HEALTH PRACTICUM

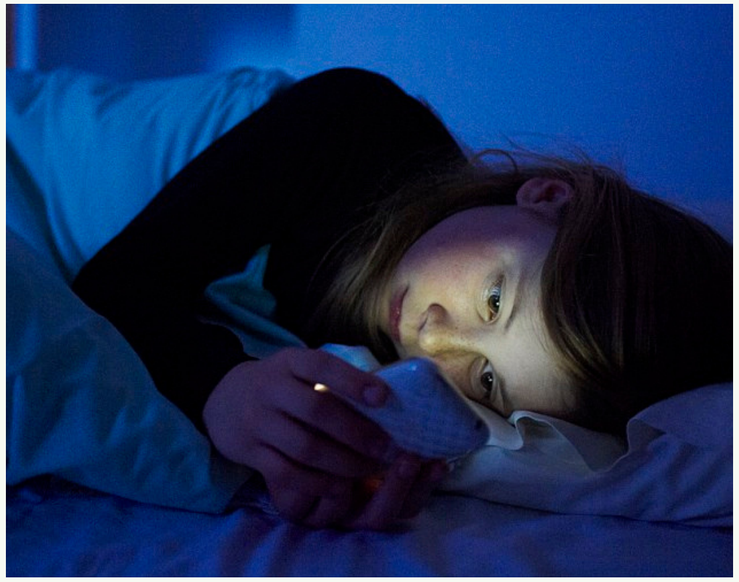
Understanding Sleep Changes

BY HEIDI EREN

WHAT'S THE ISSUE?

Sleep quality and quantity for adolescents and adults are declining.

INFLUENCED BY BIOLOGICAL, ENVIRONMENTAL, SOCIETAL, AND BEHAVIORAL FACTORS



WHY NOW?

HAS SLEEP DEPRIVATION CHANGED OVER THE YEARS?

- Greater number of factors influencing our sleep patterns and quality
  - technology

DATASETS

NATIONAL SLEEP FOUNDATION (2011)

- Telephone interviews or web surveys
- Respondents ages 13-64
- Questions about sleep habits and use of technology before bed

STANFORD TECHNOLOGY ANALYTICS AND GENOMICS OF SLEEP (STAGES) (2018)

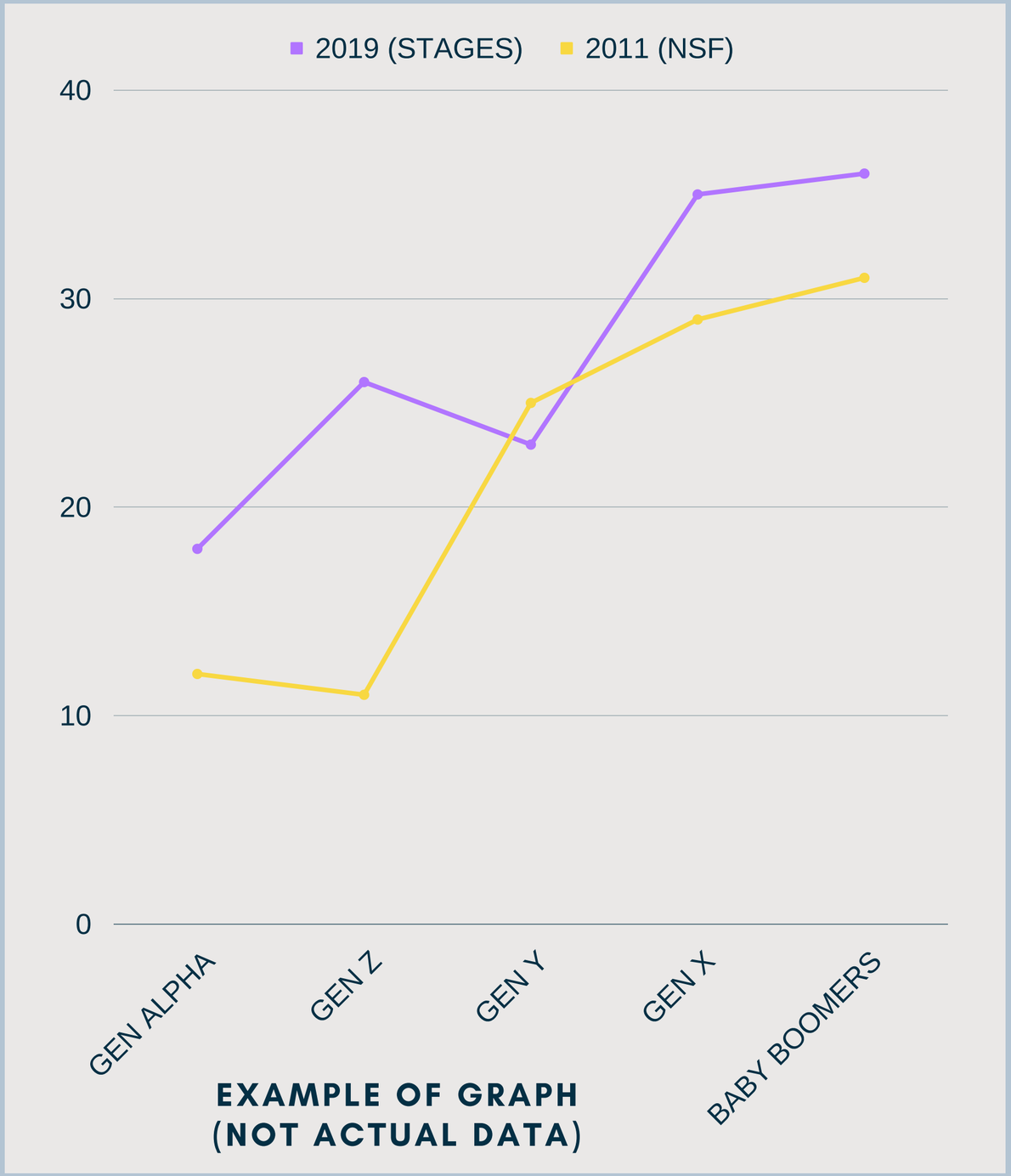
- Contains 6 datasets, will only be looking at the online questionnaire datatype(Alliance Sleep Questionnaire)
- Respondents range from adolescents to adults
- Questions about sleep habits, symptoms (sleepiness), disorders (insomnia, restless leg syndrome)

