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Data 101

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09/21/2025

My Work

At first I put the csv on R and started using some basic functions to understand the data set. I use the Recitation 2 file for inspo and examples.

I am using min, max and know that the stress index is from 1-5. And there are 9 columns total.

But I determined that the timeframe column was not analytically useful for this. So I check the Recitation 2 how to remove columns

After that I see the original names were too long and messy, so I standardized them for clarity. I asked chatgpt how to rename columns in R. Then chat gave me a code and I renamed all the columns. Now I'm having 8 columns.

I discovered that Environment[130] was blank. I set it to "Unknown" by asking chatgpt that If I have a blank under column Environment can I assigned it to Unknown.

Values present"disrupted" not capitalization while other values are so I think it's inconsistent so I asked chat gpt about changing the name for the value under column.

After the data is clean I start using function tapply(). And I immediately found patterns. The differences across the environment, higher stress with bad habit is yes and monotonic rise with peer pressure levels.

Then I start to graph by following the Racitation2 file. I did both box and bar plots for Environment vs Stress Index.

My first attempt for peer pressure was a scatter plot, but both axes are 1-5, so there are only 25 possible(x,y) pairs and points overplot. After asking ChatGPT if something was off, I switched that respect to discreteness. But then the box plot looks a lot more sense. because the higher peer pressure the higher stress index is.

Prompts I used (ChatGPT)

“Is there a way to change column names in R to make them shorter and easier?”

“In row 130, the Environment column is missing a value. How can I assign Unknown?”

“Can I rename the levels inside a categorical column in R? I want disrupted to be Disrupted and fix capitalization for quiet/noisy.”

“My peer-pressure scatterplot looks wrong—both axes are 1–5. What’s a better way to visualize this?”

Links and Sources that I use for article:

Gheller et al., 2023 (Environment & Behavior): Credible, peer-reviewed synthesis showing classroom noise impairs attention/working memory—helps justify why “Quiet” environments had lower stress in my data.

[https://journals.sagepub.com/doi/full/10.1177/00139165241245823#:~:text=It%20has%20been%20theorized%20that,2010;%20S%C3%B6rväist%2C%202010\).](https://journals.sagepub.com/doi/full/10.1177/00139165241245823#:~:text=It%20has%20been%20theorized%20that,2010;%20S%C3%B6rväist%2C%202010).)

<https://www.who.int/europe/news-room/fact-sheets/item/noise>

U-M news piece on “bad habits”: Background on paradoxes around habits/self-regulation; I used it to contextualize the “BadHabit = Yes → higher stress” pattern.

<https://news.umich.edu/good-results-of-bad-habits-u-m-research-explains-paradox/>

YouTube explainer: Supplemental pop-sci context on common stress drivers in teens—used sparingly.

<https://ijip.in/wp-content/uploads/2024/09/18.01.211.20241203.pdf>

<https://www.youtube.com/watch?v=yyCB0P3Onqo>