



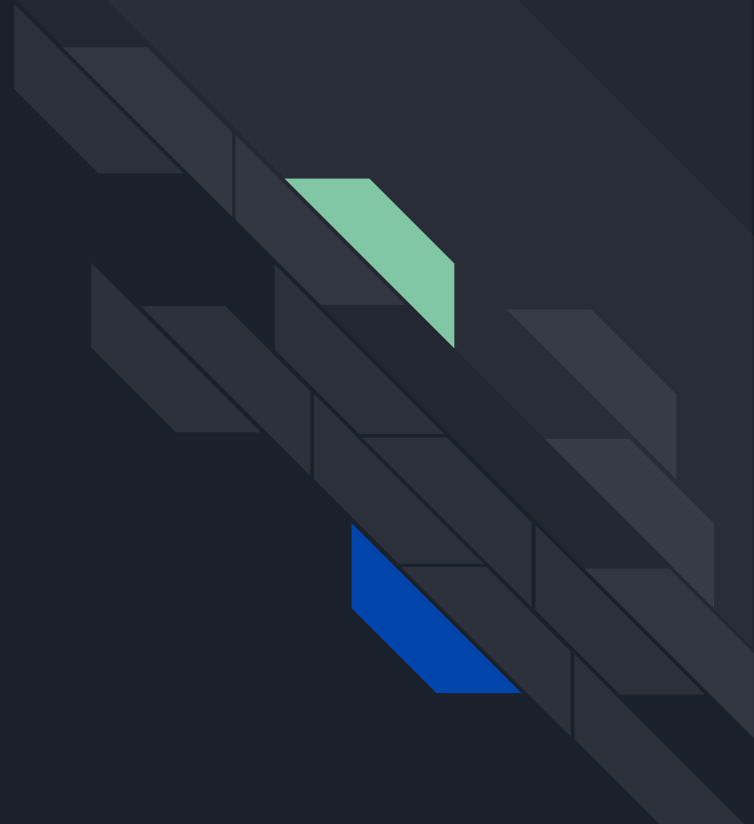
Bellabeat Marketing Insights



Leveraging Fitbit Insights to Enhance
Bellabeat App, Leaf, and Time for Women's
Wellness

Initial Questions

- How do smart device users utilize their devices?
- Are there any observable usage trends?
- Can we gain any strategic insight from identified trends?





Utilization Observations

Out of 33 participants in the trial:

- 100% of trial participants had daily activity data.
- 24 unique users had sleep data available which is 73% of trial participants.
- 8 unique users had weight data available which is only 24% of trial participants.



Utilization Trends

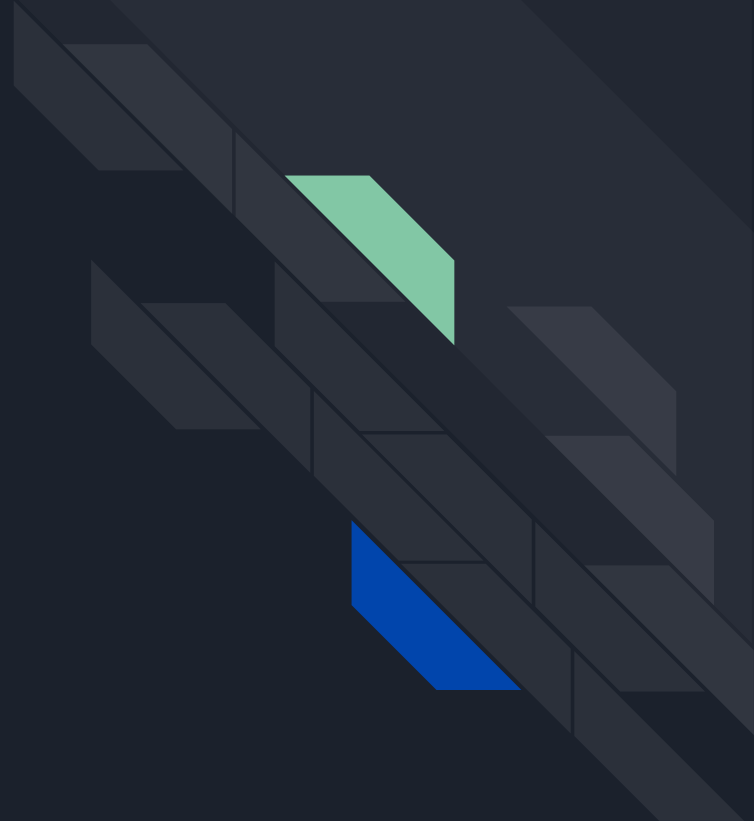
- The most obvious use case of an **activity tracking** smart device, is to track activity in the form of heart rate, intensity, and steps. **100%** of trial participants had activity data.
- A less obvious use case is **sleep tracking** which **73%** of trial participants took advantage of, **showing a clear utilization trend.**
- **Weight logging** functionality was only utilized by **24%** of trial participants which **does not support a utilization trend.**



