

A Study on Consumption of Energy & Health Drinks among Youth with Special Reference to Vapi City

Jaya Tupe¹, Hiral Vadgama² and Dr. Rajesh Kumar Pandey³

¹B. Pharma, 4th Year Sem. VIII Student, SSR College of Pharmacy, India

²B. Pharma, 4th Year Sem. VIII Student, SSR College of Pharmacy, India

³Associate Professor, SSR IMR, Silvassa, Permanently Affiliated to SPPU, Pune, India

³Corresponding Author: rajesh.pandey@ssrimr.edu.in

Received: 13-02-2024

Revised: 02-03-2024

Accepted: 29-03-2024

ABSTRACT

Health drinks are liquids that give nutrition and hydration with minimal calories and sugar. Water is the best option for quenching thirst, however coffee and tea with no added sugars are good. While some studies suggest that energy drinks can improve physical performance and attention, they are also connected with serious health hazards, particularly among teenagers and young adults. So a survey was conducted to study the pattern of the consuming the energy and health drinks among the youth. The majority of the secondary data was gathered from online sources. The main primary source of data was a survey among the young people in Vapi city between the ages of 18 and 25. The aim of the study is to understand the concept & essence of Energy Drink & Health Drink. Also the Researchers aim to conduct the comparative analysis on consumption of energy & health drinks among youth. The study encompasses the domain of Energy & Health Drinks with its consumption among youth. The inferences are limited to the responses of a defined age group and may not be applicable to consumers at large. The conclusions may not apply to all consumers because they are restricted to the replies of a specific age group. The poll was performed using Google Forms, and 111 responses were received. The responses were gathered, processed, and summarized to produce informative data. The data was subsequently used to reach the final conclusion. The results are more indicative in nature rather exhaustive. Researchers have obtained a variety of results and findings regarding the youth and their drinking habits. The organizations in the field of Energy & Health Drinks are the major beneficiaries through this study.

Keywords: energy drinks, health drinks, youth, healthcare, consumer

I. INTRODUCTION

Energy drinks are beverages with a high caffeine content, additional sugars, and stimulants such guarana, taurine, and L-carnitine. They are advertised as providing an energy boost, enhancing mental alertness, and elevating physical performance[1,2]. While some studies indicate that energy drinks may revamp physical performance and attentiveness, they are also associated with significant health risks, predominantly in teenagers and young adults[1,3,4]. These side effects include hypertension, tachycardia, and tachypnea as well as the possibility of dehydration, cardiac issues, anxiety, and insomnia. The safety of energy drinks, particularly when mixed with alcohol, has become a major public health issue. Despite their popularity, particularly among young adults, energy drinks should be consumed with caution, and their marketing and accessibility may need to be controlled in order to reduce possible health concerns[2,4]. Health drinks are liquids that provide nutrients and hydration while containing little calories and sugar. Water is the greatest choice for satisfying thirst, although coffee and tea with no added sweets are also good options. Other healthful beverages include green tea, pomegranate juice, beet juice, lemon water, kombucha, coconut water, hot chocolate, red wine, and fresh orange juice.[7,8].

II. OBJECTIVES OF THE STUDY

The Researchers have considered the following objectives for the study:

1. To understand the concept & essence of Energy Drink & Health Drink.
2. To conduct the analysis on consumption of energy & health drinks among youth in the age bracket of 18 Years to 25 years at Vapi city.

III. RESEARCH METHODOLOGY

A Study on Consumption of Energy & Health Drinks among Youth with special reference to Vapi city is an exploratory & descriptive study conducted with the help of both secondary and primary data. The secondary data was majorly collected from the e-sources. The primary data was collected through a survey among the youth in the age bracket of 18 Years to 25 years at Vapi city. The aim of the study is to understand the concept & essence of Energy Drink & Health Drink. Also the Researchers aim to conduct the comparative analysis on consumption of energy & health drinks among youth. The study encompasses the domain of Energy & Health Drinks with its consumption among youth. The inferences are limited to the responses of a defined age group and may not be applicable to consumers at large. Hence the results are more indicative in nature rather exhaustive. The organizations in the field of Energy & Health Drinks are the major beneficiaries through this study.

