

Workouts and Sleep

Closely related... or nah?

A Primitive Study In Non-Invasive Biometrics, by Steve

What're we asking here?

01

DO BURNING
MORE CALORIES AT
DAYTIME, EQUATE
TO A BETTER
NIGHT'S SLEEP?

02

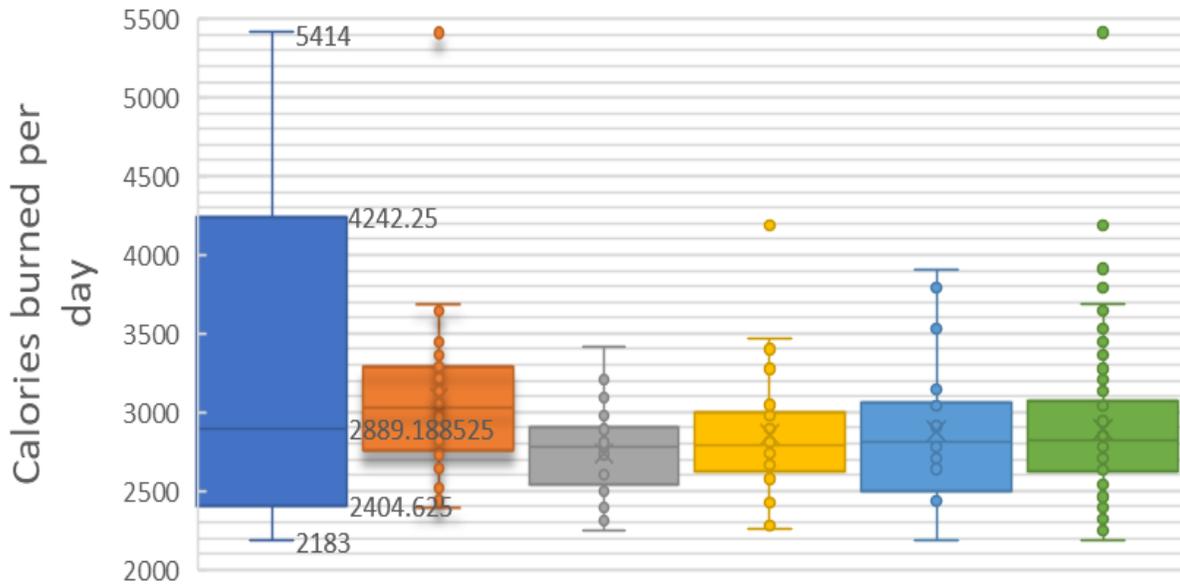
HOW OFTEN DO I
TOSS AND TURN AT
NIGHT...?

03

HOW "GOOD" OF A
NIGHT'S SLEEP AM
I GETTING?

