FITNESS MEMBERSHIP ANALYTICS

GOOGLE DATA ANALYTICS CAPSTONE PROJECT

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ABOUT THE PROJECT

This project analyzes data on gym memberships, attendance, and group lesson preferences to help a fitness center understand its membership demographics, preferences, and usage patterns.

Goal: To leverage data insights to make strategic improvements, enhance member experience, and optimize operations.

PROJECT WORKFLOW OVERVIEW

In this project, I followed a structured workflow to ensure data accuracy and meaningful insights. Starting with data cleaning in Excel, I prepared the dataset by removing duplicates and correcting errors. Then, using MySQL, I conducted an in-depth analysis with SQL queries to uncover trends. Finally, I visualized key insights through an interactive Power BI dashboard, bringing the data story to life.

DATA CLEANING (EXCEL)

- Ensured data accuracy and consistency before analysis.
- Removed duplicates, handled missing values, standardized formats, and corrected anomalies.

DATA ANALYSIS (MYSQL)

- Analyzed trends and segmented data to gain insights.
- Used SQL queries to explore member demographics, popular lessons, and attendance patterns.

DATA VISUALIZATION (POWER BI)

- Built a comprehensive dashboard to visualize findings and trends.
- Visualized metrics like gender distribution, attendance by day, and popular group lessons.

DATA CLEANING PROCESS

PURPOSE OF DATA CLEANING

To ensure data accuracy and consistency, making it reliable for analysis.

DATA CLEANING STEPS

- **Removed Duplicates**: Avoided duplicate member records.
- **Handled Null Values**: Filled or removed missing data.
- **Standardized Formats**: Ensured consistent formatting (e.g., dates, text).
- **Corrected Data Anomalies**: Standardized entries to reduce discrepancies.

SQL QUERIES AND ANALYSIS

OBJECTIVE OF SQL ANALYSIS

To explore trends in member demographics, group lesson preferences, and attendance patterns.

KEY QUERIES AND RESULTS

- **Gender Distribution**: SQL query to see male/female distribution.
- **Subscription Type Breakdown**: Counts by standard and premium memberships.
- **Popular Group Lessons**: Top choices for group lessons.
- **Attendance by Day**: Weekly breakdown to identify peak days.

```sql
SELECT
    subscription_type, COUNT(*) AS number_of_members
FROM
    gym_membership
GROUP BY subscription_type
ORDER BY number_of_members DESC;
```

subscription_type	number_of_members
Standard	507
Premium	493

```sql
SELECT
    day,
    COUNT(*) AS number_of_members
FROM (
    SELECT days_per_week_1 AS day FROM gym_membership WHERE days_per_week_1 <> 'No Preference'
    UNION ALL
    SELECT days_per_week_2 AS day FROM gym_membership WHERE days_per_week_2 <> 'No Preference'
    UNION ALL
    SELECT days_per_week_3 AS day FROM gym_membership WHERE days_per_week_3 <> 'No Preference'
    UNION ALL
    SELECT days_per_week_4 AS day FROM gym_membership WHERE days_per_week_4 <> 'No Preference'
    UNION ALL
    SELECT days_per_week_5 AS day FROM gym_membership WHERE days_per_week_5 <> 'No Preference'
) AS daily_visits
GROUP BY day
ORDER BY number_of_members DESC;
```

day	number_of_members
Monday	403
Tuesday	394
Saturday	387
Wednesday	381
Friday	379
Sunday	379
Thursday	359

```sql
SELECT lesson, COUNT(*) AS number_of_members
FROM (
    SELECT fav_group_lesson_1 AS lesson
    FROM gym_membership
    WHERE attended_group_lesson = TRUE
    UNION ALL
    SELECT fav_group_lesson_2 AS lesson
    FROM gym_membership
    WHERE attended_group_lesson = TRUE
    UNION ALL
    SELECT fav_group_lesson_3 AS lesson
    FROM gym_membership
    WHERE attended_group_lesson = TRUE
) AS lessons
WHERE lesson IS NOT NULL AND lesson <> 'No Preference'
GROUP BY lesson
ORDER BY number_of_members DESC;
```

lesson	number_of_members
BodyPump	118
XCore	107
Yoga	106
Spinning	92
kickboxing	91
Pilates	91
HIIT	91
LesMiles	90
BodyBalance	88
Running	84
Zumba	82

SQL ANALYSIS & VISUALIZATION PROCESS

I utilized MySQL to perform detailed analysis using SQL queries, with the full SQL code available on GitHub. Finally, I connected MySQL to Power BI to create an interactive dashboard that visualizes the data story effectively.

