

Executive Summary: Bellabeat Case Study, Smart Device Usage Analysis

Abdullah Aqel

29/12/2025

Objectives

Analyzes smart device usage data in order discover trends and gain insight into how consumers use *non-Bellabeat* smart devices, and how to apply these insights to *Bellabeat* product, and influence *Bellabeat* marketing strategy.

Key Findings

- **The relation between steps and calories:** There is a clear linear relationship where, as total steps increase, calories burned also rise. The blue line starts around 1,500 calories even when steps are at zero. It represents the calories the body burns just to function at rest.

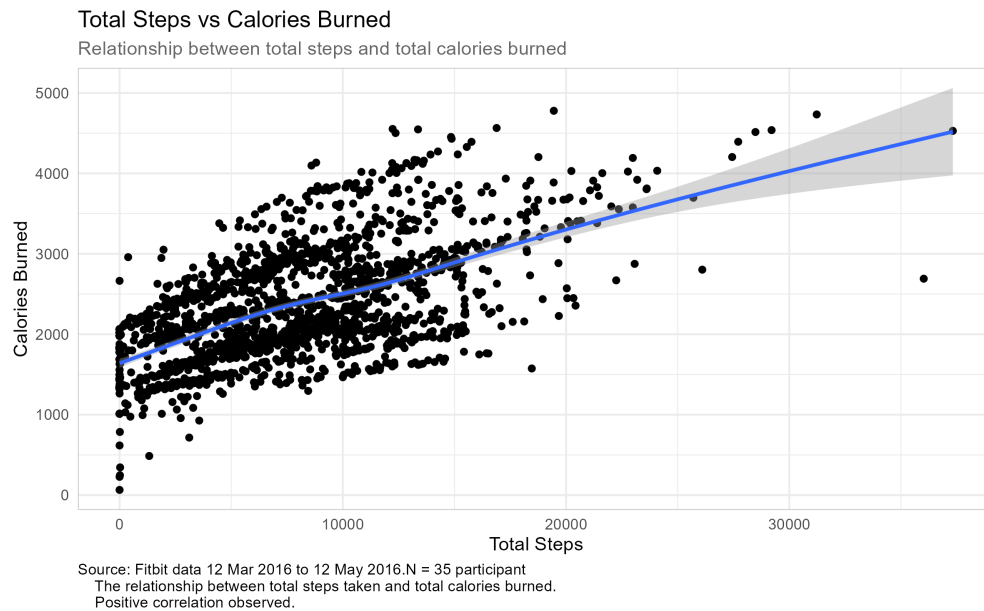
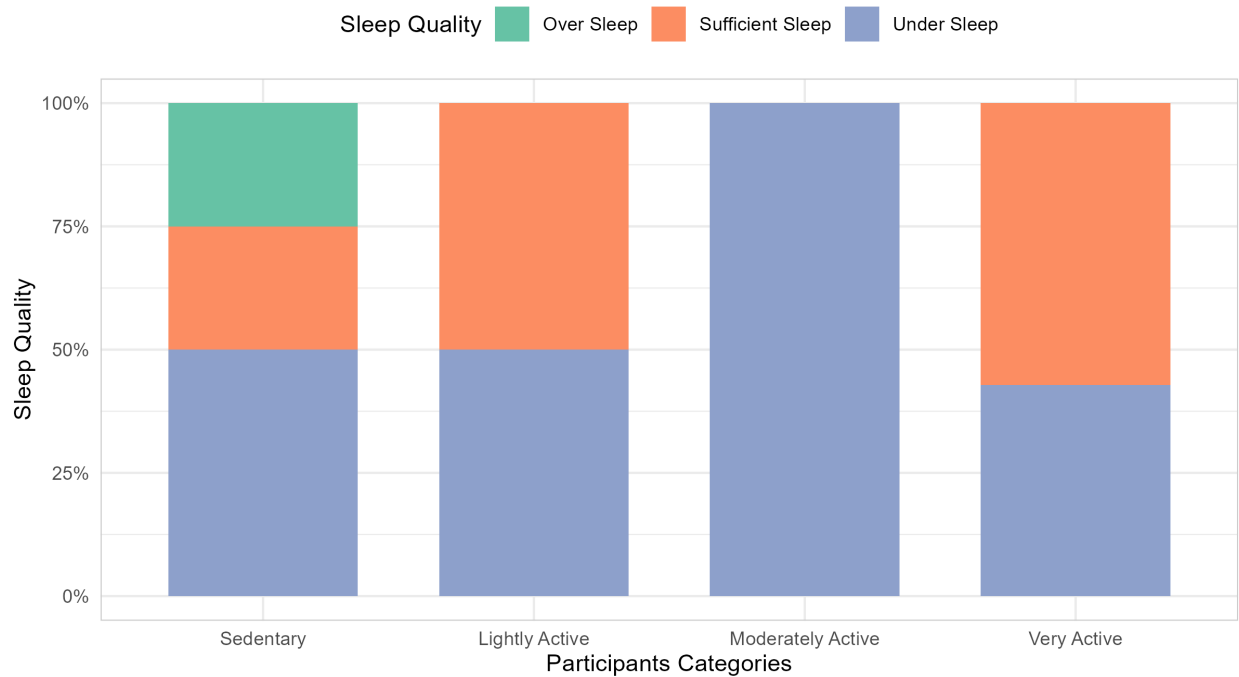