IV. RESEARCH PROCESS

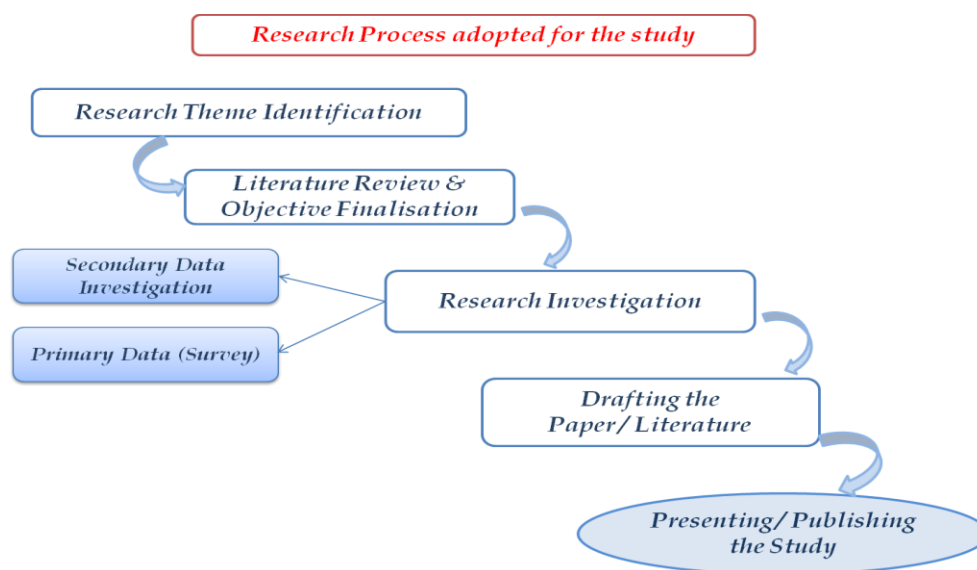


Chart 1: Research Process adopted for the study
Source: Authors’ Study

Table 1: Leading definitions related to the theme of the study

Term	Definitions
Energy Drink	An energy drink is a beverage containing stimulant ingredients, typically caffeine, and touted as enhancing mental and physical performance. They may or may not be carbonated and may contain various components such as sugar, other sweeteners, or herbal extracts[5,6].
Health Drink	These drinks are frequently promoted for their possible health benefits, such as providing desirable nutrients, hydration, or other health-promoting characteristics[7,8].
Healthcare	Health care is concerned with improvement of health through a variety of means, including disease prevention, diagnosis, treatment, and cure[9].
Consumer	A consumer is typically defined as a person or group who purchases goods or services for personal, social, family, or household use[10,11].
Consumption rate	The consumption rate refers to the average proportion of an item eaten or expenditure within a certain time interval, which is usually stated in appropriate units of measurement for that time frame[12].

V. ENERGY DRINK AND HEALTH DRINK

• Energy Drink

Energy drinks, which include considerable amounts of sugar and caffeine, are designed to boost alertness and energy levels. Teenagers and college students frequently employ them for study or sports performance, but there are concerns about their safety, especially when it comes to young individuals. Energy drinks may be linked to hallucinations, epileptic seizures, and ischemic stroke, based on certain research. They may also result in elevated stress levels, hostile actions, misuse of alcohol or cigarettes, and insufficient sleep. Energy drinks' high sugar content raises the risk of gout, type 2 cardiovascular disease, and other health issues in addition to causing weight gain. Overindulgence in caffeine can cause heart difficulties, anxiety, insomnia, seizures, and, in rare instances, cardiac arrest. The absence of rules and assertive marketing techniques that target the people are of concern [13,14,15].

Constituents of Energy Drinks

Typical components of energy beverages include sugar, taurine, caffeine, and B vitamins. Additional ingredients including glucuronolactone, flavorings, colorings, and other additives might also be present in these drinks. A major component of energy drinks, caffeine has an energizing effect and is present in doses of about 32 mg per 100 ml. Another often used component is taurine, an amino acid that contains sulphur and is chemically made for energy beverages. Taurine serves a variety of physiological functions in the body.

B vitamins like niacin, pantothenic acid, vitamin B6, and vitamin B12 are often added to energy drinks to support normal energy metabolism and reduce fatigue.

Energy drinks may additionally include compounds like ginseng, guarana, green coffee extract, green tea extract, ginkgo biloba, and carnitine, in addition to these standard constituents. These substances are occasionally used in an effort to improve mental clarity, metabolism, physical performance, or other purported advantages. Nevertheless, there is insufficient or conflicting scientific data to support the effectiveness of some of these compounds. For example, whereas the effects of taurine and caffeine are well-established, the supposed health advantages of other additions, such as ginseng or guarana, may not be well supported by science [16,17].

