Daily Wellness Impact on Cabin Crew Performance

Overview

This project examines how daily wellness factors influence cabin crew performance and guest experience. Using a simulated dataset, the analysis explores the relationships between workout frequency, nutrition quality, sleep duration, rest days between flights, fatigue levels, and both passenger and crew feedback.

The objective is to identify which factors have the strongest operational impact on service quality and overall performance within an aviation context.

Dataset

- **Type:** Simulated and anonymized dataset
- **Records:** 300 cabin crew duty profiles
- **Scope:** Wellness, fatigue, performance, and perception analysis
- **Disclaimer:** No proprietary, confidential, or airline-specific data was used

Key Variables

- Workout_Days_Per_Week
- Nutrition_Quality
- Avg_Sleep_Hours
- Rest_Days_Between_Flights
- Monthly_Flight_Hours
- Fatigue_Level
- Service_Energy_Level
- Cabin_Crew_Service_Rating

- Overall_Performance_Score
- Crew_Self_Feedback
- Perception_Gap

Methodology

- Designed a realistic aviation wellness–performance data model
- Generated simulated data with logical relationships between variables
- Conducted analysis using pivot tables and descriptive statistics
- Visualized insights through comparative charts
- Interpreted results from both passenger and crew perspectives

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Key Insights

Rest and Recovery

Rest days between flights showed the strongest impact on reducing fatigue and improving overall performance.

Nutrition and Service Energy

Higher nutrition quality was associated with increased service energy levels and stronger performance outcomes.

Workout Frequency

Consistent physical activity correlated with lower fatigue levels, though its impact was secondary to adequate rest.

Fatigue and Perception Gap

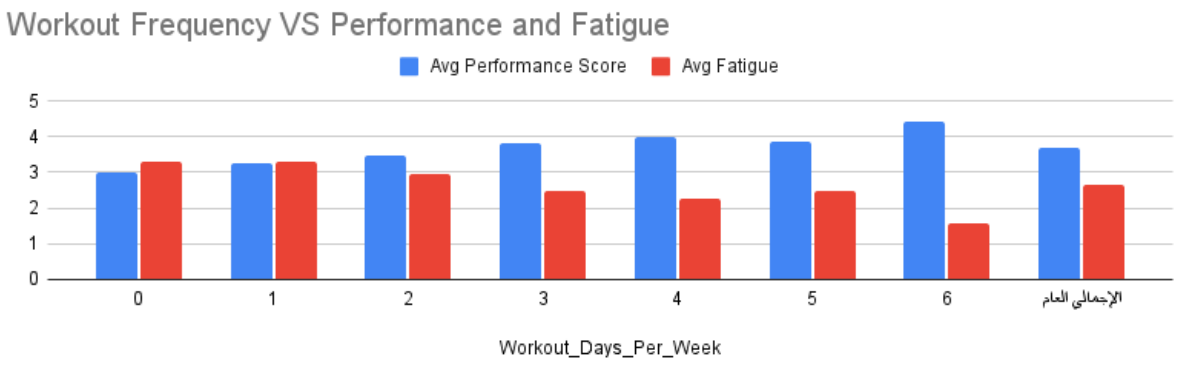
Higher fatigue levels were linked to a larger gap between crew self-feedback and passenger service ratings, indicating reduced self-awareness under fatigue.

Visual Analysis

📊 Figure 1: Workout Frequency

Workout Frequency vs Performance and Fatigue

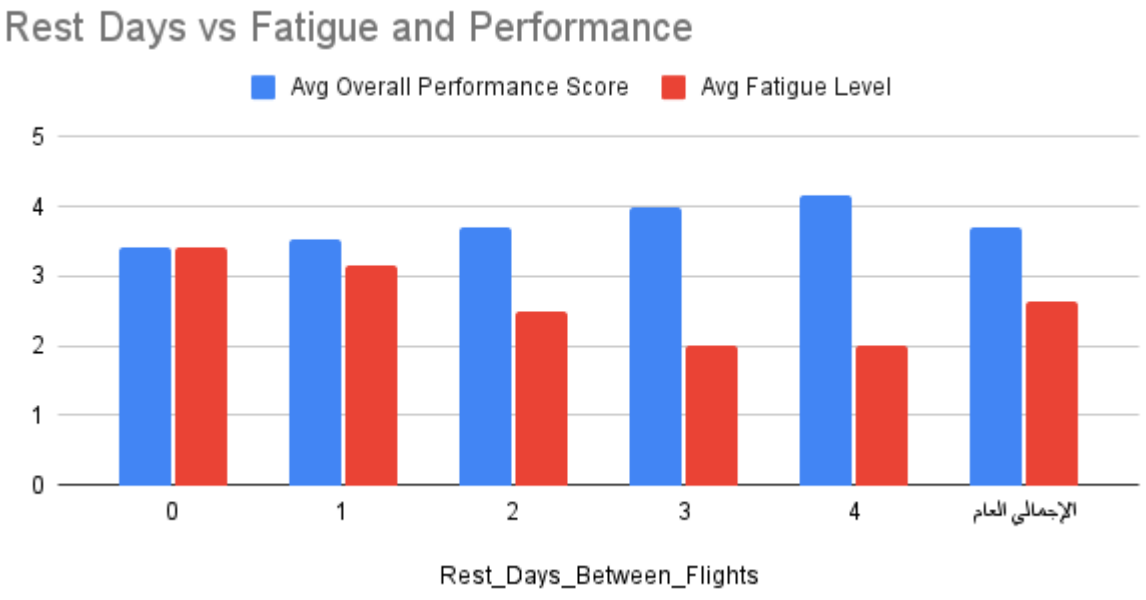
Moderate and consistent workout frequency is associated with lower fatigue and improved performance, especially when combined with adequate rest.



