



# 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

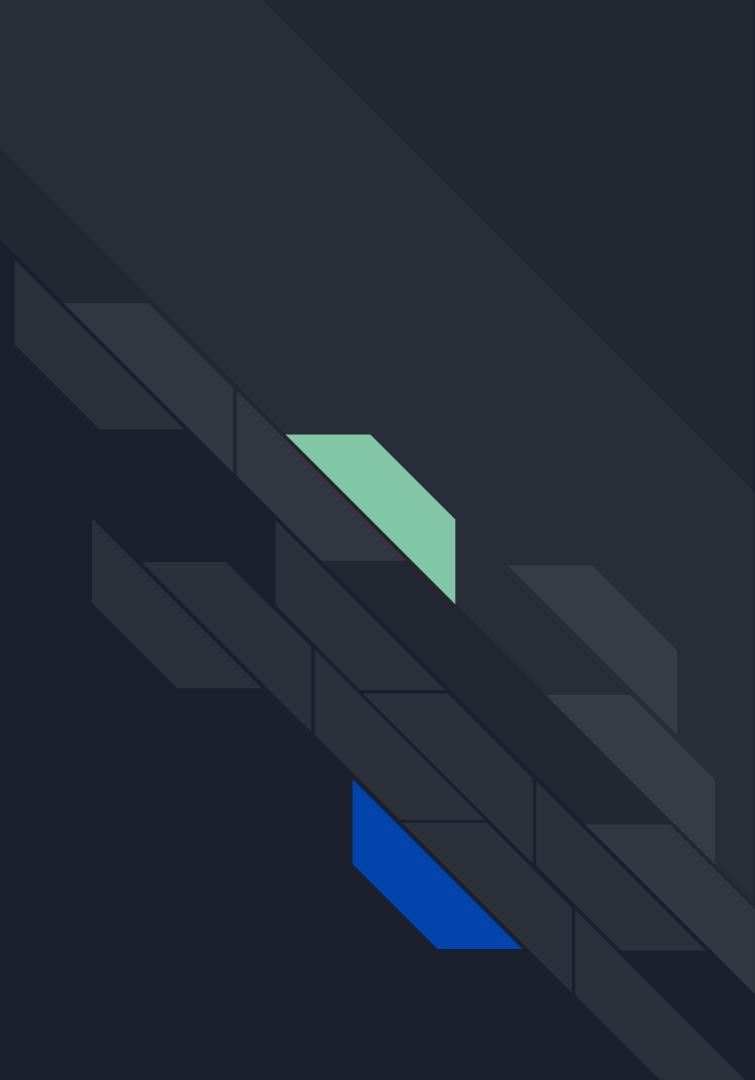
- The most obvious use case of an **activity tracking** smart device, is to track activity in the form of heart rate, intensity, and steps. **100%** of trial participants had activity data.
- A less obvious use case is **sleep tracking** which **73%** of trial participants took advantage of, **showing 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