Benefits of Energy Drinks

- The consumption of energy drinks has the following advantages:
Enhanced alertness and energy levels: Caffeine is a stimulant included in energy drinks that boosts alertness, which reduces fatigue and enhances attention.
- **Enhanced brain function:** Research has demonstrated that energy drinks can lessen mental exhaustion and enhance cognitive abilities like memory, focus, and reaction time.
- **Enhanced physical efficiency:** Energy drinks may increase physical endurance, but their impact on muscle strength or power is less clear.
- **An increase in attitude and mood:** Energy drinks have the potential to elevate mood and attitude, which can improve relationships and productivity.
- **Accessibility and convenience:** Being widely available and affordable, energy drinks are an efficient option for people looking for a quick energy boost.
- **Zero calorie option:** Some energy drinks offer a zero calorie option, which can be beneficial for those looking to limit weight gain and sugar consumption.
- **Enhanced workout performance:** Energy drinks, particularly when ingested prior to exercise, can improve workout performance and endurance[13,18,19].

Drawbacks of Energy Drinks

Energy drinks have been associated with various health risks and drawbacks, as

- **Health Problems:** Numerous health problems, such as poor mental health, substance misuse, diabetes, dental decay, high blood pressure, and kidney damage, can be linked to energy drinks. Being promoted to youth and frequently mixed with alcohol, these risks are concerning.
- **Adverse Effects:** Extended consumption of energy drinks has been linked with elevated stress levels, insomnia, anxiety, and depression, in addition to other unfavourable outcomes such as tachycardia, fast speech, upset stomach, restlessness, and trembling. Some serious events such as seizures, hallucinations, and cardiac issues have also been reported.
- **Caffeine Content:** Energy drinks may have higher caffeine contents than stated on the label. Overindulgence in caffeine may lead to consequences such as hypertension, palpitations, restlessness, dehydration, and elevated heart rate. Besides, there may be negative effects if alcohol and energy drinks are combined.
- **Lack of Regulation:** Energy drinks are not as strictly regulated as compared to other caffeinated beverages like sodas.

Customers may not be entirely aware of the real amount of caffeine in these drinks due to the lack of regulation[17,18].

• **Health Drinks**

To capitalize on this trend, health drink firms provide a variety of drinks that promote energy and provide the benefits of malt. India's Health Food beverages (HFDs) category includes both white and brown beverages. South and East India are major markets for them[9,20].

Drinks account for the majority of all India sales. White beverages make up nearly two-thirds of the market. Brown beverages based on cocoa continue to outsell white drinks like Horlicks and Complian.

Health drinks have emerged as the most profitable and rapidly growing segment of the global soft drink market. Unlike carbonated beverages, whose sales are declining, the sales of health drinks have been increasing over time. Health drinks rank highest among all food supplements. A recent survey found that customers preferred health beverages over food supplements. Food supplements can have negative effects, while there is no evidence that they improve health. However, health beverages have a pleasant taste and can significantly improve health conditions. After a consistent and frequent usage of the health drinks [20].

The health drink is tasty, full of energy, and contains natural goodness. Health drinks are beneficial to most individuals.[21] People benefit from their high nutritional value. India's health drink companies mostly use cocoa and malt. Additionally, more than 75% of urban customers choose non-carbonated beverages. Historically, the Indian populace has had limited understanding of healthy eating, and local cuisines tend to prioritize high-calorie foods.

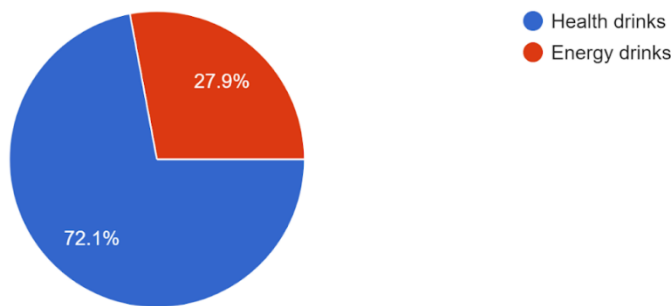
Cholesterol-containing diets. Consuming fizzy drinks increases the risk of lifestyle-related disorders, including high cholesterol. As the rural and urban populations grow more educated, young people are adopting a more disciplined diet that prioritizes healthful foods and beverages. [21.22]

Constituents of Health Drinks

- Vitamins (mg/100gm): Organic chemicals required in modest quantities for survival. Certain deficits can result from a lack of vitamins. Vitamin A, B1, B2, C, and E levels were analysed in health drinks to determine brand quality. Vitamins are unstable and can change based on manufacturing date, storage circumstances, and analytical method. Variable outcomes are possible based on the given values.
- Energy value (Kcal): Energy levels per 100-gram sample are computed and compared to manufacturer's reported values. This product's energy comes from carbs, lipids, and sugar, primarily sourced from milk solids.
- Carbohydrates: Test findings are compared to manufacturer's reported values.
- Calcium (mg/100g): The body need calcium to maintain strong bones and perform other essential activities. Calcium is derived mostly from milk solids and added to the mix.
- Iron (mg/100gm): The RDA for iron is 10mg to 18mg. Iron deficiency can produce anaemia, resulting in dizziness, fatigue, and apathy.
- Total sugar :Total sugar is determined by adding glucose, fructose, and sucrose ingredients.
- Fats (dry basis) (according per IS, the minimal value for cocoa-based products is 6%, and Non-cocoa, the minimal value is 7.5%.Fats help maintain healthy skin and hair, protect organs from stress, regulate body temperature, and promote healthy cell activity. Fats are derived from milk and cocoa solids used in the production process. [20]

