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Hackathon – IE6600 – Sec05 – Group8

Aneesha Subramanian, Ankita Ajit Doddihal, Rajaraghunanthan Palanisamy

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Introduction and Problem Statement

OSMI's primary goal is to change how mental health is spoken about in the tech community by spreading awareness, educating about mental disorders, and providing safe and supportive resources for those with mental health issues.

For this particular hackathon challenge, we decided to use the **OSMI Mental health in tech survey of 2016** aimed to measure attitudes towards mental health in the tech workplace and examine the frequency of mental health disorders among tech workers, analyze different demographics including gender, age, geography and a lot more.

The data set consists of 63 variables with a total of 1433 observations. In process of cleaning the data, we observed a few inconsistencies, for example the highest age as 323. Such issues were addressed by cleaning and filtering out data relevant to the study.

On cleaning and observing the data at a surface level, we can infer that mean age of the sample is 34.05. The data set contains a total of 1433 responses out of which 1059 belong to 'Male', 340 belong to 'Female' and 34 to the 'Other' category. The survey consists of responses from multiple states in United States of America and multiple countries worldwide. Although the survey weightage varies from country to country, all values have been considered in attempt to get a world-wide analysis from the data.

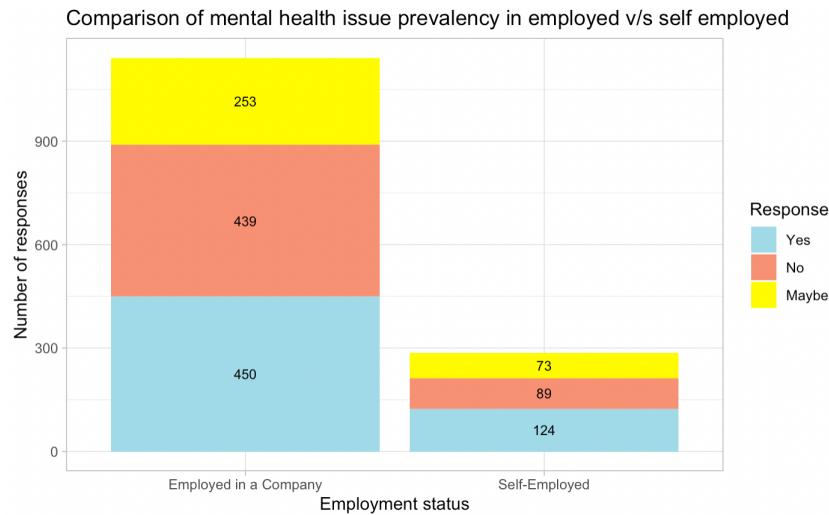
Since the data was an online survey and not obtained through a random sampling approach, the dataset may be prone to voluntary response bias. Hence, the survey, and the inferences that have been obtained from this data set cannot be generalized for the entire technical industry.

Keeping in mind the above limitations, the following themes have been covered in this hackathon –

1. Understanding the population and demographic who responded to this survey.
2. Response to mental health and mental health illnesses.
3. The Taboo around mental health in technical companies and domains.

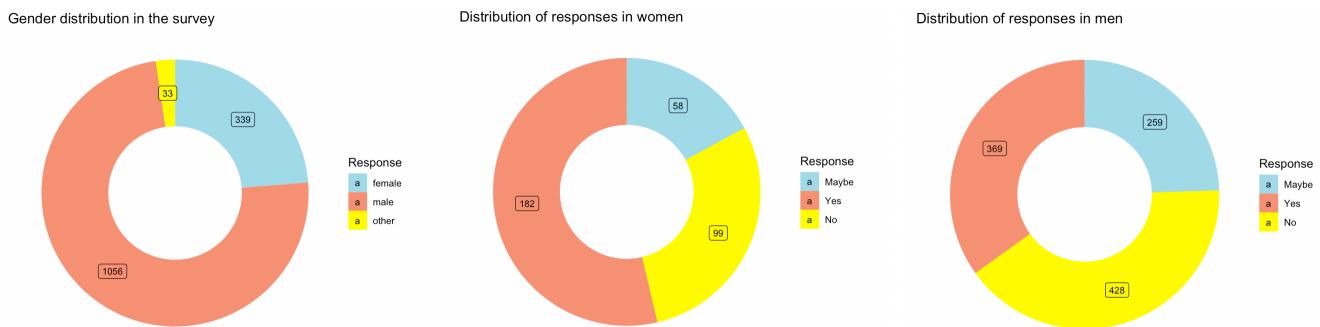
Understanding the population and demographic who responded to this survey