POWER BI VISUALIZATIONS

OBJECTIVE

To visually represent key membership and attendance metrics, providing clear insights at a glance.

KEY COMPONENTS OF THE DASHBOARD

- **Gender Distribution**: Pie chart showing the percentage of male and female members.
- **Subscription Type Breakdown**: Stacked column chart displaying counts for each subscription type.
- **Popular Group Lessons**: Stacked bar chart visualizing top lesson choices.
- **Attendance by Day**: Stacked bar chart illustrating the weekly attendance patterns.
- **Weekly Attendance Trend**: Line chart showing day-by-day attendance variation.

Fitness Membership Analytics

Age: 14 15 16 17 18 19 20 21

Visit Frequency: 1 2 3 4 5

Total Members	Average Age of Members	Average Time Spent (Min)	Average Visit Per Week
1000	30.56	101.60	2.68

Gender: Female | Male

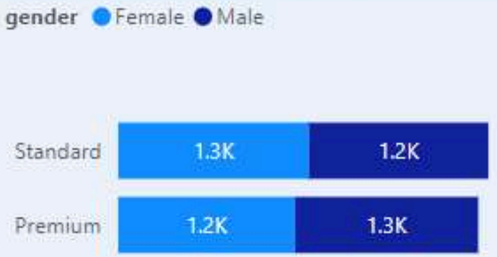
Subscription: Premium | Standard

Member Details Overview

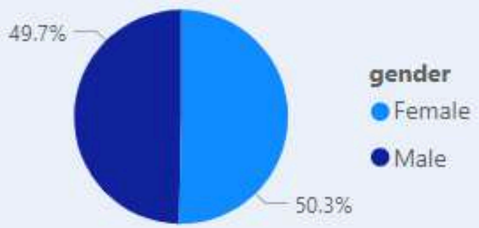
id	first_name	subscription_type	age	avg_time_in_gym_minutes	visit_per_week
1	Fey	Premium	27	131	4
2	Doralin	Standard	47	132	3
3	Linc	Premium	41	86	1
4	Darren	Premium	44	141	3
5	Petr	Standard	44	130	2
6	Alvera	Standard	15	60	1
7	Anson	Premium	30	175	3

Weekly Attendance Trend

Subscription Types by Gender



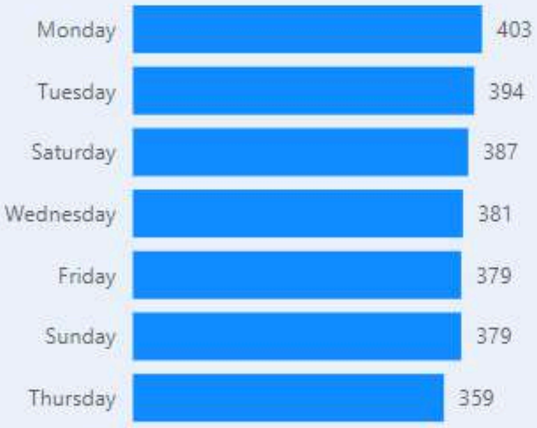
Gender Distribution of Members



Subscription Type Breakdown

Popular Group Lessons (1st, 2nd, 3rd Choices)

