



Internship 6.0

Food Trends Understanding Customer Preferences in Food & Beverage

-By Tirumala Bekkam

TEAM MEMBERS

1. Tirumala
2. Shivatharani
3. Kshitija
4. Parthiv Rishi
5. Maithili
6. Anjali
7. Anish Mane

INTRODUCTION

- The project focuses on analyzing customer **food preferences** and **dietary habits**.
- The dataset includes attributes such as **age, gender, activity level, dietary preference, calories, nutrients, diseases, price, and ratings**.
- Objective: To gain insights into how **lifestyle, diet type, and pricing** impact **food choices and nutritional balance**.
- Additionally, the project aims to identify patterns that can help **recommend healthier and more cost-effective meal options** for different customer segments.

DATASET OVERVIEW

- **Demographics:** Age, Gender, Height, Weight
- **Lifestyle:** Activity Level, Daily Calorie Target
- **Nutrition:** Protein, Fat, Carbohydrates, Sugar, Fiber, Sodium, Calories
- **Food Suggestions:** Breakfast, Lunch, Dinner, Snack
- **Health & Cost:** Diseases, Price, Rating

Dataset was analyzed using Power BI to create **interactive dashboards** for trend analysis.

FOOD TRENDS OVERVIEW

Food Trends Understanding Customer Preferences

Filters

Ages: 35 - 67

Sum of Daily Calories: 1M

Dietary Preferences: All, Omnivore, Pescatarian, Vegan, Vegetarian

Lunch Suggestions:

Item	Sum c
Veggie stir-fry	11
Vegetarian pasta with marinara sa	
Vegetarian chili with a side of whc	
Vegetarian burrito bowl with brow	
Vegan lentil stew with brown rice	
Turkey sandwich with whole-wheat bread	
Turkey sandwich on whole-wheat bread with vegetables	
Turkey sandwich on whole-wheat bread with salad	
Turkey sandwich on whole-wheat bread	
Turkey sandwich on whole wheat bread with vegetables	
Turkey sandwich on whole grain bread	7
Total	1,07

Gender: Female, Male

Sum of Protein, Sum of Fat and Sum of Carbohydrates:

Breakfast Suggestions:

Item	Sum of Rating
Yogurt with granola and fruit	6
Yogurt with fruit and granola	5
Whole-wheat toast with egg and avocado	3
Wholegrain toast with avocado	5
Vegan pancakes with syrup	99
Tofu scramble with whole-wheat toast	2
Tofu scramble with whole wheat toast and fruit	11
Tofu scramble with whole wheat toast	1
Tofu scramble with veggies and whole-wheat toast	6
Tofu scramble with veggies	134
Tofu scramble with vegetables and whole-wheat toast	9
Total	1433

Sum of Fiber, Sum of Sugar and Sum of Sodium:

Food Image: A variety of healthy foods including fruits (apple, orange, grapes), vegetables (broccoli, carrots, tomatoes), nuts (almonds, walnuts), and grains (quinoa, beans).

- customers fall in the **18–79 age group**.
- Gender distribution is nearly balanced.
- **Total calorie intake:** 1M+
- Donut charts show proportions of macronutrients (Protein, Fat, Carbs).
- **Top Lunch Suggestions:** Veggie stir-fry, Vegetarian chili, and Vegetarian Pasta
- High-rated breakfast items include **tofu scramble** and **vegan pancakes**.

