

Group 03 :

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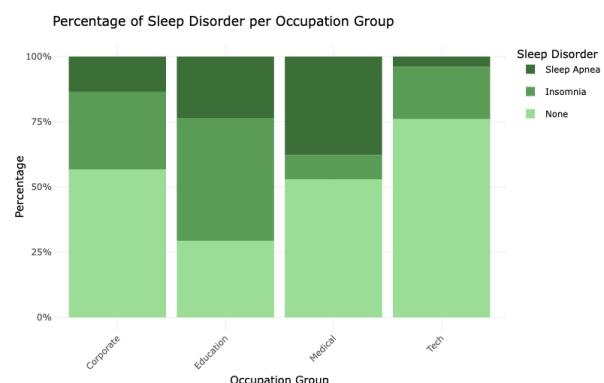
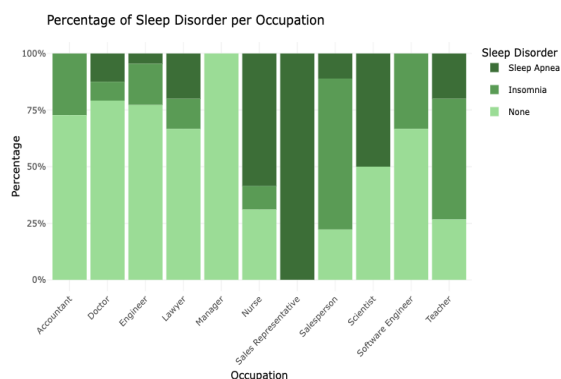
DATA MINING AND VISUALIZATION

AOL Infographic Report - Group 03

According to recent findings from the Centers for Disease Control and Prevention (CDC), a significant portion of adults—one out of three—are suffering from insufficient sleep, primarily due to the demands of their heavy workloads. This chronic lack of sleep is not just a matter of feeling tired; it has severe repercussions on their overall health. The stress and extended hours associated with modern work culture are leading to a rise in sleep disorders, with many adults experiencing at least one type of sleep disorder. These disorders range from insomnia to sleep apnea, all of which can severely impact both mental and physical health.

The data underscores the urgent need for better work-life balance to address this growing public health issue, aligning closely with **the objectives of Sustainable Development Goal (SDG) 3, which aims to ensure healthy lives and promote well-being for all at all ages**. Achieving SDG 3 involves tackling a wide range of health challenges, including the prevention and treatment of health disorders. Addressing sleep disorders is a critical component of this goal, as adequate sleep is fundamental to maintaining overall health and well-being. By promoting healthier work environments and encouraging policies that prioritize work-life balance, we can make significant strides towards SDG 3, ultimately fostering a healthier, more productive population.

1. How significantly does occupation affect people's sleep conditions?

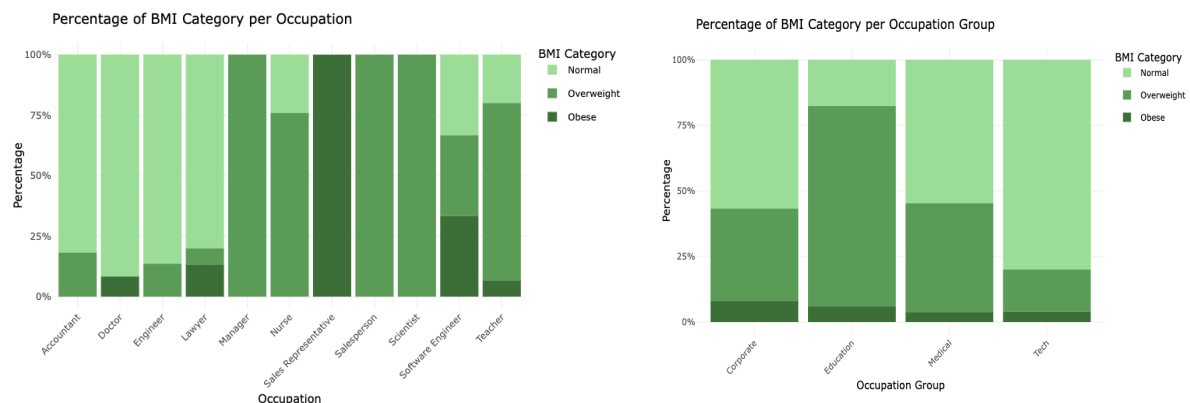


Occupation has a profound impact on people's sleep conditions, with various fields showing high rates of sleep disorders. For instance, about **70.6% of individuals working in education** report suffering from sleep disorders, which is a significant majority. This could be attributed to the high stress and long hours associated with teaching and administrative responsibilities. In the **medical field, 47.1% of workers** are affected by sleep disorders. Medical professionals often work irregular hours, including night shifts, which can disrupt their sleep patterns and contribute to sleep-related issues.