Data Limitations

- **Small sample:** 33 total users is low power for inference.
- **No demographics:** User age and gender are unknown which is critical because women are Bellabeat's target demographic.
- **Bias:** Self-selected participants may not represent all users

Additional questions and
exploring relationships in
the dataset

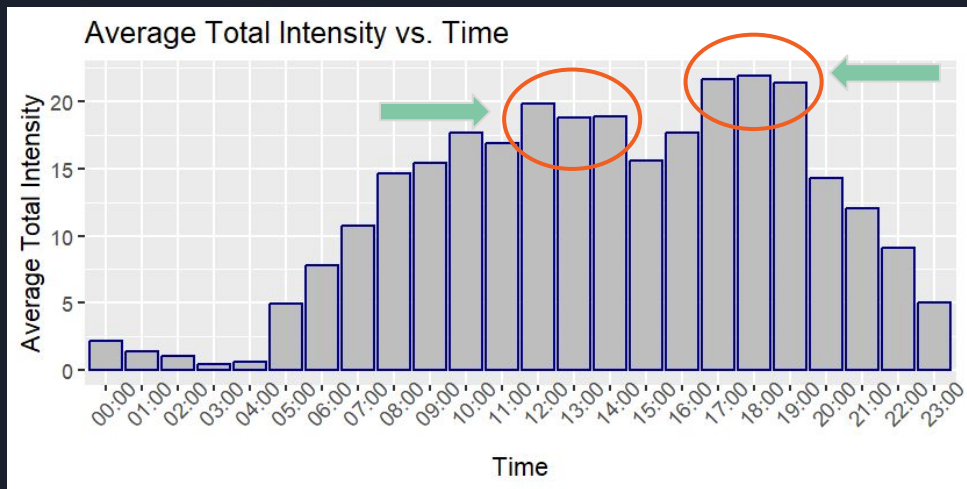


When are users most active?