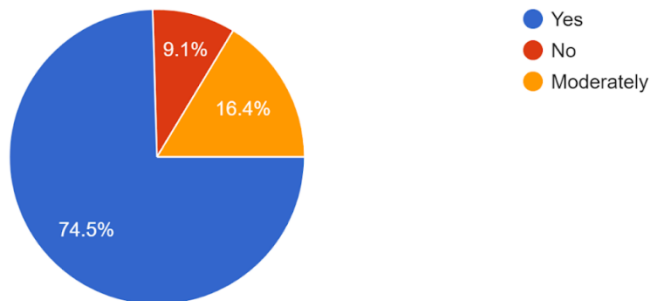
• **Analysis from the Survey**

1. Preference of the Drinks Consumption among Respondents.



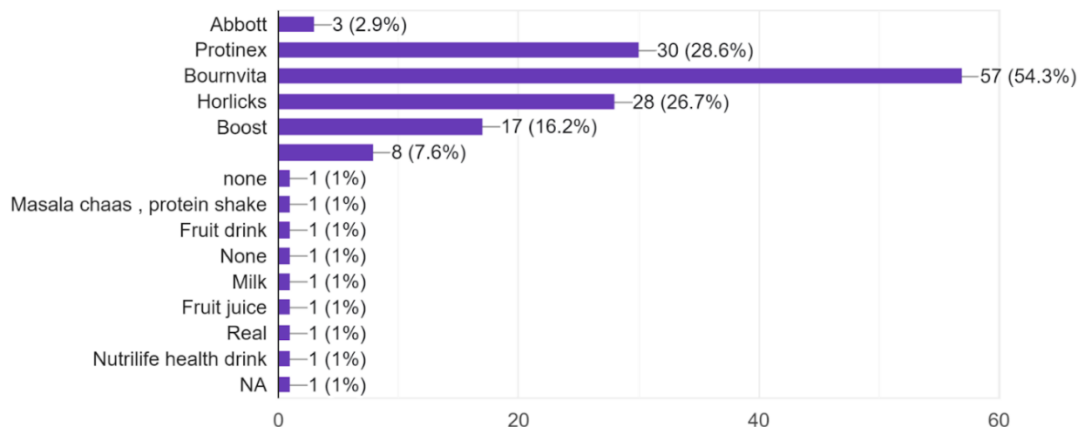
The Researchers concluded that 72.1% of the respondents preferred Health drinks over Energy drinks whereas 27.9% preferred Energy drinks.

2. Awareness Regarding the Difference between Health and Energy Drinks



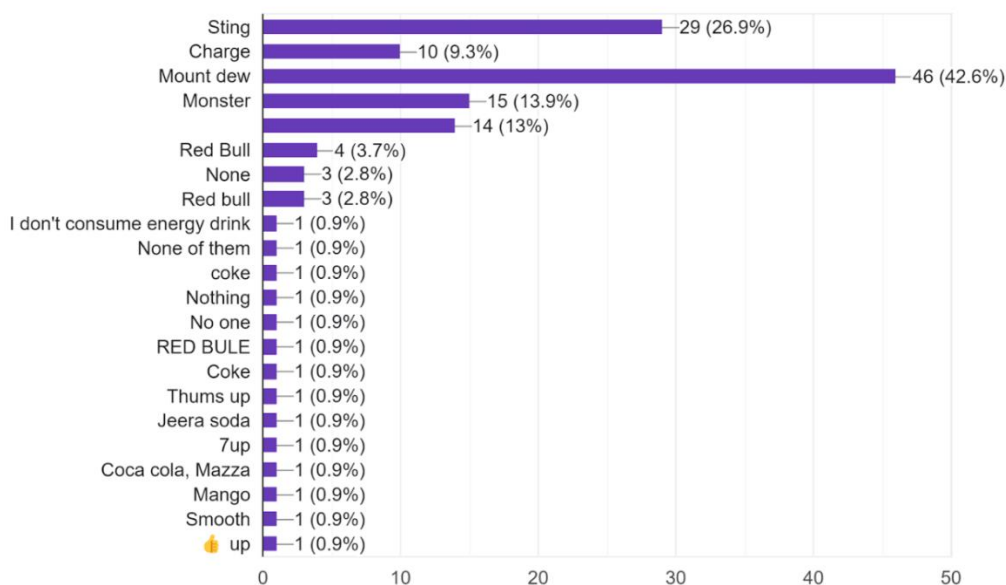
Around 74.5% of respondents were aware about the difference between Health drinks and Energy drinks while others were not.