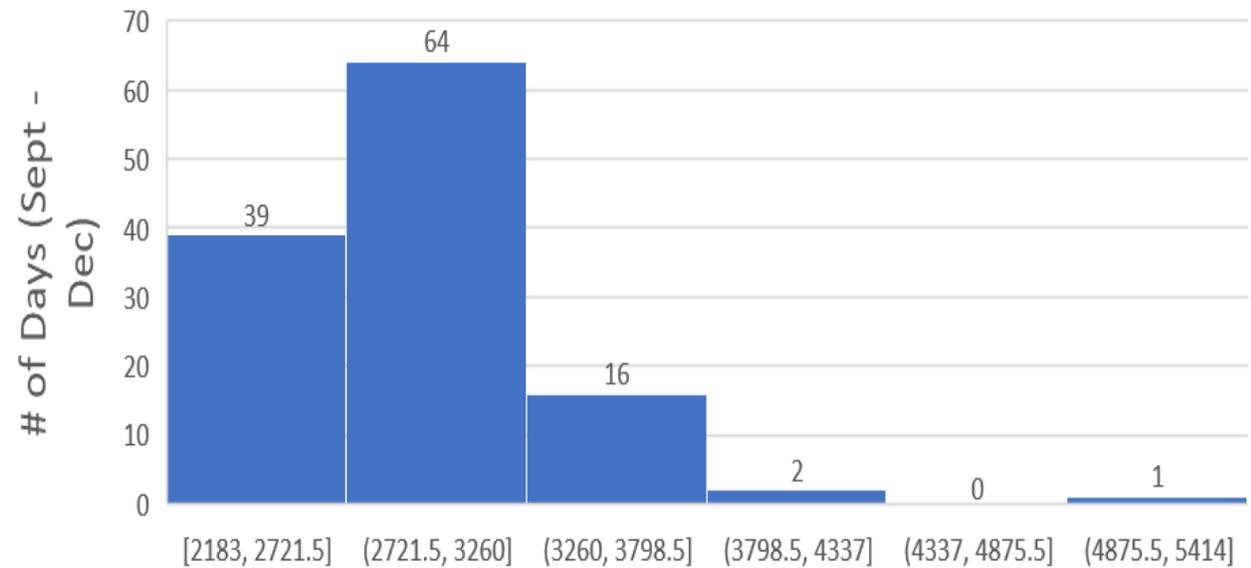
Calories burned per day 🙄

Calories Burned (Sept - Dec '19)



Approx. , Sept - Oct - Nov - Dec , All Data

Calories Burned in Day (Sept - Dec '19)



Calorie Range

Key Summary Statistics

	Calories Burned	Sleep Score	Revitalize Score	Deep Sleep Min.	Restlessness %
Mean	2889	76.7	19.37	74.8	9.0%
Median	2818	76.5	20	73.5	8.8%
Mode	2764	76	22	68	N/A
Std. Dev.	432.44	6.50	3.18	24.39	2.4%
Minimum	2183	56	11	0	4.2%
Maximum	5414	90	24	147	18.1%
25th Quartile	2626	74	17.75	59	7.3%
75th Quartile	3070	81	22	91.25	10.3%

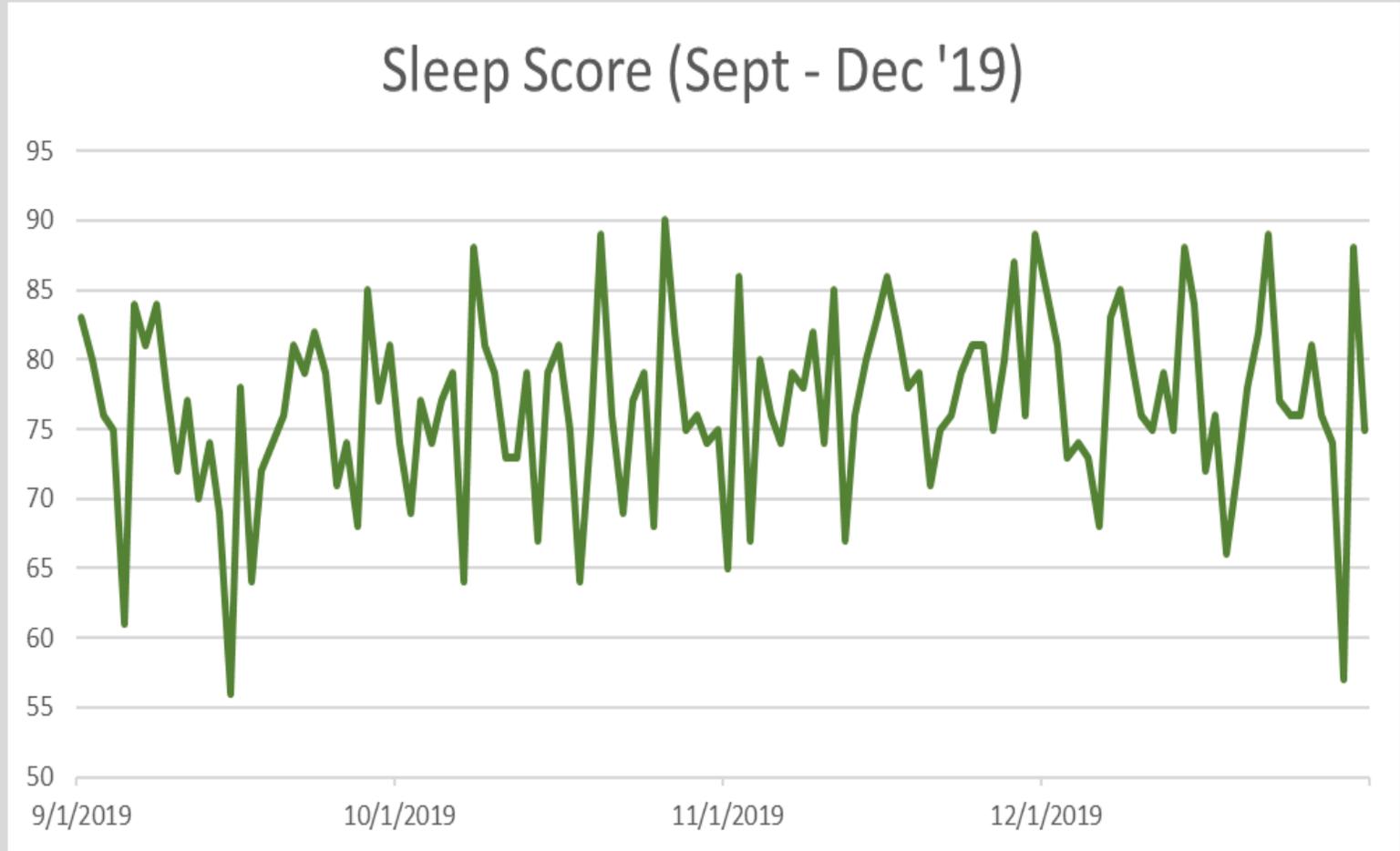
From
help.fitbit.com...

