Consumer Insights for the Beverage Market

Analyzing Consumer Behavior, Taste Preferences, and Market Trends in Beverages

An Analytical Study by Ishita Mishra

Problem Statement

The energy drink market is highly competitive, with consumer preferences influenced by demographics, consumption habits, brand awareness, and perception. Understanding these factors is essential for targeted marketing, product positioning, and increasing trial and loyalty. This project aims to analyze survey data on consumer behavior, preferences, and perceptions to generate actionable insights for the beverage brand.

Objectives

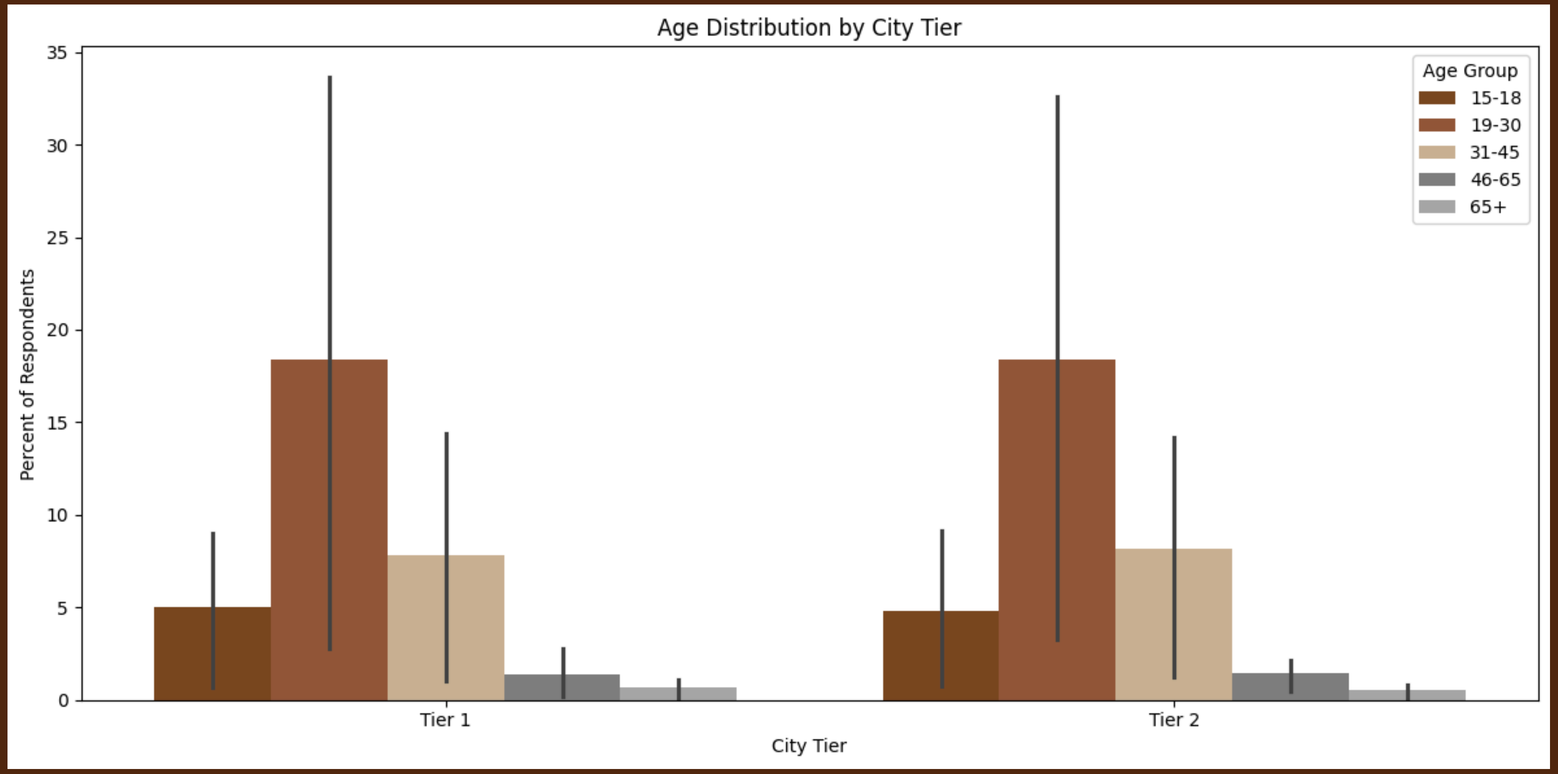
- Analyze age group, gender, and city-tier distribution to identify key consumer segments.
- Examine frequency, timing, and reasons for energy drink consumption across demographics.
- Measure awareness levels and assess perception (positive/neutral/negative) across segments.
- Evaluate trial conversion rates, taste experience, and identify barriers to first-time use.
- Explore links between consumption, awareness, and perception; identify top brands and demographic preferences.
- Generate data-driven insights to guide targeted marketing and product positioning strategies.

SQL & Python Analysis

1. Demographic Profile (Age & Gender by City Tier)

Key Insights

- 19–30 age group dominates in both tiers (~55%).
- Males lead across all age groups.
- Teens (15–18) are the second largest group.
- 46+ age groups have very low participation.

