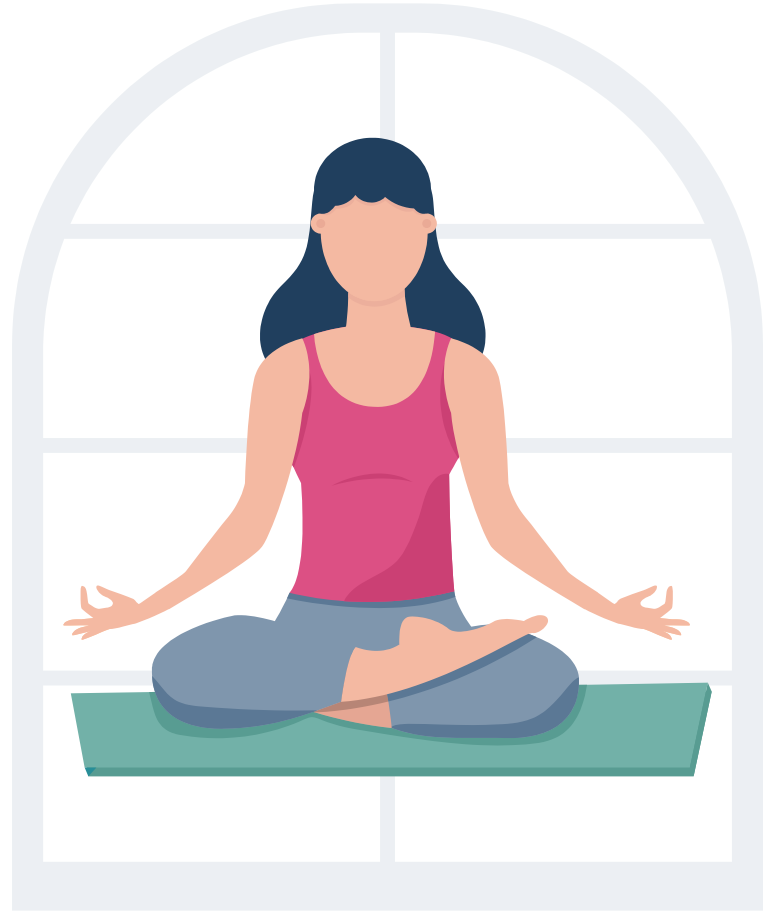


# How does daily yoga impact screen time habits?

Exploratory Data Analysis - January 2023



# Summary

01

## Dataset

The Kaggle dataset contains information on daily minutes of screen time habits, categorized by type of usage, as well as the effect of yoga on those habits

