NM2207 project diary entry

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week 9

Topic

I will be conducting an analysis of insomnia data with the aim of offering a succinct overview on sleep difficulties. The goal is to provide users and viewers of the interactive data with a sense of connection at the demographic level and to inspire them with a range of coping techniques.

Data source

I will be examining the primary factors that lead to insomnia, exploring its effects on health, and evaluating the effectiveness of coping strategies, all while considering variations across different age groups and genders.

week 10

(1) What is the question that you are going to answer?

What is the gender and age disparity in insomnia (severity, causes and coping skills) in young adults?

(2) Why is this an important question?

Sleep is a fundamental component of our lives, intricately linked to our mental well-being and daily functioning (NIH, 2022). Nevertheless, the issue of insomnia has risen to concerning levels, with a significant increase in sleep-related problems observed in young adults, going from 22.6% in 2010 to 30.5% in 2018 (Sivertsen, B. et al, 2019). In contrast to the commonly held belief that older adults experience more sleep difficulties than their younger counterparts, research indicates that insomnia affects over 1 in 4 individuals aged 18 to 24, with 29% experiencing it every night, making this age group the most vulnerable in the United States (Helsestart, 2022). Through an examination of the underlying causes of insomnia across different age groups and genders, we can unveil the distinctive challenges that this population faces today and explore effective approaches to address these concerns.

(3) Which rows and columns of the dataset will be used to answer this question?

All rows with valid data entry are used (86 rows after data cleaning).The columns used are categorised into 4 main groups: participants info, severity of insomnia, causes of insomnia and coping skills.

participants info: Group, SubGroup, Sex, Age

severity of insomnia: ISI_total

causes of insomnia:BDI_total, ASHS_total, ASHS_physiological, ASHS_cognitive,ASHS_emotional, ASHS_SleepEnvirnmont, ASHS_DaytimeSleep, ASHS_substances, ASHS_bedtimeRoutine, ASHS_sleepStability, ASHS_BedroomSharing, DBAS_total, FIRST_total, GCTI_total, NEO_neuroticism, NEO_extraversion, NEO_openness, NEO_agreeableness, NEO_Conscientiousness, ACE_tot, asq_home, asq_school, asq_attendance, asq_romantic, asq_peer, asq_teacher, asq_future, asq_leisure, asq_finance, asq_responsibility

coping skills: cope_disengage_su, cope_growth, cope_disengage_mental, cope_emotions, cope_socialsupp_instr, cope_active, cope_denial, cope_religion, cope_humor, cope_disengage_emo, cope_restraint, cope_socialsupp_emo, cope_acccept, cope_suppression, cope_planning

Include the challenges and errors that you faced and how you overcame them.

challenge 1: unable to publicise the app (when all workings on data cleaning and graph plotting is done on a R markdown file, app.R can still show on local host because information required is found in the workspace. However, when trying to publicise the app, it will not work)

solution: transfer all codes, including library(tidyverse), read.csv(), and data cleaning to app.R file so that when running the app, data files can be accessed.

challenge 2: for my eventual data visualisation, I need to use a lot of variables from the data set and a lot of them have specific qualities which make it very messy to manipulate them

solution: I tried to regroup and recategorise them by assigning 4 big titles: participants, sleep quality, casues, and coping skills; subsequently creating 4 different datasets. Within each group, there are also smaller groups like ASHS_total (Adolescent Sleep Hygiene Scale) and distinct categories of ASHS (eg. cognitive domain, emotional domain). I will further organise them by creating subgroups of data.