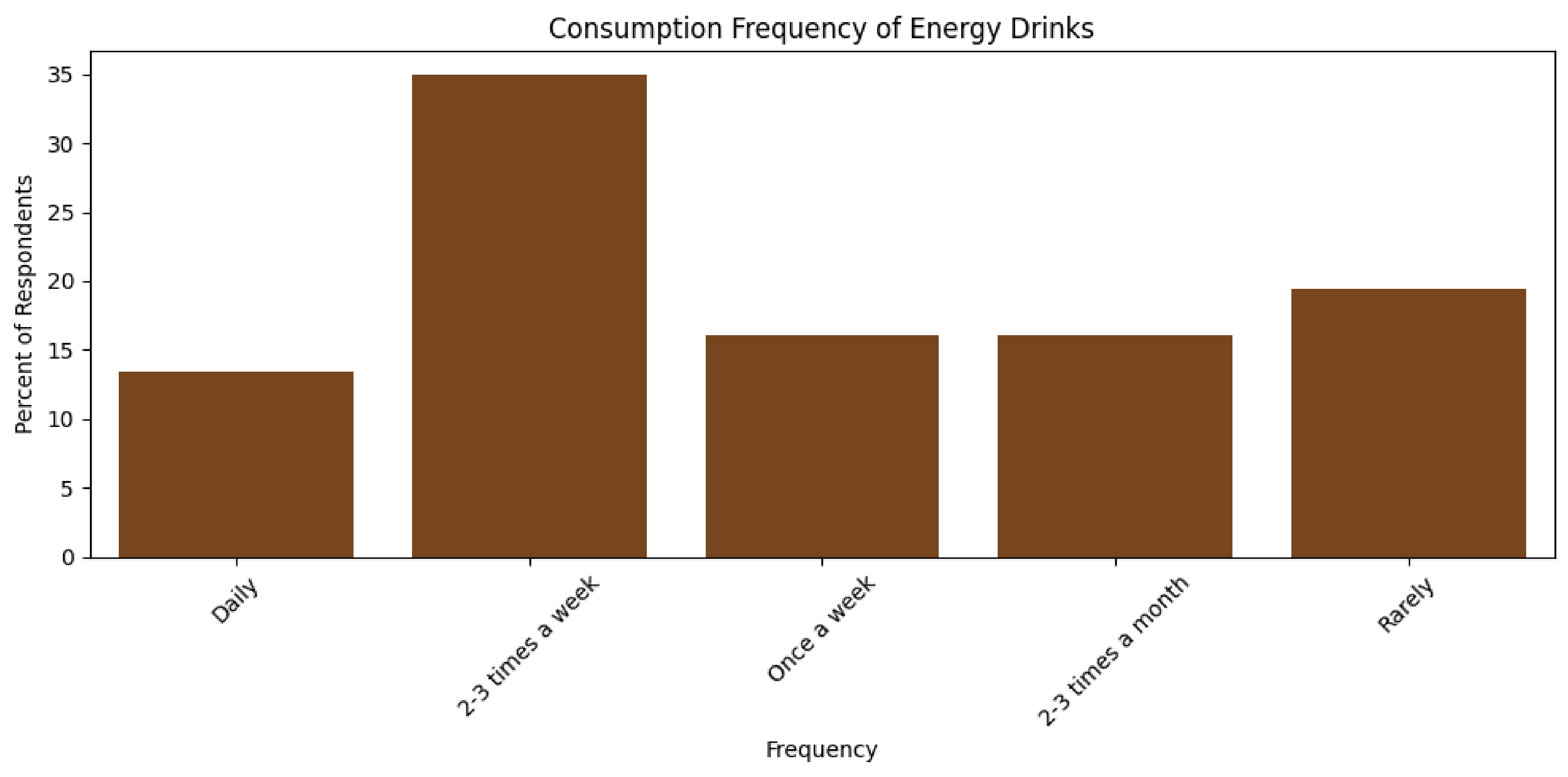


City_Tier	Age_Category	Gender	Respondent_Count	Percent_of_Tier
Tier 1	15-18	Female	406	5.39
Tier 1	15-18	Male	678	9.00
Tier 1	15-18	Non-binary	51	0.68
Tier 1	19-30	Female	1415	18.77
Tier 1	19-30	Male	2534	33.62
Tier 1	19-30	Non-binary	211	2.80
Tier 1	31-45	Female	610	8.09
Tier 1	31-45	Male	1085	14.40
Tier 1	31-45	Non-binary	76	1.01
Tier 1	46-65	Female	95	1.26
Tier 1	46-65	Male	208	2.76
Tier 1	46-65	Non-binary	16	0.21
Tier 1	65+	Female	61	0.81
Tier 1	65+	Male	82	1.09
Tier 1	65+	Non-binary	9	0.12
Tier 2	15-18	Female	110	4.47
Tier 2	15-18	Male	225	9.14
Tier 2	15-18	Non-binary	18	0.73
Tier 2	19-30	Female	476	19.33
Tier 2	19-30	Male	803	32.60
Tier 2	19-30	Non-binary	81	3.29
Tier 2	31-45	Female	224	9.09
Tier 2	31-45	Male	350	14.21
Tier 2	31-45	Non-binary	31	1.26
Tier 2	46-65	Female	43	1.75
Tier 2	46-65	Male	53	2.15
Tier 2	46-65	Non-binary	11	0.45
Tier 2	65+	Female	15	0.61
Tier 2	65+	Male	20	0.81
Tier 2	65+	Non-binary	3	0.12

2. Consumption Frequency Trends

Key Insights

- 2–3 times a week is the most common frequency (34.9%).
- Rarely comes second (19.4%), showing many occasional consumers.
- Daily consumers are a smaller segment (13.5%).
- Weekly and monthly frequencies are fairly balanced (~16% each).



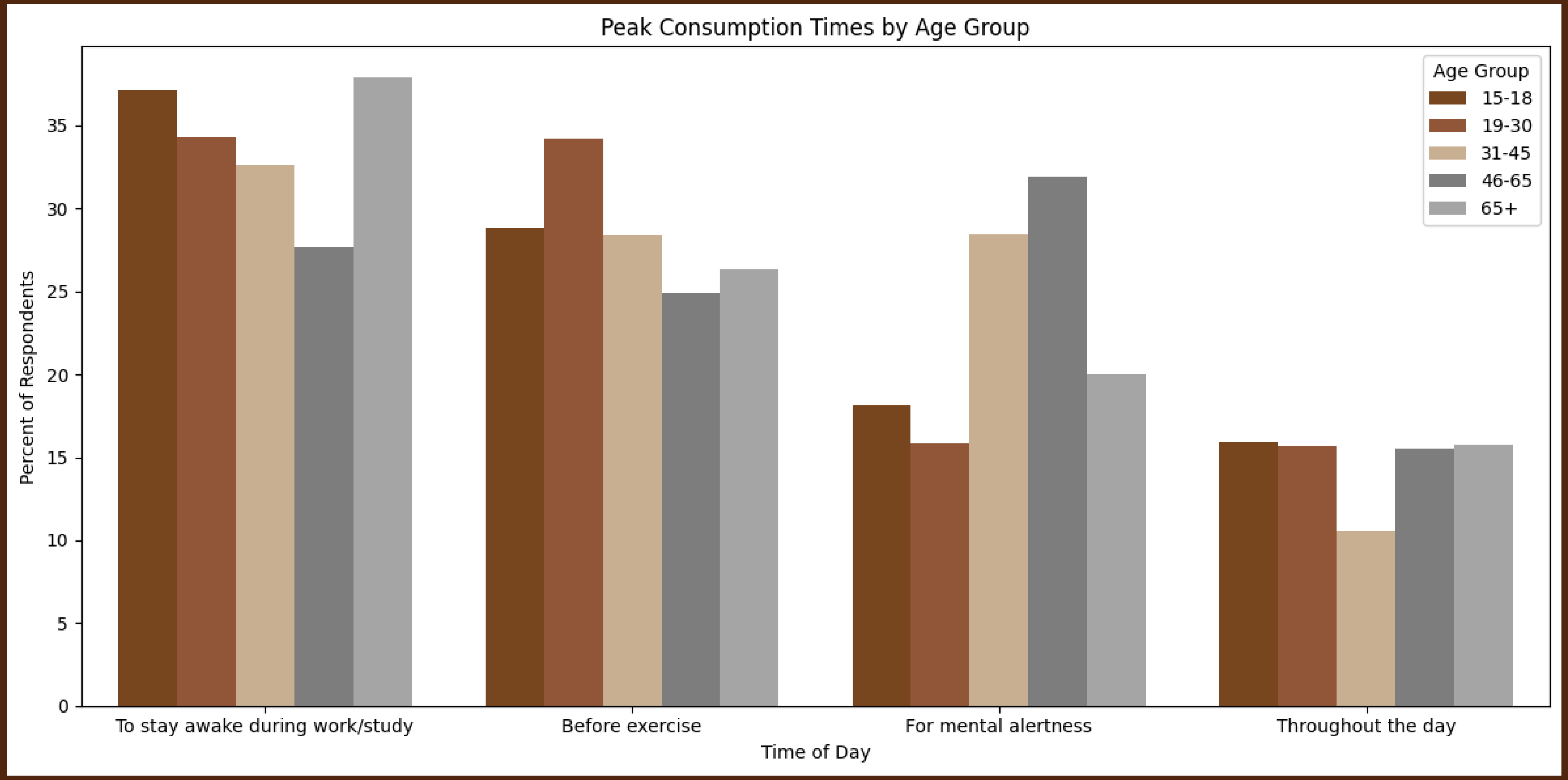
Consume_frequency	Respondent_Count	Percent_of_Total
Daily	1346	13.46
2-3 times a week	3491	34.91
Once a week	1609	16.09
2-3 times a month	1613	16.13
Rarely	1941	19.41

3. Peak Consumption Times by Age Group

Key Insights

- “To stay awake during work/study” is the top reason across most age groups.
- Before exercise is especially strong for ages 15–30 (~28–34%).
- Mental alertness is a key motivator for 31–65 age groups.
- Throughout the day is the least common across all groups.

