Dashboard Definition Document

Cognitive Data

Adilet Gaparov

31 May 2019
Madrid, Spain

1. Determine the audience

The audience for my Dashboard / Tableau Story is a researcher in the area of cognitive disorders and/or in the area of importance of sleep and/or in the area of happiness. In my dashboard I am showing the potential correlations between hours of sleep and mood of patients with cognitive disorders.

2. Determine the objective

The objective is to come up with educated hypothesis based on historical data on how patient's behavior might influence his/her wellness and therefore research non-clinical treatment. More specifically, data suggests one hypothesis that more balanced lifestyle might improve the quality of sleep of patients and improve their mood.

3. Determine the metrics and the content

The first metric I am using is the average hours of sleep each patient had for each state of mood and episode level. By doing this I am trying to figure out two correlations: first, between average hours of sleep and type of mood (happy, normal, sad), and, second, between average hours of sleep and episode level. The result is that it seems like there is no significant correlation. Despite the episode level and mood (in most cases), a patient had the same duration of sleep. This holds true for each disease.

Then I group patients by environment they were living in, in order to draw conclusions on the different between three environments in terms of this metric. Interestingly, rural areas differ from semi-urban and urban areas. This also holds true for each disease.

The third metric I am using is what share of whole year a patient had reported to be sad. By grouping them by environment, data shows that patients from rural area reported significantly less frequently to be sad. Moreover, I segmented this metric by each day of week to see potential fluctuations of reporting during week and received the same picture across week.

Finally, to analyze the difference between rural area and other areas, I used the metric of calculating what type of activities are more frequent in each environment. I came to conclusion that patients from urban area are more skewed towards procrastinating rather than reading, studying, socializing with family or doing exercises. Patients from rural areas indeed had balanced lifestyle, which included as well procrastinating among others.

4. Determine the levels of data

Due to relatively small size of the dataset, I used all data that was available for me. However, my dashboard doesn't allow to go deeper into daily analysis as I am using average values across the large period of time. Nevertheless, I am providing data for each patient separately, so that a user of the system could follow up and enrich data with other information about a specific patient to further draw other conclusions and hypotheses.