

User Activity and Sleep Behaviour

Insights from Smart Device Data to Inform Bellabeat Decisions

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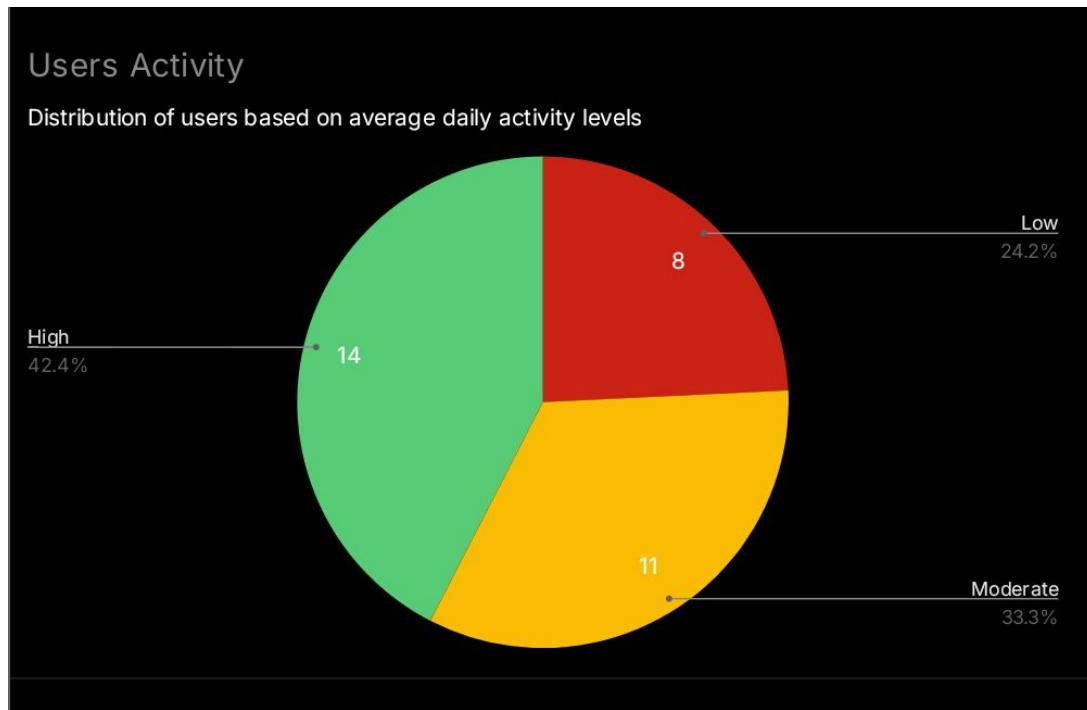
Presentation Goals

- Understand how users engage with smart devices through activity and sleep tracking
- Explore daily activity distribution and sedentary behavior patterns
- Analyze sleep efficiency using time in bed versus time asleep
- Identify insights that can inform Bellabeat product and marketing decisions

Data Overview

- Source: Fitbit Fitness Tracker Data (Kaggle)
 - Sample: ~30 users, daily-level records
 - Time period: April–May 2016
 - Key datasets: Daily activity, steps, sleep
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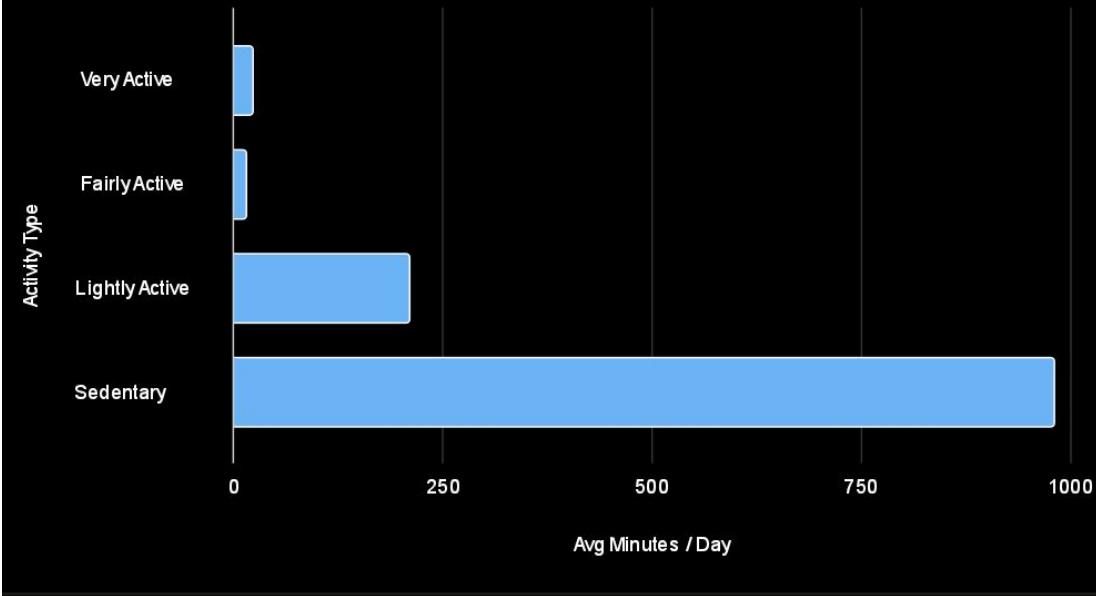
Most Users Are Moderately to Highly Active