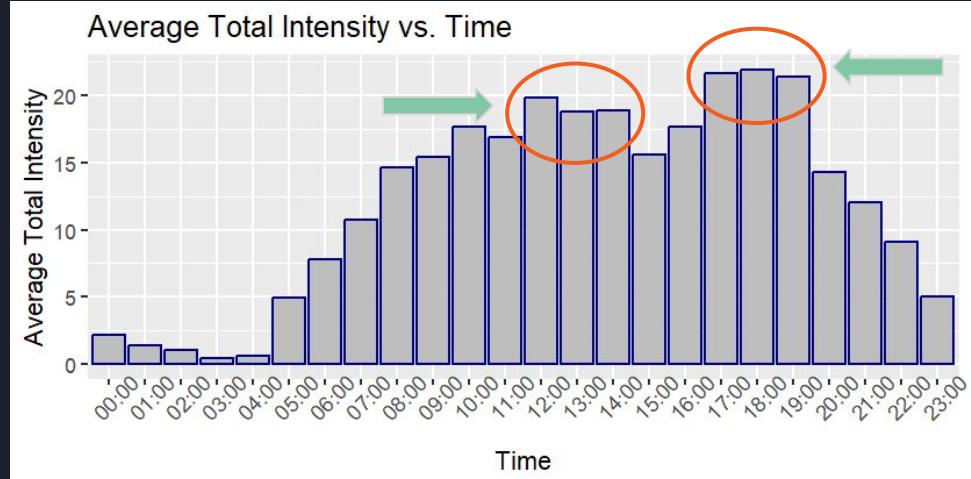


## When are users most active?

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

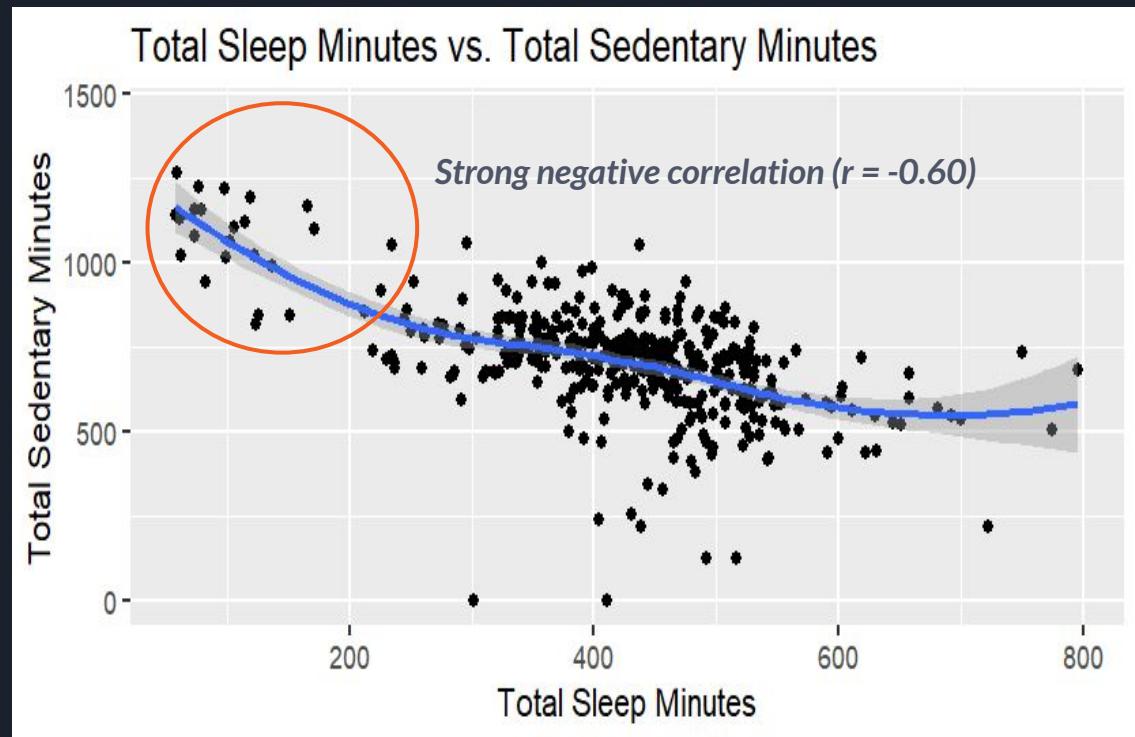
The **second** most active period was:  
**12:00 pm-2:59 pm**

