Insights

1. **User Activity Trends**
    - Users tend to walk more during weekdays, especially Tuesday to Thursday.
    - Peak active time is **morning (7–9 AM)** and **evening (5–7 PM)**.
    - Very low activity observed late at night and early morning.
2. **Sleep Patterns**
    - Average sleep duration is **6.5–7 hours**.
    - Users often **spend more time in bed** than actual sleep time (gap suggests poor sleep efficiency).
3. **Calories Burned vs Activity Levels**
    - Positive correlation: Higher `Very Active Minutes` and `Total Steps` lead to higher calories burned.
    - `Sedentary Minutes` make up a large chunk of the day for many users.
4. **Week-by-Week Engagement**
    - Some users show **consistency**, while others show big gaps — indicating possible drop-off or lack of motivation.

Why These Graphs Were Used

1. Bar Chart: Steps per Day

- **Why**: To show how active users are on different days.
- **Insight**: Identifies trends and inconsistencies in user movement patterns.

2. Line Graph: Sleep Duration Over Time

- **Why**: To observe sleeping habits and fluctuations.
- **Insight**: Helps find patterns in poor or inconsistent sleep.

3. Scatter Plot: Calories Burned vs Total Steps

- **Why**: To analyze how physical activity translates into calorie expenditure.
- **Insight**: Shows how efficiently users burn calories based on their movement.

4. Stacked Column Chart: Activity Type Breakdown

- **Why**: To show the share of Sedentary, Light, Moderate, and Very Active minutes.
- **Insight**: Most users are largely sedentary throughout the day.

5. Card Visuals (KPIs): Average Steps, Sleep, Calories

- **Why**: To highlight key performance metrics at a glance.
- **Insight**: Gives users a quick overview of their health behavior.

Summary

This Power BI dashboard pulls together Bellabeat's user data on physical activity, sleep behavior, and calorie expenditure. Users are generally consistent during weekdays, with peak physical movement in the mornings and evenings. However, sedentary behavior dominates much of the day. Sleep is slightly below the optimal 8 hours, with many users spending more time in bed than actually asleep — suggesting inefficiencies or disruptions. Calories burned follow expected trends based on steps and active minutes.

Conclusion

This dashboard provides key behavioral insights that can inform Bellabeat's future product and wellness strategies:

- **Encouraging active minutes** (not just steps) may lead to better calorie burn and healthier users.

- Sleep quality improvement is a major opportunity area — pushing tips for better rest can improve health.

- Users need **reminders or challenges to break sedentary time**, especially during working hours.

- Dashboards like this help Bellabeat personalize advice, making their wellness programs more effective.