DIETARY PREFERENCES & AVERAGES

2.20K

Average of Calories

238K

Sum of Protein

118K

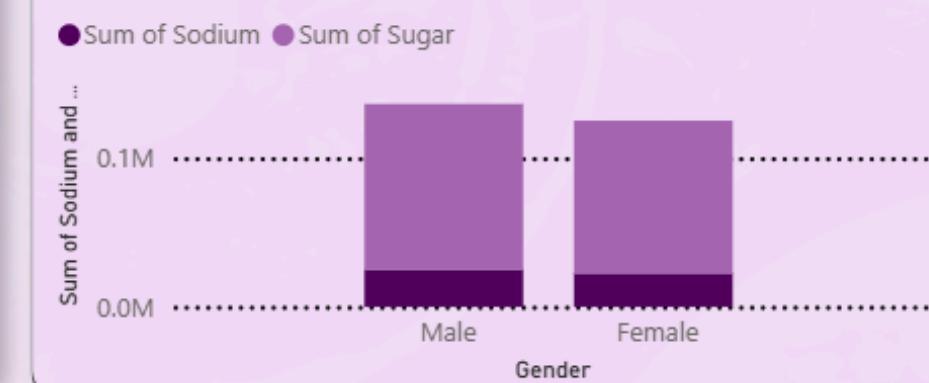
Sum of Fat

Dietary Preferences And Averages

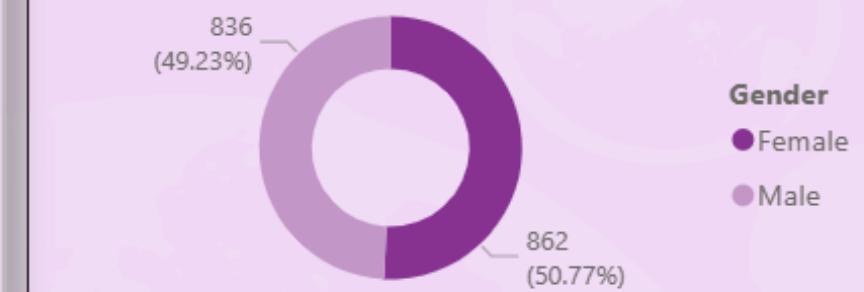
Count of Disease by Dietary Preference



Sum of Sodium and Sum of Sugar by Gender



Count of Gender, Sum of Daily Calorie Target, Sum of Rating and Sum of Price by Gender



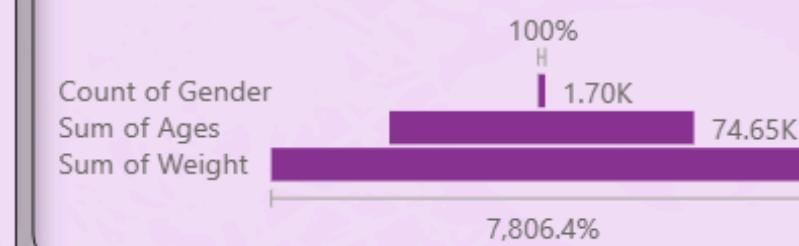
Dinner Suggestion

- Vegetarian lasagna
- Vegetarian lasagna
- Vegetarian chili
- Vegetarian chili
- Vegetable stir-fry
- Vegetable stir-fry
- Vegetable stir-fry
- Vegetable stir-fry

Snack Suggestion

	Sum of Rating
Almond milk with banana and chia seeds	6
Almonds	16
Almonds with dried fruit	2
Apple slices with almond butter	48
Apple slices with peanut butter	46
Apple with almond butter	768
Apple with peanut butter	58
Banana	4
Banana with almond butter	63
Banana with peanut butter	404
Carrot sticks with hummus	3
Total	5045

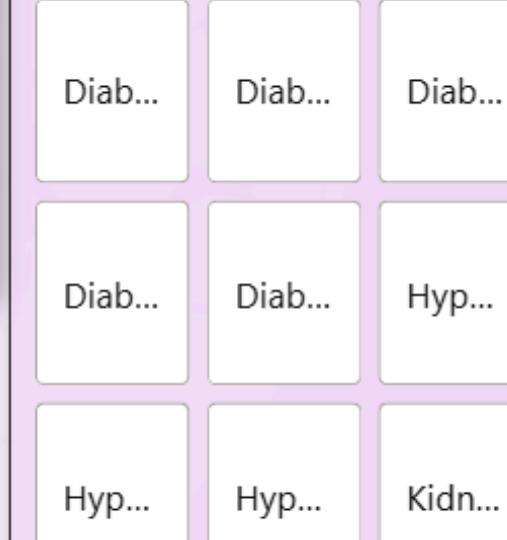
Count of Gender, Sum of Ages and Sum of Weight



