Personal Fitness Activity Performance Dashboard using Power BI

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Project Objective

✓ **To consolidate and visualize personal fitness data** from Google Fit to gain actionable insights into daily, weekly, and monthly activity patterns.

✓ **To track and evaluate key health metrics** such as total steps, distance covered, calories burned, and active minutes over time.

✓ **To monitor goal achievement** by comparing actual performance against predefined fitness targets (e.g., distance, steps, calories, minutes).

✓ **To identify trends and gaps** in physical activity across different time periods (weekdays vs weekends, months, years).

✓ **To enable dynamic exploration** of fitness performance using interactive filters and parameter based metric selectors in Power BI.

✓ **To support data driven decision making** for improving consistency, intensity, and effectiveness of fitness routines.

✓ **To encourage behavioral change** by highlighting high and low performance periods and suggesting areas for improvement.

Data Import and Preparation

Data Preparation & Transformation Steps

- Imported Google Fit data (.csv) into Power BI

- Cleaned and structured the data to extract:
  - Date, Day Name, Week, Month, Year

- Created calculated Columns using DAX:
  - Target achievement flags: Distance, Move Minutes, Calories, Steps ("Target met" vs "Target not met")
  - Year-Month combination
  - Weekend Flag for weekday/weekend analysis

- Created Measures / Aggregations using DAX:
  - Total values for Calories, Distance (km), Steps, Minutes, Hours
  - Derived percentages of target achievement for each metric

GitHub repository

Dynamic charts and Interactive Visuals

Page 1: Target Achievement Overview

- **Donut chart**: It shows the number of days in which Target is met Vs Target not met for each metric: Distance covered, Move Minutes, Calories burned, Steps covered based on **dynamic selection** using **parameters** created.
- **Column Chart**: It helps to conduct comparison analysis at monthly level over the selected years for each metric. Weekend flag has been utilized as a legend to distinguish the values between weekday Vs weekend.
- **Card**: Added the Card (new) visual to display each fitness activity values scored along with target achievement.
- **Slicers**: Year, Metric Selector, Weekend Flag.

Page 2: Daily and Monthly Fitness Activity

- **Scatter Plot**: It shows the day wise total distance covered / calories burned / Minutes active / Hours active / Steps covered allowing users to study the selected fitness activity at day level for a given year-month combo.
- **Tree Map**: It shows the month wise total distance / calories / Minutes / Hours / Steps which helps to easily visualize which month observed the highest or lowest fitness activity.
- Both visuals are linked to common slicers and metric parameter allowing **dynamic changes to reflect simultaneously**.

Fitness Activity Trend Analysis

Page 3: Weekly Trend Analysis

- **Line chart**: It shows the weekly trend of fitness activity for each metric: Distance covered, Move Minutes, Calories burned, Steps covered in each week for any selected year
- **Dual Metric Selector**: Allows toggling between fitness activity indicators: Calories, Distance, Hours, Minutes, Steps (E.g. Total Distance Vs Total Calories; Total Steps Vs Total Distance)
- **Slicers**: Year, Metric Selector
- This visual is created in such a way that "single line chart" is used and with the advantage of **dual metric selector** user can analyze the relation between each fitness activity over the weeks instead of looking at multiple line charts.

Page 4: Daily Fitness Activity Tracker

- **Table**:
  - Daily breakdown of Steps, Distance, Minutes, Hours, Calories
  - Target status for each fitness activity
- **Summary KPIs**: Distance Target %, Minutes Target %, Steps Target %, Calories Target %. This helps to understand the target achieved for each activity for the selected year-month combination

Target Achievement Overview

Fitness Activity Performance Dashboard

Total Distance (km)	Total Calories	Total Minutes	Total Steps
1.4K	**1.2M**	**27.0K**	**2.3M**

Distance target %	Calories target %	Minutes target %	Steps target %
50%	**100%**	**42%**	**42%**

Count of Day Name by Distance Target

Target met
364 (50%)

