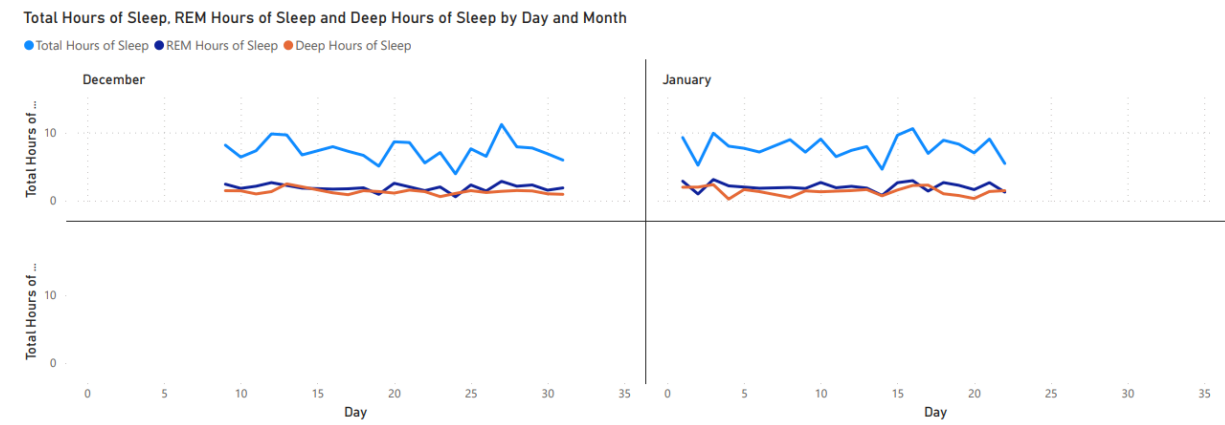


Project Write-Up & Summary
Article
Data Glacier Internship- LISUM34
06/06/2024

Carmelo's Sleep Statistics
12/09/2023-01/11/2024



Project Name: Carmelo's Sleep Study Project

Developer: Carmelo R. Casiraro (USA)

Internship: Data Glacier- LISUM34

Date: 06/2024

Technical Stack: Google Spreadsheet

Visual Software: Microsoft PowerBI

URL Link to View Project:

<https://app.powerbi.com/groups/me/reports/6a906be6-8b61-4cf2-ba08-8a2645fc63cc/ReportSection?clientSideAuth=0&experience=power-bi>

Problem Statement:

- What can I do to get better sleep?

Questions I Have:

- 1) How can I track my sleep to make sure I am getting the right amount of sleep every day?
- 1a) Why do I feel so crumbly some days and what's messing up my sleep? What is keeping me up all these hours?
- 2) How do I collect the data from the Oura Ring?
- 3) What software should I use to input the data and see the days that I got the best sleep?
- 4) What helped me get the best sleep for those particular days that my score was better?

- 5) What conclusions can I make after collecting the data that contributed to worse and better sleep?
- 6) How much would it cost to buy a Oura ring and maintain a subscription with them monthly? Is it worth it in the end for me personally?
- 7) What adjustments have I concluded I need to make to get that better sleep?

The Process

- I wanted to create this project to see why I felt so horribly some days throughout the day and why I needed a nap more most days during the week than normal. I wanted to see if I can create a system and consistency where I can get better sleep each day. Granted, I do work 7 days a week at the moment so it is quite challenging but the positive behind this is that I can sleep in and make my own schedule so let's see how this goes.