02

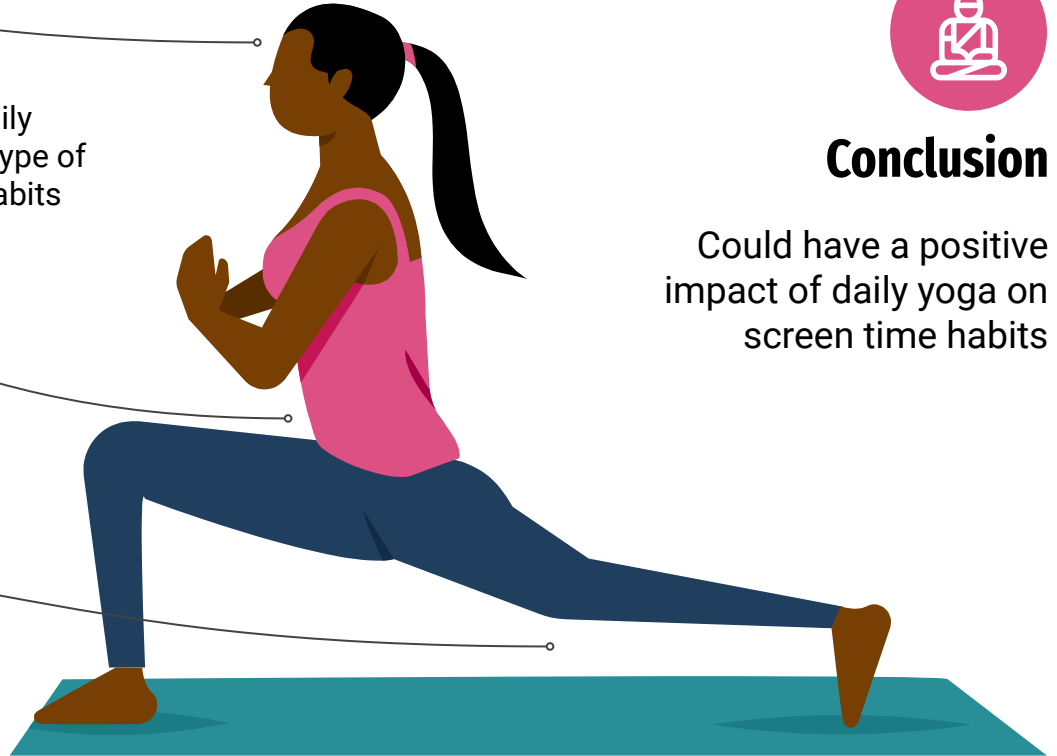
## Goal

Understand how daily yoga impact screen time habits

03

## EDA

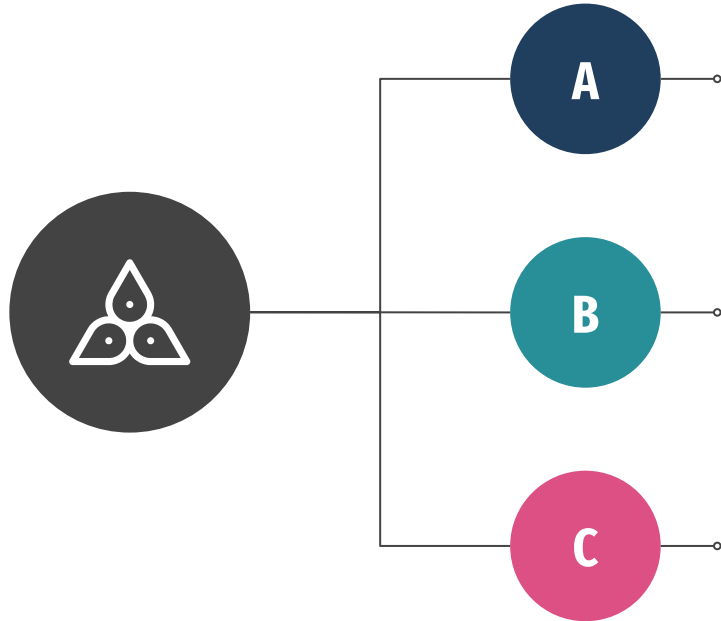
Descriptive and inferential statistics + t-Test using Python