Average of Rating



Disease

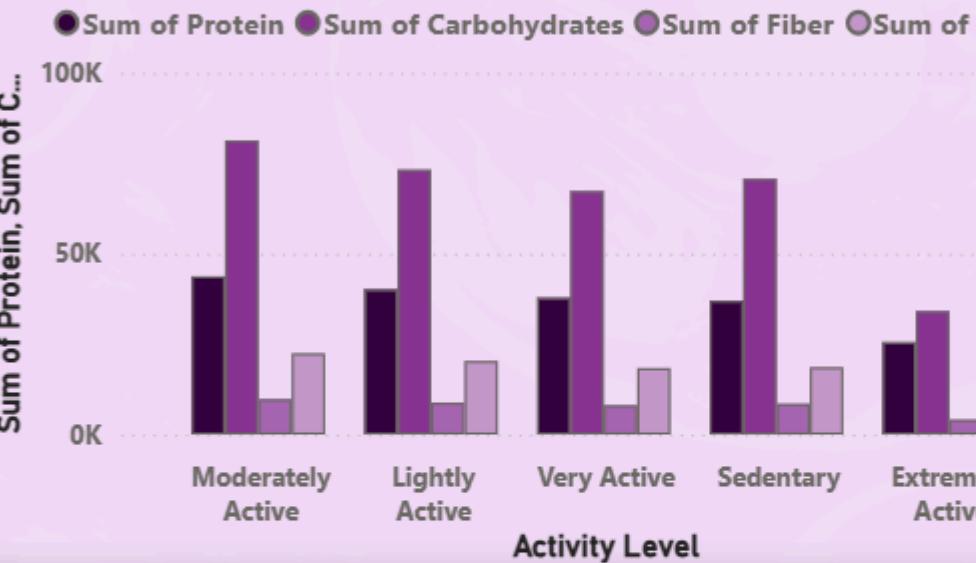


- Highest calorie average: **2.2K**
- Protein and fat intake analyzed by gender.
- Omnivores have higher disease counts compared to vegans and vegetarians.
- Females and males show similar calorie target adherence (around 50% each).
- **Average Rating:** ~3, showing moderate satisfaction across diets.

NUTRIENTS & DISEASES

Nutrients And Diseases

Sum of Protein, Sum of Carbohydrates, Sum of Fiber and Sum of Fat by Activity Level



Sum of Price by Price Category

High
Medium

Height
All

Disease

- Diabetes, Acne, Hypertension, Heart Disease
- Diabetes, Acne, Hypertension, Kidney Disease
- Diabetes, Acne, Weight Gain, Hypertension, Heart Disease
- Diabetes, Acne, Weight Gain, Hypertension, Heart Disease,...
- Diabetes, Acne, Weight Loss, Hypertension, Heart Disease,...

Q/A



Show lowest calorie food

Calories	Ages	Gender	Height	Weight	Activity Level	Dietary Preference
990	62	Female	155	55	Sedentary	Vegan

Dietary Preferen...

Activity Level

Vegan

Sum of Rating
3971

Vegan	1362
Omnivore	1245
Vegetarian	1114
Pescatarian	250

Sedentary	336
Very Active	326
Lightly Active	304
Moderately Active	272

3M

Sum of Calories

Weight

48

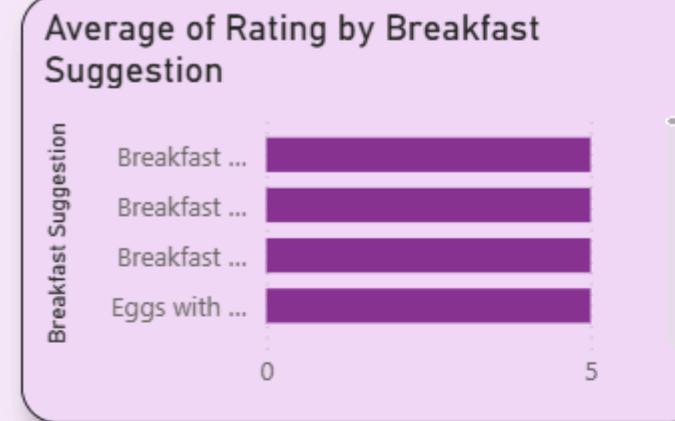
93

Filters

- Nutrient distribution analyzed by **activity level** (Sedentary to Extremely Active).
- Highly active individuals consume more protein and carbohydrates.
- Disease patterns reveal correlation between **sedentary lifestyle and conditions** like diabetes, hypertension, and obesity.
- **Q&A feature** used for interactive queries like “Show lowest calorie food.”
- Height ranges from 150 to 200 CM