AGE VS SLEEP

FINDING THE CORRELATION

I will compare the two datasets by looking at three different factors:

1. Epworth Sleepiness Scale (ranking the likelihood of dozing off)
2. Sleep Duration (hours)
3. Last use of technology before bed (hours)

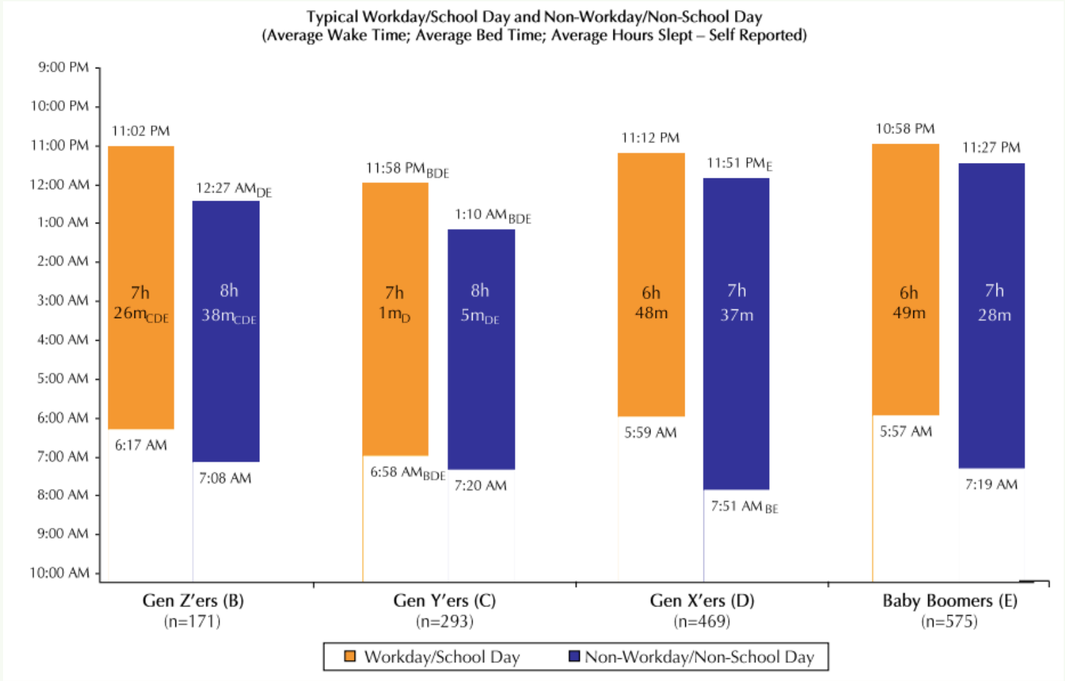


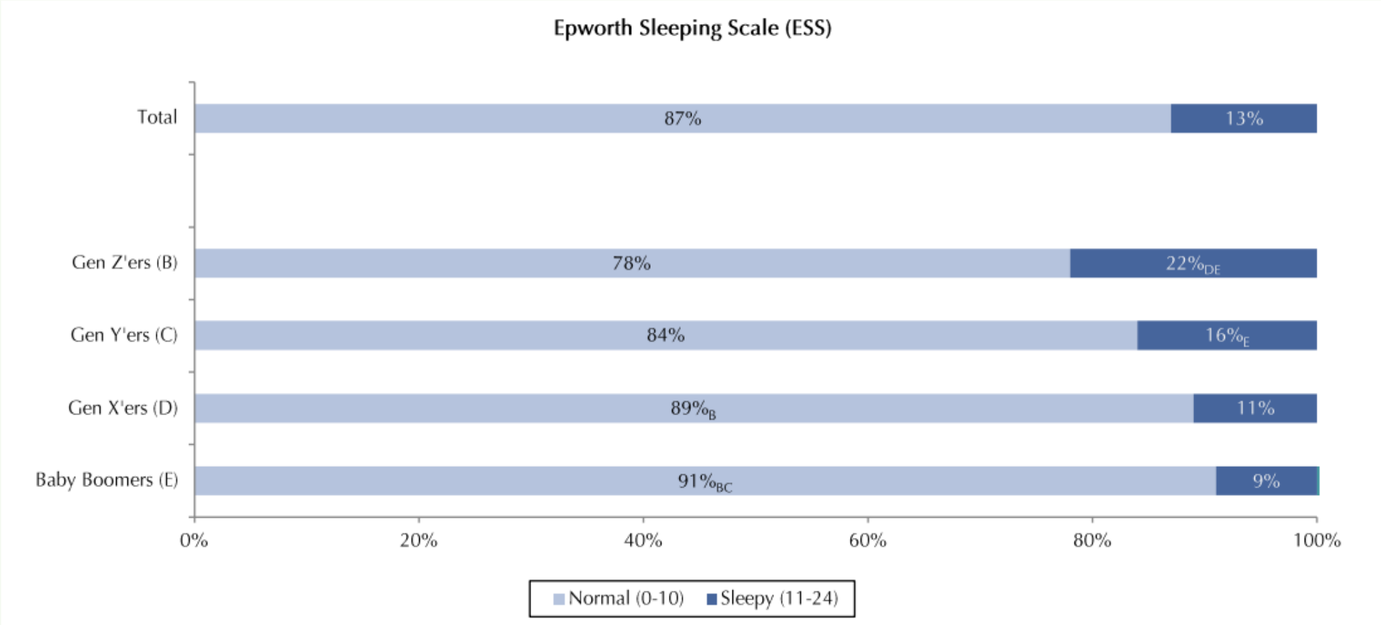
EXAMPLE OF GRAPH (NOT ACTUAL DATA)

PAST STUDIES

NATIONAL SLEEP FOUNDATION

Many published research papers have assessed the sleep patterns and habits of different age groups. The National Sleep Foundation also compiled their findings into comprehensive charts and graphs.





Impact of "Not Getting Enough Sleep"					
			Age Group		
	Total	Gen Z'ers (B)	Gen Y'ers (C)	Gen X'ers (D)	Baby Boomers (E)
Any impact n =	(145-430)	(67-77)	(58-111)	(16*-148)	(4*-102)
Net: Any	94%	99% DE	97%	91%	91%
Mood	85	87	84	84	86
School work[1]	83	84	82	81	100 BC
Family life or home responsibilities	72	73	71	75	68
Work[2]	71	n/a	63	74	74
Social life or leisure activities	68	68	72	67	64
Intimate or sexual relations	61	n/a	55	68	55

SO WHAT?

- The trends between the two datasets could reveal whether certain age groups are getting more or less sleep. Further analysis can examine the underlying reasons for these patterns, such as the increased use of technology in younger generations (wakeup call to tech and media companies).
- With a more profound understanding of the effects of activities and tasks prior to sleep, the data can help to devise optimal sleep conditions for greater sleep quality or duration.