Q1. Are Mental health issues more prevalent in people employed in companies' v/s people who are self-employed?



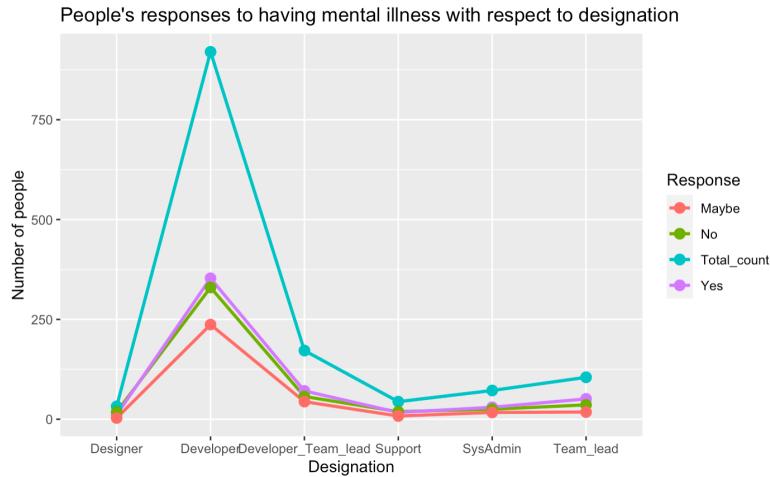
Conclusion – In this particular dataset, we decided to visualize the data using a stacked bar plot for a clear representation of responses from both parties. Based on this chart, 39.4% people employed in a company responded 'Yes' to currently having a mental illness. On the other hand, 43.3% people who were self-employed reported that they have an ongoing mental illness.

Q2 - What is the distribution of gender in the survey. Is there any impact of gender on mental health issues in technology?



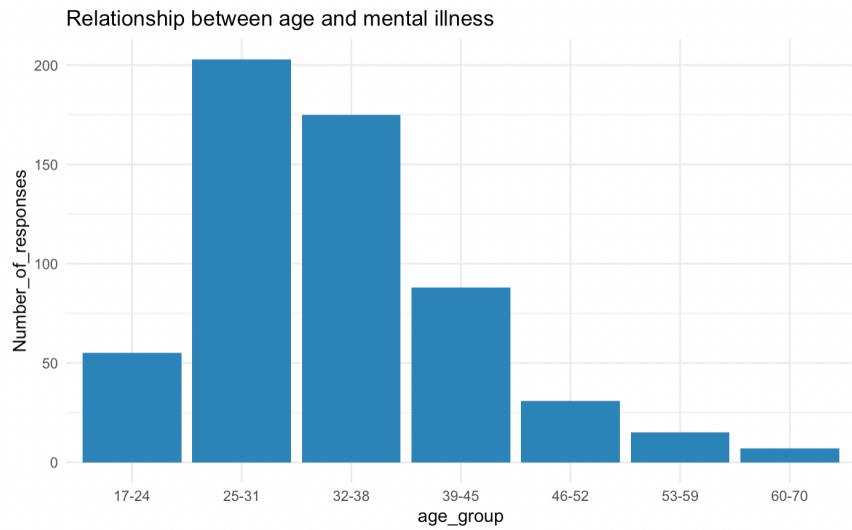
Conclusion - To get the variation and distribution of genders in the survey, we decided to visualize the data using a donut chart. The first chart represents the gender distribution of responders in the survey, the 2nd chart represents the distribution of responses in women, and the third chart in men. Based on this survey, we observe that over 50% women faced mental illness while only close to 35% men faced mental illness. Based on these observations and this particular survey, we can say that women maybe more impacted by mental illness as compared to men.

