data to build on my understanding of sleep and its effects. Now, thanks to this experiment, I have concrete scientific data and analysis that have helped me further comprehend the tremendous impacts of sleep on overall mood and how rested one feels. In addition, because I was curious about the different factors that influence mood, I also looked into how exercise correlates to mood.

The amount of sleep one acquires has a clear impact on ratings of mood and restfulness, as our data suggest. When it comes to mood, the data indicates a positive R^2 of 0.005 for the amount of sleep and the mood rating, indicating a positive correlation and suggesting that the more sleep one gets, the better their mood. Similarly, with restfulness, the positive R^2 of 0.055 suggests that the more sleep one gets, the more rested one feels upon waking up — this correlation is even greater than with mood.

Under the surface, however, I note that I would occasionally get very little sleep yet feel very rested upon waking, or, sometimes, I would feel drowsy despite getting more hours of sleep than usual. I noticed the same thing with others by looking at the graphs, as some mood and restfulness rating points were low despite many hours of sleep. Therefore, based on my understanding of sleep science that we briefly discussed

in class, I believe that restfulness (upon waking up) has more to do with what sleeping stage one wakes up from. Because sleep stages are not something we specifically researched and gathered data for in this experiment, I wish to learn more about them in the future to support my claim.

Next, I think that mood is one of the most impactful aspects of life. For me, personally, mood is the fundamental factor I use to determine the quality of my day. Therefore, I had a great interest in learning how easily I could manage my mood by sleeping just the right amount. I went an extra step to learn about mood by looking into the effects of exercise on mood.

With the class data I examined and graphed above, I found a positive trendline of better moods with more exercise. The data suggests a slim but positive R^2 (which indicates correlation) of 0.009 for the amount of exercise one gets and their rated mood. From this data, we can infer that the more exercise one gets, the better their mood. However, that should not be where our analysis ends. Studying the graph, I also see that many people rated high moods while getting 0 minutes of exercise — and I was one of them. That alone should prompt us to think more about how exercise is, for one, not the only factor determining mood, and secondly, that it is not a cause-and-effect or directly correlated relationship.

While looking at my data in my physical sleep journal packet, I noticed that I recorded better moods on the days I exercised. On the surface, one could infer that my mood improved *because of* exercise, however, the apparent "cause-and-effect" relationship went the other way around: I exercised *because* I was in a good mood and feeling up for it. That is a personal insight that the rest of our class would not have known by looking at the data. It is also an example of details relating to "cause-and-effect vs. correlation" that scientists should keep in mind when examining data.

In addition to analyzing sleeping patterns, I would like to conclude by touching on my dreaming patterns. There were many things that I found quite interesting throughout this research. Generally, I have a very unique relationship with my dreams; unlike many people, I usually remember my dreams, and I ponder on them to see what connections they have to my day-to-day life. Oddly, however, during this period when I had to remember my dreams for the purpose of this experiment, I often forgot them. The reason for that remains a mystery to me, but I suspect that it might be due to the pressure I put on myself to remember and record my dreams. In addition to that, documenting the dreams I *did* remember allowed me to notice certain imagery and sensory patterns. My dreams usually revolved around things on my mind and often involved my family, Lawrenceville, and strangely, my character was always an adult or older. While some of the patterns may be a bit personal, I will mention that my dreams often contained details of conflict resolution (often conflicts in my present life) and anxiety.

To briefly conclude: sleep is important. With the hectic lifestyle at Lawrenceville, it is very tempting to compromise our sleep, but as Dr. Park once mentioned in class, "that extra hour of sleep you give yourself the night before a test is far more beneficial than the extra hour spent awake studying."