So this is what I did in step and numbered form:

- 1) Purchased a Oura ring on ebay- I had to figure out what size I was and then I decided to go use it because the oura website they are charging way too much money. Don't do what I do, invest in the ring size template Oura provides on their site, to find out your size so you aren't going back and forth like I did. I bought 2 different rings before I found out the right size.
- 2) After I got my ring, I started using it mainly at night. I would wear it during the day but for me I found it frustrating to wear all the time so I just wore it at night. I wanted to find out how many hours I was actually getting and that's exactly what I did.
- 3) I subscribed to the Oura subscription through their site and set up the ring and started registering the different stats each day. My primary focus was for night time when I fell asleep because sleeping was very important and still is vital to function properly especially with my work schedule.
- 4) After I collected the stats thru Oura's [website](#), I got the data from their charts and created my own data set thru Google Spreadsheet.
- 5) I had to sign up for an account with Microsoft PowerBI so that involved some steps since I don't really have a work email address, I was able to bypass this. They have Youtube videos to show you how to do this, step by step.
- 6) Once I got my credentials, I was ready to use Microsoft PowerBI to create the chart I was looking to put together.
- 7) After I imported the data from Google Spreadsheet, I cleaned the data and sent it to Microsoft PowerBI. In Microsoft PowerBI, I cleaned it again to where it was legible and made sense. A lot of data cleaning and also trying to figure out whether to use minutes or hours; that was another dilemma which I was able to figure out.

Here is a look at the spreadsheet and data I cleaned and organized thru Google Sheets, this data came from Oura ring and software:

	A	B	C	D	E	F	G	H
1	Date	Total Sleep	Restless S	Sleep Timing	Total Bedtime(Hours)	REM Sleep Durati	Deep Sleep	Sleep Late
2	12/9/2023	8.15	3.88	4.83	9.28	2.43	1.47	0.46
3	12/10/2023	6.40	3.72	3.58	7.25	1.81	1.45	0.04
4	12/11/2023	7.33	4.38	4.31	8.68	2.13	0.99	0.10
5	12/12/2023	9.80	5.70	8.82	14.88	2.65	1.33	0.57
6	12/13/2023	9.65	5.35	5.98	11.73	2.24	2.47	0.36
7	12/14/2023	6.72	3.03	3.89	7.75	1.84	2.03	0.30
8	12/16/2023	7.93	5.12	4.41	9.22	1.70	1.16	0.06
9	12/17/2023	7.25	5.20	3.92	8.13	1.75	0.88	0.07
10	12/18/2023	6.65	5.28	4.07	7.68	1.89	1.47	0.62
11	12/19/2023	5.07	3.60	2.94	5.67	0.93	1.34	0.32
12	12/20/2023	8.64	4.23	4.59	9.23	2.56	1.12	0.24
13	12/21/2023	8.53	4.28	4.67	9.68	2.03	1.56	0.18
14	12/22/2023	5.54	3.45	2.98	6.15	1.48	1.33	0.11
15	12/23/2023	7.07	4.42	4.08	8.07	2.02	0.60	0.29
16	12/24/2023	3.94	1.97	2.24	4.42	0.58	1.07	0.05
17	12/25/2023	7.62	4.57	4.25	8.57	2.31	1.48	0.18
18	12/26/2023	6.51	3.92	3.56	7.48	1.43	1.20	0.15
19	12/27/2023	11.18	6.95	6.23	12.92	2.84	1.38	0.06
20	12/28/2023	7.90	5.62	4.58	9.08	2.13	1.49	0.49
21	12/29/2023	7.73	4.40	4.37	8.77	2.31	1.43	0.04
22	12/30/2023	6.88	5.05	4.03	7.97	1.54	1.01	0.33
23	12/31/2023	5.96	4.93	3.43	7.13	1.88	0.93	0.27
24	1/1/2024	9.28	5.13	5.32	10.92	2.87	1.98	0.12
25	1/2/2024	5.21	3.35	2.98	5.90	0.98	1.99	0.48
26	1/3/2024	9.91	5.33	5.23	10.67	3.11	2.36	0.07
27	1/4/2024	8.00	6.43	4.92	9.68	2.18	0.23	0.75
28	1/5/2024	7.69	5.28	4.25	8.40	2.00	1.63	0.06
29	1/6/2024	7.14	6.37	3.93	8.22	1.83	1.33	0.17
30	1/8/2024	8.96	3.57	5.59	10.52	1.94	0.48	0.08
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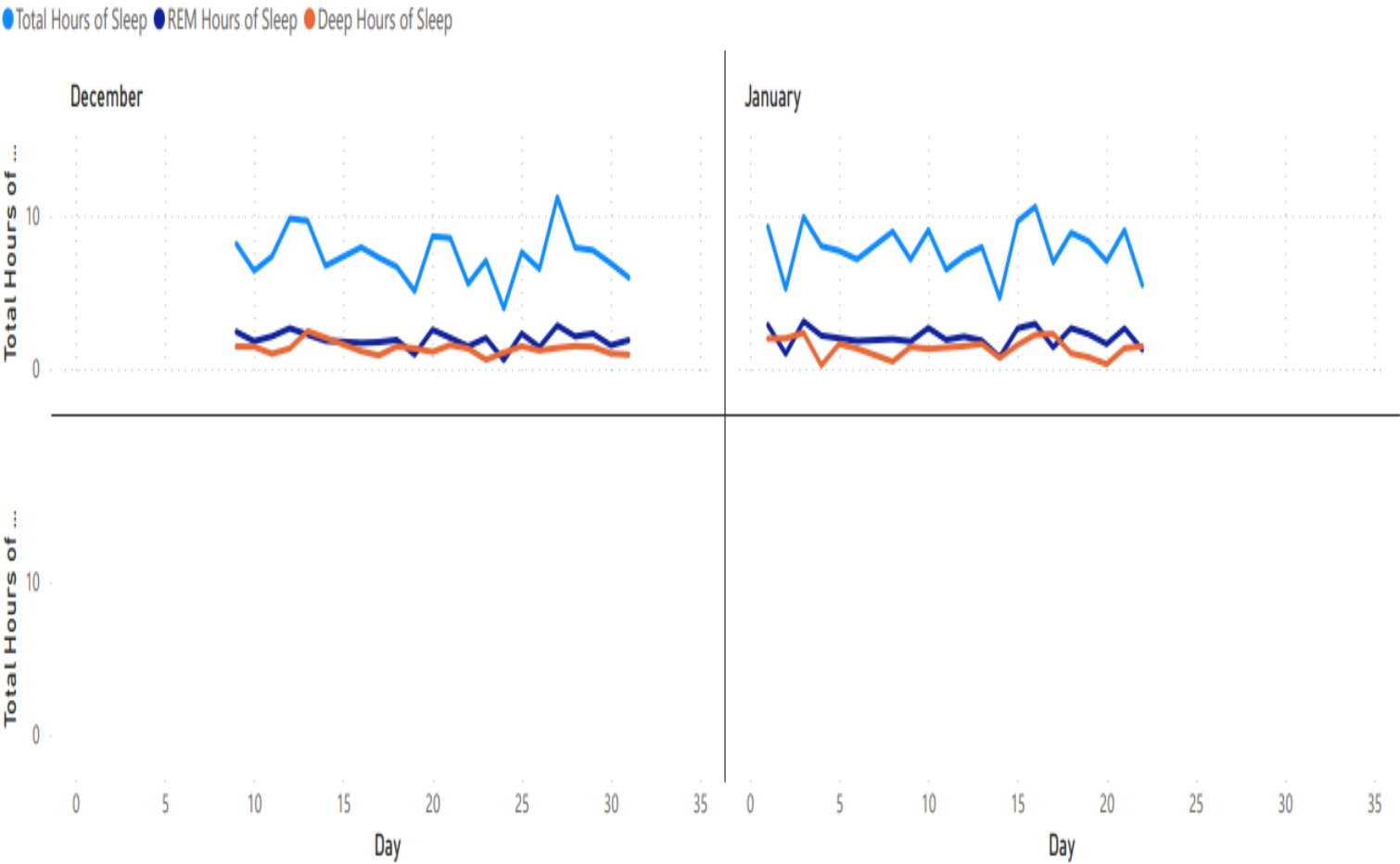
- 8) I decided to use a line chart through Microsoft PowerBI. To see the chart, you must have an account with PowerBI- here is the [link](#).
- 9) In Microsoft PowerBI, I was able to clean the data in the chart and make it presentable. I also was able to share my results at the bottom of the chart.