Q3- Is mental illness dependent on the designation of the employee?



Conclusion – This line chart represents the number of people who responded to currently having a mental illness along with their designations in their company. The maximum responses came from developers whereas the least came from designers. The highest number of people having a mental illness was observed in ‘developers’

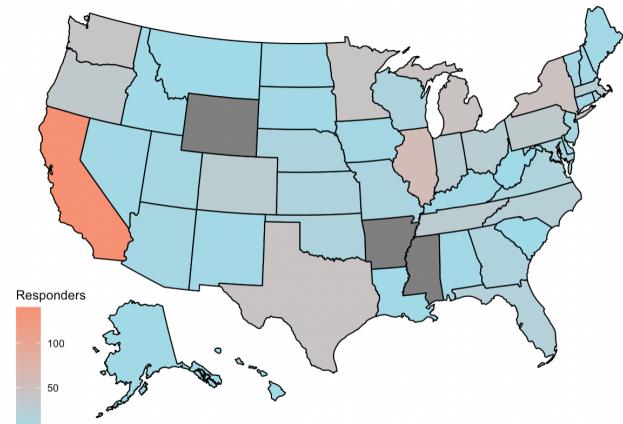
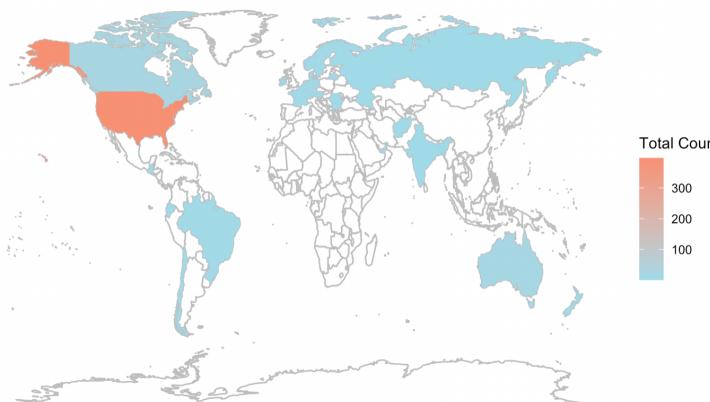
Q4- Is there a relationship between age and the occurrence of mental illness



Conclusion – In this chart, we segregated the ages of the respondents of the survey into certain age groups to find the relationship between age and mental illness. The highest frequency was observed in the age group of 25-31. The age group 32-38 comes to a close second. Therefore, based on this survey mental illness may depend on the age of the candidate.

Q5- What is Distribution of mental illness across different countries and different states in the United States of America?

