**Final report**

**Business Analytics   
Course: Project Big data (X\_400645).**

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**Introduction**

In this report, we analyzed data of a bedtime procrastination study. Bedtime procrastination is defined as: “voluntary delay of an intended course of action despite expecting to be worse off for the delay”. Various studies related insufficient sleep to various severe outcomes, including memory problems, concentration problems and health problems. (Kroese et al., 2014). The analysis in this report tries to explain and predict this phenomenon, which can be used in order to identify and minimalize bedtime procrastinators in the future.

There are multiple questions answers in this research:

* Are there significant differences between the control group and the experimental group?
* Which factors could predict the delay\_time the best?

These questions will be answered during this report. Furthermore, a few visualizations will provide extra insight into the data, which could help to better understanding of the data.

**Data description and exploration**

Before analyzing we merged data of the study itself and data from the poststudy questionnaire that participants filled out at the end of the study.

**Data analyses**

|  |  |  |  |
| --- | --- | --- | --- |
| **‘Mean time spend in bed’ vs.:** | ‘Bed procrastination scale’ (pearson) | ‘Age’ (kendall) | ‘Daytime sleepiness‘ (pearson) |
| Correlation coefficient | 0.6118 | -0.02746 | 0.08328 |
| p-value | 4.4724e-05 | 0.8107 | 0.6191 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | mean | SD | median |
| Delay nights | Control | 7.0435 | 3.4445 | 7.0000 |
|  | Experimental | 7.4211 | 3.0317 | 8.0000 |
| Sleep time | Control | 28731.8000 | 2914.5239 | 29643.0000 |
|  | Experimental | 28922.8889 | 2770.6521 | 29001.0000 |
| Delay time | Control | 2724.4500 | 1396.4360 | 2828.0000 |
|  | Experimental | 1943.8334 | 1371.0637 | 1620.0000 |

|  |  |  |
| --- | --- | --- |
|  | Statistic | P-value |
| Delay nights | -0.3285 | 0.7425 |
| Sleep time | -0.1462 | 0.8838 |
| Delay time | 1.9295 | 0.05367 |

**Discussion**

**Conclusion**

**Literature**:

Kroese, F. M., De Ridder, D. T., Evers, C., & Adriaanse, M. A. (2014). Bedtime procrastination: introducing a new area of procrastination. Frontiers in psychology, 5, 611.

