## Conclusion

Could have a positive impact of daily yoga on screen time habits

# Dataset important infos



## Data range

28 days, 2019-04-17 to 2019-05-14

## Yoga practice

16 days, from 2019-04-29

## Total Screen Time

Sum of all categories in minutes

# Dataset columns

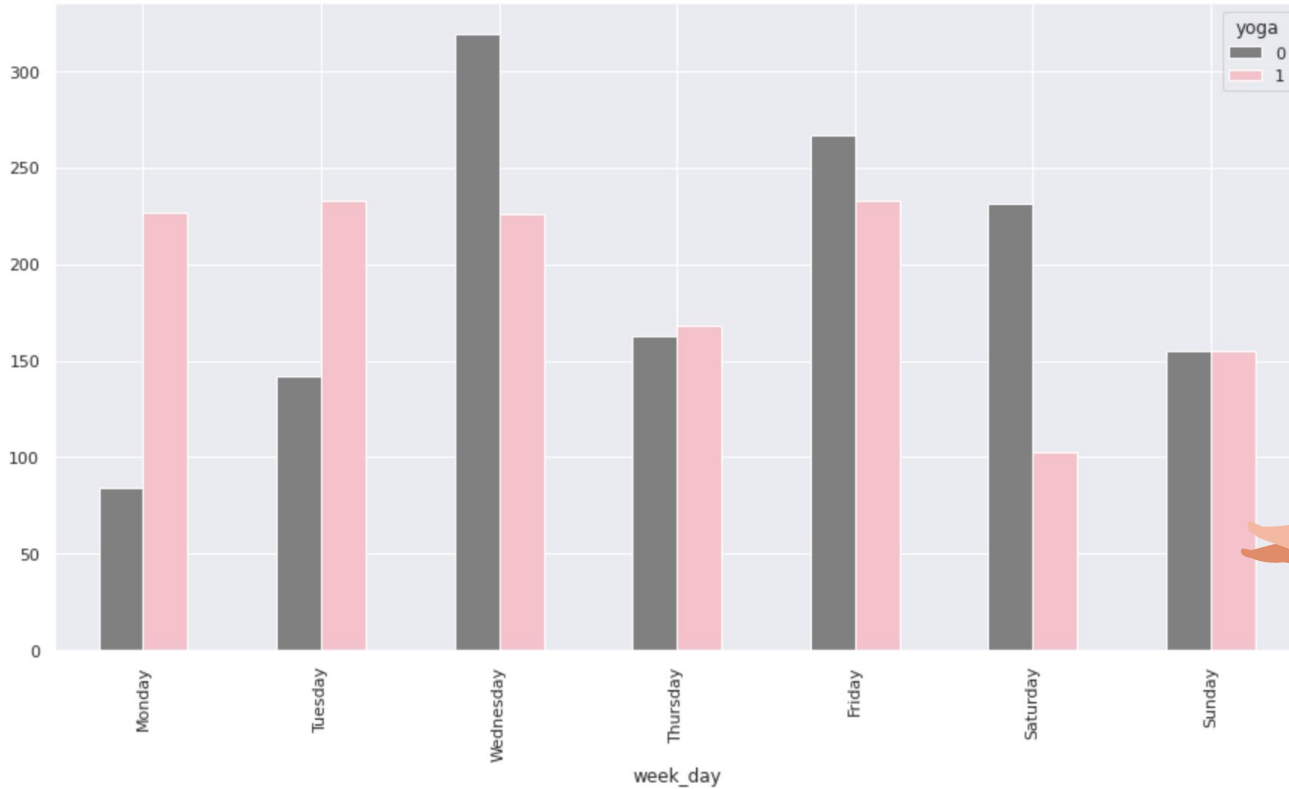
Column name	Description
Date	The date of the data entry. (Date)
Week Day	The day of the week of the data entry. (String)
Social Networking	The amount of time spent on social networking. (Integer)
Reading and Reference	The amount of time spent on reading and reference activities. (Integer)
Other	The amount of time spent on other activities. (Integer)
Productivity	The amount of time spent on productive activities such as work or school tasks. (Integer)
Health and Fitness	The amount of time spent working out. (Integer)
Entertainment	The amount of time spent watching movies/videos or playing games. (Integer)
Creativity	The amount of time spent creating art/music etc. (Integer)
Yoga	Indicates if I did yoga that particular day or not. (Integer)



