Papers Review

▼ **Mental Health Analysis in Tech Workplace by M. Uddin, Afia Farjana, M. Mamun, Miraz Al Mamun (2022)**

- **Prevalence of Mental Health Disorders**: The study finds that mental health issues are significantly common in the tech sector, affecting both technical and non-technical employees. The prevalence varies by geography, indicating that cultural, environmental, and workplace practices play a role in mental well-being.
- **Key Predictors**: Factors such as work pressure, long hours, and the struggle for work-life balance are identified as strong predictors of mental health disorders. The study also suggests that attitudes toward mental health, including the stigma associated with seeking help, vary significantly across different regions.
- **Improvement Strategies**: The research highlights the importance of early detection and diagnosis of mental health conditions. It suggests that creating a supportive workplace environment, along with providing access to mental health resources and reducing stigma, can significantly improve employee well-being.
- **Geographical Differences**: Differences in the prevalence of mental health issues and attitudes toward them by geographic location underline the need for region-specific strategies. This suggests that interventions should be tailored to address the unique cultural and societal norms of each region.
- **Encouragement to Seek Treatment**: One of the crucial findings is the importance of encouraging tech employees to seek help without fear of stigma or professional repercussions. The study advocates for policies that ensure confidentiality and support for those undergoing treatment.

▼ **Mental Health in Tech Workplace: An Analysis by Madhurima Paul, Swapan Das (2023)**

- **Prevalence and Severity of Mental Health Issues**: The research highlights a significant prevalence of mental health disorders among tech employees, influenced by factors such as workplace stress, family mental health history, and the availability of company benefits related to mental health.
- **Impact of Employment Status**: The analysis distinguishes between the experiences of self-employed individuals and those employed by companies, noting differences in the prevalence of mental health issues based on the level of support and resources available.
- **Role of Company Benefits**: The study underscores the importance of company-provided mental health benefits in mitigating the impact of mental health issues. Employees with access to such benefits are found to be more likely to seek and receive treatment.
- **Machine Learning Predictions**: The development of a machine learning model aims to predict employees' need for medical attention based on various factors, indicating a potential for early identification and intervention for those at risk of mental health disorders.
- **Call for Comprehensive Support Systems**: The findings advocate for the creation of more robust support systems within the tech industry to address mental health issues effectively. This includes the need for companies to offer comprehensive mental health benefits and for the industry to foster a culture that reduces stigma and encourages seeking help.

▼ Mental Health in Tech: Analysis of Workplace Risk Factors and Impact of COVID-19

- **Increased Risk in Tech Industry**: The tech industry has higher incidences of mental health issues compared to other sectors. This study aims to identify factors contributing to mental health problems, predict diagnosis, and assess the impact of COVID-19 on mental health.
- **Data and Methodology**: The study utilizes data from the Open Sourcing Mental Illness (OSMI) Mental Health in Tech Surveys from 2016 to 2021. It employs machine learning models for predicting mental health diagnoses and clustering techniques to assess risk levels among tech employees.

- **Predictive Analysis**: Various machine learning models, including kNN, logistic regression, and Gradient Boosting, were evaluated for predicting mental health diagnoses. Gradient Boosting Classifier emerged as the most effective model, providing high accuracy and recall rates.
- **Risk Indicator Development**: Clustering models were used to categorize employees into different risk levels (high, medium, low) based on their current mental health status and previous diagnoses. Spectral Clustering was identified as the best model for distinguishing among these risk levels.
- **Influencing Factors**: The study highlighted several factors influencing mental health risks, including family history of mental illness, previous mental health issues, age, gender, and lack of workplace support for mental health. Women in tech and employees with a family history of mental illness were found to be at higher risk.
- **Impact of COVID-19**: The pandemic has significantly influenced mental health in the workplace, with an increase in employers offering mental health resources and formally discussing mental health. However, there's a noted decrease in employees feeling comfortable discussing mental health issues, indicating a gap between the availability of resources and their effective utilization.
- **Conclusions**: The study concludes that while there's an increased awareness and efforts to support mental health in the tech industry, especially post-COVID-19, challenges remain in adequately meeting employees' mental health needs. The insights from this study could help employers better understand and address these challenges.

▼ Employees’ Mental Health and Productivity and its Impact on Contextual and Task Performance in Organizations

1. **Influence of Psychological Well-Being (PWB)**: The study indicates that employees' psychological well-being significantly affects both their task and contextual performance. In private sector organizations, where jobs are highly demanding and stressful, employees' mental health negatively impacts their performance when stress levels exceed a manageable threshold. Conversely, in public sector organizations, the internal environment is generally more relaxed and less stressful, which

does not significantly threaten employees' psychological well-being or performance.