3. Preference of the Health Drink among Respondents



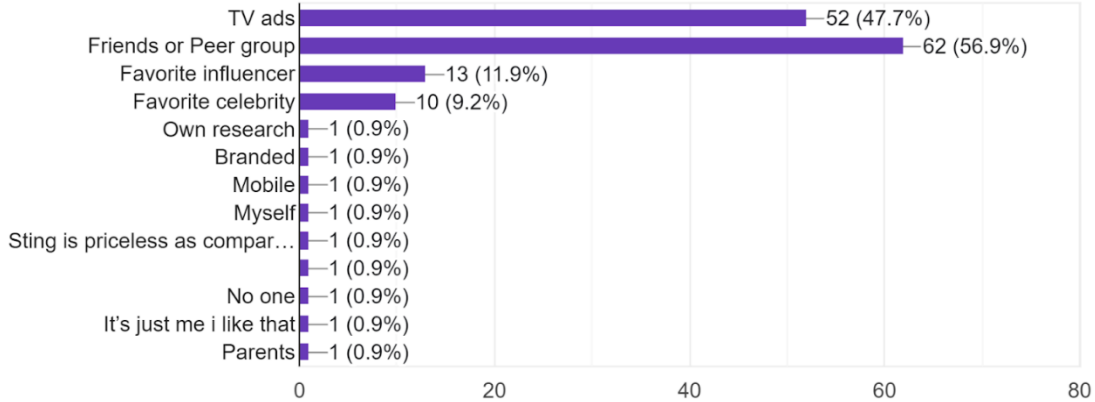
According to the analysis, 28.6% of the respondents preferred Protinex, 54.3% preferred Bournvita and few had other preferences.

4. Preference of the Energy Drink among Respondents



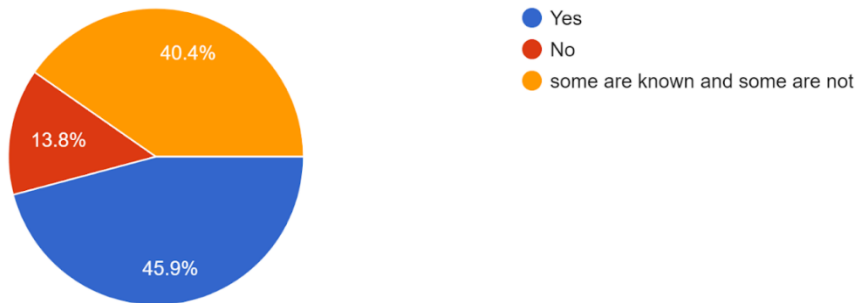
The Researchers have analyzed that 26.9% preferred Sting, 9.3% people preferred Charged, 42.6% Mount dew and few preferred other options.

5. The Influencing Elements for Having Those Drinks (Multiple Selection)



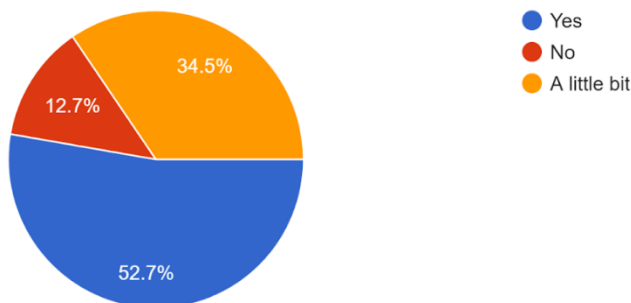
The data gathered states that 47.7% of respondents were influenced by TV ads, 56.9% by the peer group and a few other factors also.

6. The Awareness of the Contents of the Drinks Which are Consumed



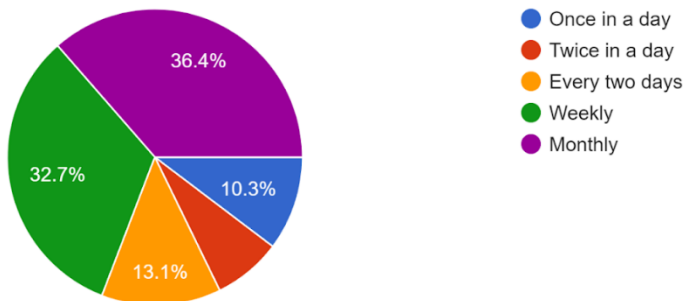
The Researchers concluded that 45.9% of respondents were aware of the contents and additives of the drinks while 13.8% were not aware. The rest of 40.4% were partially knowledgeable.