Figure 1: Figure 1: Total Steps vs Calories Burned

- **Sleep Deprivation:** Over [54%] of users fail to reach the recommended 7-9 hours of sleep, directly impacting their activity levels the following day.

Sleep Quality by Participant Categories

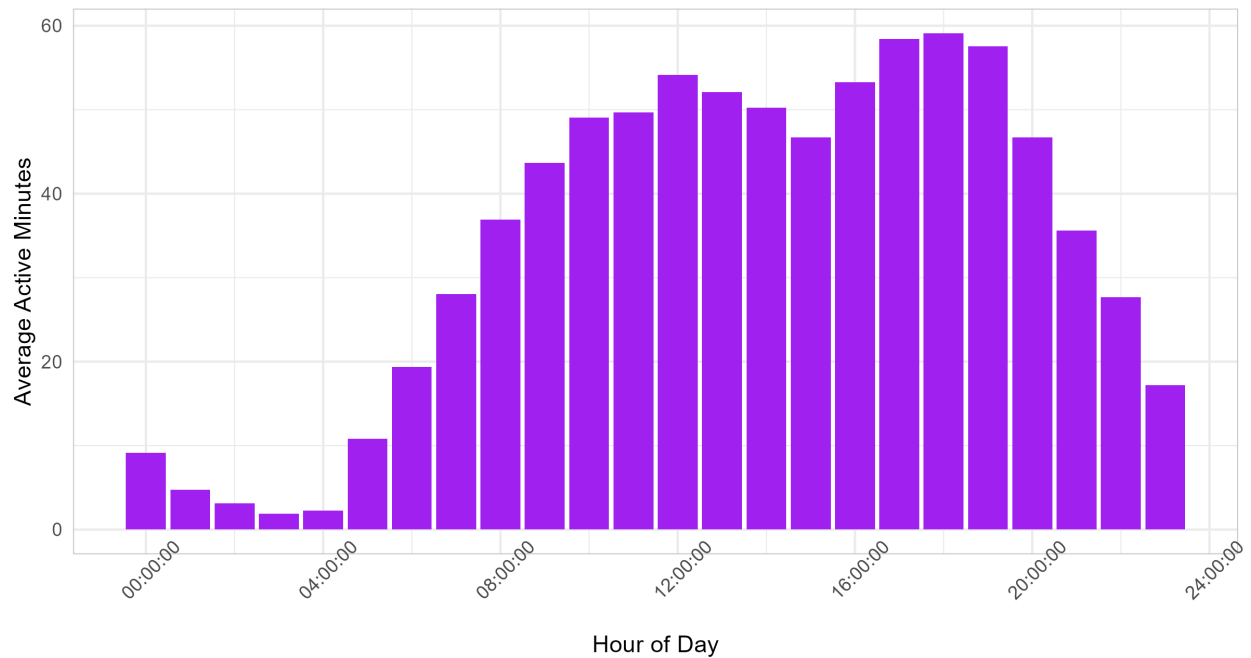


Source: Fitbit data. N = 24 participant.

- **Prime Time Activity:** Highest activity levels occur between 5 PM and 7 PM (post-work hours).

Distribution of Average Hourly Active Minutes

Frequency of average active minutes spent per hour across all participants.



Source: Fitbit data 12 Mar 2016 to 12 May 2016. N = 35 participant

Proposed Strategy

- **Gamification:** Launch a “7.5k Step Challenge” within the app to motivate users to reach the health baseline.
- **Smart Notifications:** Use a gentle nudge when user is sedentary motivating them to do activity. Use reminders when the user usually has a “gap” in their schedule.
- **Sleep Coaching:** Use “Night-time Wind-down” reminders to help users achieve the 7-9 hour sleep target for optimal recovery.

Conclusion

By focusing on these behavioral nudges, Bellabeat can transition from a simple tracking tool to an essential wellness partner, increasing user retention and brand loyalty.