# Daily Total Screen Time

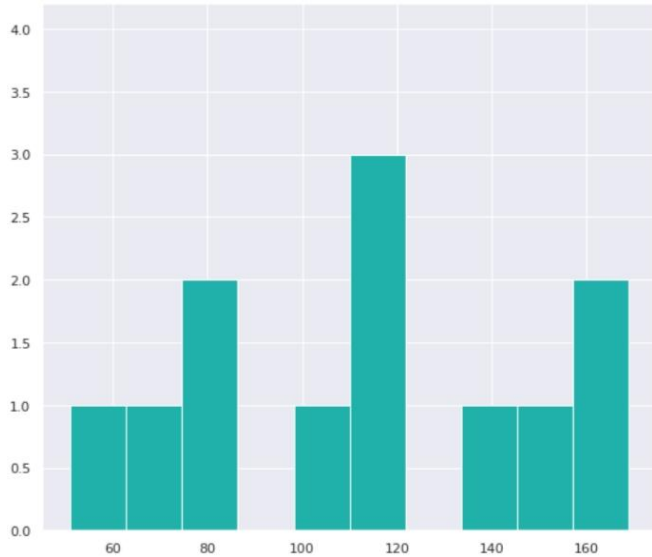


# Total Screen Time by week day



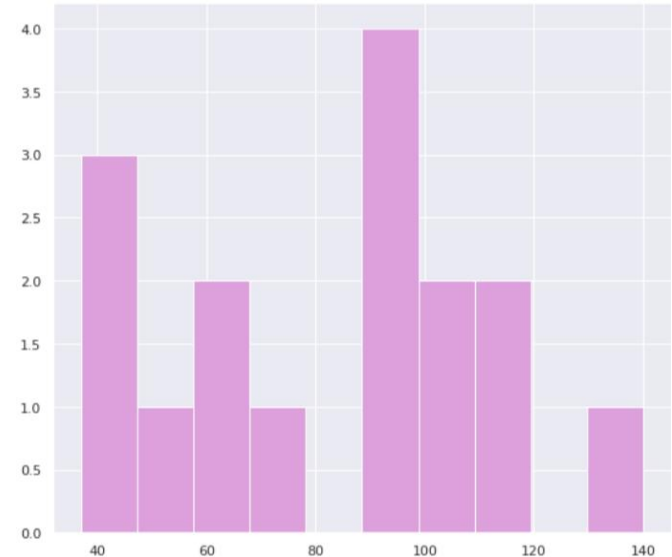
# Total Screen Time Histograms

## Without Yoga



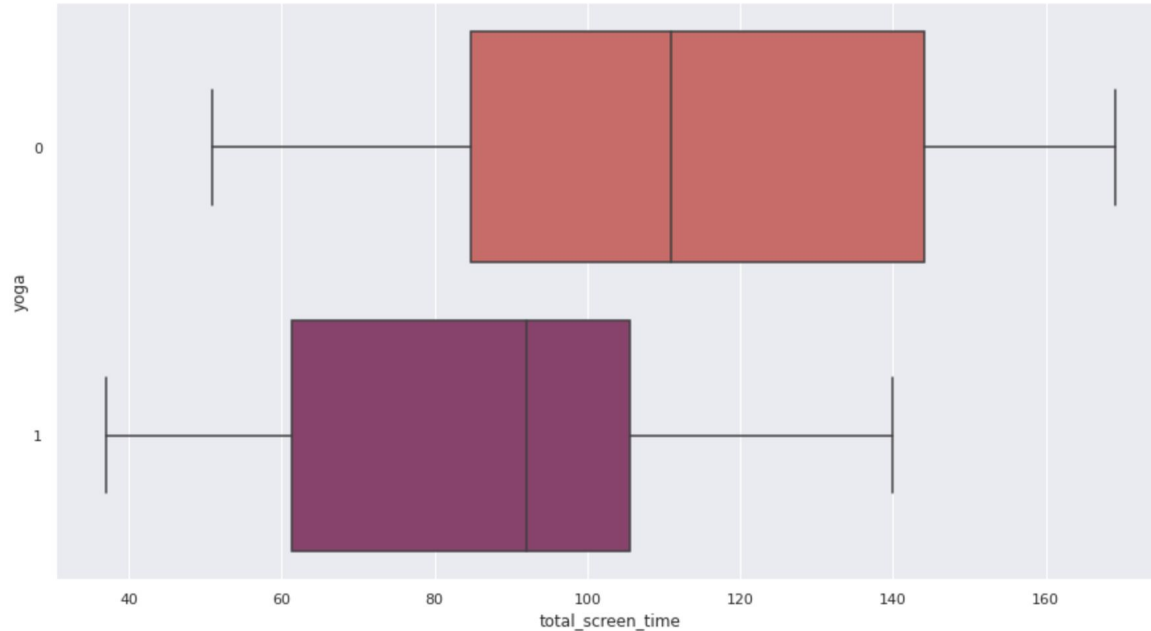
Most total screen time frequency between 110 - 120 minutes

## With Yoga




Most total screen time frequency between 90 - 100 minutes

# Yoga x Total Screen Time



Without yoga's data has a most concentration to right, high values, and with yoga's data has a most concentration to left, low values. No outliers detected.