- High and moderate activity users represent the majority
- A notable portion remains low-active
- Indicates unequal engagement levels across users

Sedentary Time Dominates Daily Behavior

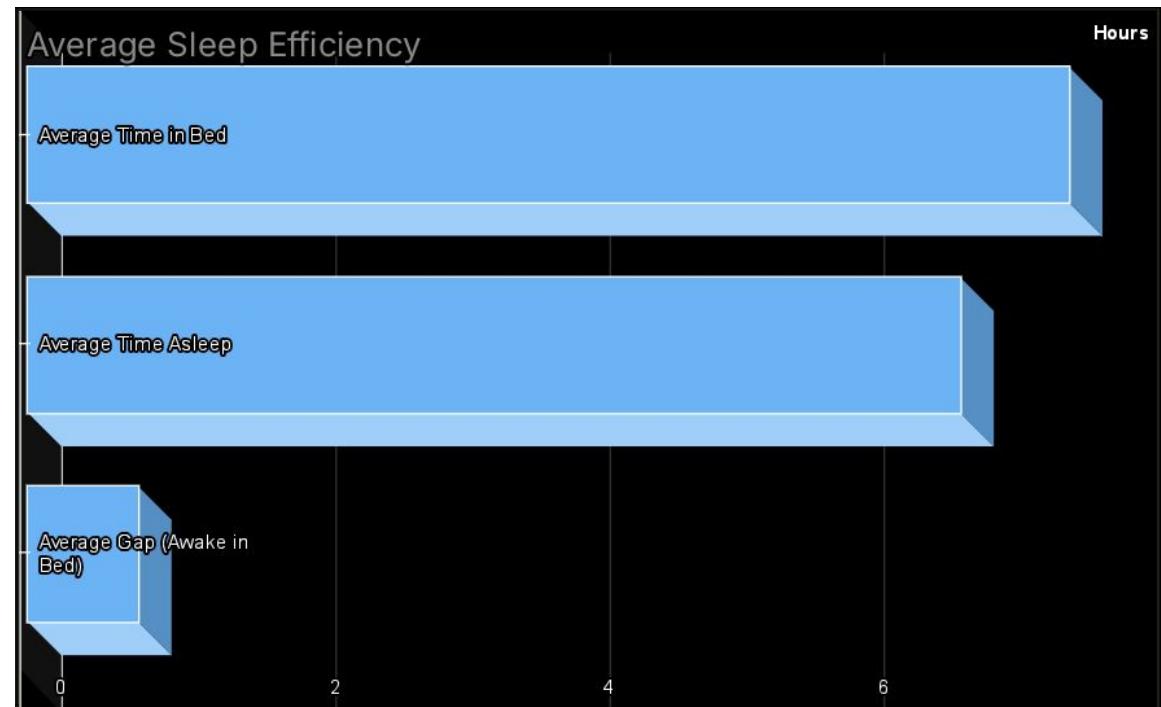
Average Daily Minutes by Activity Type



- Sedentary minutes far exceed active minutes
- Very active time is minimal across users
- Light activity represents most non-sedentary movement

Time in Bed Exceeds Time Asleep

- Users spend significantly more time in bed than asleep
- Indicates sleep quality challenges
- Suggests inefficiency rather than lack of sleep time



Key Behavioral Patterns Identified

- Users actively track steps and sleep, indicating strong engagement with smart devices.
- Despite regular tracking, most daily time is spent in sedentary or lightly active states.
- High-intensity activity (moderate to very active minutes) represents a small portion of daily behavior.
- Sleep tracking shows that users generally spend more time in bed than asleep, though most demonstrate relatively efficient sleep.
- A subset of users shows larger gaps between time in bed and time asleep, indicating variability in sleep quality and routines.



Actionable Opportunities for Bellabeat



- Reduce sedentary behavior
- Introduce gentle in-app nudges or reminders after prolonged inactivity to encourage short movement breaks.
- Leverage light activity patterns
- Promote achievable, low-pressure movement goals aligned with users' existing behavior rather than emphasizing intense workouts.
- Enhance sleep insights
- Highlight sleep efficiency (time asleep vs time in bed) to help users better understand and improve sleep quality.
- Personalize user experience
- Segment users by activity level to deliver tailored insights, notifications, and wellness recommendations through the Bellabeat app.