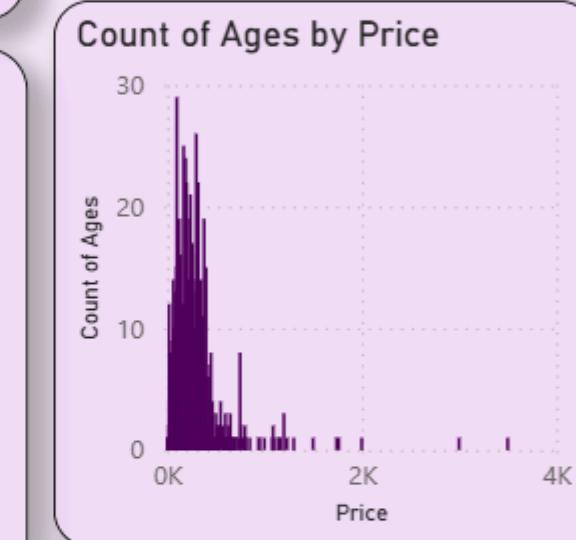
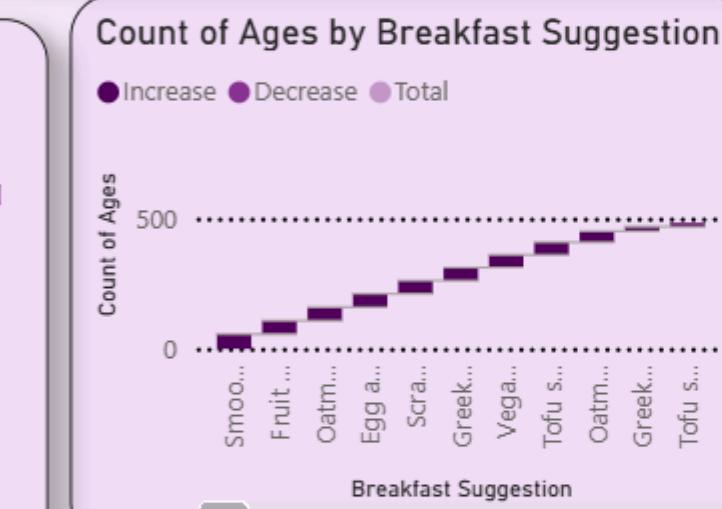
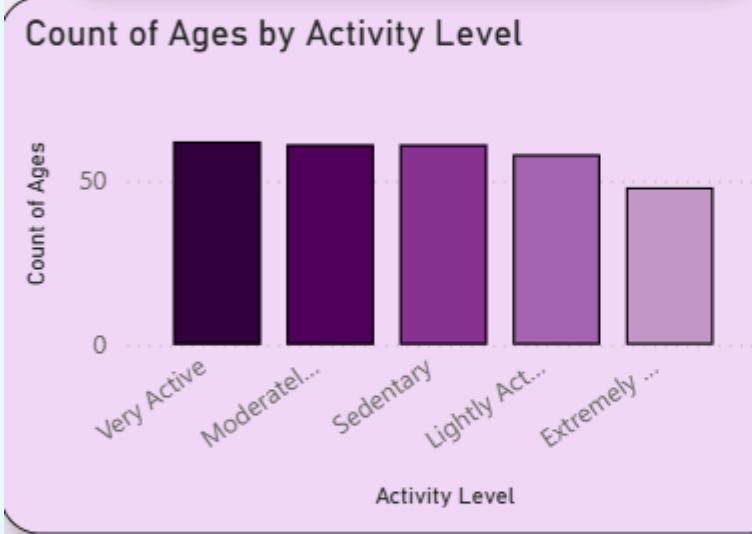
BREAKFAST ANALYSIS

