

The sleep retardant properties of my ex-girlfriend

Ryan Shaun Baker

Human-Computer Interaction Institute
Carnegie Mellon University
{rsbaker@cmu.edu}

Introduction

The importance of a good night's sleep can not be overestimated. Getting more than 7 hours of sleep a night helps in retention and deep encoding of information, which is essential in graduate school.[1] Also, getting sufficient amounts of sleep results in a better mood and a greater level of happiness. [2]

Given this, I decided to conduct a study on those factors which influenced the amount of sleep I was getting, in order to determine how to get more sleep.

One factor which I predicted would have especially large effects was my girlfriend at the time, Hermina. I have induced that several of my acquaintances believe that Hermina would have significant positive effects on sleep – in the words of one such acquaintance, Tom, “Man, she’s hot. I’d really like to sleep with her.”[3] Other acquaintances have also expressed an interest in her sleep-inducing properties. [4][5]

There are many reasons why one might postulate that Hermina would increase sleep – the quote above points to an important one, that she is quite hot, being a mammal with a body temperature of around 98.6 degrees fahrenheit. [6] A warm blanket has been identified as a source of good sleep[7], and it is quite possible that Hermina performs a similar function.

Design

Over the course of 28 consecutive nights, I collected data on the number of hours of sleep I obtained, and on a number of factors that might potentially affect the amount of sleep obtained.

These variables included:

- whether or not I had read in bed that night
- whether it was a weeknight or weekend night
- whether I had gone drinking
- whether I had attended a social event
- whether I had been feeling ill the previous day
- whether I had an academic deadline
- whether I was handing out a homework in the class I TA the next day
- how late in the day my first meeting or class was
- how much sleep I had gotten the night before
- how much sleep I had gotten the previous two nights
- whether or not I had slept at Hermina’s apartment or my own

I used these variables in order to develop a regression model to explain the amount I slept.

Results

The first step towards developing a regression model of how much sleep I got was to transform all the binary variables (such as whether or not I had slept at Hermina's apartment) into 0 and 1 so that I could treat them as quantitative variables.

I then conducted a forward-inclusion search for candidate variables in the model as such:

Using a statistical package, I computed C_p , BIC, AIC, RSS, and adjusted r -square metrics for models composed of each of the variables.

The clear best model by each of these metrics was the one composed of where I had slept. It explained 22.3% of the data (adjusted $R^2=0.223$) and the term was significantly different than zero. ($ESS=27.79$, $Edf=1$, $\sigma^2=3.07$, $F=7.03$, $p<0.001$)

Next, I examined whether a second variable explained more than the effects which were explained by where I slept.

The best model by each metric was one where I added in as a variable whether or not I had gone on a social occasion (including drinking) the night before. However, this term was not significantly different than zero. ($ESS=6.5$, $Edf=1$, $\sigma^2=2.94$, $F=2.21$, $p>0.10$)

No other term was significant, in further investigations, either when added to the model including where I slept, or in a model by itself.

The final regression model was $S = -2.018 H + 7.47$.

In essence, what this model means is that I got an average of two hours and one minute less sleep when I slept at Hermina's apartment rather than

my own. The exact amounts of sleep I got in each condition are shown in Figure 1. This is clear evidence for Hermina's sleep retardant properties.

Discussion

After obtaining these results, the appropriate course of action became clear. I spoke to Hermina and explained my study and its results, as well as the importance of getting sufficient sleep, as illustrated in [1] and [2]. I concluded by explaining that, due to her sleep-retardant properties, I could not continue to sleep with her, an act she termed "breaking up". [8]

I should mention that Hermina suggested that my data, being from an observational study rather than an experimental study, only shows correlations rather than causation, and that it was quite possible that I had only chosen to sleep at her apartment on nights when I was less tired, or that I had actually *chosen* to get less sleep on nights when I had come to her apartment. She proposed that, instead of taking hasty action, we conduct an experimental study where we flip a coin each night to determine whether I would sleep at her apartment or my own, in order to prove a causative effect.