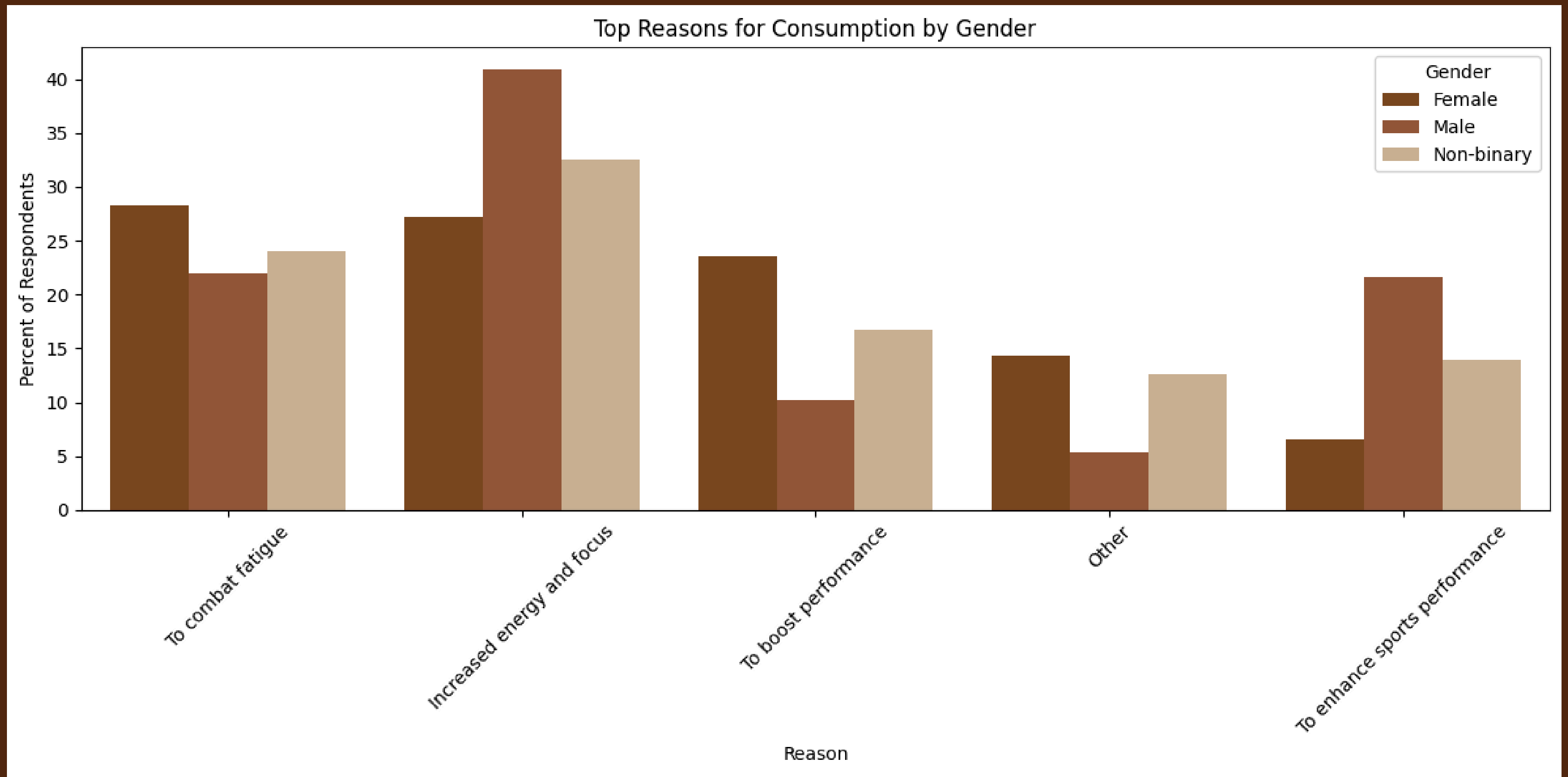
Age_Group	Consume_time	Respondent_Count	Percent_by_Age
15-18	To stay awake during work/study	552	37.10
15-18	Before exercise	429	28.83
15-18	For mental alertness	270	18.15
15-18	Throughout the day	237	15.93
19-30	To stay awake during work/study	1891	34.26
19-30	Before exercise	1889	34.22
19-30	For mental alertness	875	15.85
19-30	Throughout the day	865	15.67
31-45	To stay awake during work/study	776	32.66
31-45	For mental alertness	676	28.45
31-45	Before exercise	674	28.37
31-45	Throughout the day	250	10.52
46-65	For mental alertness	136	31.92
46-65	To stay awake during work/study	118	27.70
46-65	Before exercise	106	24.88
46-65	Throughout the day	66	15.49
65+	To stay awake during work/study	72	37.89
65+	Before exercise	50	26.32
65+	For mental alertness	38	20.00
65+	Throughout the day	30	15.79



. Top Reasons for Consumption by Gender

Key Insights

- Females mainly consume to combat fatigue (28%) and for energy & focus (27%).
- Males prioritize energy & focus (41%) and sports performance (22%).
- Non-binary respondents also focus on energy & focus (33%) and fatigue (24%).
- “Other” reasons are least common across all genders.



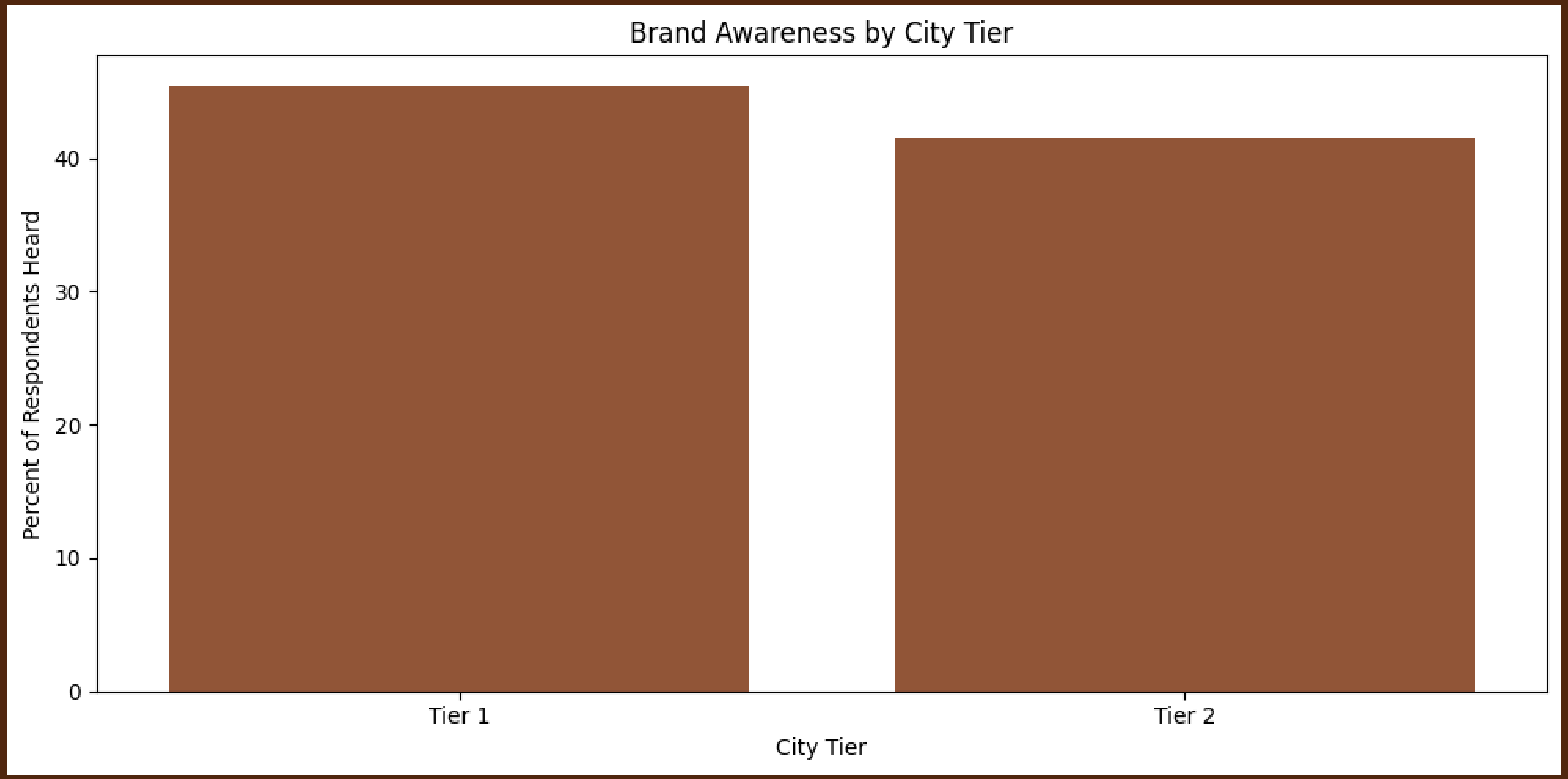
Gender	Consume_reason	Respondent_Count	Percent_by_Gender
Female	To combat fatigue	979	28.34
Female	Increased energy and focus	939	27.18
Female	To boost performance	815	23.59
Female	Other	495	14.33
Female	To enhance sports performance	227	6.57
Male	Increased energy and focus	2470	40.91
Male	To combat fatigue	1327	21.98
Male	To enhance sports performance	1306	21.63
Male	To boost performance	614	10.17
Male	Other	321	5.32
Non-binary	Increased energy and focus	165	32.54
Non-binary	To combat fatigue	122	24.06
Non-binary	To boost performance	85	16.77
Non-binary	To enhance sports performance	71	14.00
Non-binary	Other	64	12.62

5. Brand Awareness by City Tier

Key Insights

- Awareness is higher in Tier 1 (45.4%) than Tier 2 (41.5%).
- Less than half of respondents in both tiers have heard about the product.
- The gap between tiers is modest (~4%), indicating similar awareness levels overall.