Your **OVERAL SLEEP SCORE** is a sum of your individual scores in sleep duration, sleep quality, and restoration, for a total score of up to 100.

Most Fitbit users get a score between 72 and 83.

SLEEP SCORE ranges are:

- Excellent: 90-100
- Good: 80-89
- Fair: 60-79
- Poor: Less than 60



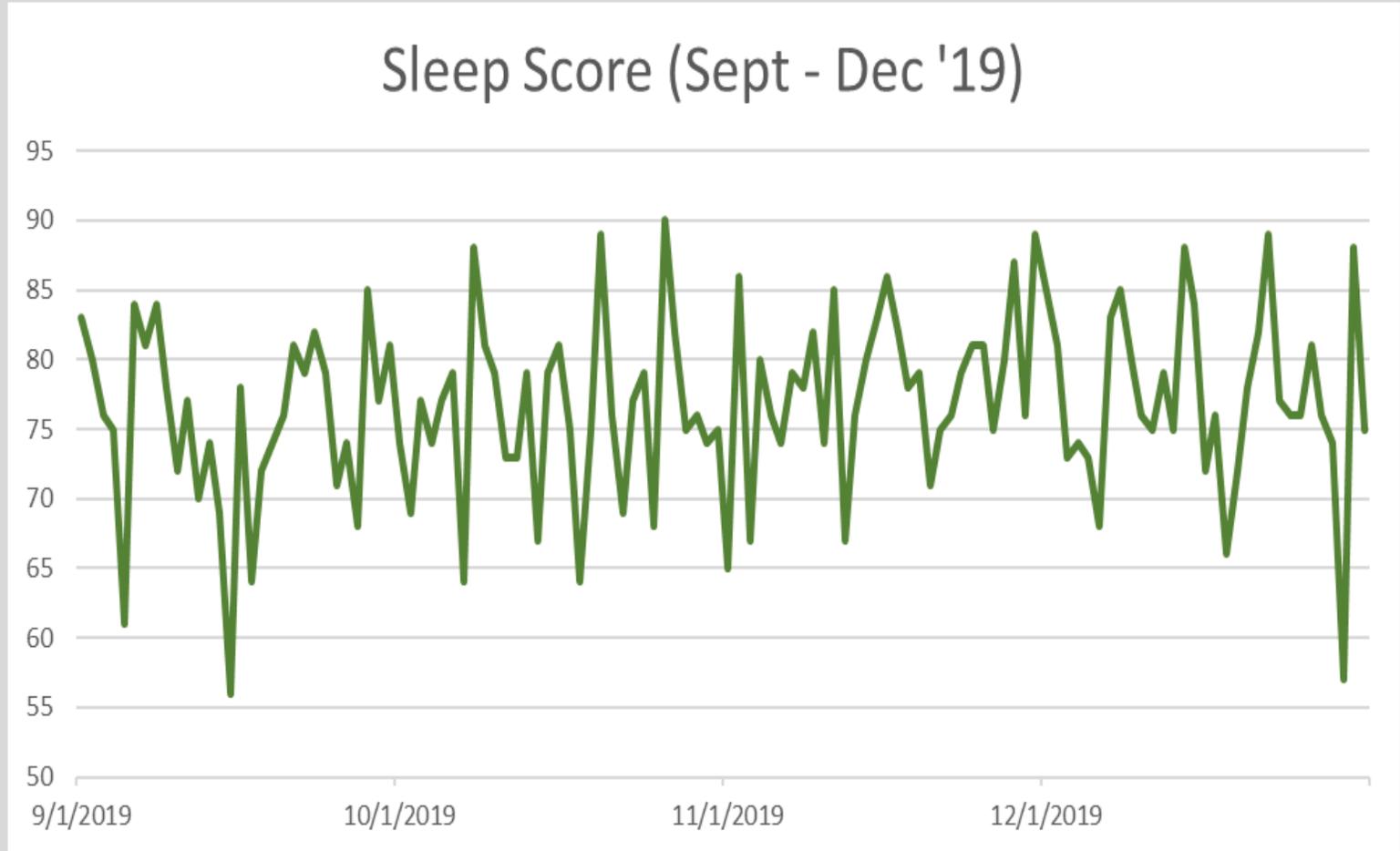
My scores...