Thank you for your time.

CITATIONS

- “Blue Light Has a Dark Side.” Harvard Health, 7 July 2020, https://www.health.harvard.edu/staying-healthy/blue-light-has-a-dark-side#:~:text=Harvard%20researchers%20and%20their%20colleagues,as%20much%20(3%20hours%20vs.
- David Ramsey, MD. “Will Blue Light from Electronic Devices Increase My Risk of Macular Degeneration and Blindness?” Harvard Health, 1 May 2019, https://www.health.harvard.edu/blog/will-blue-light-from-electronic-devices-increase-my-risk-of-macular-degeneration-and-blindness-2019040816365.
- Fossum IN;Nordnes LT;Storemark SS;Bjorvatn B;Pallesen S; “The Association between Use of Electronic Media in Bed before Going to Sleep and Insomnia Symptoms, Daytime Sleepiness, Morningness, and Chronotype.” Behavioral Sleep Medicine, U.S. National Library of Medicine, https://pubmed.ncbi.nlm.nih.gov/24156294/.
- Fuller, Caitlyn, et al. “Bedtime Use of Technology and Associated Sleep Problems in Children.” Global Pediatric Health, SAGE Publications, 27 Oct. 2017, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5669315/.
- The Children's Hospital of Philadelphia. “Sleep and Technology: Incompatible for Adolescents.” Children's Hospital of Philadelphia, The Children's Hospital of Philadelphia, 23 Aug. 2016, https://www.chop.edu/news/sleep-and-technology-incompatible-adolescents#:~:text=A%20survey%20of%20more%20than,sleepiness%2C%20and%20worse%20academic%20performance.