Averages By Breakfast Suggestions



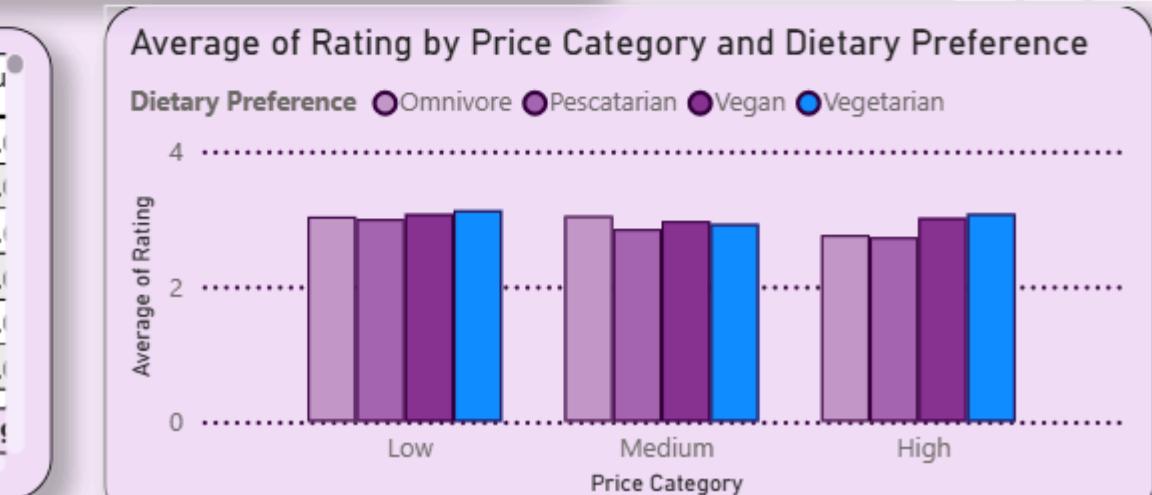
Breakfast Suggestion

Breakfast Suggestion	Average of Protein	Average of Calories
Breakfast burrito with beans and veggies	100.00	1740.00
Breakfast burrito with eggs and vegetables	95.00	1670.00
Total	81.50	1523.50



Breakfast Suggestion

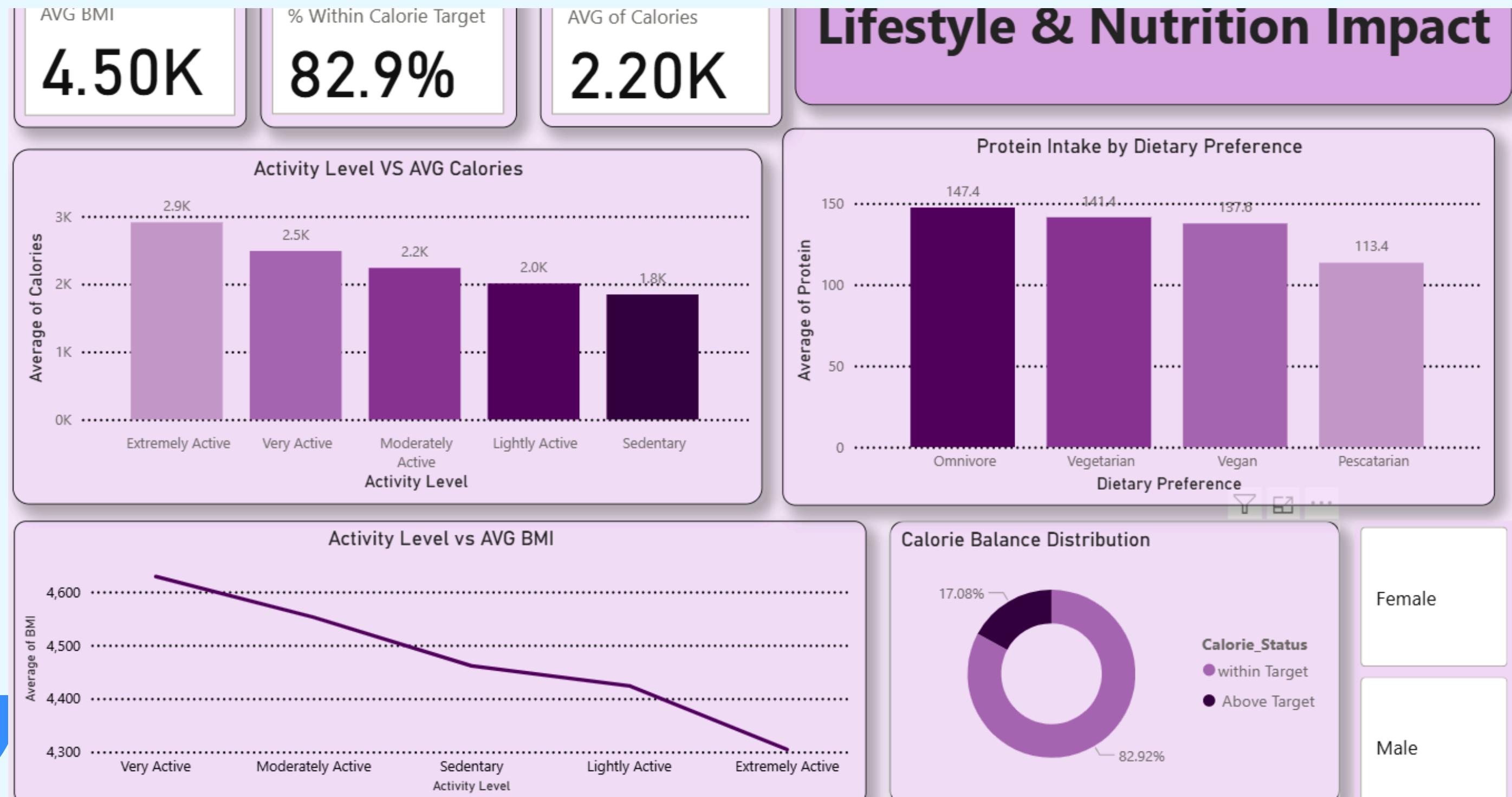
Breakfast Suggestion	Average of Rating	Average of Price	Average of Sodium
3 eggs with whole-wheat toast and avocado	4.00	98.00	44.00
Scrambled eggs with whole-wheat toast and fruit	3.00	77.50	42.00
Scrambled eggs with whole wheat toast	2.88	222.53	36.00
Greek yogurt with granola and berries	4.00	57.50	36.00
Oatmeal with protein powder	3.00	95.00	36.00
Pancakes with fruit and nuts	1.00	169.00	36.00
Total	2.97	226.73	27.90