- Mean score:

76.72

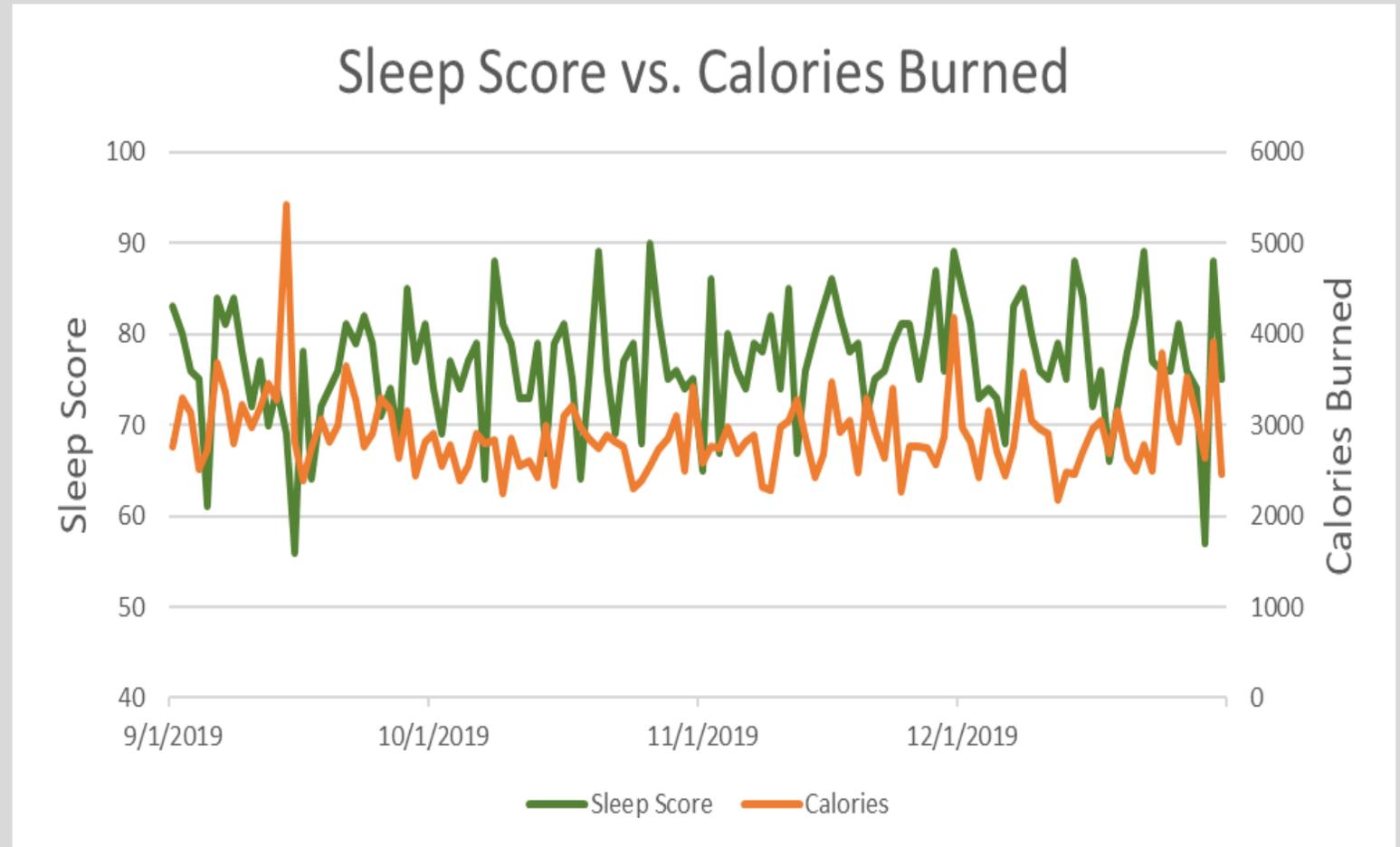
- Median score:

76.50



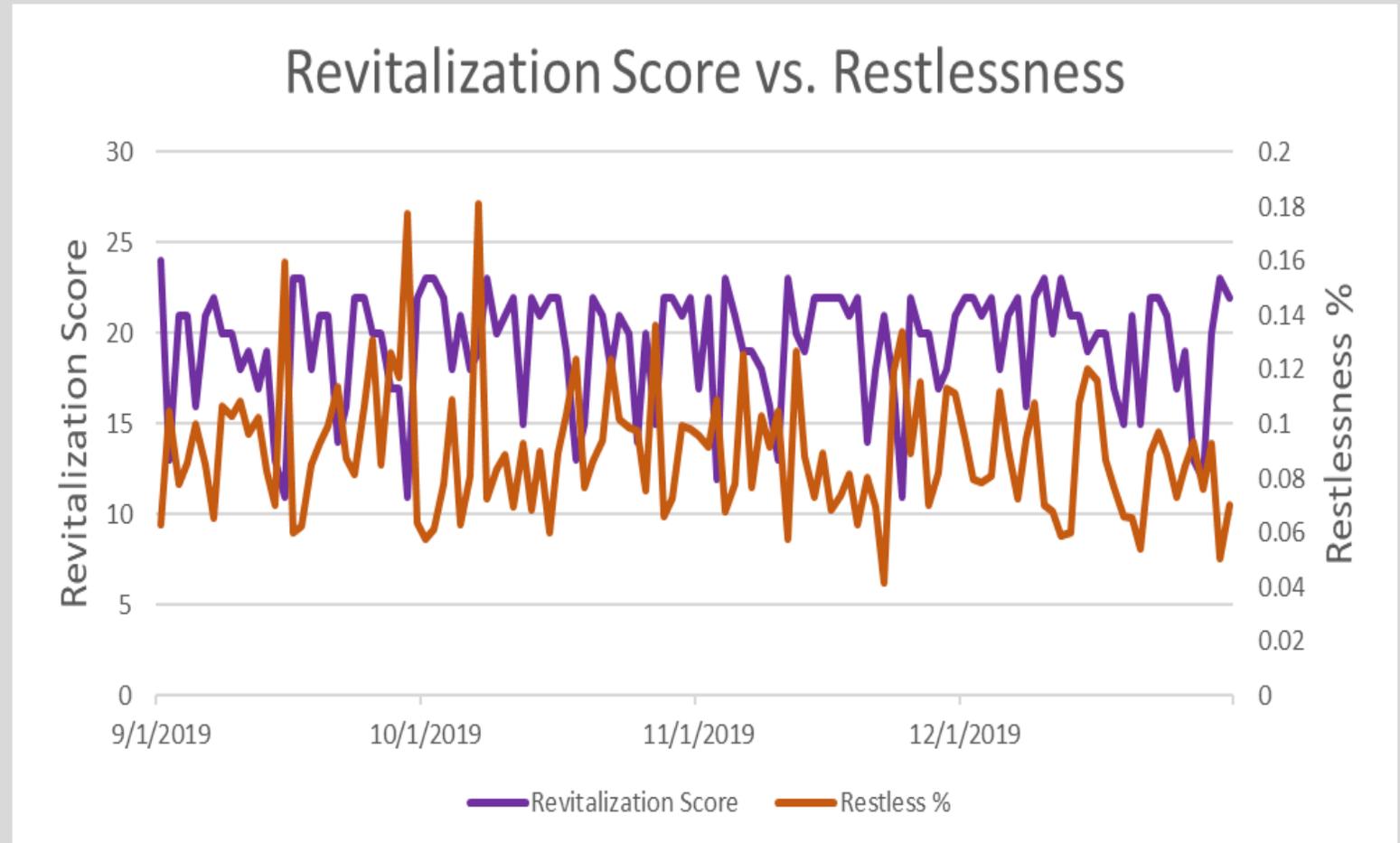
Comparing to calories burned...