The **most** active period was from:
5:00 pm - 7:59 pm

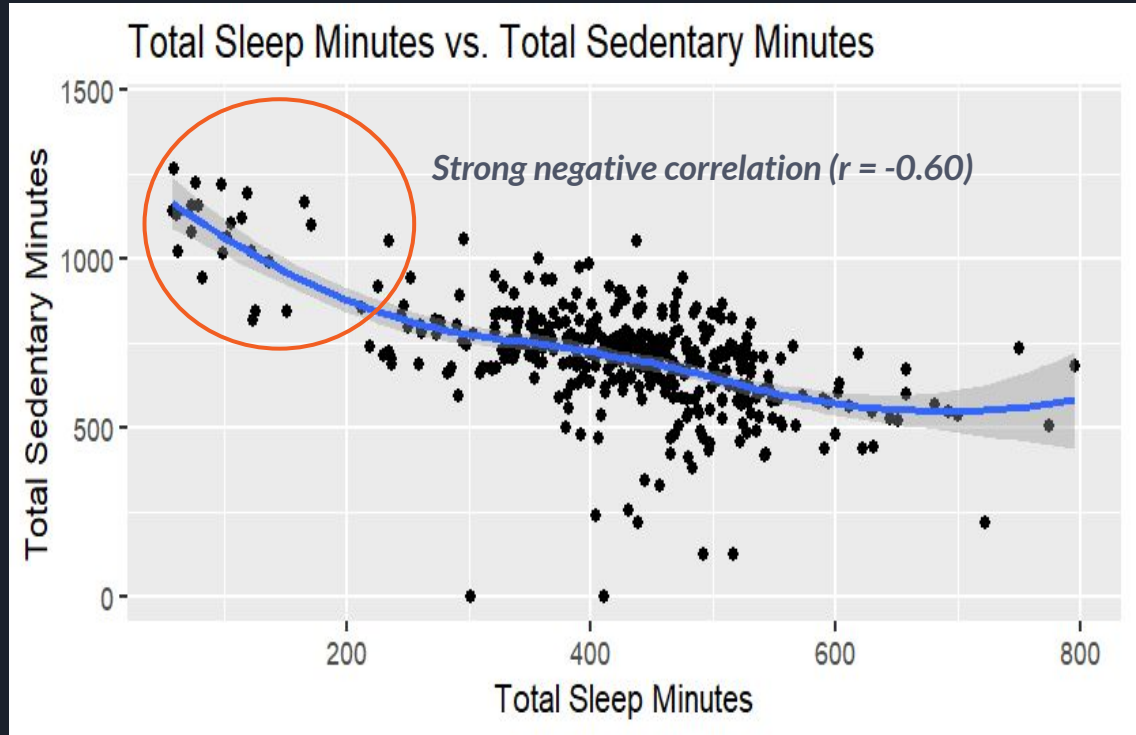
The **second most** active period was:
12:00 pm-2:59 pm

This is shown in both average calories burned and total intensity minutes, over time



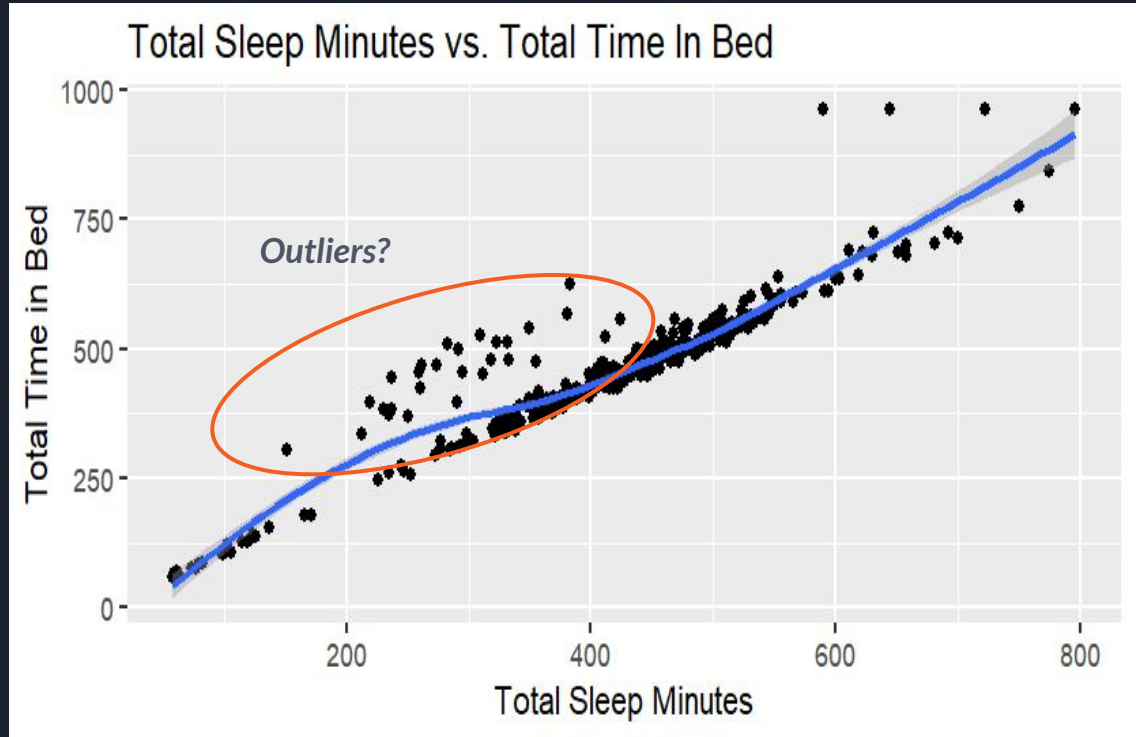
Is there any relationship between sedentary minutes and sleep minutes?

