

Exploring Stress Among Teenagers

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April 21, 2025

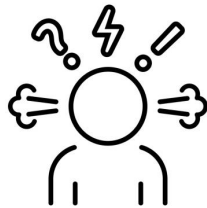
1 Introduction

2 Data

3 Methods

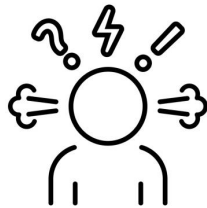
4 Wrapping Up

Choosing a Topic



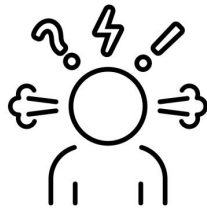
Choosing a Topic

- BEHAVIORAL Data Science



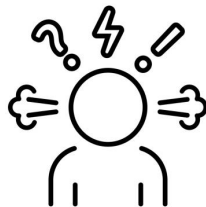
Choosing a Topic

- BEHAVIORAL Data Science
- Focus on stress data



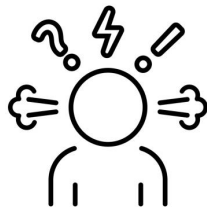
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- BEHAVIORAL Data Science
- Focus on stress data
 - Reno's specific research interest!



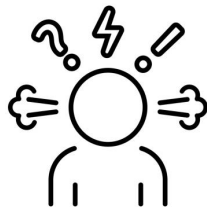
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- Look into the relationship between stress and lifestyle in teenagers



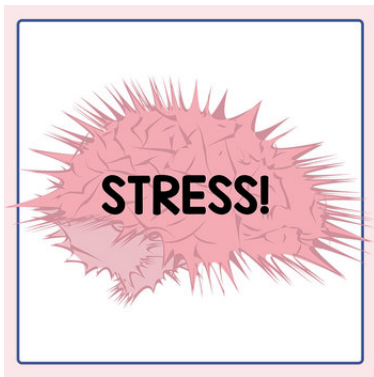
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- BEHAVIORAL Data Science
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 - Reno's specific research interest!
- Look into the relationship between stress and lifestyle in teenagers
 - Kaggle dataset



What's up with teens?

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The Data



- Demographic data



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- Demographic data
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- Stress data
 - Self-reported (integer scale of 1-5), wearable stress metric (float scale 0-1)

The Data (cont.d)



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- Some interesting statistics:



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The Data (cont.d)

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- These are all the same person

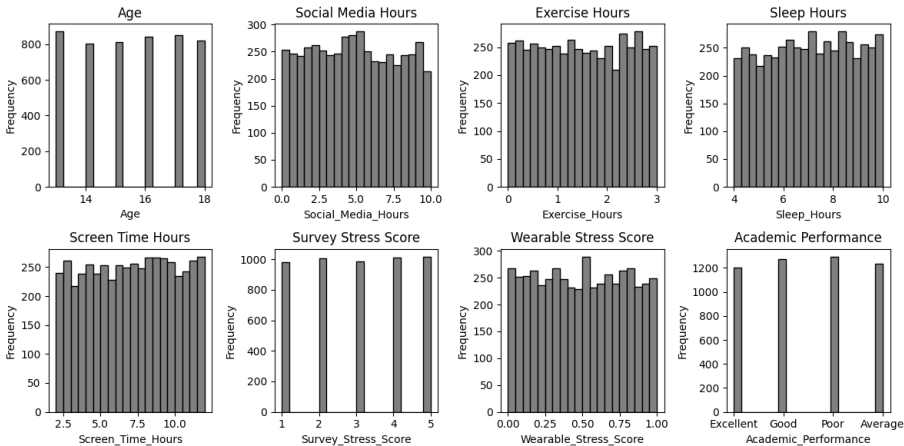


The Data (cont.d)

- Some interesting statistics:
 - Max social media hours per day: 10
 - Min sleep hours per day: 4
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- These are all the same person
- Some of the teens are not OK



The Data (cont.d, cont.d)



Methods



- Two experimental stages:



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 - Distill lifestyle data



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 - Factor analysis on lifestyle parameters



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 - Distill lifestyle data
 - Factor analysis on lifestyle parameters
 - Relate lifestyle to stress
 - Regression on lifestyle and stress levels



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 - Can't use clustering output in regression

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 - If there are obvious lifestyle factors, we can regress from those factors
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- Fit a number of model types
 - Linear, random forest, and neural network
- Goal: simplest (most explainable) model with highest performance

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 - Regressor models

Thank you!