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



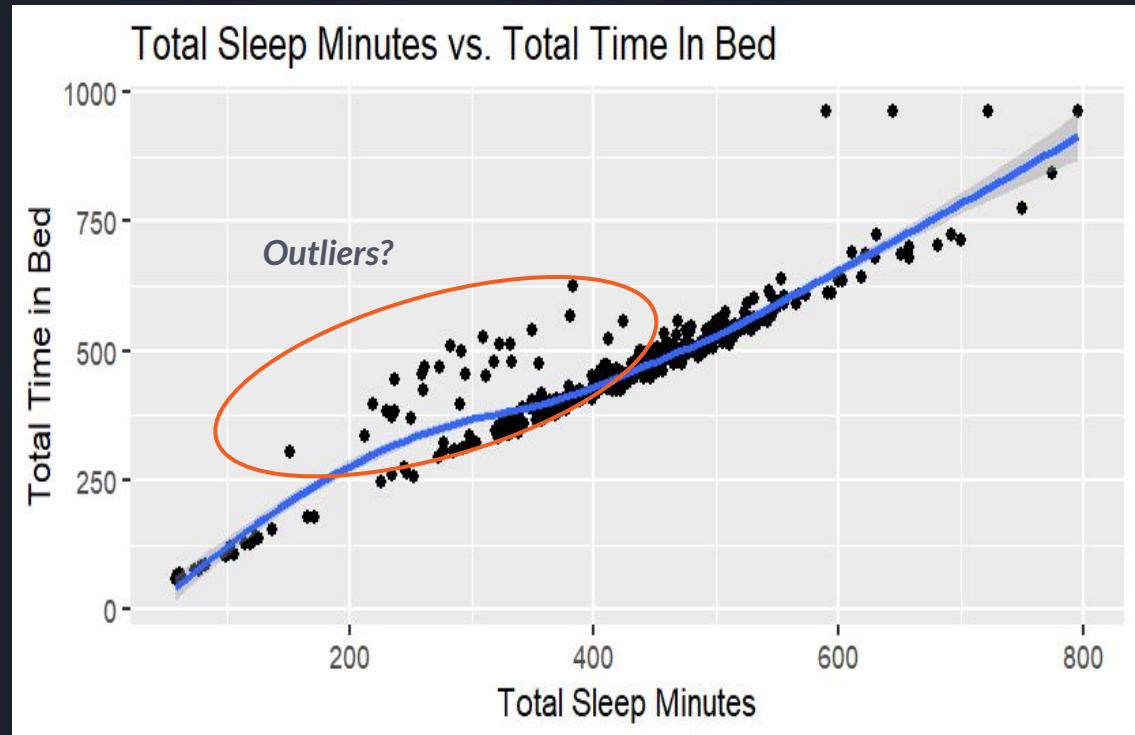
# Is there any relationship between sedentary minutes and sleep minutes?

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



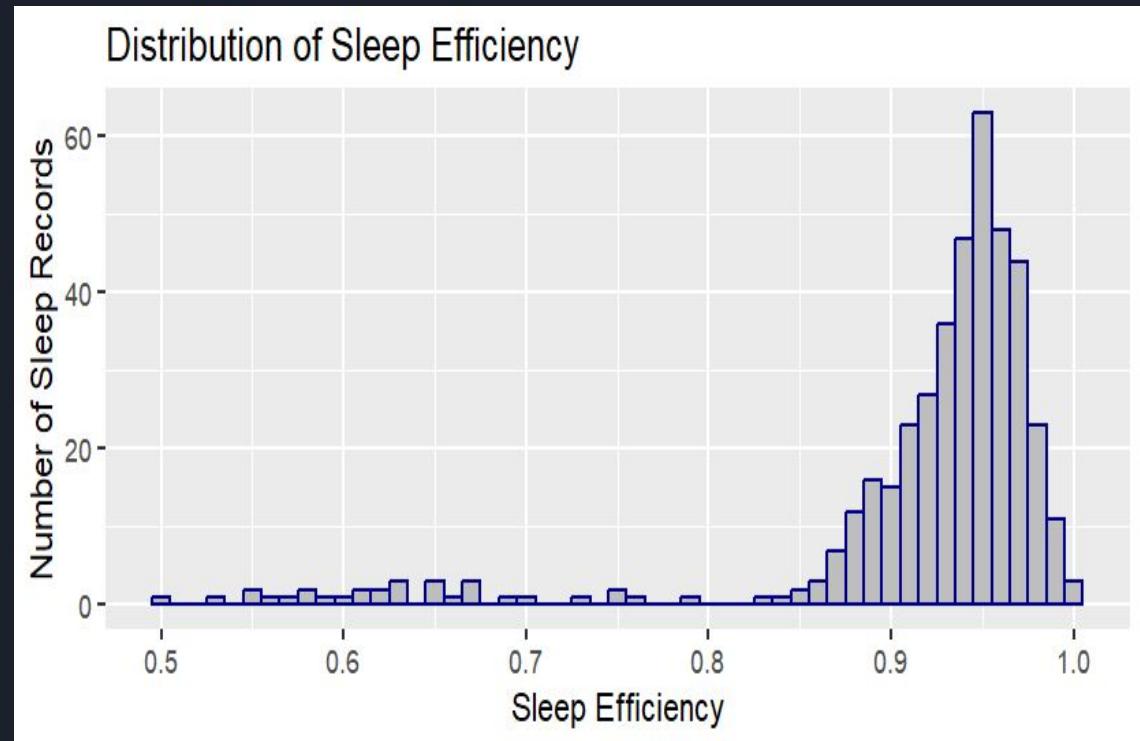
## Can we see sleep issues like insomnia?