People who were more sedentary on average tended to get less sleep, while people who were less sedentary tended to get more sleep ($r = -0.60$, $p < 0.001$).



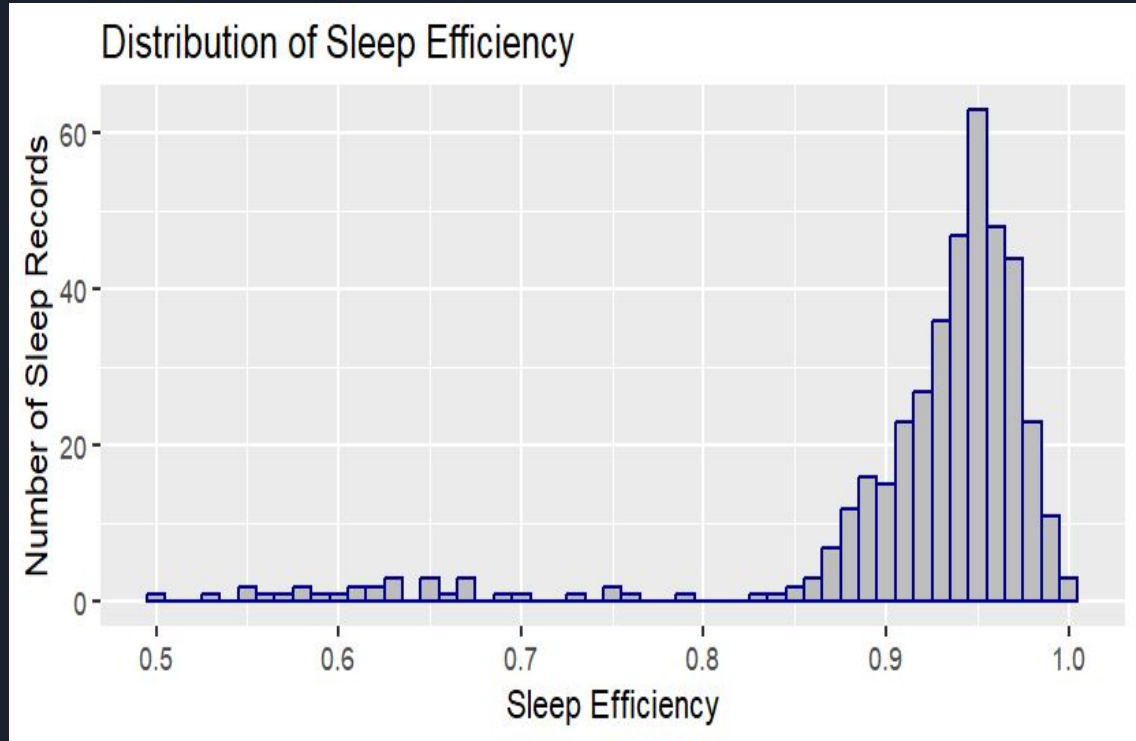
Can we see sleep issues like insomnia?

Potentially. Very strong positive correlation between sleep and time in bed ($r = 0.93$, $p < 0.001$). But we **can't rule out** other explanations such as meditation or reading in bed.