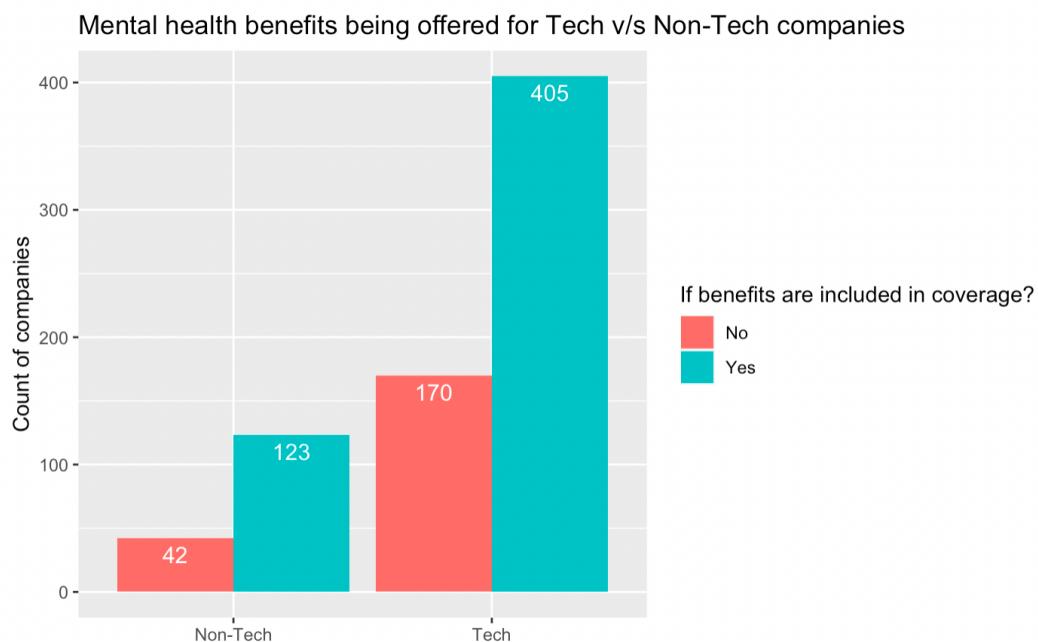
Distribution of responses across the world



Conclusion – For this particular dataset, we plotted a world heat map as well as state heat map for the United States of America. In the world map, we are measuring the frequency of respondents from different countries. It can be observed that majority of the respondents were working in the United States of America. Within the map on United States of America, we observed that the highest number of responses came from California. This is not surprising because as we all know, California the silicon city, i.e., the technology hub of the world.

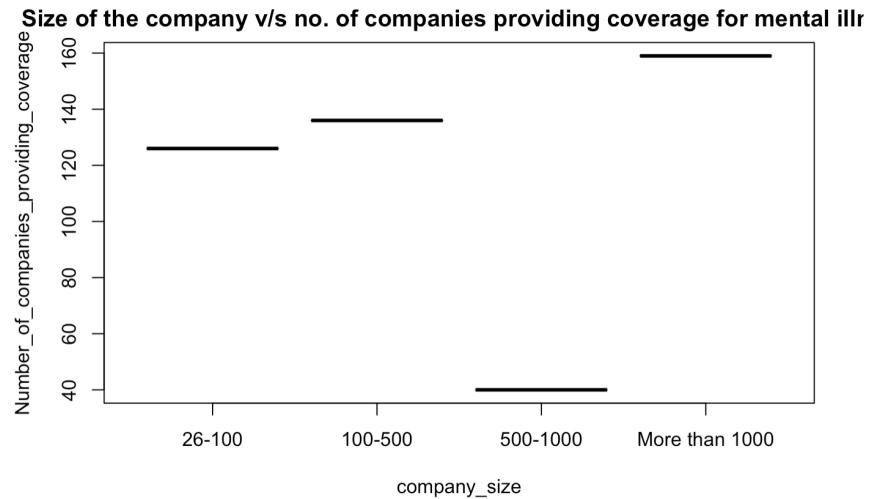
Employee awareness of mental health help and resources available in their companies

Q1- Is there a difference between mental health benefits offered in Technology based companies and non-technology-based companies?