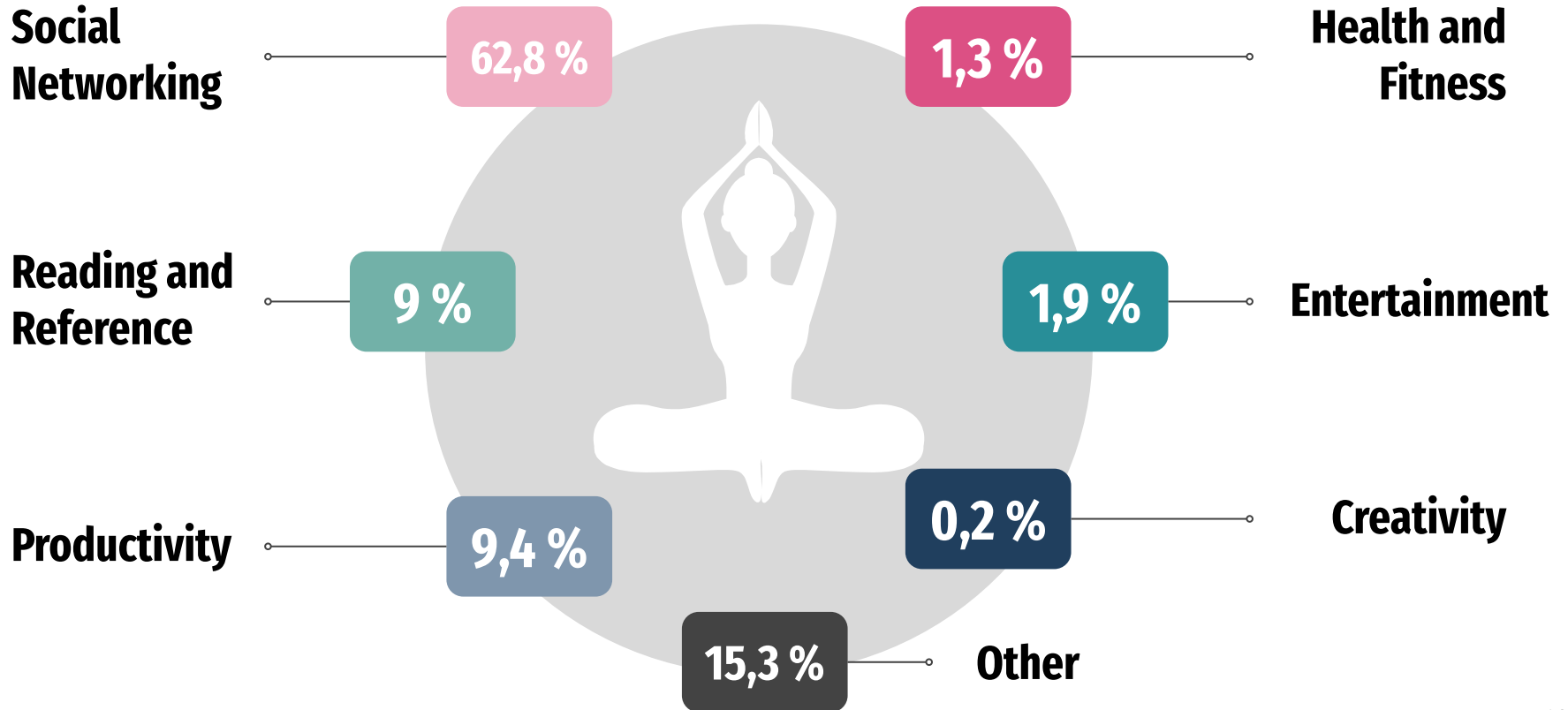
# Total Screen Time Statistics



	count	mean	std	min	25%	50%	75%	max
Without Yoga	12	113.42 min	36.90 min	51 min	84.75 min	111 min	144 min	169 min
With Yoga	16	84.06 min	30.30 min	37 min	61.25 min	92 min	105.5 min	140 min

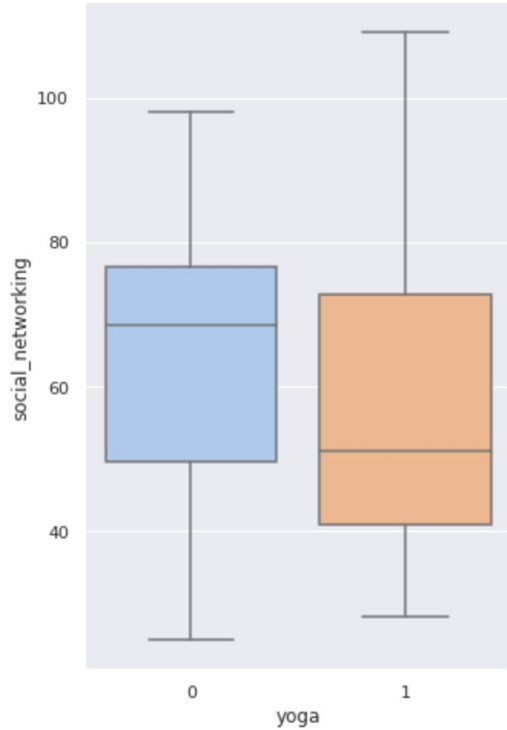
We don't know if the difference between means of total screen time on days with and without yoga practices can be in fact a result of the time spend practicing yoga.