Target not m...
365 (50%)

● Target not met ● Target met
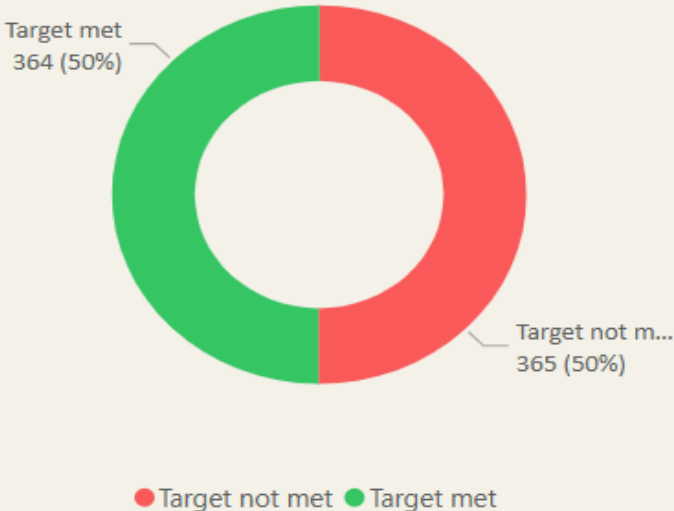
Target Param...
Distance Target

Year
☐ 2021
☐ 2022
■ 2023
■ 2024

Metric Sel...
■ Total Calories
☐ Total Distance (km)
☐ Total Hours
☐ Total Minutes
☐ Total Steps

Total Calories

Weekend flag ● No ● Yes

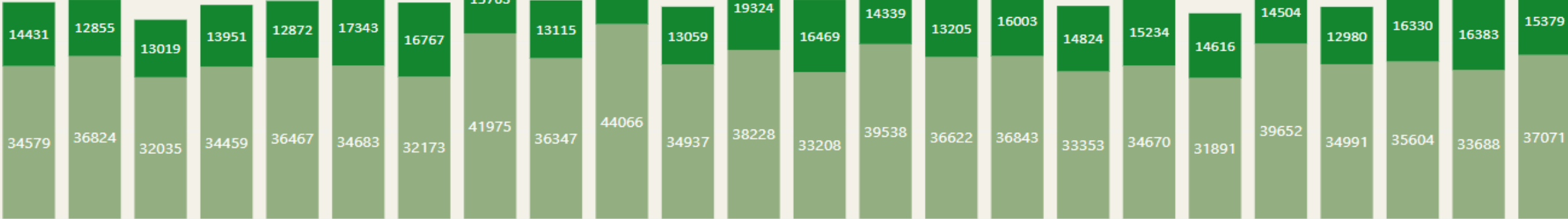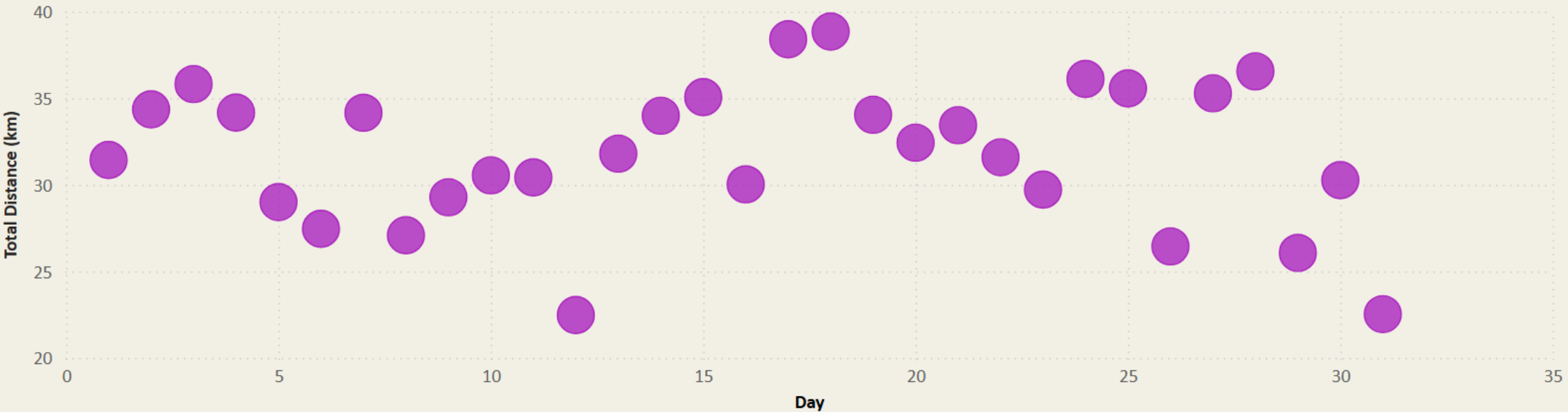		January		February		March		April		May		June		July		August		September		October		November		December
Yes	14431	12855	13019	13951	12872	17343	16767	15763	13115	15026	13059	19324	16469	14339	13205	16003	14824	15234	14616	14504	12980	16330	16383	15379
No	34579	36824	32035	34459	36467	34683	32173	41975	36347	44066	34937	38228	33208	39538	36622	36843	33353	34670	31891	39652	34991	35604	33688	37071
Year	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024	2023	2024