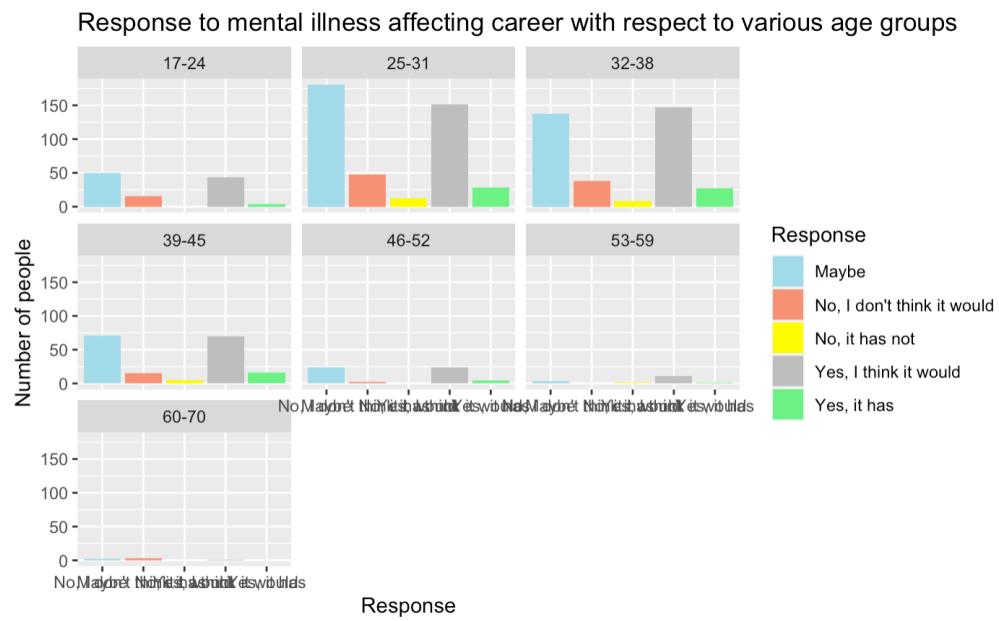
Conclusion – Here we wanted to see if there was a difference between the mental health benefits provided by Technology based v/s non-technical companies. We observed that nearly 75% of non-technical companies offered mental health benefits as a part of their coverage whereas, 70% Technical companies offered mental health benefits as part of their coverage. However, the number of respondents of non-technical companies were much lower than the latter.

Q2 - Is there a relationship between the size of the company and mental illness coverage provided by the company?



Conclusion – This chart represents the relationship between the size of a company with respect to the number of companies providing mental illness coverage. We observed that even small size companies, i.e., 26-100 provide mental health benefits as part of coverage. It is very surprising to see that a very small number of mid to large size companies, i.e., 500-1000 provide mental health benefits as a part of their coverage.

Q3 – Does age play a role in how employees feel about mental illness and its effect on their careers?

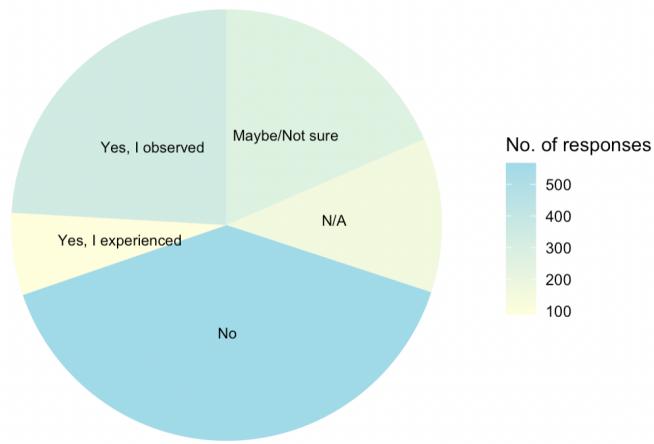


Conclusion – In the above charts we found a relationship between the age group of the respondents and their opinions on whether mental illness will affect their careers. It can be observed that, majorly the age group between 25 – 38 feels that it has and could be a factor which affects their career. Whereas people below the age of 24 and above 46 do not feel the same way.

The Taboo around mental health in technical companies and domains

Q1- On opening up about mental illness, do employees face unsupportive behavior from other people in the workspace?