# Distribution of screen time habits categories

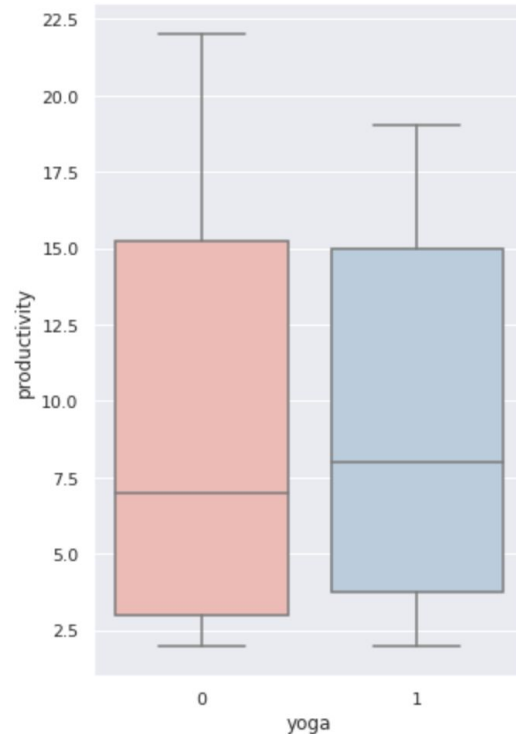


# Yoga x Main Categories

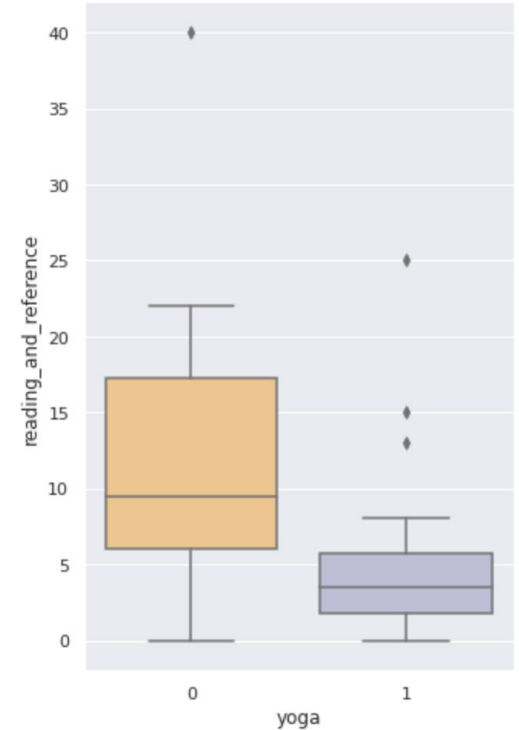
## Social Networking



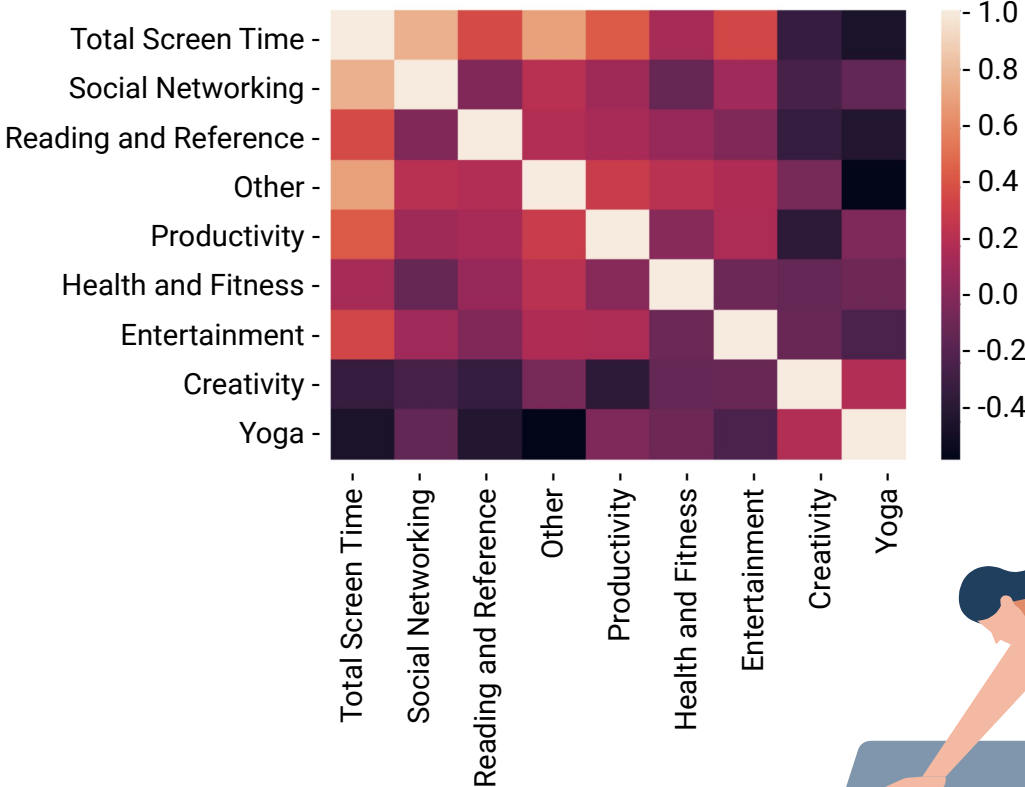
## Productivity



## Reading and Reference



# Correlation by screen time habits categories



# Insights about Correlations



**Moderate**

**Negative**

Yoga x Total Screen Time

**Weak**

**Positive**

Yoga x Creativity

**Strong**

**Positive**

Total Screen Time x Social Networking

**Moderate**

**Positive**

Total Screen Time x Productivity

**Moderate**

**Positive**

Total Screen Time x Reading and Reference

# What's next?

## Data Cleaning

Data formatting,  
creating  
variables, etc.



## Exploratory Data Analysis

Descriptive  
statistics,  
distribution and  
correlation



## Hypothesis Test

Results  
validation



## Data Wrangling

Dataset choice  
and handling in  
python

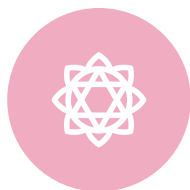


## Conclusion

Confirm if daily  
yoga impact  
screen time  
habits



# Hypothesis test



## Step 1

### Hypothesis

What we want to infer about the population



