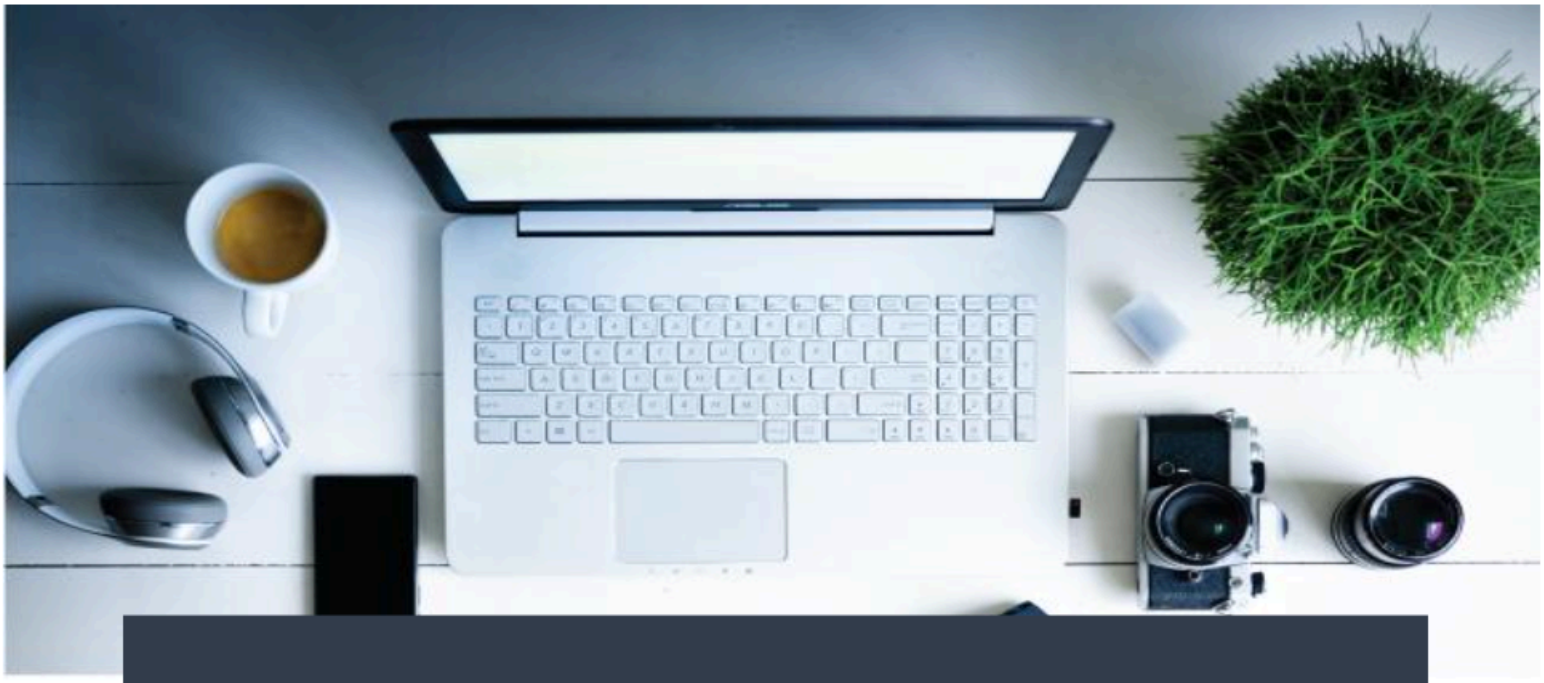


“Mind Over Monitor”
Mental Well-being in the Age of Remote Work

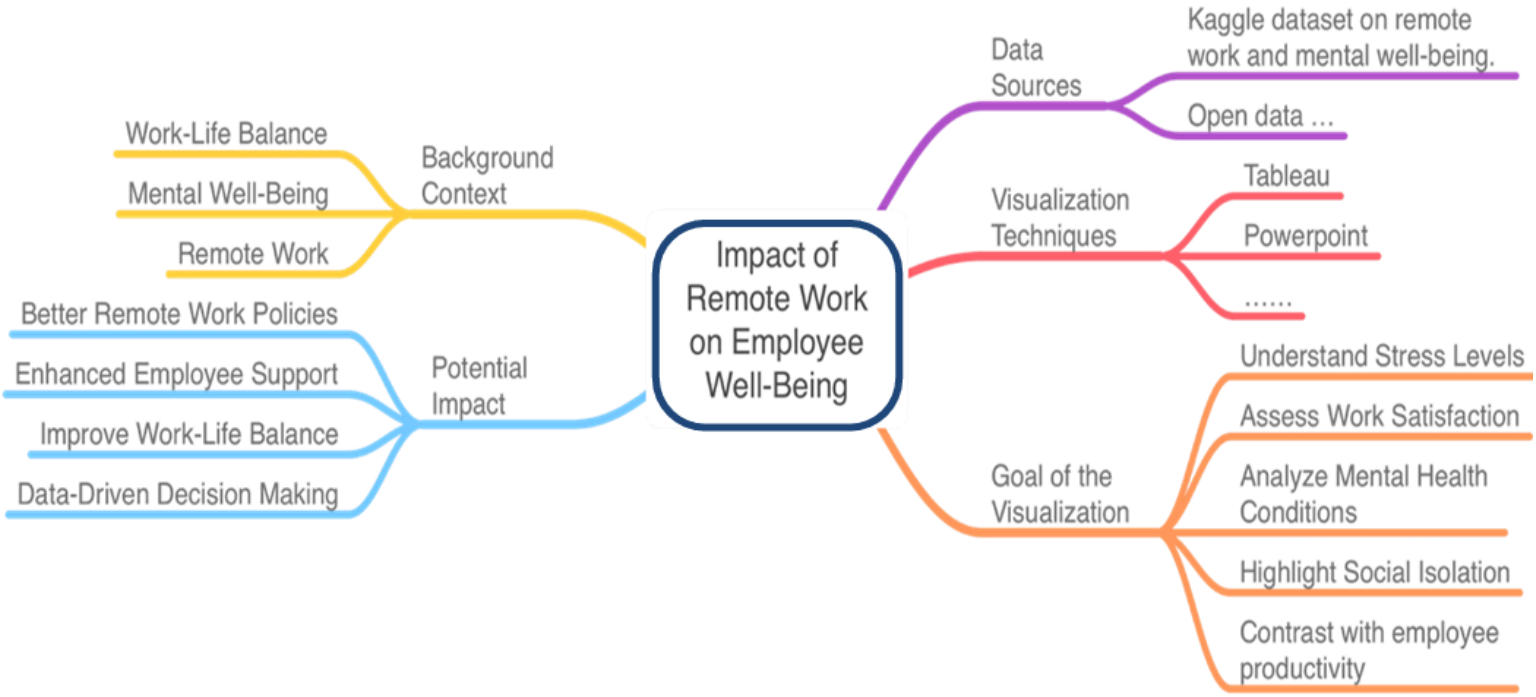
01. Background Context

As remote and hybrid work surged post-COVID, its impacts on employee mental well-being and productivity have sparked significant interest and debate. The shift away from traditional in-office setups has highlighted benefits, such as increased flexibility and autonomy, but has also raised concerns regarding mental health, including stress, isolation, and burnout.

This project explores the relationship between different work models—remote, hybrid, and onsite—and employee well-being across various industries and demographics.

Our objective is to uncover patterns in Mental Wellbeing, stress levels, job satisfaction, and productivity tied to these work arrangements, providing insights for workplace policy improvements aimed at enhancing work-life balance and fostering a healthier work environment.

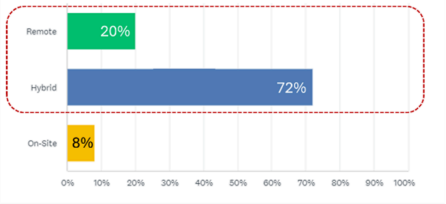
Our target audience of our analysis are Human Resources professionals, corporate management, job seekers and employees who are interested to learn more about the impact of work arrangement and mental well-being.