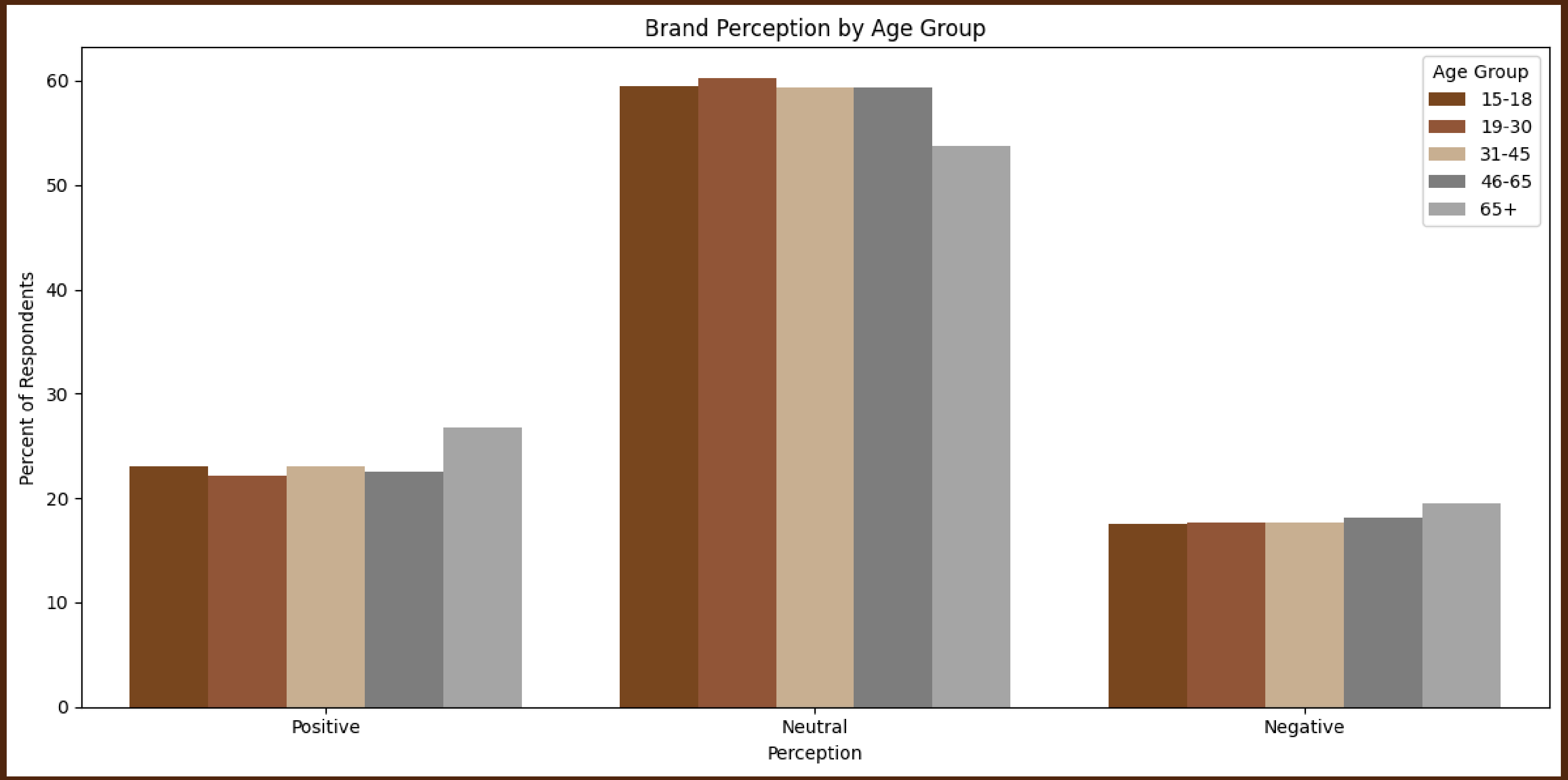
Tier	Heard_Count	Total_Respondents	Heard_Percent
Tier 1	3424	7537	45.43
Tier 2	1023	2463	41.53



6. Brand Perception by Age Group

Key Insights

- Neutral perception dominates across all age groups (~53–60%).
- Positive perception is consistent (~22–27%) with a slight peak in the 65+ group (26.8%).
- Negative perception remains stable (~17–19%) across ages.

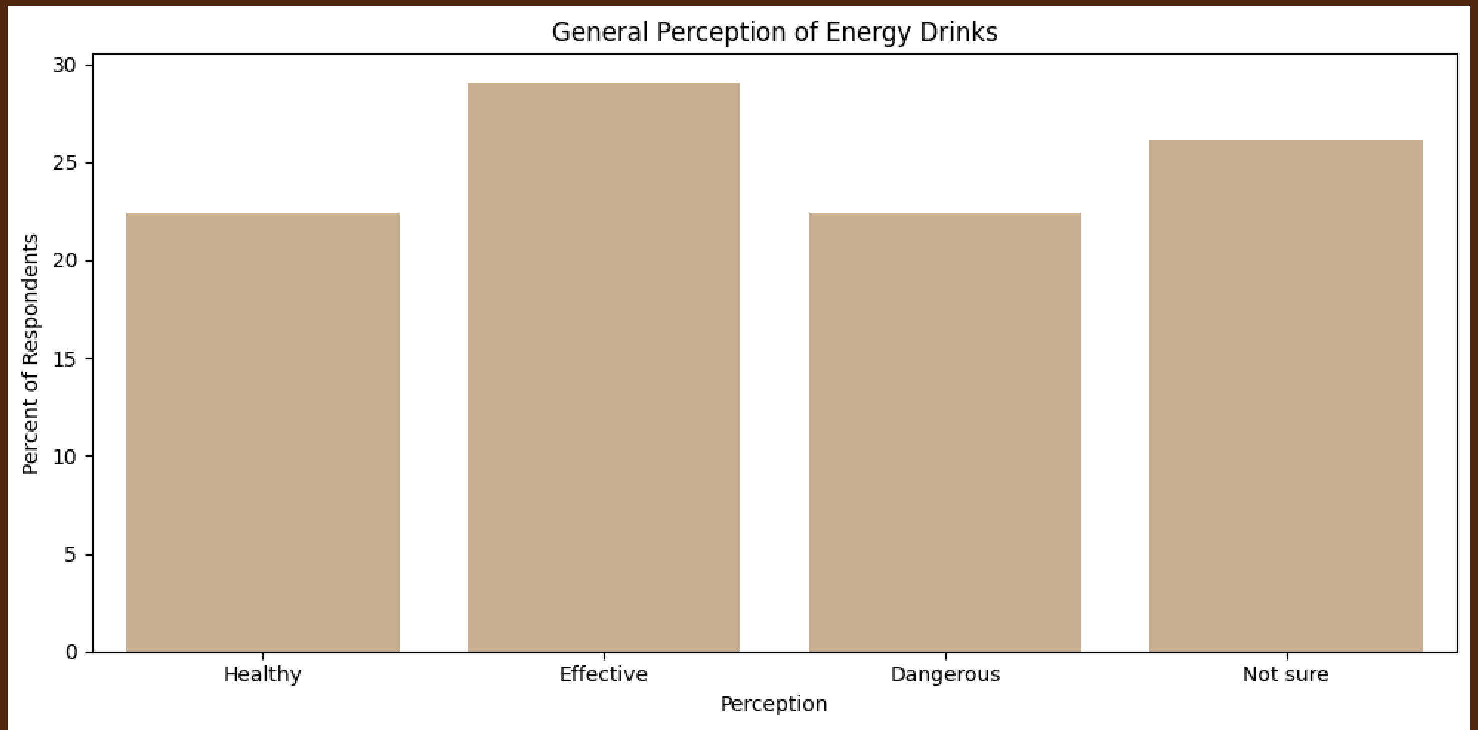


Age_Group	Brand_perception	Respondent_Count	Percent_by_Age
15-18	Positive	342	22.98
15-18	Neutral	886	59.54
15-18	Negative	260	17.47
19-30	Positive	1221	22.12
19-30	Neutral	3323	60.20
19-30	Negative	976	17.68
31-45	Positive	547	23.02
31-45	Neutral	1410	59.34
31-45	Negative	419	17.63
46-65	Positive	96	22.54
46-65	Neutral	253	59.39
46-65	Negative	77	18.08
65+	Positive	51	26.84
65+	Neutral	102	53.68
65+	Negative	37	19.47

7. General Perception of Energy Drinks

Key Insights

- “Effective” is the top perception (29%).
- “Healthy” and “Dangerous” are almost equal (~22% each), showing mixed views.
- “Not sure” is fairly high (26%), indicating uncertainty among many respondents.