- Breakfast suggestions were analyzed by **rating, price, calorie, and nutrient composition.**
- “**Breakfast burrito with beans and veggies**” shows the **highest nutrition value** with **100 g protein** and **1740 calories**.
- The **scatter plot of sugar vs. price** shows that most items cluster in the **average price range**, confirming a balance between sweetness and affordability.
- **Omnivore and vegetarian options** tend to receive slightly **higher ratings in low-price categories**, indicating strong satisfaction even at lower cost.
- **Count-of-ages by activity level** shows breakfast popularity is highest among **moderately and very active individuals.**

LIFESTYLE & NUTRITION

IMPACT

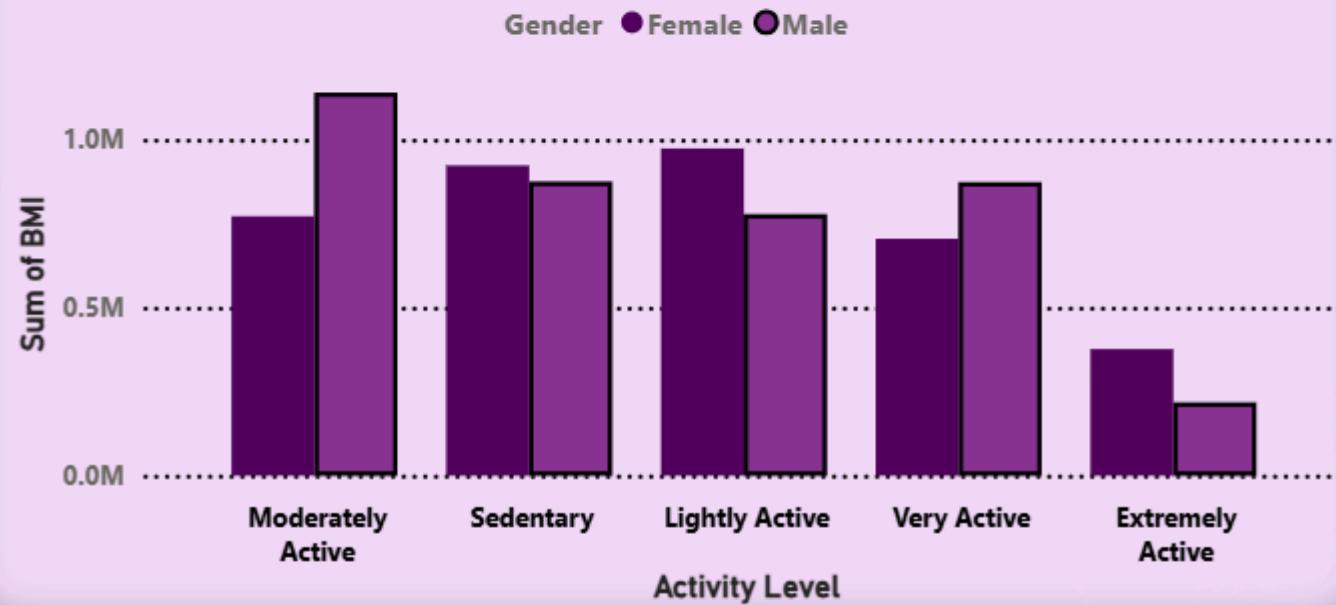


- Relationship between activity level, calories, BMI, and dietary preference.
- Highly active individuals maintain better BMI and balanced calorie intake.
- Protein intake highest among omnivores, followed by vegetarians.
- Over **82.9%** of participants are within their calorie target.
- As **activity level increases**, average BMI tends to **decrease**, showing a clear connection between fitness and healthy body composition.