02. Introduction

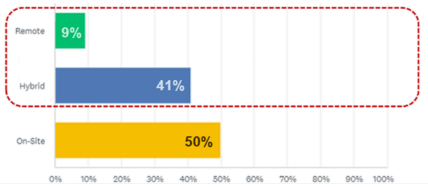
The team performed a very informal and fully anonymous survey with the MBAN 2025 Cohort. Using Survey monkey and Whatsapp, 42 students contributed to identify the expectation of the work mode after graduation and what was the previous mode before coming to UBC. Having the following results:

92%

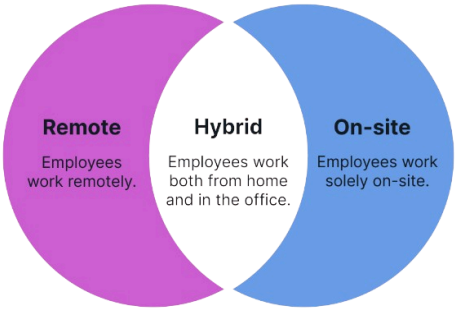


Preferred work mode after graduation

50%



Work mode before attending UBC (only for the ones with previous experience)



Notes from the presentation:

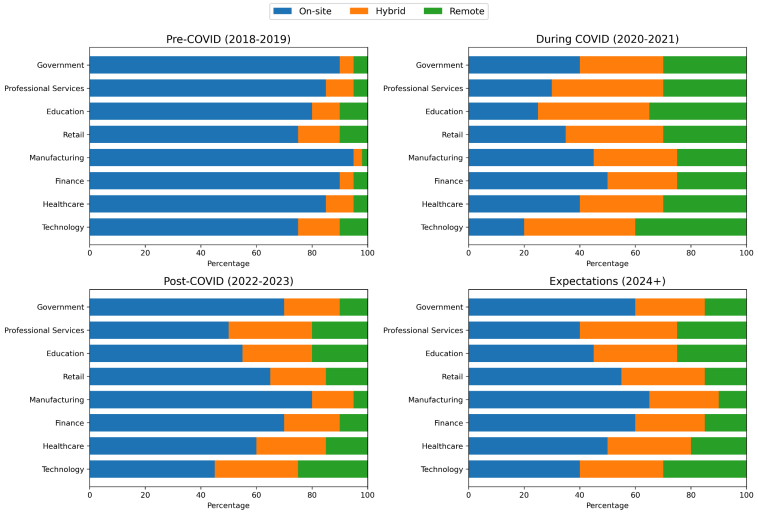
- Set expectation of the big numbers (92% and 50%) to catch attention of the forum
- Reveal results of the survey in a way to introduce the topic "Remote Work and the relation with Mental Well-being"

The strong difference between the preferred working mode and the previous experience is largely supported by the change in expectations and perspective over this topic.

Since several years ago (before COVID19), the trend showed a slow move towards adopting hybrid and fully remote working modes. With a prevailing range of 75% to 85% of on-site work mode across the industries, the pandemic accelerated the pace of change due to the conditions and restrictions that companies had to accept in order to survive in a still competing environment.

However, instead of coming back to the pre-COVID19 status quo, both employees and employers, looked for a new perspective considering the proven feasibility of remote work during this term. Having said this, post-COVID19 companies maintain remote working modes (hybrid and full remote) depending on the industry and type of role. Having a high range of 45% to 70% in IT, professional services, and finance sectors, Vs. lower range of 20-30% for government, health, education, retail and manufacturing.

These expectations are summarized by the following:



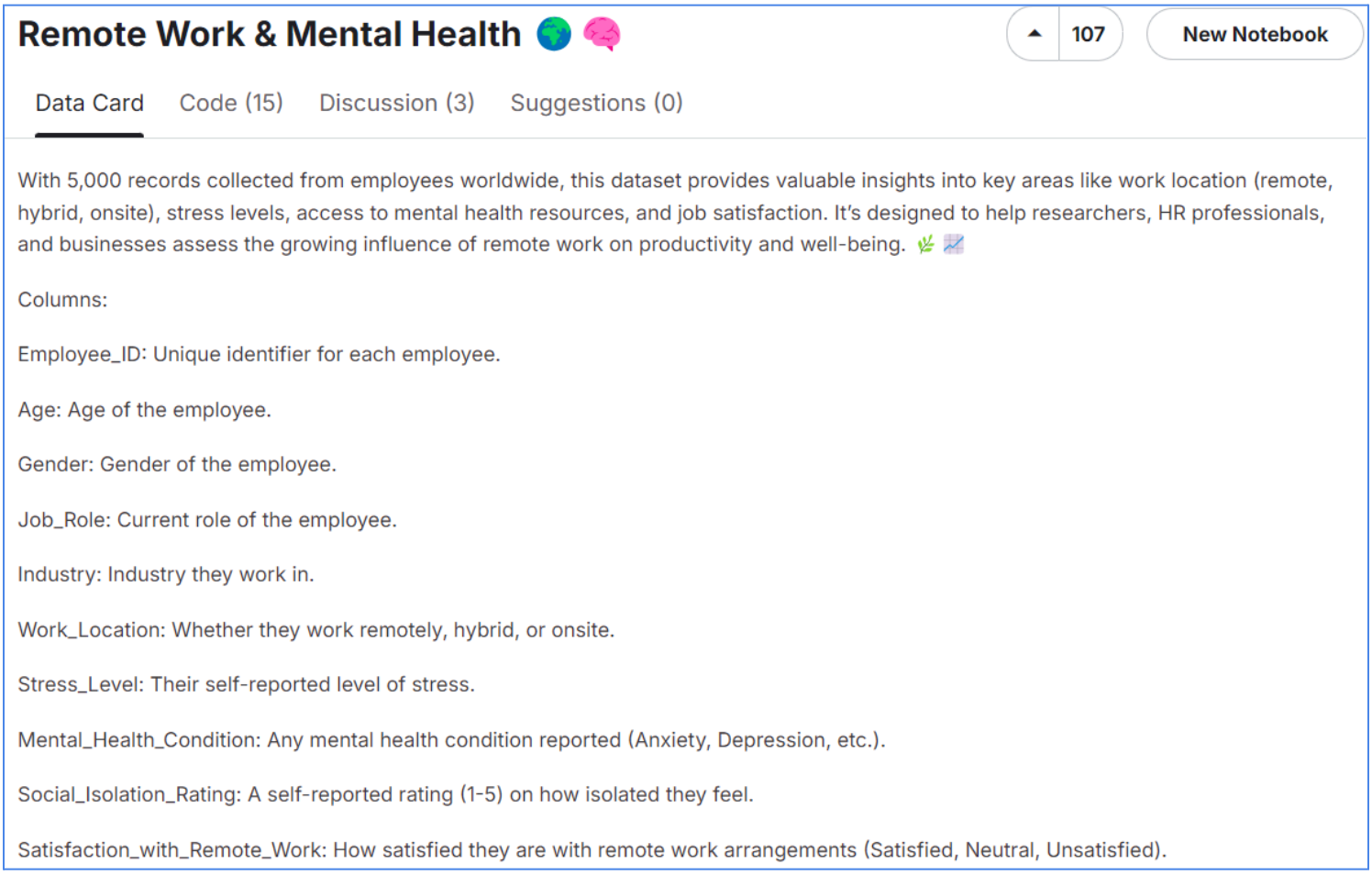
Expectations	Employee	Employer
Work-Life Balance	Better **life balance**	**Productivity/Innovation**
Flexibility	**Freedom** in work location and hours	**Cost-efficiency** (e.g. office space)
Social Interaction	Need for **social engagement**	**Culture** sustainability
Productivity	Personal efficiency in preferred setting	Boosting employee and performance
Development & Retention	Career growth and **job satisfaction**	**Talent retention** and development

03. Dataset & Processing

Main dataset

We are taking a closer look from the employee's perspective by using a dataset from Kaggle. https://www.kaggle.com/datasets/waqi786/remote-work-and-mental-health?select=Impact_of_Remote_Work_on_Mental_Health.csv

The dataset contains 5,000 records gathered from an online survey on work arrangement and mental well-being metrics. We performed high-level analysis with multiple regression and found no significant impact of features on mental health conditions. We think lack of statistical significance is due to data collection and features dependency. So we took a different approach in segmenting the data and took a closer look at regions and industries.



Remote Work & Mental Health 🌍🧠

107 | New Notebook

Data Card | Code (15) | Discussion (3) | Suggestions (0)

With 5,000 records collected from employees worldwide, this dataset provides valuable insights into key areas like work location (remote, hybrid, onsite), stress levels, access to mental health resources, and job satisfaction. It's designed to help researchers, HR professionals, and businesses assess the growing influence of remote work on productivity and well-being. 🌿📈

Columns:

Employee_ID: Unique identifier for each employee.

Age: Age of the employee.

Gender: Gender of the employee.

Job_Role: Current role of the employee.

Industry: Industry they work in.