Daily and Monthly Fitness Activity

Total Distance (km) and Year-Month by Day

Metric Selection

- Total Calories
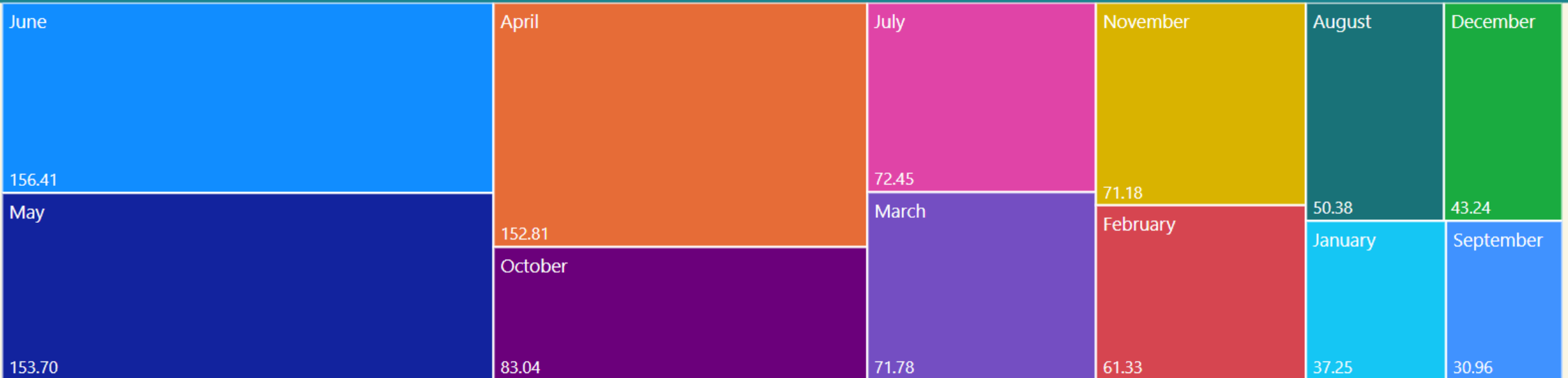- Total Distance (km)
- Total Hours
- Total Minutes
- Total Steps