In the **tech industry**, **24% of workers** experience sleep disorders. While this is lower than in some other fields, it is still a considerable proportion. The demanding nature of tech jobs, with long hours spent in front of screens and the pressure to meet tight deadlines, can lead to sleep disturbances. In **corporate environments**, **42.3% of employees** suffer from sleep disorders, likely due to high stress levels, long working hours, and the pressure to achieve business targets.

These statistics highlight that almost all workers, regardless of their occupation, are affected by sleep disorders to some degree. This global trend underscores the pervasive impact of work-related stress and demands on sleep health. It emphasizes the need for better management of work-life balance and the implementation of healthier sleep practices across all professions.

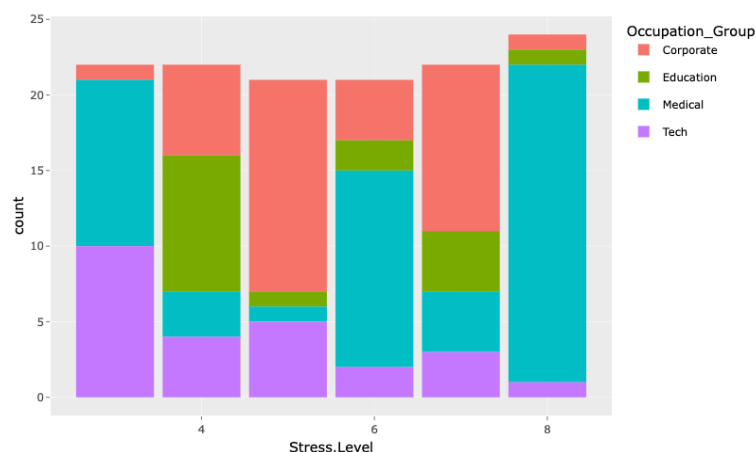
2. Does occupation affect the BMI Level?



The differences in BMI distribution might be influenced by job-related factors, including physical activity levels, stress, and dietary habits. Sedentary jobs, such as those of Scientists, Software Engineers, and Salespersons, could contribute to the higher rates of overweight and obesity observed in these professions.

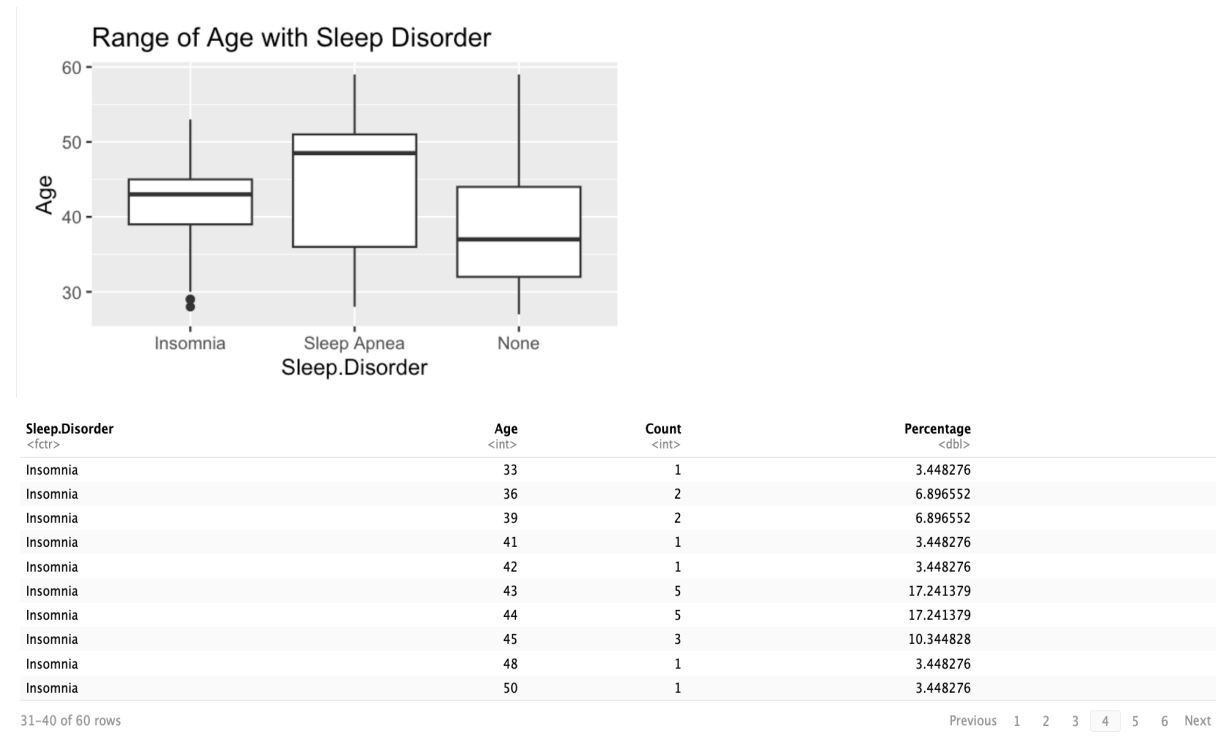
To sum up, **approximately more than 20% of workers across various fields** suffer from being overweight or obese. This condition negatively impacts their sleep quality and duration, increasing their risk of developing sleep disorders. The correlation between excess weight and poor sleep highlights the importance of maintaining a healthy lifestyle to ensure better sleep health and overall well-being.