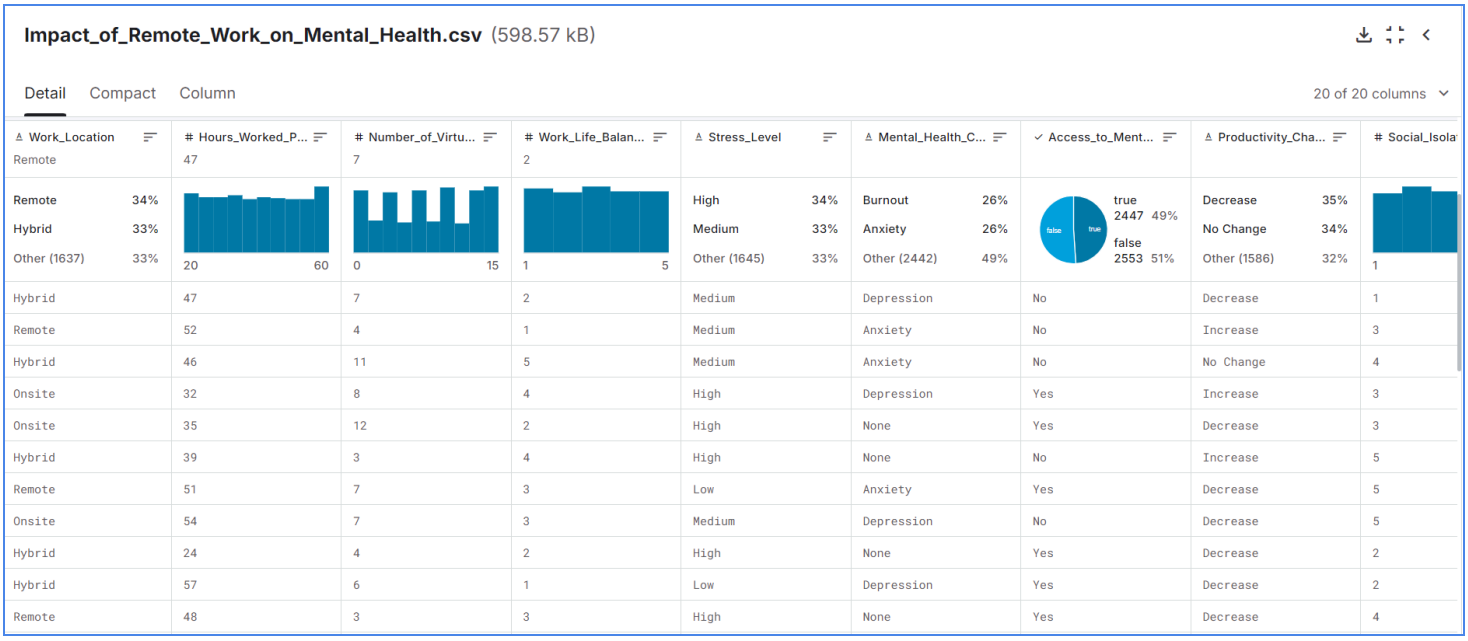
Work_Location: Whether they work remotely, hybrid, or onsite.

Stress_Level: Their self-reported level of stress.

Mental_Health_Condition: Any mental health condition reported (Anxiety, Depression, etc.).

Social_Isolation_Rating: A self-reported rating (1-5) on how isolated they feel.

Satisfaction_with_Remote_Work: How satisfied they are with remote work arrangements (Satisfied, Neutral, Unsatisfied).



Impact_of_Remote_Work_on_Mental_Health.csv (598.57 kB)

Detail | Compact | Column | 20 of 20 columns

Work_Location	Hours_Worked_P...	Number_of_Virtu...	Work_Life_Balan...	Stress_Level	Mental_Health_C...	Access_to_Ment...	Productivity_Cha...	Social_Isola
Remote	47	7	2					
Remote 34% Hybrid 33% Other (1637) 33%	20 60	0 15	1 5	High 34% Medium 33% Other (1645) 33%	Burnout 26% Anxiety 26% Other (2442) 49%	true 2447 49% false 2553 51%	Decrease 35% No Change 34% Other (1586) 32%	1
Hybrid	47	7	2	Medium	Depression	No	Decrease	1
Remote	52	4	1	Medium	Anxiety	No	Increase	3
Hybrid	46	11	5	Medium	Anxiety	No	No Change	4
Onsite	32	8	4	High	Depression	Yes	Increase	3
Onsite	35	12	2	High	None	Yes	Decrease	3
Hybrid	39	3	4	High	None	No	Increase	5
Remote	51	7	3	Low	Anxiety	Yes	Decrease	5
Onsite	54	7	3	Medium	Depression	No	Decrease	5
Hybrid	24	4	2	High	None	Yes	Decrease	2
Hybrid	57	6	1	Low	Depression	Yes	Decrease	2
Remote	48	3	3	High	None	Yes	Decrease	4