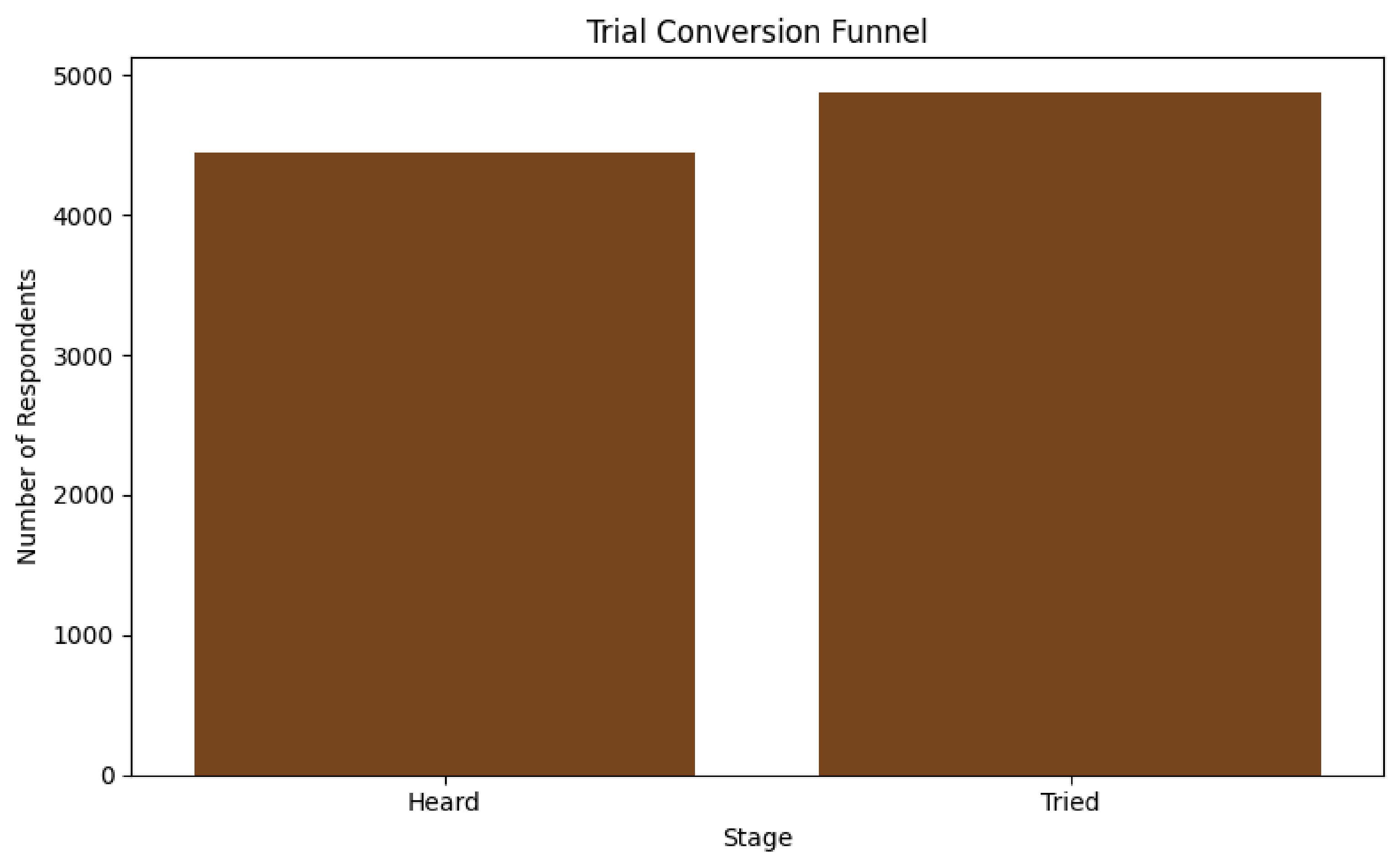


General_perception	Respondent_Count	Percent_of_Total
Healthy	2243	22.43
Effective	2909	29.09
Dangerous	2238	22.38
Not sure	2610	26.10

8. Trial Conversion Funnel

Key Insights

- Trial rate exceeds 100% (109.8%), indicating some respondents tried without prior awareness — likely through indirect exposure or promotions.
- This suggests strong product trial, even beyond the initially aware audience.