## Step 2

### Test type

Set test type according to sample



## Step 3

### Significance level ( $\alpha$ )

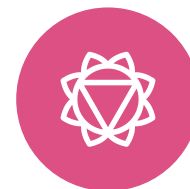
Define the probability of rejecting the null hypothesis when it is true



## Step 4

### p-value

Calculate with Python library  
`scipy.stats`  
`importing`  
`ttest_ind` (in this case)



## Step 5

### Conclusion

Reject or not reject the null hypothesis

# Independent Two Sample t-Test



## Hypothesis

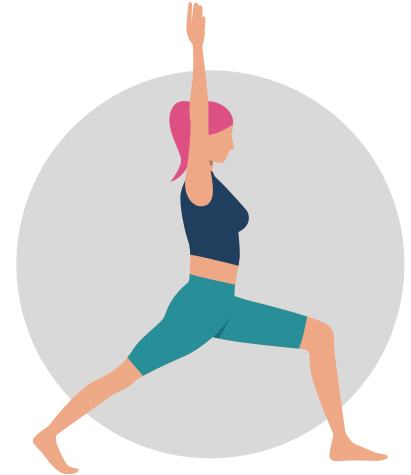
The daily yoga impact screen time habits?

Ho: Daily yoga doesn't impact  
HA: Daily yoga impact

## Difference between two means

Using the t-Test

Ho:  $\mu d = 0$   
HA:  $\mu d \neq 0$



## Parameters

Group1: Without yoga  
Group 2: With yoga

$\alpha = 5\%$   
 $p\text{-value} = 0.03$

# Conclusion



Since the p-value is less than 0.05, we reject the null hypothesis of the t-Test and conclude that there is sufficient evidence to say that the daily yoga lead to different mean of total screen time.

# Thanks

Do you have any questions?

Ana Benito

anac.benito@gmail.com

<https://www.linkedin.com/in/anacbenito/>



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