Obviously, I rejected this suggestion. Although this study is insufficient to conclusively prove Hermina's causative role, this strong a correlation, and the importance of getting enough sleep, are sufficient together to suggest that action needs to be taken expeditiously.

When Tom, who I mentioned earlier in the paper, discovered that Hermina and I had broken up, he expressed interest anew in sleeping with her. I attempted to warn him about

Hermina's sleep-retardant properties. In response, he referred to me as an "idiot". This clearly demonstrates his lack of understanding of the value of sleep. [1][2] (Although it would be fair to point out that since I only sampled from my own amount of sleep, my results may not generalize to Tom. Nonetheless.)

I would like to conclude by encouraging others to embark on this sort of data-collection activity in their own lives. By helping me identify and eliminate the foremost factor reducing the amount of sleep I get, it has enriched my life. I believe it will enrich your life as well.

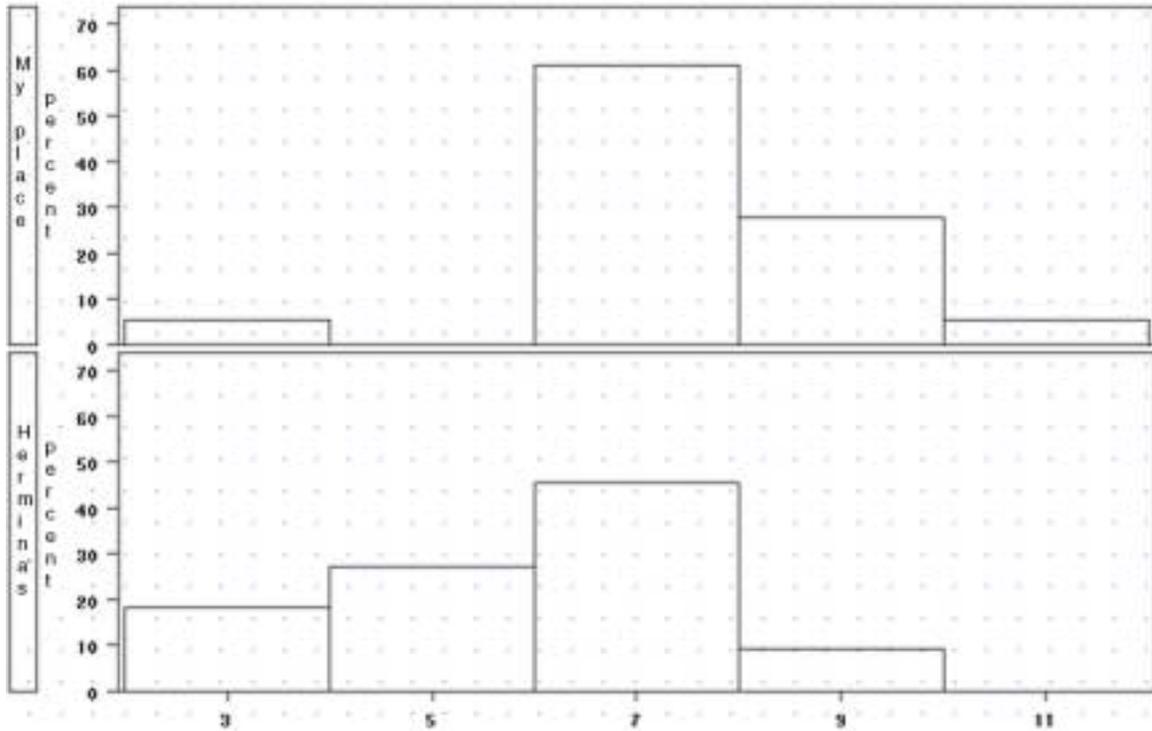


Figure 1: The amount of sleep I got at my own place, and at Hermina's place

Works Cited

- [1] Are You Getting Enough Sleep? Pamphlet, University of Iowa Student Health, 2001.
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