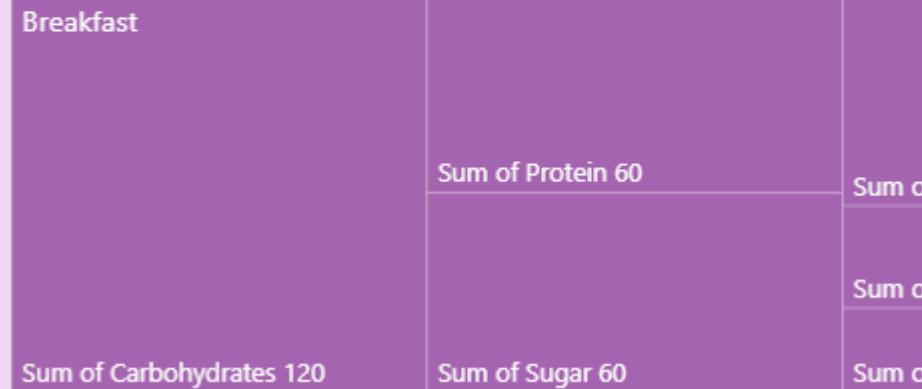
Nutrition & Health Insights

Nutrition And Health Insights

Sum of BMI by Activity Level and Gender



Nutrient Breakdown by Meal Type (Protein, Fat, Carbs, Fiber)