7. The Knowledge of the Distinction Between Health, Nutritional and Energy Drinks



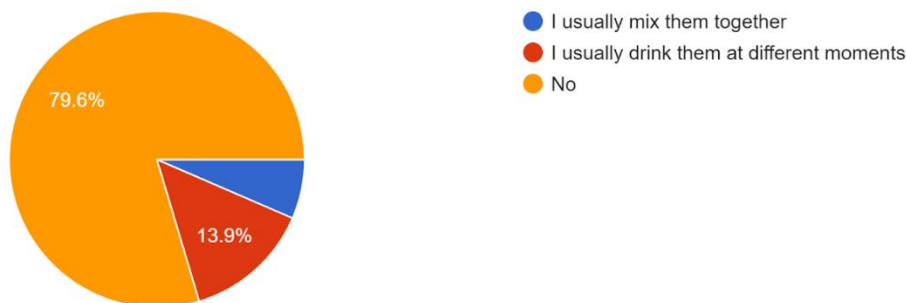
The Researchers stated that 52.7% were aware of the Health, nutritional and energy drinks difference while 12.7% were not and the rest 34.5% were having little bit of awareness.

8. The Frequency of Desire to Consume the Preferred Drinks



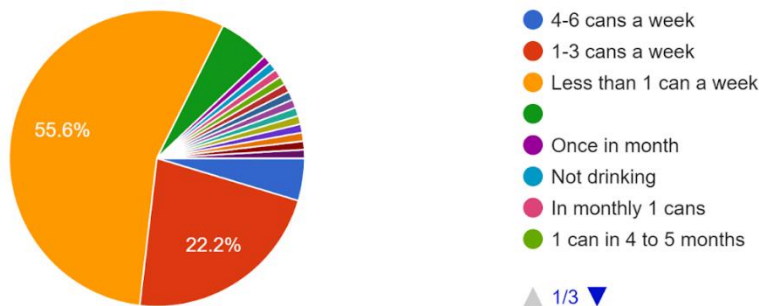
The Researchers concluded that 36.4% have the urge to consume energy drinks monthly, 32.7% consumed weekly, 13.1% consumed every two days, while 7.5% twice in a day, 10.3% once a day.

9. The Preference to Mix Energy Drinks with Alcoholic Beverages(if at all alcohol is consumed)



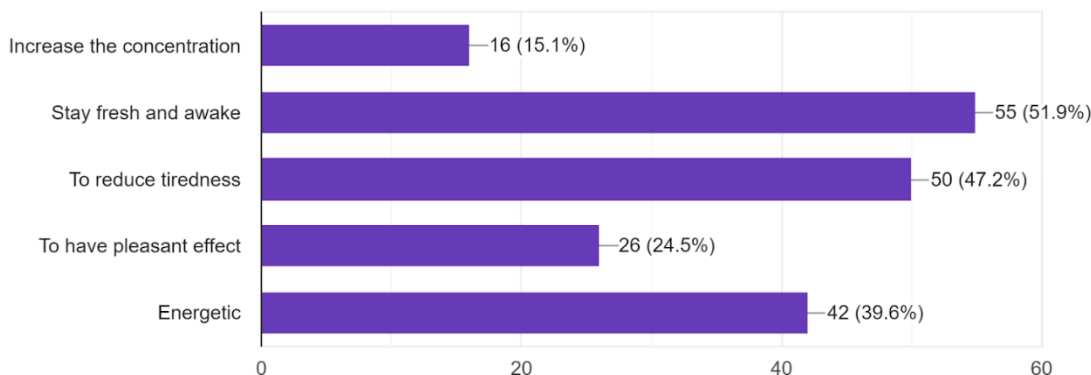
The Researchers concluded that 79.6% of respondents do not mix energy drinks and alcohol whereas 13.9% drink them at different moments and the rest 6.5% usually drink by mixing it.

10. The Number and Frequency of Energy Drink Cans Consumed



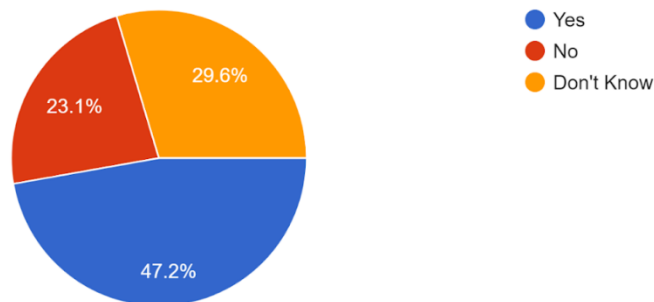
As per the analysis 55.6% of respondents consume less than 1 can a week 22.2% of respondents preferred 1-3 cans a week and rest have submitted individual preferences.