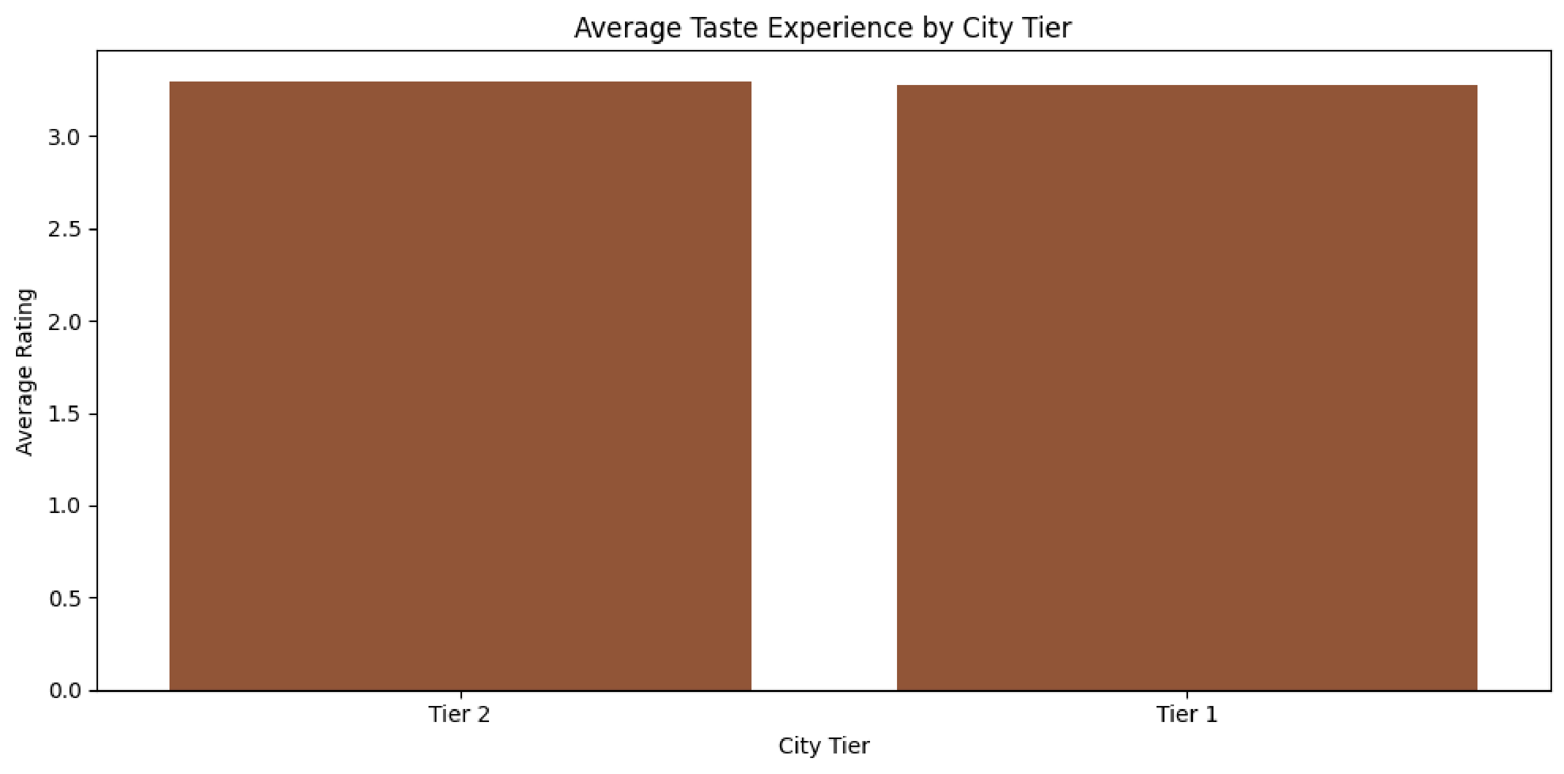


Heard_Count	Tried_Count	Trial_Rate_Percent
4447	4881	109.76

9.Taste Experience Ratings by City Tier

Key Insights

- Taste ratings are similar across tiers, with Tier 2 slightly higher (3.30) than Tier 1 (3.28).
- Both tiers show moderate taste satisfaction (around 3.3 on average)

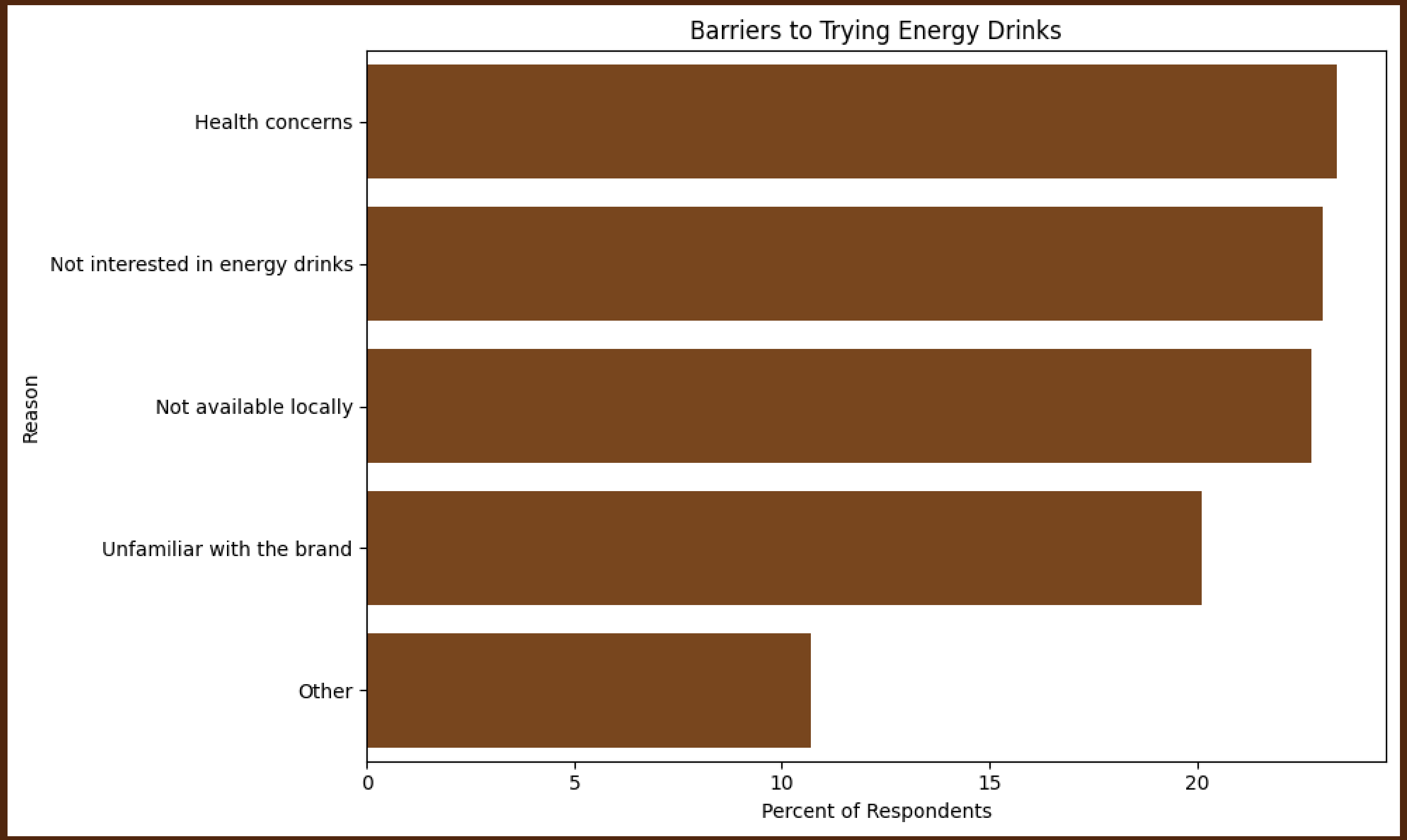


Tier	Avg_Taste_Rating	Respondent_Count
Tier 2	3.2984	2463
Tier 1	3.2765	7537

10.Barriers to Trying

Key Insights

- Health concerns are the top barrier (23.4%).
- Lack of interest and local unavailability are almost equally significant (~23% and ~22.8%).
- Brand unfamiliarity affects 20% of non-tryers.
- Other reasons are minor (10.7%).