0.83

% Within Target

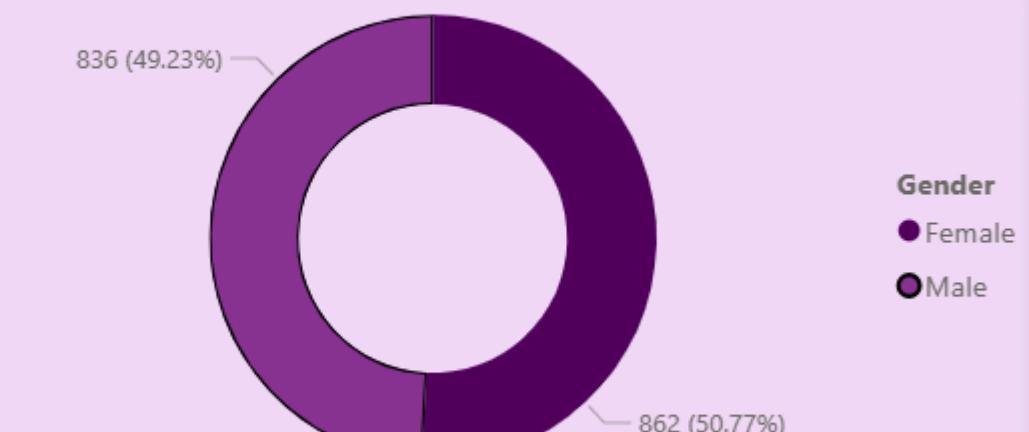
82.9%

% Within Calorie Target

Count of Gender by Calorie_Status



Count of Dietary Preference by Gender



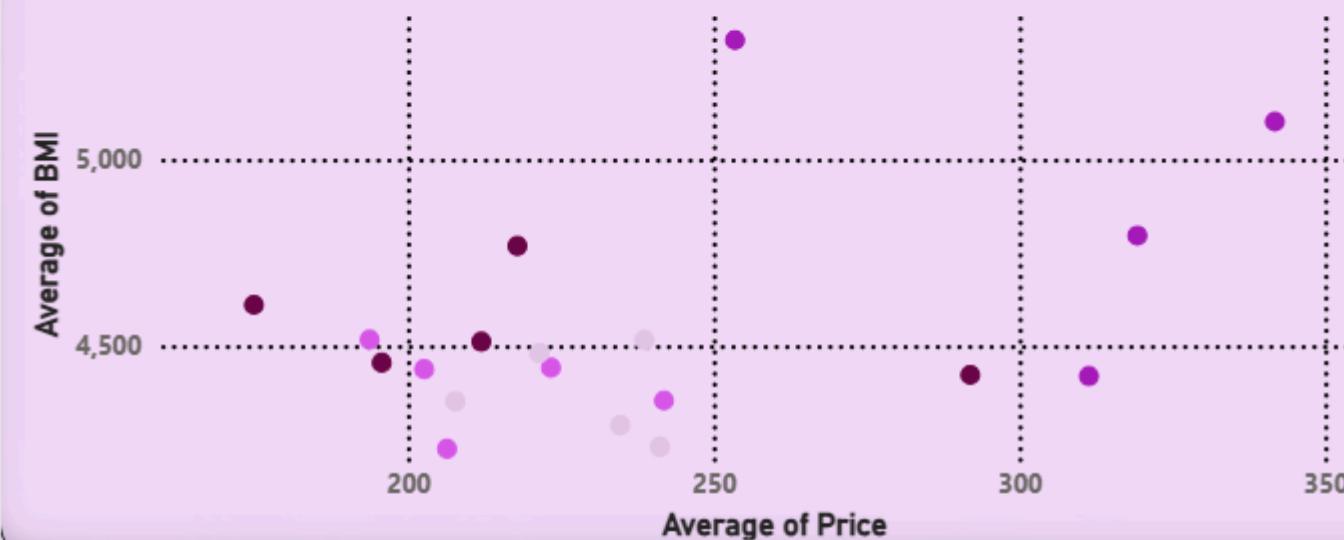
- BMI comparison by **gender and activity level**.
- Males show slightly higher BMI in sedentary categories.
- Nutrient breakdown highlights **carbs and protein** as major contributors.
- Donut chart shows near-equal distribution of **dietary preference by gender**.

VALUE & COST ANALYSIS

Value & Cost Analysis

Cost vs. Health Outcome: BMI by Price Point

Dietary Preference ● Omnivore ● Pescatarian ● Vegan ● Vegetarian



Itemized Price Comparison

Baked chicken with roast...

173.00

Sum of Price

Baked chicken with sweet ...

424.00

Sum of Price

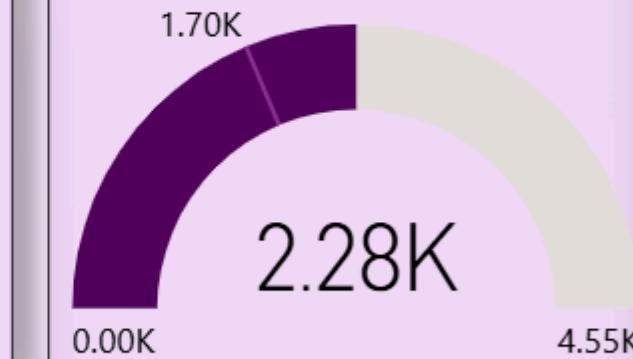
Baked fish with steamed v...

179.00

Sum of Price

Baked salmon with veggies

Calorie Target Adherence



Average of Rating by Price Category and Dietary Preference

Dietary Preference ● Omnivore ● Pescatarian ● Vegan ● Vegetarian



Total Cost Distribution by Meal Type

Breakfast

220.00

Carbohydrat...

Most Cost-Efficient Nutrient Name

Price Per Gram (\$)

0.90

Lowest Cost Per Gram Value

- Comparison of **BMI vs. Price Point** for different diet types.
- **Carbohydrates** identified as the **most cost-efficient nutrient** (lowest cost per gram = 0.90\$).
- Vegetarian meals show **high ratings** even at low and medium price ranges.
- Cost-efficient meals can maintain health balance without overspending.

CONCLUSION

- Consumers prefer **balanced, moderately priced meals**.
- **Vegans and vegetarians** show better calorie control and disease management.
- **Activity level** directly affects calorie and BMI balance.
- Nutritional awareness is higher in people following **custom diet plans**.
- The dashboards help visualize relationships between **food choice, cost, and health** for data-driven insights.

FUTURE SCOPE

- Integrate **real-time food tracking** and customer feedback analytics.
- Predict **personalized meal plans** using machine learning.
- Extend research to include **regional food preferences**.
- Develop a **mobile dashboard** for interactive health insights.
- Implement **AI-driven recommendations** for pricing and menu optimization.

THANK YOU !