10) Here is a look of the complete chart I created to create a comparative analysis over 3 variables: Total Hours of Sleep, REM Hours, & Deep Sleep:

Carmelo's Sleep Statistics

12/09/2023-01/11/2024

Total Hours of Sleep, REM Hours of Sleep and Deep Hours of Sleep by Day and Month



Conclusion

- I have learned the following from this sleep study project:
 - 1) Oura ring is worth it to figure out your sleep patterns and find out what actually works and what doesn't. If you don't like wearing a ring, I get it, I am not a fan as well, for me it is uncomfortable at night. But temporarily to do the study for the month, I say do it to figure out the dos and don'ts.
 - 2) I realized that I can use a supplement to help me sleep better and get more REM sleep at night and deep sleep. I reached out to a fellow LinkedIn brother, [Joshua Rigg](#), he was able to recommend to me apigenin, which is a supplement made from fruit that is all natural. I started using 200mg of this each night and it has helped me tremendously to get uninterrupted sleep. Here is the link to purchase, [Apigenin 200mg by Nootropics](#), on Amazon!
 - 3) I also realized with the data, that turning all lights, electronics off is essential to get to sleep. I can not sleep with lights on or any type of noise or sounds.
 - 4) Consistency is key. I never understood that. Meaning, sleeping at similar times each night and waking up at similar times. Till this day, I seem to get the waking up consistently, part right; I have some work to do on the sleeping part. I also work everyday so the business fluctuates; it's never the same each day. I plan on changing work so I have a more consistent and normal schedule each day.
 - 5) What I noticed as well, the food I ingest before bed, to stop eating hours before sleep is so important, when I eat late and right before bed, that hinders my sleep as well. One LinkedIn fellow mentioned something about not eating a few hours before bed and drinking a glass of water, I've been incorporating that. Follow him on LinkedIn, his name is: [Dan Go](#), he has great solid advice in working out and taking care of yourself in a physical, health sense.
 - 6) I also want to thank [Asa Howard](#) for sharing with me how important it is to create these reports after each data analysis and running through a data set. It shows the audience what the data is about and what the chart is trying to showcase and the story it is telling. Reach out to [Asa](#) for mentorship and job search guidance in 2024!
 - 7) I also learned from this project, the data must be cleaned and reorganized because there is a lot of data that is needed and there is also data that is just not needed, so a realization, to make sure the data is cleaned and organized in a manner that it is legible and the audience understands what is being shown in the charts.
 - 8) I learned how to sign up to Microsoft PowerBI and use the functions, mostly through trial and error and watching Youtube videos.
 - 9) I do the following activities, take certain actions and also takes certain supplements, herbs, tinctures, healthy foods- to get these sleep results: • Supplements: One a Day- Pure Encapsulations, Apigenin 200mg- Nootropics 1x per night 1 hour before bed • Carmelo utilizes: Prayer, bible reading, fellowshiping, hot foot baths, ionic detox foot baths, steam room with essential oils, soothing sounds and shuts all electronics off before bed including phone.

References & Citations

- [OURA ring](#) used for this case study and data analysis
- [Joshua Rigg](#)- a friend I met off LinkedIn
- [Asa Howard](#)- my mentor on my data analyst journey
- [Dan Go](#)- personal trainer I follow on LinkedIn
- Amazon.com- website used to purchase supplements
- [Pure Encapsulations](#)- brand I use for the supplements I take- get 15% off with my code when you sign up!
- Dr. Seybert- Naturopathic doctor I have spoken to, based out of Riverhead, NY
- Centre of Excellence- the school I went to study herbalism and get my certification as a Master Herbalist
- [Faithfully Healthy](#)- a company I created and have used many supplements to feel better and all natural coming from a supplier I worked with in the past in India
- Microsoft PowerBI
- Google Spreadsheet