- Some positive correlation can be seen at times...
- Inverse correlation can also be gleaned...
- Some places it doesn't look to be correlated at all...



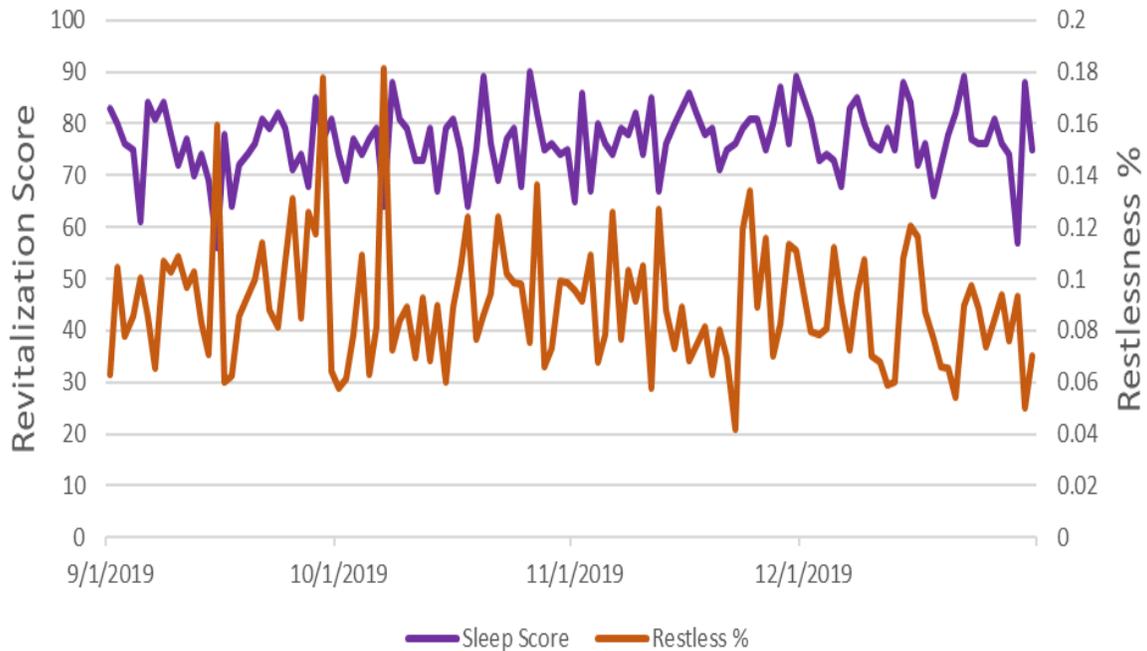
What about revitalization score?

- “Here, Fitbit is using data for breathing disturbances and comparing your heart rate during sleep to wake hours.”
 - <https://www.wareable.com/fitbit/fitbit-sleep-score-review-guide-6846>
- For the most part, this score moves in tandem with the amount of time I spend restless in bed while I am supposed to be sleeping.