Gym Attendance by Day



SUMMARY OF INSIGHTS

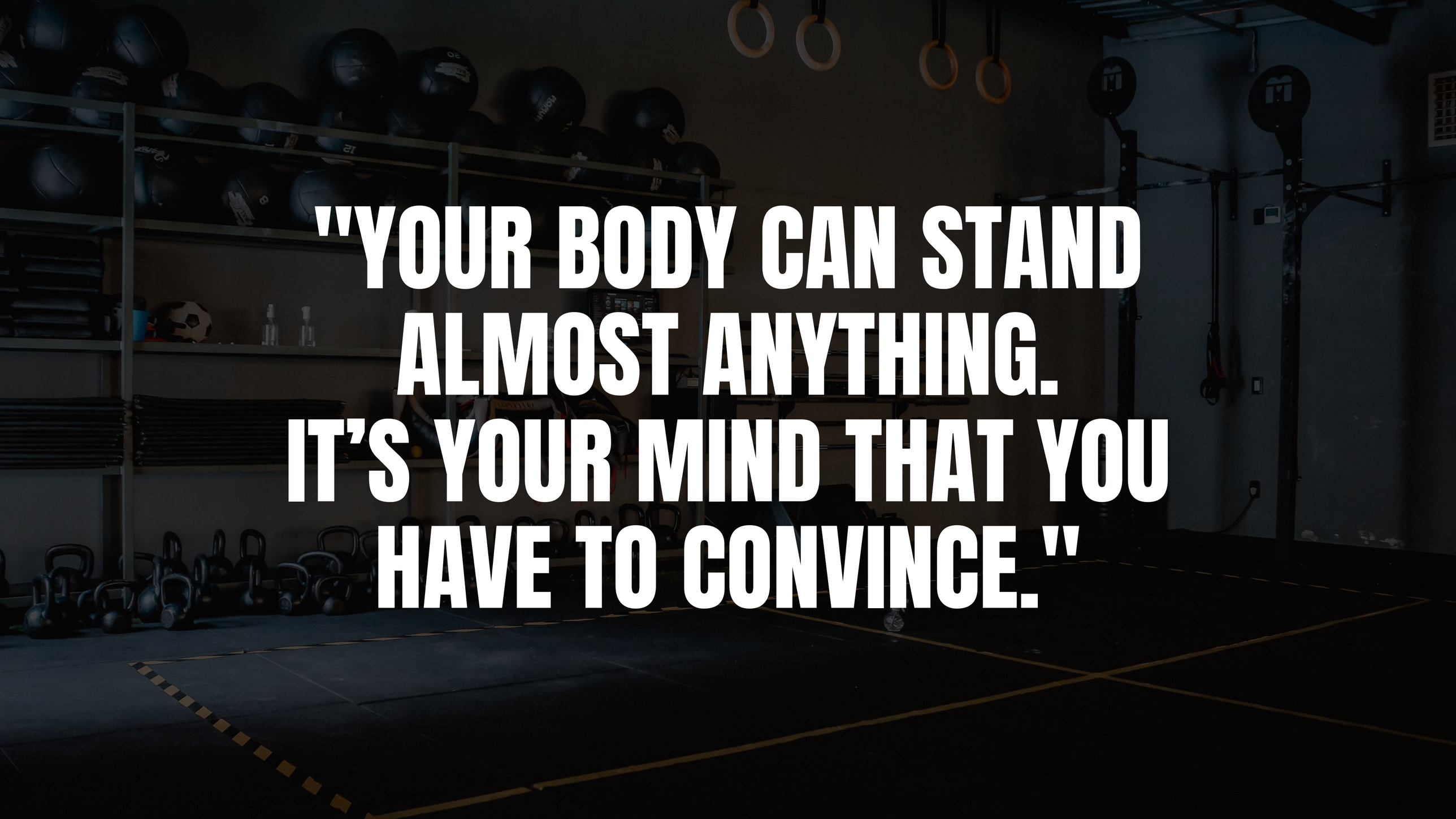
- **Gender Distribution**: Near equal distribution with a slight female majority (50.3%).
- **Subscription Types**: Standard memberships slightly outnumber premium ones, indicating room to promote premium benefits.
- **Group Lessons**: Popular choices like BodyPump and Yoga suggest preferences for high-energy, diverse workouts.
- **Attendance by Day**: Monday and Tuesday see the highest attendance, with Thursday having the lowest.

RECOMMENDATIONS FOR IMPROVEMENT

- **Increase Group Classes**: Offer more sessions for high-demand classes such as BodyPump and Yoga to meet member interest.
- **Engagement on Low Attendance Days**: Introduce promotional events or discounts on lower attendance days like Thursday.
- **Promote Premium Memberships:** Target Standard members with exclusive perks to increase Premium sign-ups.
- **Enhance Member Retention:** Use data-driven insights to tailor workout plans, incentives, or feedback loops for better member satisfaction.

CONCLUSION

Through this project, I successfully applied data analytics to uncover actionable insights in gym membership behavior and preferences. The findings enable better decision-making for gym management to boost member satisfaction and optimize resource allocation.


"YOUR BODY CAN STAND
ALMOST ANYTHING.
IT'S YOUR MIND THAT YOU
HAVE TO CONVINCE."

THANK YOU

THIS PROJECT STRENGTHENED MY SKILLS IN DATA CLEANING, SQL, AND POWER BI. EXCITED TO TACKLE MORE ANALYTICS CHALLENGES AHEAD!