Dataset Processing Guide

1. **Feature Transformation for Visualization:**
   - To facilitate better data visualization, several text-based features were converted into numerical form. This step makes it easier to create visual comparisons and perform analysis. For instance, the feature physical activity was transformed as follows:
     - none → -1
     - weekly → 0
     - daily → 1
   - This numerical representation simplifies the visualization process and allows us to create more diverse types of charts, to better understand the relationships between different categories.

2. **Selection of Mental Health Related Features for Multiple Regression:**
   - For deeper analysis, we selected mental health related features to perform a multiple regression analysis. The goal was to assess whether these features are correlated with mental health outcomes and to quantify their impact.
   - The selected features include (but are not limited to) physical activity, stress levels, and sleep quality. By running multiple regression, we were able to measure the significance of each feature's influence on health care, helping to identify the factors that play a major role in overall mental well-being management.

04. Visualization and Analysis

Work-Life Balance: A Regional Overview Dashboard User Guide

The dashboard (Refers to Slide 4) provides a comprehensive view of the relationship between work-life balance, social isolation, and mental health across various regions. The interactive nature of the dashboard allows users to explore data by selecting specific regions or work arrangements, with the ability to return to the unfiltered view by clicking on a blank area.

Navigating the Dashboard:
Interactive Filtering: You can filter data by selecting any part inside Portion_WorkLocation of the dashboard, such as regions or work arrangements (hybrid, onsite, or remote). Click outside these selections to reset the view.
Map Pinning: The map displaying regional data on work-life balance and social isolation is movable. Pinning it can help you maintain focus on specific regions of interest.

Key Insights from the Dashboard:

Work-Life Balance and Social Isolation (Maps):

Work-Life Balance Ratings (Top Map): The average work-life balance rating is displayed across regions, where Asia shows the best ratings for work-life balance. This may be influenced by more social activities and a culture that encourages work-life harmony, especially compared to North America, which has a lower rating.
Social Isolation Ratings (Bottom Map): The social isolation rating is visualized by region. North America shows higher social isolation levels, potentially due to a heavier reliance on remote work, whereas Asia reflects lower social isolation.

Work Location Distribution (Table):
The distribution of work arrangements (hybrid, onsite, and remote) is fairly balanced across all regions, with each modality constituting approximately 33%. This suggests a trend toward flexible work arrangements globally.

Mental Health Condition by Region (Heatmap):
The heatmap presents the mental health conditions prevalent across different regions. Asia shows the highest percentage of anxiety and burnout (27.50% and 27.26% respectively), indicating that while the work-life balance may be high, mental health challenges persist, potentially due to long working hours or high stress levels.
South America displays a higher proportion of depression cases (27.44%) compared to other regions.

General Observations:
Europe and North America have moderate levels of mental health conditions, with relatively lower percentages of burnout and anxiety compared to Asia. Across regions, Asia faces more pronounced mental health concerns despite positive work-life balance ratings, likely due to intense work environments.

Well-Being Story User Guide

We conducted an in-depth analysis of the industry landscape while breaking down mental well-being into 4 key metrics (Physical Activity, Sleep Quality, Satisfaction with Remote Work, Productivity Change) to independently assess their impact. We'd like to highlight two indices that revealed particularly interesting insights.

