**A Profile of the Respondents**

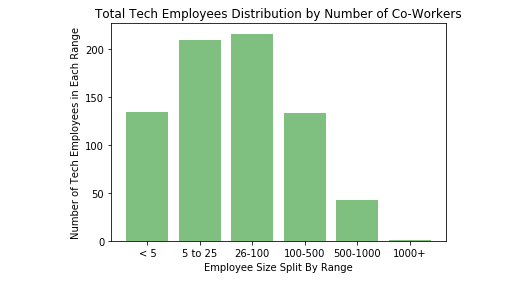
Aggregate data

Text, letter

Description automatically generatedThe dataset in its entirety reveals a few aspects of the subjects being interviewed. One aspect is the age distribution. The ages of the subjects largely ranged from 27 to 36 years old. This means that most of the people being interviewed have had a few years of experience in the tech industry.

Almost two-thirds (61%) of the respondents came from the United States. Of these, the single largest group came from the West Coast.

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A potential driver of mental health issue is the size of the company, which may be proxied by the number of co-workers. Most of the respondents belonged to companies with employment in the 5-25 or the 25-100 range. This shows that most of these people were in mid-level companies.

Summary Data by Gender

The table above shows that the female participants were generally a bit younger and closer together in age than the male ones.

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Country Data by Gender

The proportion of employees working in the United States was higher with females than with males. This had a domino effect within the rest of the distribution, with the biggest different being in the number of participants working in the United Kingdom. The table below shows that there was almost double the male participants working in the United Kingdom than the female ones. Similarly, Men participants from countries other than United States, United Kingdom and Canada also almost doubled the total from the number from the female participants.

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United States Data by Gender

The table shows that most study participants who work in the United States are based in the west coast and the other major finding is that the numbers of male participants in each coast are at least 2.5x the ones in the female-only chart. The other significant finding is that the second highest coast where female tech employees work (East) is the one where the least number of male participants work.

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**Analysis**

Correlation

*Men*

The correlation chart revealed that there were no significantly strong relationships among any of the variables, whether it be positive or negative. It showed that the closest relationship between any two factors that could be significant was between whether tech employees would disclose their mental health issues to either their co-workers or supervisors. This finding does provide a new light on the difference of results in the regression portion of the analysis because both of those were treated as dependent variables.

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*Females*

The correlation of the dataset, when only the female portion was selected, was like the men only dataset because neither showed any significant relationships, positive or negative. Also, it is similar because there was a moderate relationship between disclosing mental health issues to co-workers and to supervisors.

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Seeking Help

The best data model for each gender revealed that the level of interference that any mental health struggles caused as well as whether their company has a relevant health care option as the two best indicators to use to gauge whether employees sought help. While the relationship between seeking help and interference was indirect, the one between getting assistance and the presence of health care options was more direct. This means that employees were more likely to seek help if either the level of interference that their mental health issues decreased, or if each employee was more aware of their company’s health care options. The models also showed that other factors such as observing negative reactions to mental health concerns or the family history should not be considered as effective areas.

Looking at the male dataset would suggest that men in the technology start-up industry would seek more help if the number of their co-workers decreased. This relationship cannot be replicated in the female dataset because it was not proven to be significant. However, unlike the male employees, female workers would seek more help in companies that are not predominantly technology focused.

|  |  |
| --- | --- |
| *Female* | *Male* |

*Predictions*

|  |  |  |
| --- | --- | --- |
| **Actual** | **Male** | **Female** |
| Did not Seek Help/Not Sure | 0.79 | 0.76 |
| Sought Help | 0.21 | 0.24 |

The models chosen were relatively accurate as the predicted values on the number of people who did not seek help was only 10% lower than the actual values and the predicted percentage of employees who sought help was 33% higher than what it was.

|  |  |  |
| --- | --- | --- |
| **Predicted** | **Male** | **Female** |
| Did not Seek Help/Not Sure | 0.72 | 0.68 |
| Sought Help | 0.28 | 0.32 |

Treatment

According to the data, employees were more likely to take treatment to resolve their own concerns as they continued to struggle with managing their issues daily. However, the number of coworkers, age, working remotely at least half the time, if they were self-employed, or whether they work in a predominantly technology-based company did not seem to show a significant connection to establishing whether technology startup employees took treatment.