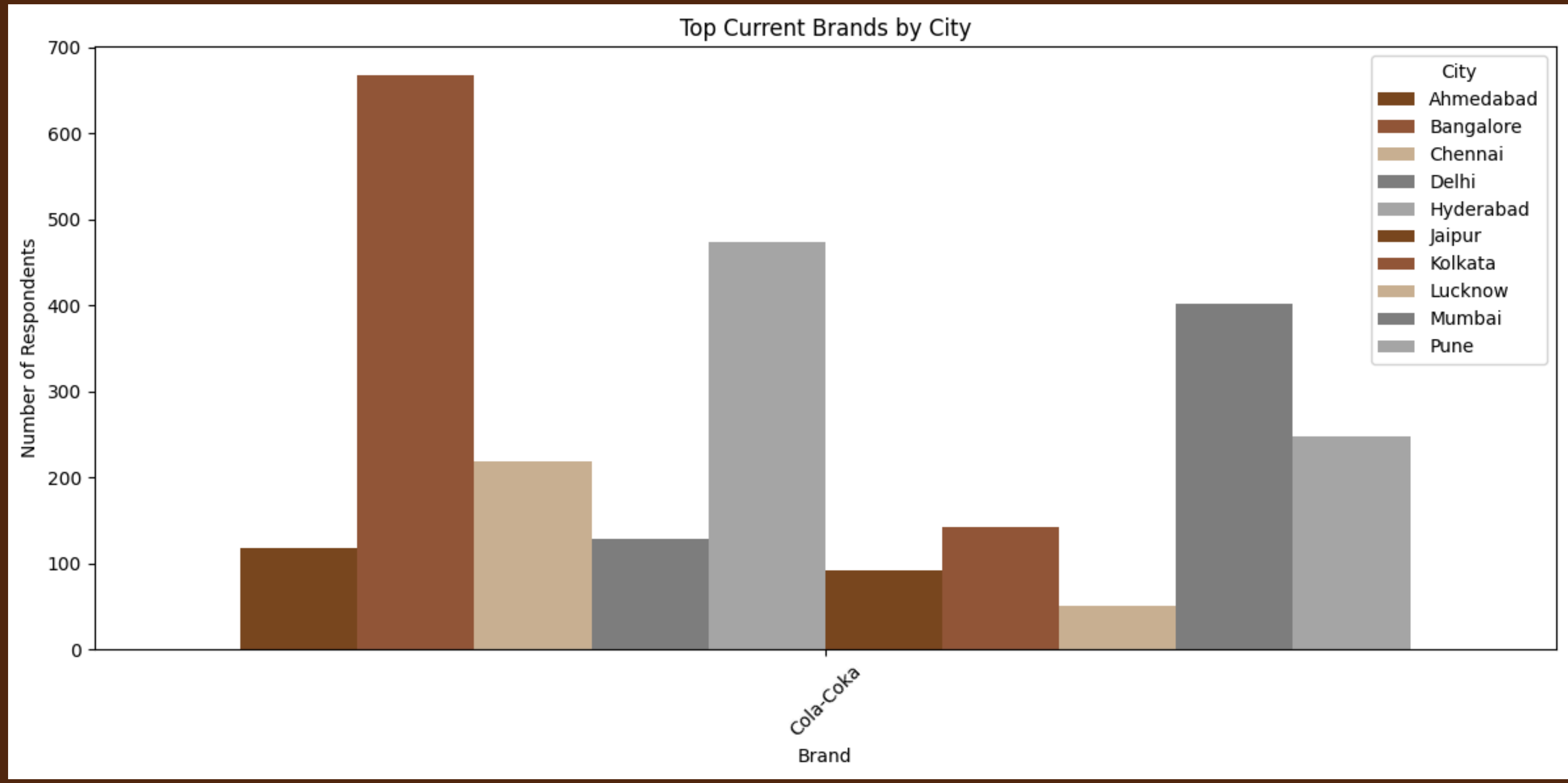


Reasons_preventing_trying	Respondent_Count	Percent_of_Total
Health concerns	1197	23.38
Not interested in energy drinks	1179	23.03
Not available locally	1165	22.76
Unfamiliar with the brand	1030	20.12
Other	548	10.71

11.Top Current Brands by City

Key Insights

- Bangalore (667) and Hyderabad (474) have the highest number of respondents for Cola-Coka.
- Lucknow (50) and Jaipur (91) show the lowest engagement.
- Major metro cities generally report higher brand reach, indicating urban concentration.

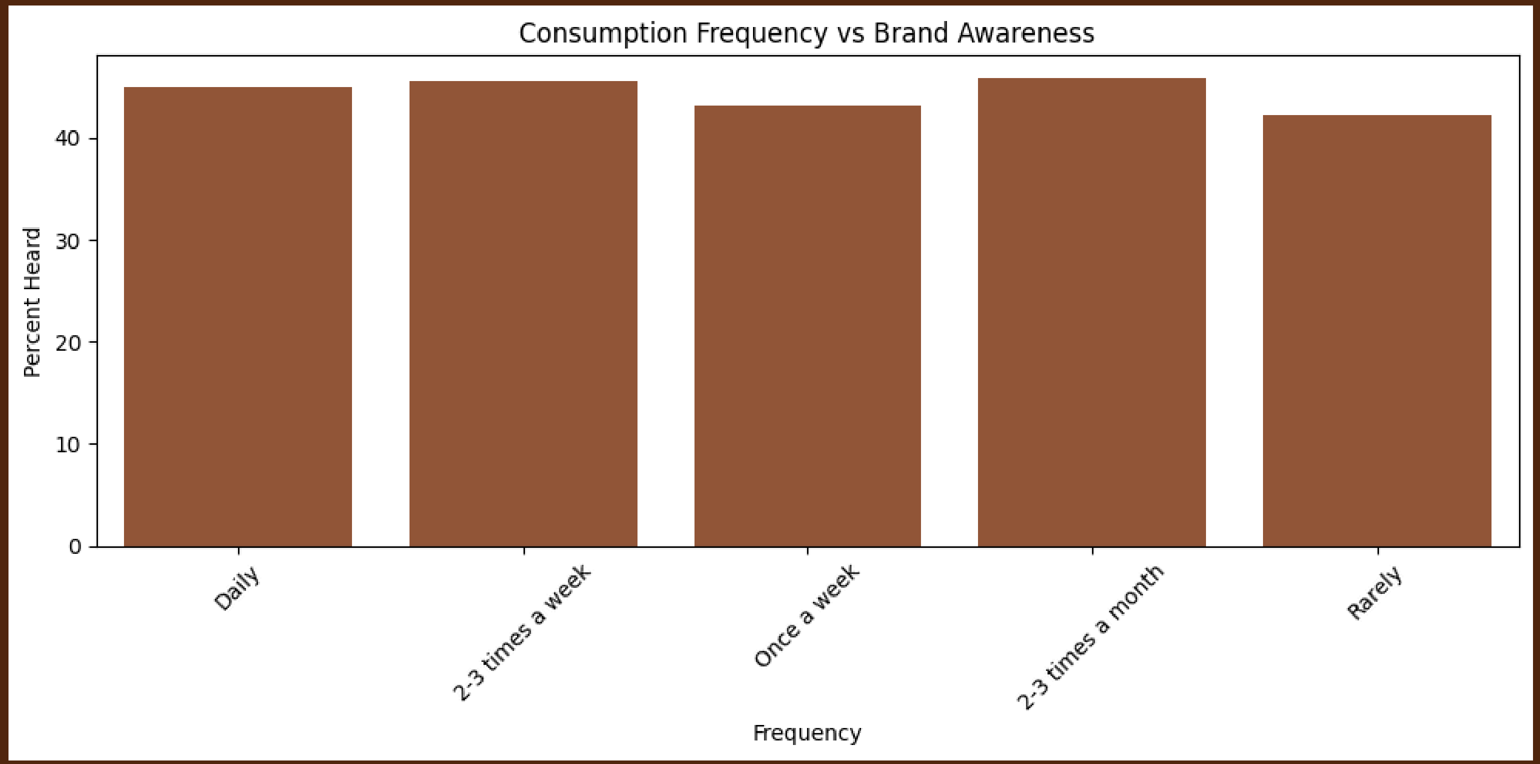


City_Name	Brand	Respondent_Count
Ahmedabad	Cola-Coka	118
Bangalore	Cola-Coka	667
Chennai	Cola-Coka	218
Delhi	Cola-Coka	128
Hyderabad	Cola-Coka	474
Jaipur	Cola-Coka	91
Kolkata	Cola-Coka	142
Lucknow	Cola-Coka	50
Mumbai	Cola-Coka	402
Pune	Cola-Coka	248

12. Consumption Frequency vs. Brand Awareness

Key Insights

- Awareness is fairly consistent across all consumption frequencies (~42–46%).
- 2–3 times a month consumers show the highest awareness (45.8%).
- Rare consumers have slightly lower awareness (42.2%).
- Overall, frequency doesn't strongly affect brand awareness.