Total Distance (km) by Month

June	April	July	November	August	December
156.41	152.81	72.45	71.18	50.38	43.24

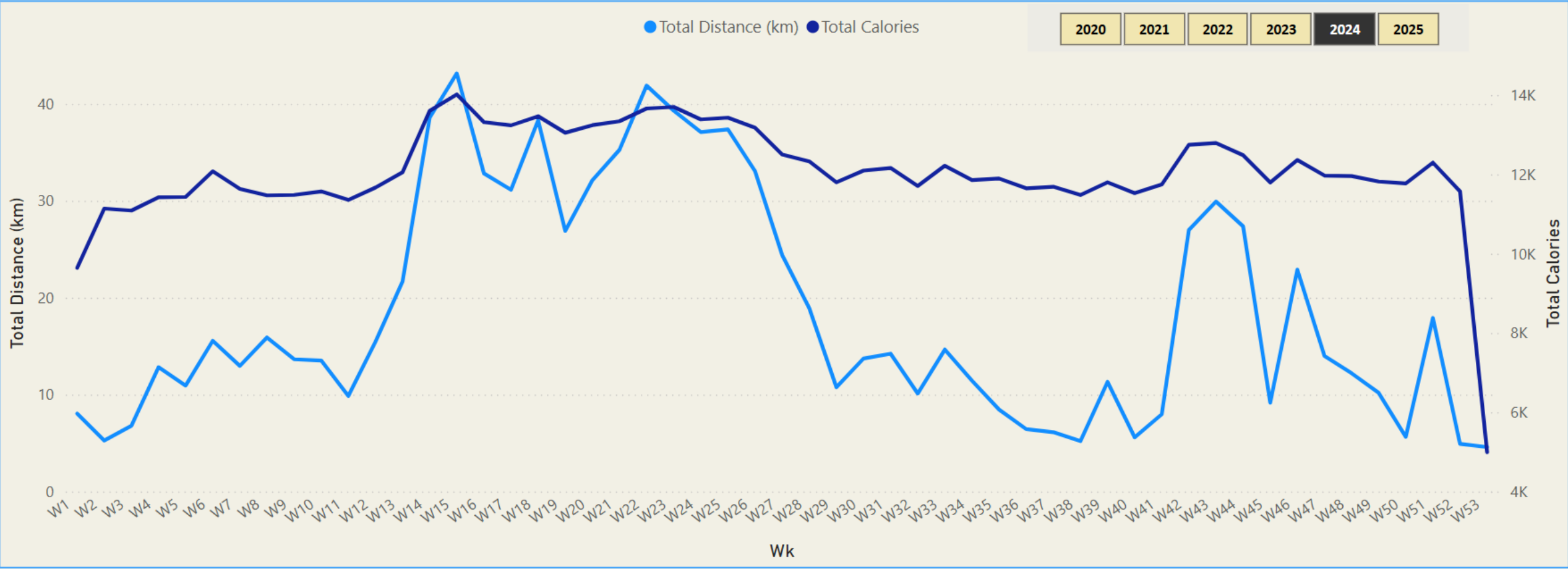| May	October	March	February	January	September
153.70	83.04	71.78	61.33	37.25	30.96

Year
2024

Weekend flag
All

Week
All

Weekly Fitness Activity Trend Analysis

Metric Selection

Total Calories	Total Distance (km)	Total Hours	Total Minutes	Total Steps

Metric Selection 2

Total Calories	Total Distance (km)	Total Hours	Total Minutes	Total Steps

Legend: ● Total Distance (km) ● Total Calories

Year selection: 2020 | 2021 | 2022 | 2023 | **2024** | 2025

Y-axis (left): Total Distance (km) — 0, 10, 20, 30, 40
Y-axis (right): Total Calories — 4K, 6K, 8K, 10K, 12K, 14K
X-axis: Wk — W1 through W53