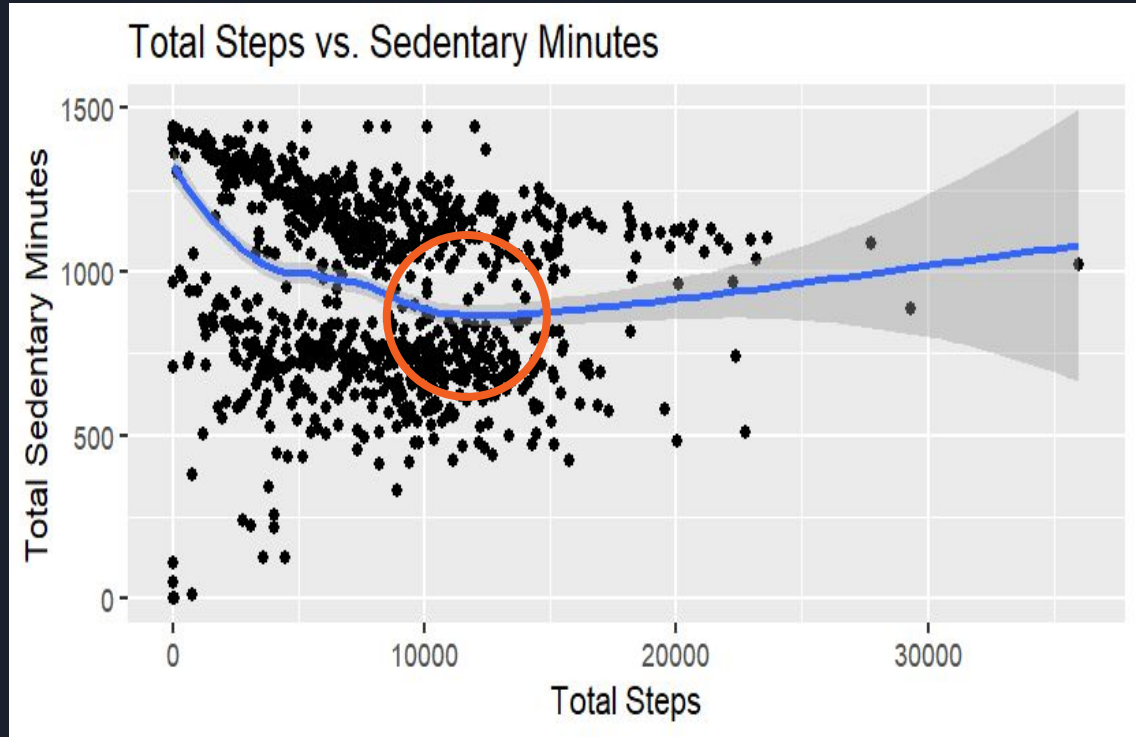
Looking deeper into sleep:

Mean sleep efficiency: 92%. 27 outliers below mean (<2 std devs) suggest potential issues like insomnia. This was roughly 6.5% of records.



How do total steps relate to sedentary minutes?

Moderate negative correlation ($r = -0.33$, $p < 0.001$), with inflection around 10,000 steps, as observed in the scatterplot, indicating possible fatigue.



What did we learn?

1. We identified a clear utilization trend where 73% of trial participants utilized their smart devices to track their sleep related metrics.
2. We identified that users were the most active between the 5:00 pm - 7:59 pm and 12:00 pm - 2:59 pm, respectively.
3. We identified several types of data events that present opportunities to engage with the user in the app via notifications, reminders, and marketing materials.
 - a. Higher sedentary minutes resulted in less sleep minutes ($r = -0.60, p < 0.001$).
 - b. An abnormal time in bed to total sleep ratio could indicate sleep trouble ($r = 0.93$ for sleep vs. bed time; 27 outliers).
 - c. Users taking more than 10,000 steps may need rest (steps vs. sedentary: $r = -0.33, p < 0.001$).
4. These trends align with Leaf/Time's activity and sleep tracking features.

Next Steps:

- 1) Gather Bellabeat specific user data to validate initial data analysis results and look for other engagement opportunities.
- 2) Focus on activity and sleep tracking in Leaf and Time promotions
- 3) Target users with app notifications, reminders, and other marketing materials when certain data events are triggered.
- 4) A/B test these recommendations in the app in order to optimize the messaging and validate increased user engagement.