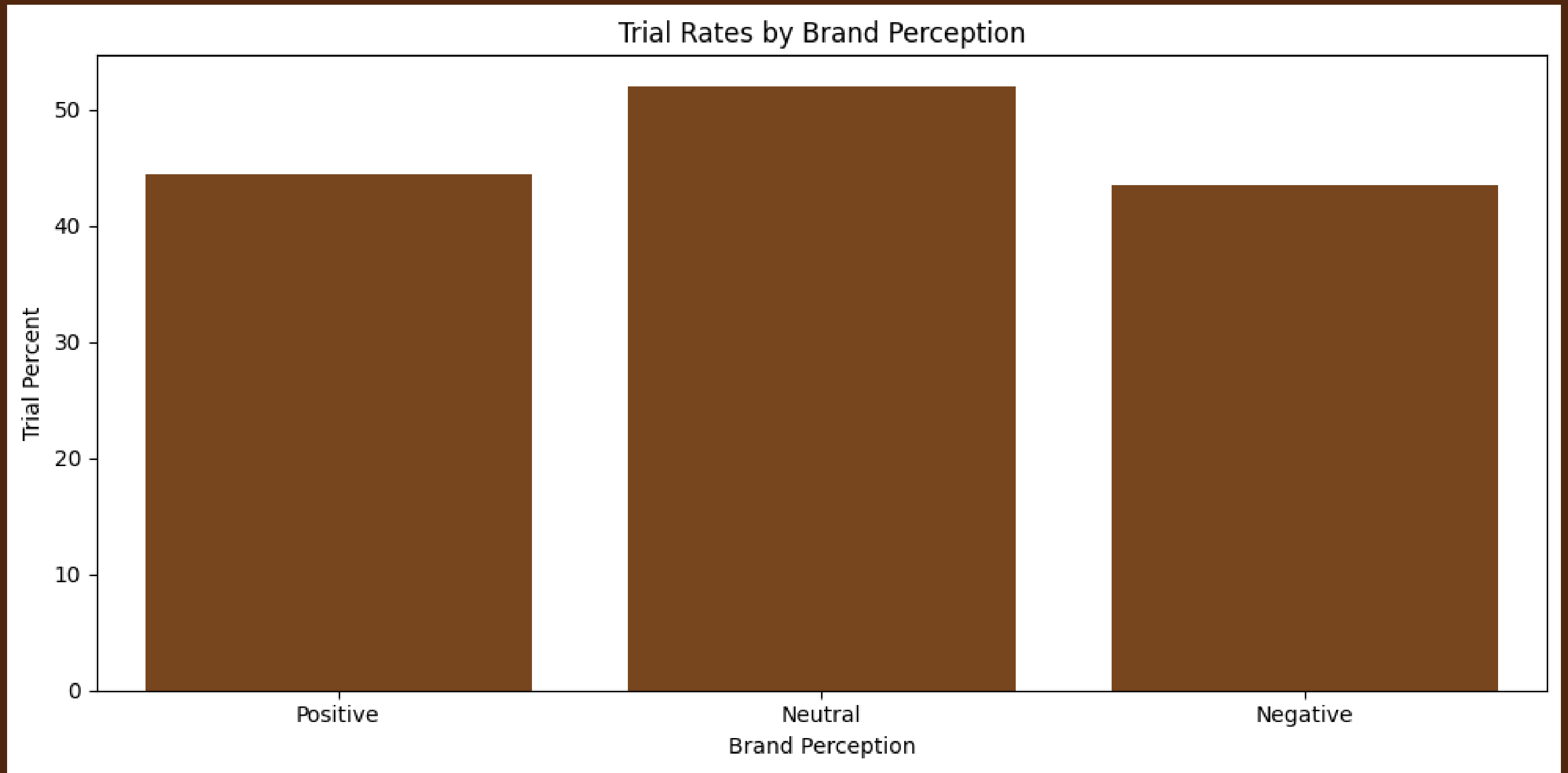


Consume_frequency	Heard_Count	Total_Respondents	Heard_Percent
Daily	606	1346	45.02
2-3 times a week	1589	3491	45.52
Once a week	694	1609	43.13
2-3 times a month	739	1613	45.82
Rarely	819	1941	42.19

13. Perception vs. Trial Rates

Key Insights

- Neutral perception group has the highest trial rate (52%), suggesting many try the product even without strong opinions.
- Positive and negative perception groups have similar trial rates (~44%).
- Overall, brand perception doesn't strongly limit trial, as even neutral or negative respondents try the product.

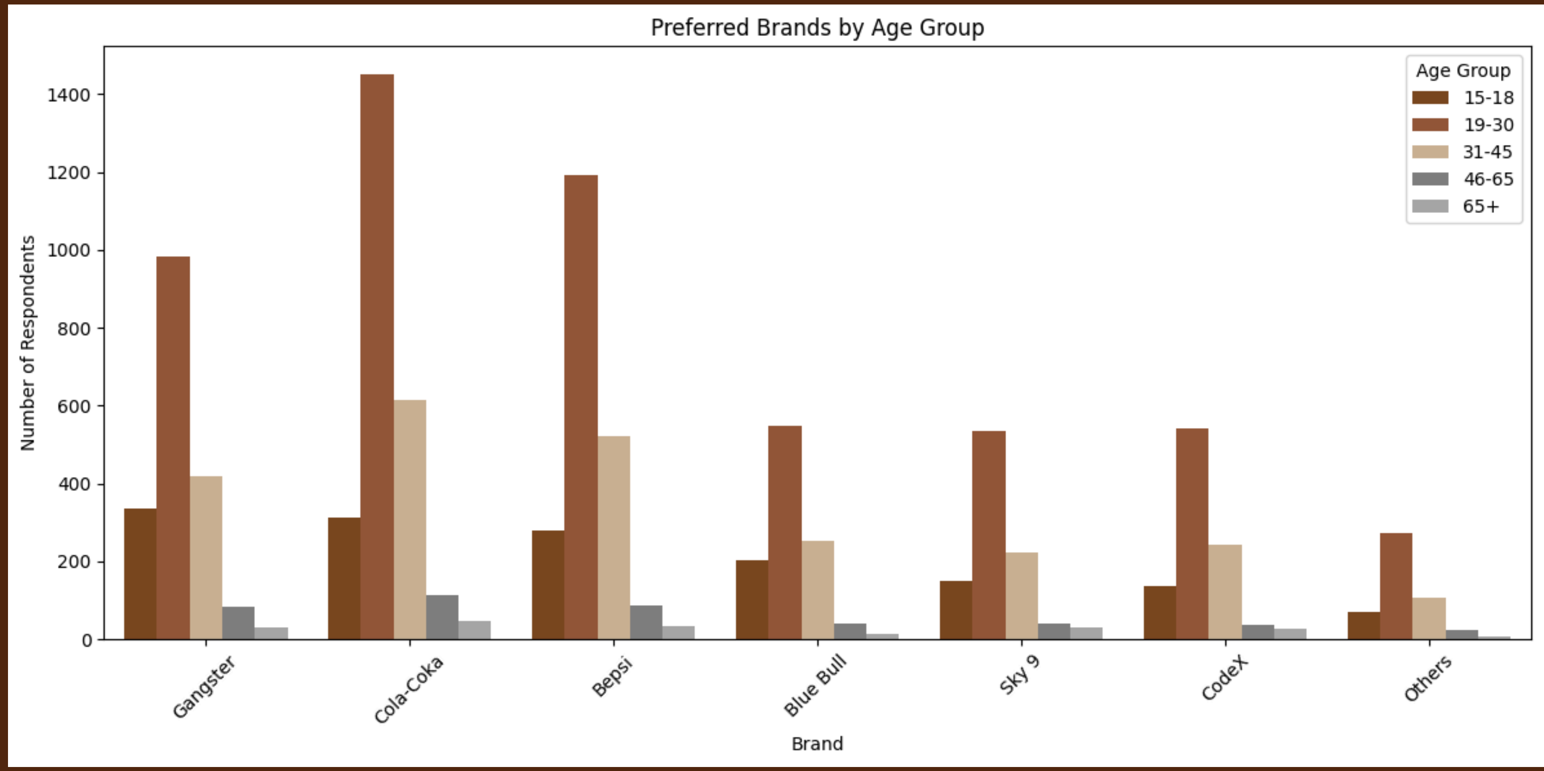


Brand_perception	Tried_Count	Total_Respondents	Trial_Percent
Positive	1002	2257	44.40
Neutral	3110	5974	52.06
Negative	769	1769	43.47

14. Age Group vs. Preferred Brand

Key Insights

- 15–18: Gangster leads, followed closely by Cola-Coka.
- 19–65+: Cola-Coka consistently ranks #1 across all older age groups.
- Bepsi is consistently the second most popular brand after Cola-Coka (except teens).
- Blue Bull, Sky 9, and CodeX rank lower across all ages, showing niche adoption.



Age_Group	Current_brands	Respondent_Count	Rank_in_Age
15-18	Gangster	337	1
15-18	Cola-Coka	313	2
15-18	Bepsi	278	3
15-18	Blue Bull	203	4
15-18	Sky 9	151	5
15-18	CodeX	135	6
15-18	Others	71	7
19-30	Cola-Coka	1450	1
19-30	Bepsi	1192	2
19-30	Gangster	983	3
19-30	Blue Bull	547	4
19-30	CodeX	540	5
19-30	Sky 9	536	6
19-30	Others	272	7
31-45	Cola-Coka	615	1
31-45	Bepsi	521	2
31-45	Gangster	419	3
31-45	Blue Bull	252	4
31-45	CodeX	242	5
31-45	Sky 9	222	6
31-45	Others	105	7
46-65	Cola-Coka	114	1
46-65	Bepsi	87	2
46-65	Gangster	84	3
46-65	Blue Bull	41	4
46-65	Sky 9	40	5
46-65	CodeX	37	6
46-65	Others	23	7
65+	Cola-Coka	46	1
65+	Bepsi	34	2
65+	Gangster	31	3
65+	Sky 9	30	4
65+	CodeX	26	5
65+	Blue Bull	15	6
65+	Others	8	7

Thank You !