Daily Fitness Activity Tracker

Day	Weekend flag	Total Steps	Total Distance (km)	Total Minutes	Total Hours	Total Calories (cal)	Distance Target	Move Minutes Target	Calories Target	Steps Target
1	No	2029	0.9	25	0.4	1,641	Target not met	Target not met	Target met	Target not met
2	No	1471	0.7	19	0.3	1,619	Target not met	Target not met	Target met	Target not met
3	No	651	0.3	5	0.1	1,578	Target not met	Target not met	Target met	Target not met
4	No	1296	0.6	14	0.2	1,575	Target not met	Target not met	Target met	Target not met
5	No	765	0.3	5	0.1	1,570	Target not met	Target not met	Target met	Target not met
6	Yes	4031	2.2	58	1.0	1,789	Target met	Target met	Target met	Target met
7	Yes	1303	0.6	17	0.3	1,607	Target not met	Target not met	Target met	Target not met
8	No	1401	0.7	16	0.3	1,591	Target not met	Target not met	Target met	Target not met
9	No	703	0.3	8	0.1	1,575	Target not met	Target not met	Target met	Target not met
10	No	2142	1.0	18	0.3	1,622	Target met	Target not met	Target met	Target not met
11	No	1191	0.4	9	0.2	1,565	Target not met	Target not met	Target met	Target not met
12	No	2577	1.4	28	0.5	1,640	Target met	Target not met	Target met	Target met
13	Yes	2845	1.5	30	0.5	1,622	Target met	Target not met	Target met	Target met
14	Yes	3360	1.9	37	0.6	1,642	Target met	Target met	Target met	Target met
15	No	624	0.3	5	0.1	1,558	Target not met	Target not met	Target met	Target not met
16	No	997	0.4	9	0.2	1,569	Target not met	Target not met	Target met	Target not met
17	No	1337	0.5	12	0.2	1,592	Target not met	Target not met	Target met	Target not met
18	No	657	0.3	2	0.0	1,555	Target not met	Target not met	Target met	Target not met
19	No	937	0.5	13	0.2	1,578	Target not met	Target not met	Target met	Target not met
20	Yes	3863	2.0	54	0.9	1,691	Target met	Target met	Target met	Target met
21	Yes	1402	0.6	13	0.2	1,590	Target not met	Target not met	Target met	Target not met
22	No	692	0.3	5	0.1	1,547	Target not met	Target not met	Target met	Target not met
23	No	1361	0.6	18	0.3	1,591	Target not met	Target not met	Target met	Target not met
24	No	1346	0.5	14	0.2	1,597	Target not met	Target not met	Target met	Target not met
Total		46423	21.8	509	8.5	49,463				

19% — Distance target %

10% — Minutes target %

100% — Calories target %

16% — Steps target %

Year
2023

Month
May

Analytical Insights from the Dashboard

Target Achievement

- **Calories Target** was consistently met (100%)
- **Distance, Minutes, and Steps Targets achieved in recent years** were better and showing improved results
- Indicates strong calorie burning activities, but room to improve consistency in movement-based goals

Monthly Trends (Top & Bottom 3)

- Distance covered:
  - **May, June, April** observed highest distance
  - **Sep, Jan, July** observed lowest distance
- Calories burned:
  - **May, April, Dec** observed highest calories
  - **Jan, Feb, June** observed lowest calories
- Hours spent:
  - **Apr, May, Dec** observed highest hours
  - **Sep, Jan, July** observed lowest hours
- Steps covered:
  - **May, April, June** observed highest steps
  - **Sep, Jan, July** observed lowest steps

Metrics Correlation

- Strong correlation between **Calories** and **Steps**
- Strong correlation between **Distance** and **Steps**

Daily Patterns

- **Weekends** showed slightly higher activity in some metrics
- Days with **multiple targets missed** were often observed during **weekdays**

Fitness Improvement Suggestions

- **Improve Target Consistency**: Focus on Distance and Steps targets by setting daily micro goals
- **Leverage High Performance Months**: Analyze what worked in May–June and replicate those habits in lower-performing months
- **Optimize Weekday Activity**: Introduce short, high effort sessions during weekdays to close target gaps
- **Use Weekly Reviews**: Monitor weekly trends to adjust intensity and duration
- **Set SMART Goals:** Walk 3 km daily, Cover 4000 Steps daily, Burn 5000 Cal weekly