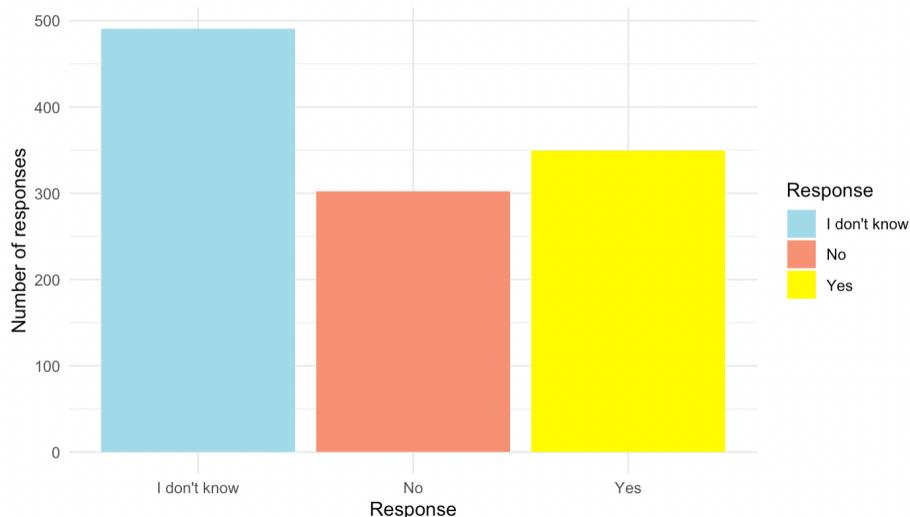
People who experienced an unsupportive response to a mental issue at work



Conclusion – This pie chart depicts various responses to unsupportive behavior on opening up about mental illness in their workspace. As seen in the chart, we can say that about 25% of the respondents faced unsupportive behavior on opening up. More than 500 people responded saying that they did not face any unsupportive behavior from their co-workers. Although, addressing the question in hand, a significant number of people did face unsupportive behavior.

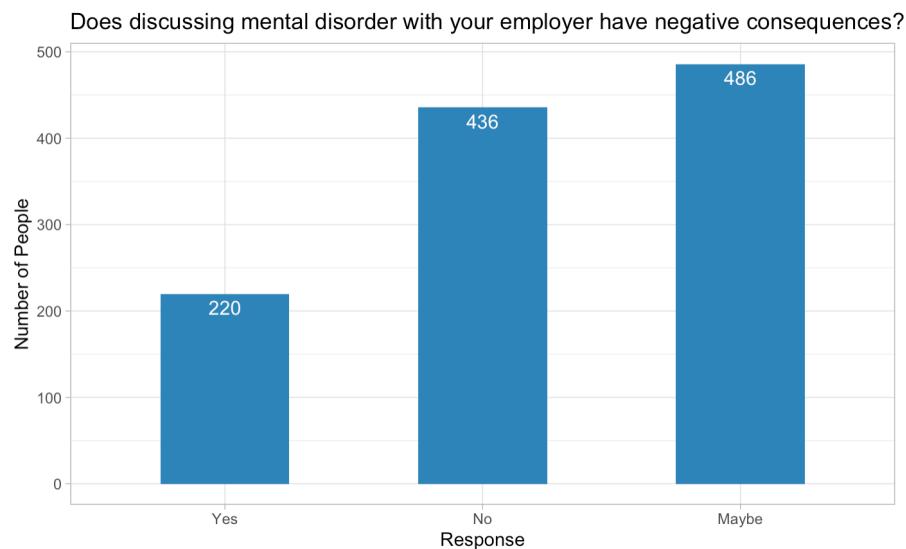
Q2- Do employers take mental health as seriously as physical health?