11. Impact of Energy Drinks on Consumption



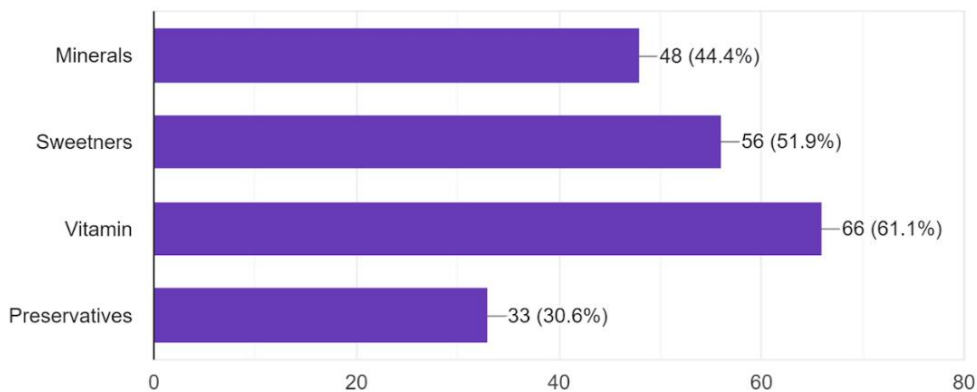
As per the Analysis 51.9 % of respondents states that energy drink helps them to stay fresh and awake. 47.2% respondents states reason that energy drink reduces their tiredness and 39.6% of the respondents have a pleasant effect after consuming the energy drink.

12. Study to Determine Whether Youth are Aware of the Caffeine in Their Drinks



The Researchers stated that 47.2% of the respondents consume Energy drink containing caffeine 23.1% consume non caffeinated Energy drinks. 29.6% respondents are not aware about the caffeine content in their preferred energy drinks

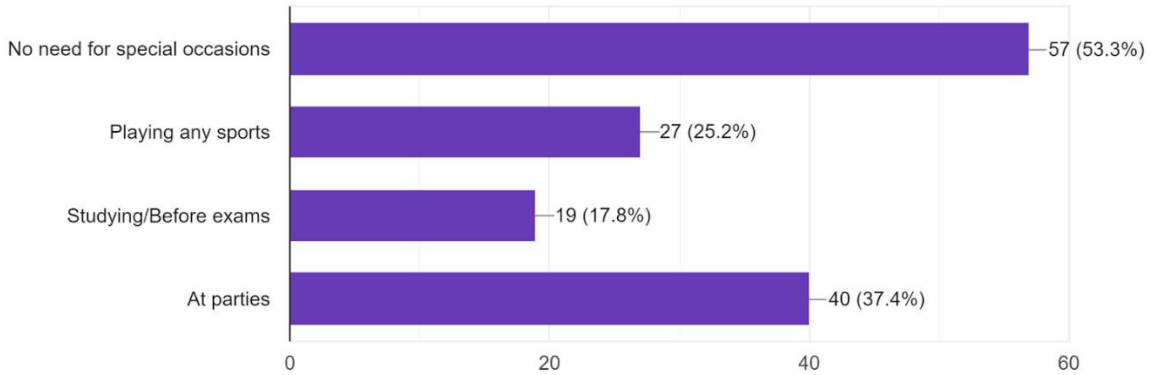
13. Study on the Knowledge of Respondents Having Different Substances in Their Health Beverages



As per the study, the Consumer awareness about the energy drinks were analysed and thus the outcomes were as follow:

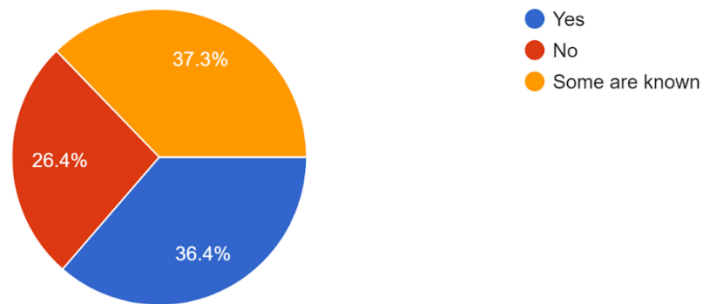
61.1 % vitamins content awareness detected
 51.9 % were aware of the sweeteners content
 44.4% mineral awareness and 30.6% knew the content of preservatives.