Male employees are more likely to receive treatment if there was any family history in relation to mental health, or if there were any options for health care. When it came to the female employees, the data showed that they were more likely to receive treatment if they were to receive health care benefits.

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*Predictions*

|  |  |  |
| --- | --- | --- |
| **Predicted** | **Men** | **Women** |
| Did not Seek Treatment | 0.34 | 0.09 |
| Sought Treatment | 0.66 | 0.91 |

|  |  |  |
| --- | --- | --- |
| **Actual** | **Men** | **Women** |
| Did not seek Treatment | 0.41 | 0.2 |
| Sought Treatment | 0.59 | 0.8 |

The prediction model showed that the model was more accurate when it came to guessing what percentage of men and women sought treatment because the predicted ratio was within 10% of the actual one. On the other hand, the margin between the predicted values for the ratio of employees who did not seek treatment between genders and the actual one was double the distribution between male and female employees who did seek treatment.

Talking to Co-Workers

Both models were almost identical, with whether employees can easily leave their company because of mental health reasons and if they seek treatment for any ailments as significant areas that impact whether employees talk with each other. These models also show that other factors such as whether they work in a predominantly tech company, if they observed negative consequences for any issues, any employees seeking help, working remotely, age, family history or the number of co-workers were not significant.

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*Predictions*

|  |  |  |
| --- | --- | --- |
| **Predicted** | **Male** | **Female** |
| Did not Talk to Coworkers | 0.20 | 0.20 |
| Talked to Coworkers | 0.80 | 0.80 |

|  |  |  |
| --- | --- | --- |
| **Actual** | **Male** | **Female** |
| Did not Talk to Coworkers | 0.54 | 0.62 |
| Talked to Coworkers | 0.46 | 0.38 |

The discrepancy between the predicted values and the actual ones show that this is not a good model to use for predictions. For the study to create better predictions on whether tech employees talk to their co-workers about their issues, either a new model would have to be created or a decision tree would have to be considered.

Talking to Supervisors

Both models defined whether employees could leave their company due to mental health disturbances, seek help, and if they talked to their co-workers as significant indicators to determine whether they would talk to their supervisors about their concerns. Like most of the prior models analyzed, factors such as the degree of prominence technology has on the company, any family history, or number of co-workers were suggested as poor indicators of any employee talking to a supervisor. In the male dataset, one more significant factor was any acknowledgment of negative behavior due to mental health issues.

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| Table  Description automatically generated  *Female* | Table  Description automatically generated  *Male* |

*Prediction*

The models chosen from the logistic regression had varying levels of accuracy. While the predicted ratio of the male data was within 10% of the actual one, the predicted distribution for the female was closer to 20-30% of the actual one.

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| --- | --- | --- |
| **Prediction** | **Male** | **Female** |
| Did not Talk to Supervisor | 0.36 | 0.55 |
| Talk to Supervisor | 0.64 | 0.45 |

|  |  |  |
| --- | --- | --- |
| **Actual** | **Male** | **Female** |
| Did not Talk to Supervisor | 0.32 | 0.35 |
| Supervisor | 0.68 | 0.65 |

**Conclusion**

Technology companies should focus on taking steps that would decrease the degree of mental health interference in daily tasks if the objective is to encourage employees to seek help in multiple ways. This is perhaps, the area that most of the resources should be allocated to as it was significant in multiple male and female models that analyzed different ways to seek help such as talking to supervisors and encouraging others to receive treatment. On the other hand, companies should ignore potential factors such as age, self-employment, working remotely to improve the situation as they were not proven to be significant in any of the eight data models analyzed.

Other factors not mentioned in the previous paragraph were significant in some cases and one gender but was not in the others. For example, companies that are predominantly technology based should take more steps in preventing mental health issues interference lingering in daily work for female employees because the data showed that they would not be as likely to seek help for concerns as the predominance of technology increases in companies. On the other hand, companies should be able to encourage male employees to get needed help if they worked with smaller teams.

Companies can encourage employees to talk to each other to resolve issues by making it easier for employees to take a leave of absence or receiving treatments. This is important as supervisors have a ton of work to do and having co-workers resolve issues without their involvement would prevent issues from lingering in the long term. These are also areas where supervisors can focus on to prevent more potentially cumbersome discussions.