📊 Figure 2: Rest Days

Rest Days Between Flights vs Fatigue and Performance

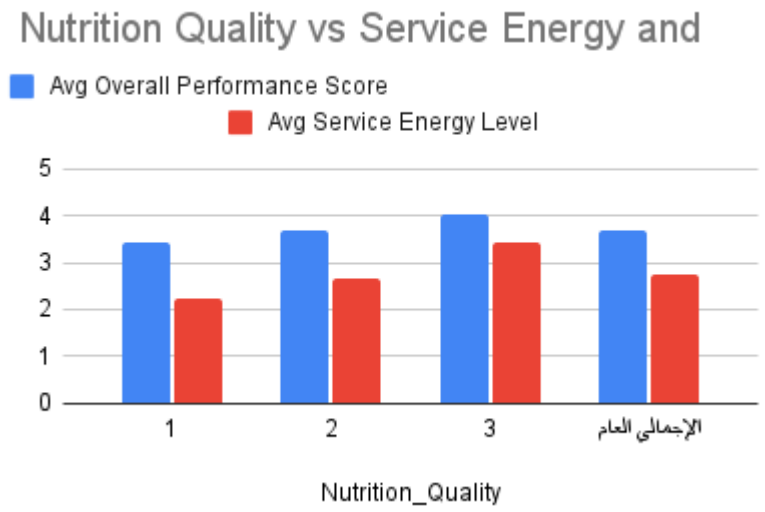
Rest days between flights show the strongest impact on reducing fatigue and improving overall performance outcomes.



📊 Figure 3: Nutrition

Nutrition Quality vs Service Energy and Performance

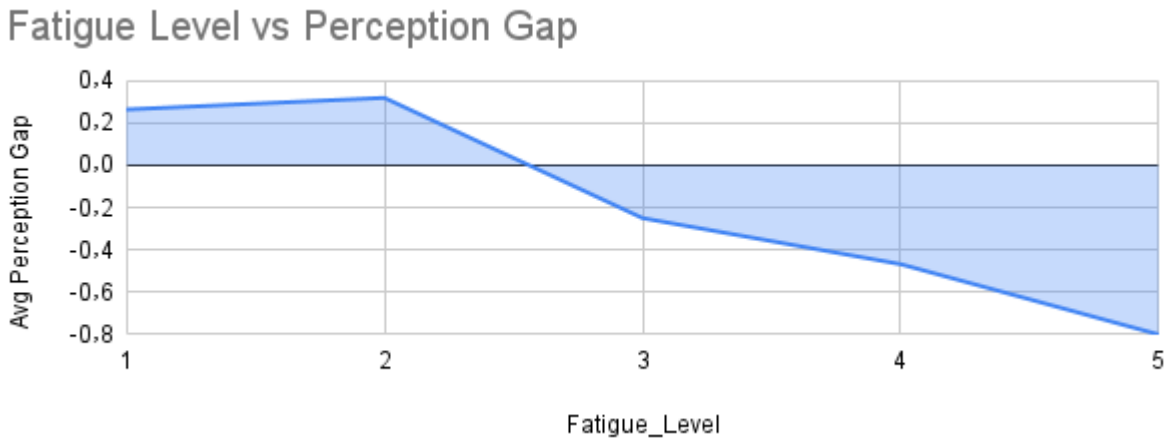
Higher nutrition quality correlates with increased service energy levels and stronger overall performance.



📊 Figure 4: Perception Gap

Fatigue Level vs Perception Gap

Higher fatigue levels are linked to a widening perception gap between crew self-feedback and passenger service ratings.



Conclusion

Daily wellness factors significantly influence cabin crew performance and guest experience. Among all variables analyzed, rest and recovery demonstrated the highest operational impact, while fitness and nutrition acted as performance enhancers when supported by adequate rest.

Author

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How to Use

This project can be used as:

- A portfolio case study for data analysis roles
- A reference for wellness and fatigue management discussions
- A conceptual model for employee experience and performance analysis

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Next Steps (Optional)

- Expand the analysis to include hydration or jet lag indicators
- Apply the model to real-world survey data
- Build an interactive dashboard using BI tools

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