3. In which occupation field do people have the highest stress levels?



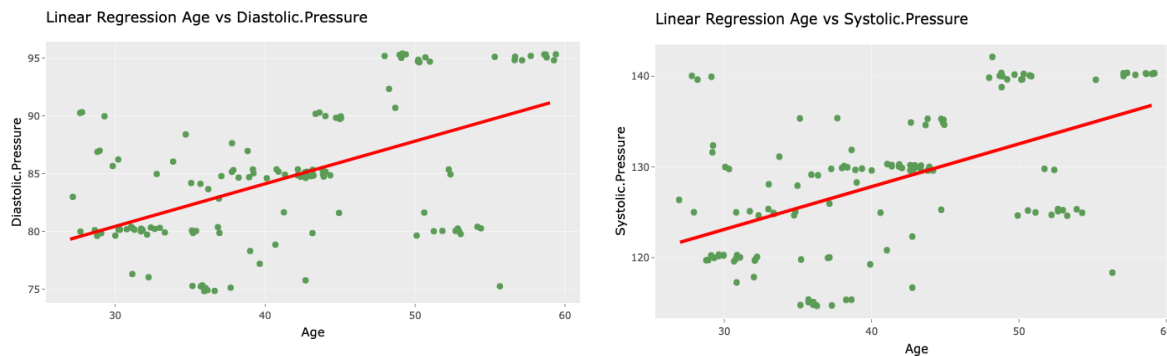
Workers in the **medical field** experience exceptionally high levels of stress, **with 87.5%** reporting the highest stress levels compared to other occupation fields. This intense stress is primarily due to the demanding nature of their work, which often involves long hours, high-stakes decision-making, and the emotional toll of patient care. ***Consequently, this elevated stress significantly impacts their sleep duration and quality.*** The high stress levels contribute significantly to the development of sleep disorders. Medical professionals frequently suffer from sleep disturbances, leading to inadequate rest and a range of sleep disorders. This situation not only affects their personal health and well-being but also has implications for their professional performance and patient care, underscoring the critical need for stress management and improved sleep hygiene in the medical community.

4. Which age range do suffer from sleep disorder the most?



Analysis of different age groups reveals varying levels of prevalence regarding sleep disorders. **The age range of 42-48 emerges with the highest number of reported cases, totaling 19 individuals.** Following this, individuals aged 49-55 reported 13 cases, while those in the 28-34 age range reported 11 cases. In the 35-41 age group, 10 individuals reported sleep disorders, and individuals aged 56-59 reported 6 cases. These findings indicate a notable trend where individuals in their forties are particularly affected, possibly influenced by a combination of factors including career demands, family responsibilities, and physiological changes associated with aging.

5. Correlation Between Aging, Blood Pressure, Heart Health, and Sleep Problems



With advancing age, the escalation in both systolic and diastolic pressure can exacerbate their sleep disturbances. Higher systolic and diastolic pressure make it difficult to fall and stay asleep. Additionally, these factors can contribute to such conditions like sleep apnea, where breathing stops during sleep, further disrupting rest. Consequently, poor sleep exacerbates the existing health issues, creating a harmful cycle that affects the overall well-being of the elderly. Hence, it is important for older adults to handle sleep issues to stay healthy as they age.

6. Actions that can be taken to improve sleep disturbances

To begin with, **effective stress management** is crucial for reducing sleep disturbances. Techniques such as relaxation exercises, meditation, or seeking counseling can help alleviate stress levels significantly. **Secondly**, regular physical activity is another critical factor. It not only enhances sleep quality but also helps in reducing stress. Activities such as walking or yoga can be particularly beneficial. **Thirdly**, ensuring sufficient sleep duration is vital for optimal sleep health. Adults typically require between 7-9 hours of sleep per night. Establishing a consistent sleep schedule and creating a conducive sleep environment can facilitate achieving this goal. Furthermore, **maintaining a healthy diet and managing weight** can have a substantial impact on the sleep environment. A balanced diet and weight management are especially important for reducing the risk of sleep disorders such as sleep apnea or obesity-related sleep issues.