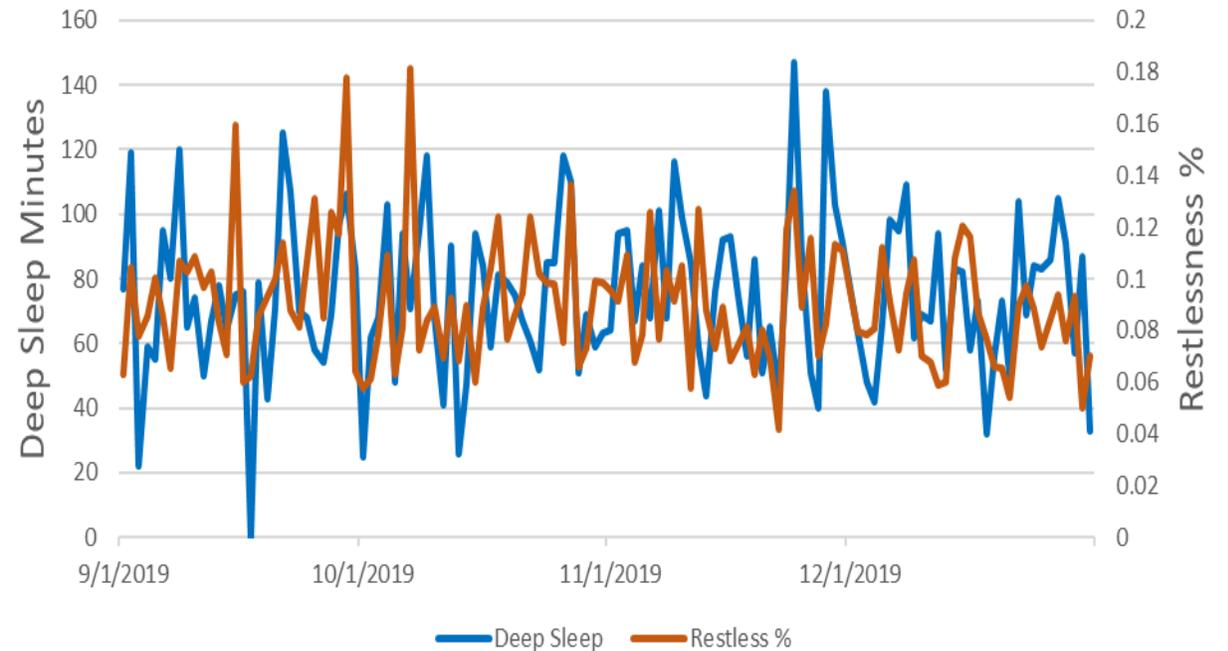


Restlessness plays a role on Deep Sleep

Revitalization Score vs. Restlessness

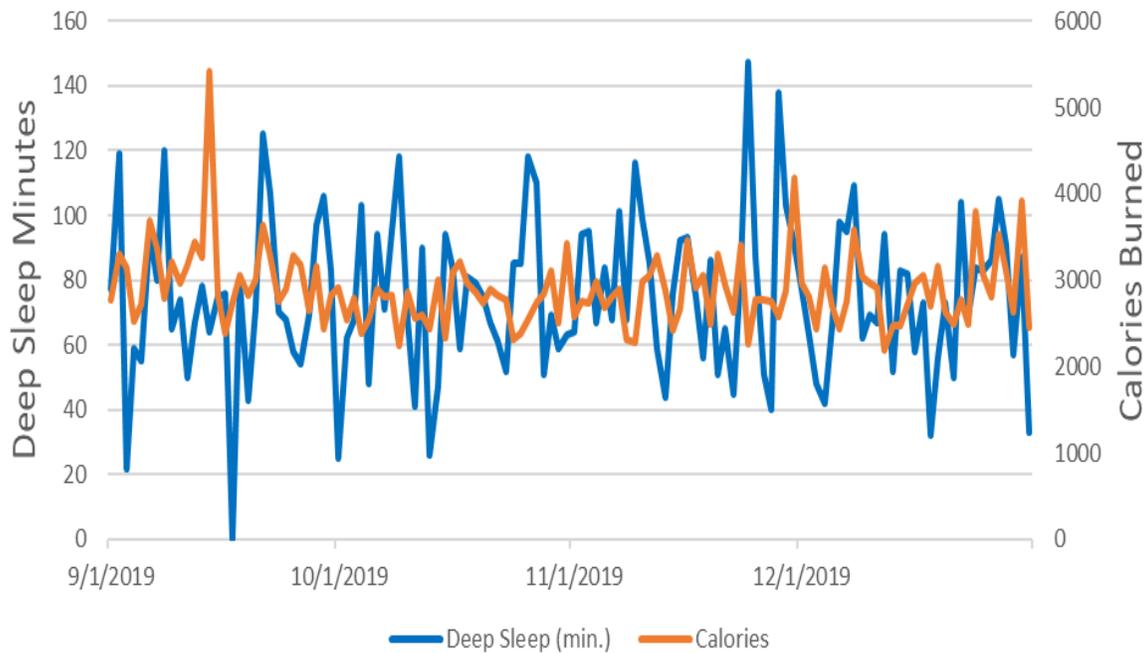


Deep Sleep Minutes vs. Restlessness

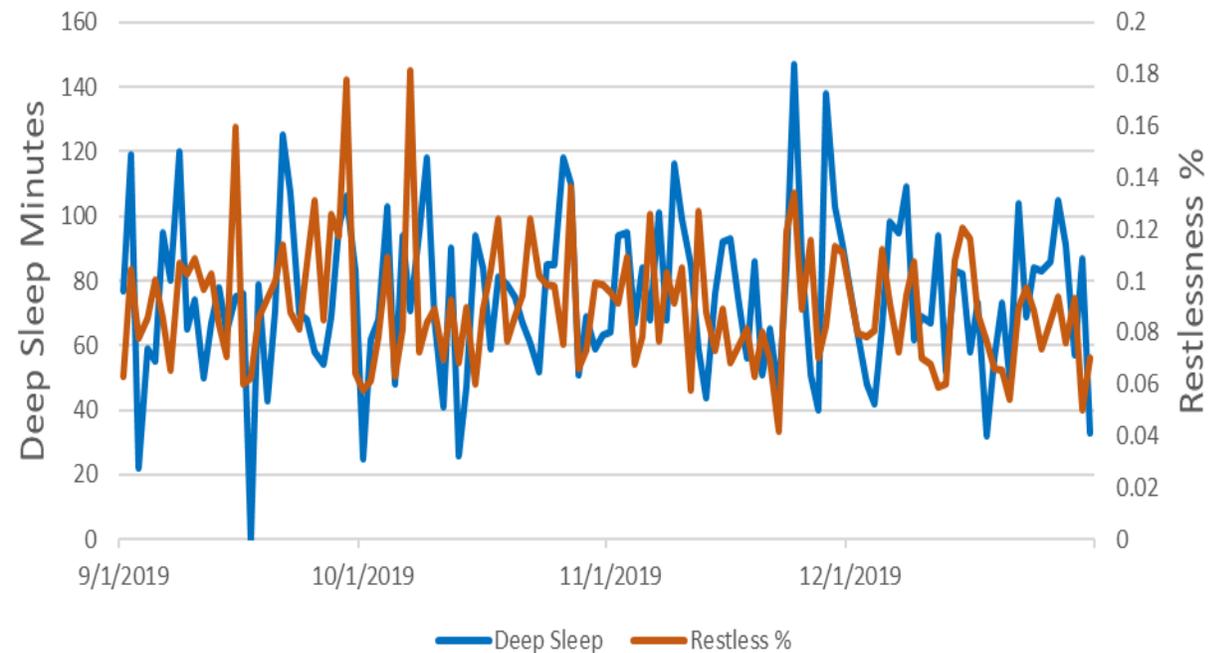


Restlessness plays a role on Deep Sleep

Calories Burned vs. Deep Sleep



Deep Sleep Minutes vs. Restlessness



To conclude...

- There is insufficient evidence to conclude that caloric burning or working out is the primary contributor to how well I sleep at night.
 - Relationship trends between these are positive, inverse, unrelated... anything.
- Deep sleep is heavily reliant on how little time is spent restless in bed, which makes sense intuitively.
- Physical activity can easily be superseded by other variables such as total time spent sleeping, caffeine consumption, etc...