mental health taken as seriously as physical health



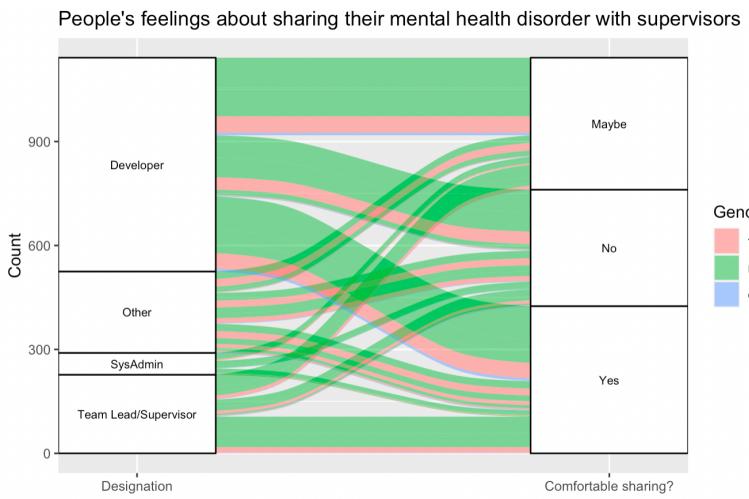
Conclusion – In this chart, we are representing the opinions if mental health is taken as seriously as physical health by their employers/supervisors. The number of people who think that mental health is taken as seriously as physical health is very close to the people who don't. Although, majority of the respondents don't know or are unaware about how their supervisor or company treats and deals with mental health as opposed to physical health.

Q3 - In the opinion of employees, do they feel that they would face negative consequences on discussing mental health issues with their employer?



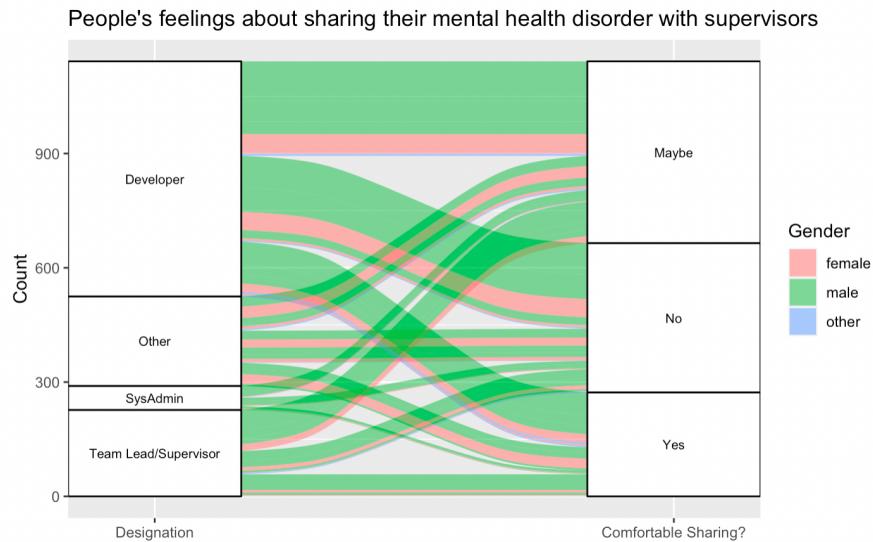
Conclusion – In this bar graph we are trying to visualize the respondent's opinion to facing negative consequences on discussing mental health issues with their employer. 38% of the people feel that they won't face negative consequences. Close to 20% people feel that they would face negative consequences. Over 40%(majority) respondents aren't aware on how their employers would deal with mental health issues.

Q4 - Do different genders, people from different designation have different opinions about sharing the mental illness with their supervisors?



Conclusion – In this alluvial chart, team leads/Supervisors are fairly comfortable sharing their mental health status. Developers have a mixed reaction with some of them being open to sharing their mental health disorders. A large portion of them are still unsure if they are comfortable opening up to their supervisors regarding mental health.

Q5 - Do different genders, people from different designation have different opinions about sharing the mental illness with their peers/co-workers?



Conclusion – The alluvial chart depicts how comfortable people of different designations and genders feel about sharing their mental health disorders with their co-workers. In the survey, the females are less likely to feel comfortable sharing a mental health disorder with their co-workers. The trend of people being unsure about sharing their mental health status remains quite high.

REFERENCES

- [1] <https://rpubs.com/>