Before discussing the analysis, here are the definitions for the 4 indices:

- Physical Activity was transformed as follows: Daily → -1, Weekly → 0, None → 1
- Sleep Quality was transformed as follows: Good → -1, Average → 0, Poor → 1
- Satisfaction with Remote Work was transformed as follows: Satisfied → -1, Neutral→ 0, Unsatisfied→ 1
- Productivity Change was transformed as follows: Increase → -1, No Change→ 0, Decrease→ 1

Physical Activity

Remote employees report higher engagement in physical activity, benefiting from flexible schedules and environments that facilitate exercise at their convenience. Conversely, onsite and hybrid workers encounter challenges in allocating time and energy to physical activities due to structured schedules and commuting demands

Industry trends indicate that industry-specific work demands and culture may influence the opportunities employees have for physical activity, even within the same work mode. (Refer to Slide 5)

Sleep Quality

Hybrid employees report the best sleep quality, likely due to the flexibility of balancing onsite and remote work, which allows for better rest opportunities. Remote workers have average sleep quality, as blurred work-life boundaries can disrupt sleep patterns. Onsite employees experience the poorest sleep quality, often due to rigid schedules and commuting stress, which reduce overall rest time.

In the industry breakdown, Education in the hybrid category shows notably high sleep quality, while Healthcare and IT exhibit improved sleep for onsite workers. This suggests that industry-specific factors, such as demands and work hours, play a role in sleep quality across work models**.** (Refers to Slide 6)

Satisfaction with Remote Work

The visualization shows that onsite employees perceive remote work positively, assuming it offers benefits they don't have, such as flexibility and Work-life balance. However, actual remote employees report lower satisfaction, highlighting a gap between expectation and experience. Hybrid employees show the highest satisfaction, as they balance both flexibility and structured interactions.

In the industry breakdown, remote workers in **Healthcare** report the lowest satisfaction, likely due to the job's reliance on in-person interactions, which are essential for effective patient care and collaboration. This reflects the industry's challenge in fully adapting to remote work models. (Refers to Slide 7)

Productivity Change

Employees rated all work modes as having a negative impact on productivity overall; however, remote work showed a comparatively smaller decline. Remote employees benefit from greater flexibility and autonomy, allowing them to take breaks and manage fatigue more effectively, without the peer pressure and environmental constraints present in other settings.

The industry-specific breakdown reveals notable differences across work modes. In particular, **Manufacturing**, **Retail**, and **IT** sectors reported productivity gains in remote settings, challenging traditional perceptions of these industries. This trend suggests a successful adaptation to digitalization, enabling these sectors to maintain or even enhance productivity in remote work environments. (Refers to Slide 8)

05. Conclusion

A word cloud highlighting key terms from our conclusion is featured in the slides.
Here are our key findings and recommendations.

Key findings:

- Our analysis reveals various insights on work arrangement preferences, some of which align with our initial expectations and others do not. This shows the complexity of determining what is considered the "best" type of work arrangement.
- It is also important to consider potential bias in survey results, which may reflect respondents' sentiments at the time.

Recommendations:

- From employees' perspective, key considerations in seeking remote and hybrid jobs include having better mental well-being and work-life-balance. However, many employees may lack full awareness of all the pros and cons as related to the different work modes. So it is important for employees to consider what is best for themselves.
- From employers' perspective, multiple factors should be considered when designing work arrangements, such as talent retention and employees' job satisfaction. Although companies want to focus on profits and productivity, failing to consider employees' well-being will have detrimental impacts overall.
- Ultimately, there is no one-size-fit-all solution, as the ideal work arrangement depends heavily on the specific industry, role, and each person's individual needs and mental well-being.

06. References

a. Usage of AI Tool:

Name, Version, and Company of AI Tool:

- **ChatGPT-4** (version 4, developed by **OpenAI**).

Chat Objective:

- To create a word cloud.

Prompt Used:

- "Please help me create a word cloud visualization for key insights from the conclusion part."

b. Cohort Survey - Link to cohort Survey

c. Articles:

- "https://libertystreeteconomics.newyorkfed.org/2024/01/the-power-of-proximity-how-working-beside-colleagues-affects-training-and-productivity/". Liberty Street Economics, January 18. 2024. Natalia Emanuel, Emma Harrington, and Amanda Pallais
- "https://www.bbc.com/worklife/article/20220616-is-remote-work-worse-for-wellbeing-than-people-think".BBC news. June 17, 2022, Katie Bishop
- "https://www.forbes.com/councils/forbeshumanresourcescouncil/2023/07/03/how-remote-work-can-impact-employees-mental-health/".Forbes. July 3, 2023, Hetal Parikh
- "https://www.roberthalf.com/us/en/insights/research/remote-work-statistics-and-trends-for-2024". Robert Half. August 21, 2024, Robert Half