Mental Health at Work

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Background & Motivation

- In 2017, WHO estimated that 1 in 17 adults experience a serious mental illness each year[1]
  - More than 44 million adults are affected annually by mental illnesses, many of whom are also active within the workforce[2]
- Poor mental health and stress can negatively affect employee job performance, work engagement, communication with coworkers, physical capability, and other day-to-day functions[3]
- Only 57% of employees who report moderate depression and 40% of those who report severe depression receive treatment to control symptoms[3]
- Due to COVID, mental health is increasingly affecting work life
  - 55% of employees feel uncomfortable confiding in anyone at work[4]
  - Remote work can either be an alleviator or exacerbator of a mental illness

Dataset Overview: Mental Health in Tech

This dataset originates from a 2014 survey that measures attitudes towards mental health and frequency of mental health disorders in the tech workplace. The original dataset is from Open Sourcing Mental Illness (OSMI).

Link: https://www.kaggle.com/osmi/mental-health-in-tech-survey

- **Timestamp**
- **Age**
- **Gender**
- **Country and state (if United States)**
- **self_employed**: Are you self-employed?
- **family_history**: Do you have a family history of mental illness?
- **treatment**: Have you sought treatment for a mental health condition?
- **work_interfere**: If you have a mental health condition, do you feel that it interferes with your work?
- **no_employees**: How many employees does your company or organization have?
- **remote_work**: Do you work remotely (outside of an office) at least 50% of the time?
- **tech_company**: Is your employer primarily a tech company/organization?
- **benefits**: Does your employer provide mental health benefits?

Dataset Overview: Mental Health in Tech (Continued)

- **care_options**: Do you know the options for mental health care your employer provides?
- **wellness_program**: Has your employer ever discussed mental health as part of an employee wellness program?
- **seek_help**: Does employer provide resources to learn more about mental health issues and how to seek help?
- **anonymity**: Is anonymity protected if employee takes advantage of mental health or substance abuse treatment?
- **leave**: How easy is it for you to take medical leave for a mental health condition?
- **mental*health*consequence**: Do you think that discussing a mental health issue with your employer would have negative consequences?
- **phys*health*consequence**: Do you think that discussing a physical health issue with your employer would have negative consequences?
- **coworkers**: Would you be willing to discuss a mental health issue with your coworkers?
- **supervisor**: Would you be willing to discuss a mental health issue with your direct supervisor(s)?
- **mental*health*interview**: Would you bring up a mental health issue with a potential employer in an interview?
- **phys*health*interview**: Would you bring up a physical health issue with a potential employer in an interview?
- **mental*vs*physical**: Do you feel that your employer takes mental health as seriously as physical health?
- **obs_consequence**: Have you heard of or observed negative consequences for coworkers with mental health conditions in your workplace?
- **comments**: Any additional notes or comments

Relevant Research

- CDC Workplace Health Guide - Mental Health in the Workplace[5]
  - Tracks mental health solutions, awareness frameworks, and strategies
  - Encourages employers to monitor indicators and risk factors of mental health such as **stigma**, **lack of health care,** and **lack of social connections**
- Predictors of repeated sick leave in the workplace because of mental disorders (Sado et al.)[6]
  - Analyzed Return to Work (RTW) and repeated sick leave rates among 194 subjects employed at a manufacturing company
    - Exploratory Variables: RTW, sex, age at time of employment, job tenure, diagnosis, etc.
  - Methods: Univariate Analyses using log-rank test and multivariate analysis using Cox proportional hazard model
  - Results: Strongest predictors of repeated sick leave were found to be **age** and **previous sick-leave episodes**

Hypothesis

- Target predictors: Would you be willing to discuss a mental health issue with your direct supervisor(s) {e.g., **target** in the dataset}?
  - ***Obs_consequence***: Have you heard of or observed negative consequences for coworkers with mental health conditions in your workplace?
  - ***No_employees:*** How many employees does your company or organization have?
  - ***Remote_work:*** Do you work remotely (outside of an office) at least 50% of the time?
  - ***Benefits:*** Does your employer provide mental health benefits?
- **Null Hypothesis:** The 4 target predictors do not constitute the majority (50%) of feature importance when predicting whether employees are willing to discuss mental health issues with supervisors
- **Alternative Hypothesis:** The 4 target predictors constitute the majority (50%) of feature importance when predicting whether employees are willing to discuss mental health issues with supervisors

Determined TechStack

- Google Colaboratory (Python) & Google Drive
- Github
- Visual Studio Code
  - LiveShare Extension (Potentially)