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.



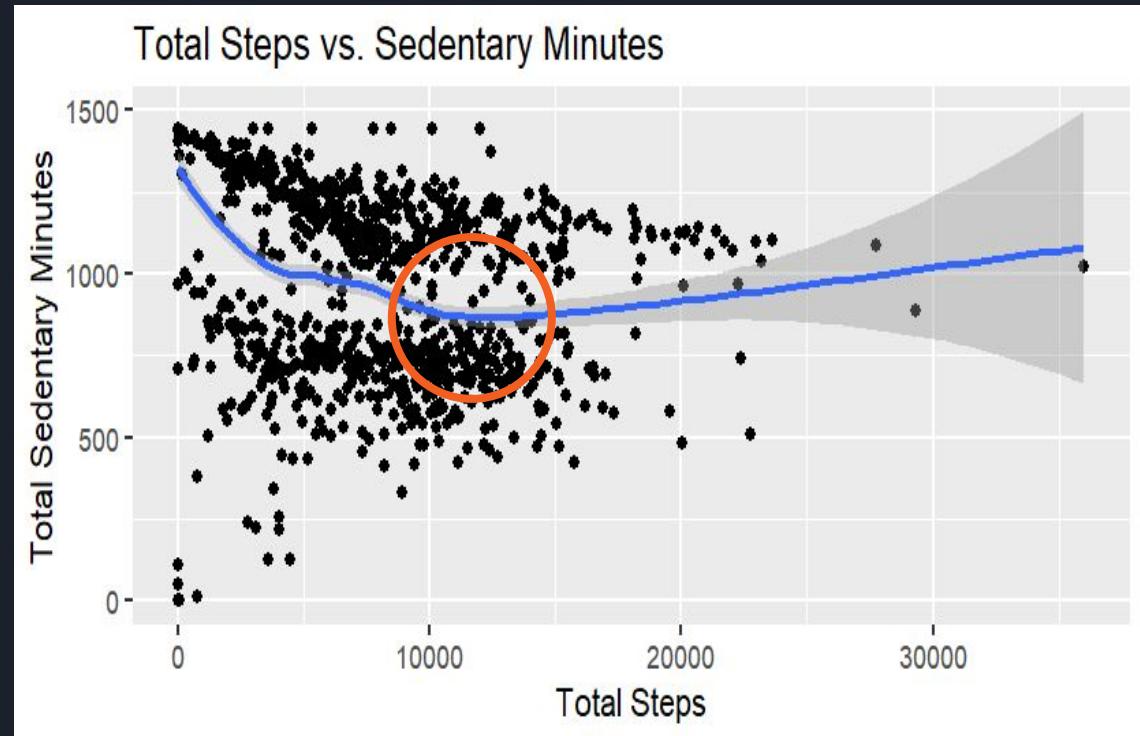
## Looking deeper into sleep:

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.