2. **Sectoral Differences in Psychological Well-Being**: Employees in the public sector exhibit higher levels of psychological well-being compared to those in the private sector. The study suggests that this is due to factors like greater job security, supportive work environments, and the absence of excessive work pressures typically found in private sector organizations.
3. **Impact on Performance**: The study supports the notion that "happy" workers perform better than "less happy" ones. It finds that adequate physical and mental health of the workforce is crucial for retaining employees and ensuring superior performance.
4. **Recommendations for Workplace Interventions**: To address mental health issues and improve employees' psychological well-being, the study recommends regular interventions. These interventions should assess mental health issues and develop strategies to create a balance between high-performance expectations, organizational goals, and other institutional stressors.
5. **Methodological Approach**: Utilizing a correlational research design, the study involved surveying 374 finance and accounting professionals across public and private sector organizations in Karachi, Pakistan. The findings are based on structured survey questionnaires, with data analysis including descriptive statistics, correlation coefficients, regression analysis, and One-Way ANOVA tests.

▼ Mental health and the factors with people in tech workspace

- **Mental Health Concerns in the Tech Industry**: The study underscores the importance of mental health among workers in the tech industry, noting that factors such as long work hours, gender pay gaps, and lack of diversity contribute to poor mental health.
- **Data Source and Methodology**: Data from the Open Sourcing Mental Illness (OSMI) survey, collected between 2014 and 2021, was analyzed using logistic regression to identify factors influencing mental health treatment decisions among tech workers.
- **Key Findings**:

    - **Gender Impact**: Males were less likely to seek treatment compared to females, with a significant difference in treatment-seeking behavior based on gender.
    - **Family History**: Individuals with a family history of mental illness were more likely to seek treatment.
    - **Workplace Factors**: The availability of mental health benefits, care options, and the ease of taking leave for mental health conditions significantly influenced treatment-seeking behavior.
    - **Workplace Dialogue on Mental Health**: The willingness to discuss mental health issues with coworkers and supervisors, and the perceived consequences of such discussions, impacted individuals' likelihood to seek treatment.
    - **Importance of Anonymity**: The protection of anonymity was highlighted as an important factor for employees considering seeking help for mental health issues.
- **Practical Implications**: The study suggests that employers in the tech industry can improve mental health outcomes by providing specific mental health benefits, creating a supportive environment for discussing mental health, and ensuring anonymity for those seeking help.
- **Limitations and Future Directions**: The study's limitations include its reliance on self-reported data and the potential impact of gender imbalance among respondents. Future research could focus on more diverse populations and explore the effectiveness of different mental health interventions in the workplace.

▼ Mental health and help-seeking behavior within the United States technology industry: Investigating workplace support

Key findings include:

- Disclosing mental health issues to an employer is significantly associated with increased help-seeking behavior. Employees who discussed their mental health with their employer had a four times higher likelihood of seeking professional help.
- Perceptions of organizational support for mental health issues within the technology industry were examined but were not found to be

significantly associated with help-seeking behavior in this study. This indicates that direct discussions with employers might have a more substantial impact on employees' decisions to seek help than broader organizational support perceptions.

- Gender differences were observed, with females more likely to seek help for mental health issues than males. This aligns with broader research showing gender variations in help-seeking behavior and attitudes toward mental health.

The study underscores the importance of supportive interactions between employees and employers in facilitating help-seeking behavior for mental health issues within the technology industry. It highlights the need for workplace environments that encourage open discussions about mental health, as well as tailored approaches to support and interventions based on occupational and industry-specific contexts. The findings suggest that fostering an open dialogue about mental health between employees and their employers could significantly impact mental health outcomes and help-seeking behaviors in the workplace.

▼ Mental Health in the Tech Workplace: What are the strongest predictors of mental health illness or certain attitudes towards mental health in the tech workplace?

Key findings from the report include:

- **Data Quality and Selection**: The dataset was assessed using the Health Data Research UK (HDR UK) Utility Framework and rated highly in access and provision due to its comprehensive data documentation and the availability of the data under a Creative Commons Attribution License.
- **Data Exploration**: Initial data exploration was conducted using the pandas-profiling Python module, which helped identify informative variables with the least missing data. The dataset encompassed 1259 individuals across 48 countries, with a majority from the United States, United Kingdom, and Canada. Key variables for analysis were selected based on their relevance to the study question.
- **Preprocessing and Methodology**: Data preprocessing involved cleaning and organizing the data, including correcting gender variable

spelling mistakes, grouping gender observations, adjusting age values, and categorizing the number of employees and remote work variables. A logistic regression model was then developed to examine the relationship between selected predictors and mental health treatment outcomes.

- **Results**: The logistic regression analysis revealed that family history of mental illness, gender, and awareness of care options were the strongest predictors of seeking treatment for mental health issues. A confusion matrix and Receiver Operator Characteristic (ROC) curve were used to evaluate the model's performance, showing good predictive ability with an Area Under the Curve (AUC) of approximately 0.878.
- **Conclusion**: The study concluded that family history, gender, and workplace care options are significant predictors of mental health treatment seeking in the tech industry. Recommendations include that employers should offer more comprehensive mental health support and prioritize treatment for employees with a family history of mental illness.