14. Respondents Answering on Occasion When They Consume Their Preferred Drinks



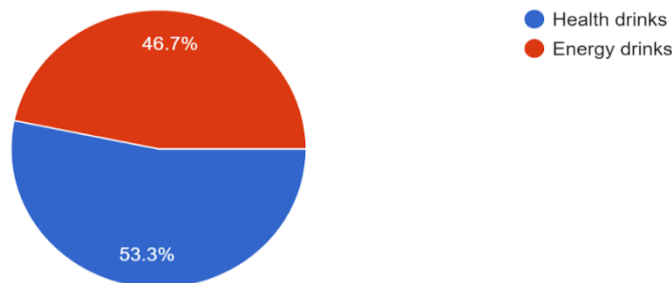
The respondents stated the timing and occasion of the consumption of their preferred drinks:
 53.3% says there is no need the special occasion for the drinks consumption
 37.4% give parties as a reason for consuming energy drinks
 25.2% drinks before or after playing any sports
 17.8 % have their energy drinks during study or exams

15. Consciousness of the Nutrients Included in Health Beverages



The Analysis States that:
 36.4% respondents were aware about the contents of the health drinks
 26.4% respondents were totally not aware of the contents of health drinks
 37.3% states about partial knowledge of the contents

16. Choice between Energy and Health Beverages During Lengthy and Heavy Lectures

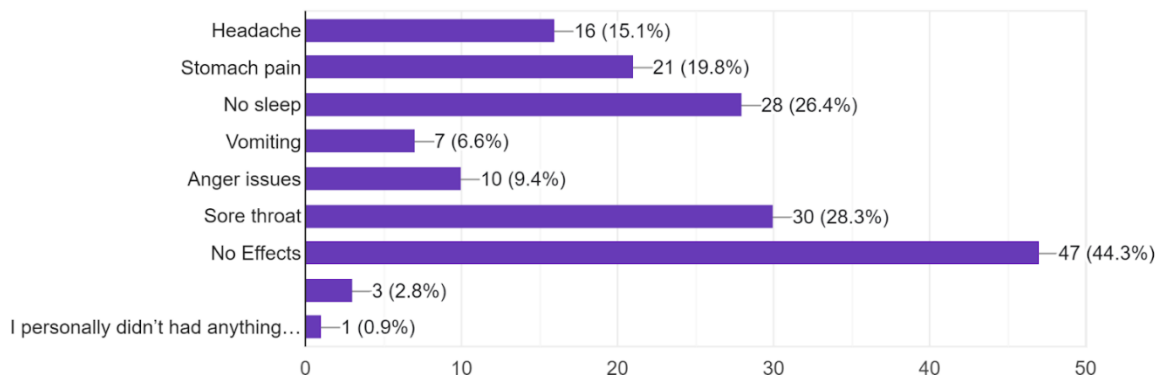


The Researchers analysed that

46.7% respondents prefer health drinks after attending heavy lectures

53.3% of respondents prefer energy drinks after attending heavy lectures

17. Side Effects Experienced by Various Individuals of Age (18-25)



The Researchers analysed that

44.3% of the respondents have no effects after consuming their preferred drinks.

28.3% states that they experience sore throat

26.4% experience insomnia

19.8% get affected by stomach pain

15.1% have headache

9.4% experiences anger issues after consumption of the preferred drinks

6.6% suffers from vomiting

Findings

1. Just a small percentage of the 111 respondents in the poll chose energy drinks, while the majority of them chose health beverages.
2. According to the poll, a large portion of the respondents (18–25 years old) is aware of the distinction between energy and health drinks, while a very tiny portion is unaware.
3. According to the poll, the majority of respondents' preferred health drink is Bournvita.
4. According to the poll, the majority of the respondents' preferred energy drink is Mount dew.
5. Most of the respondents are influenced by their peers to drink what they enjoy.
6. Out of the 111 respondents, 50 are aware of the contents of the drink they favor, 44 are only somewhat aware, and the remaining 15 are completely unaware.
7. Most respondents feel the need to consume their preferred beverage once a month, a smaller percentage like it once a week, and other people have their own timings.
8. Most young respondents do not add alcohol to their beverages (energy drink) at all, and even fewer add it in trace amounts.
9. The bulk of the respondents under study were found to be able to consume one can per week, whereas a smaller group reported being able to consume multiple cans per week.
10. The respondents mostly had increased alertness and freshness due to Energy drinks along with increased concentration and pleasant effect.
11. Among the respondents, most prefer caffeine containing Energy drinks.
12. Survey population is mostly aware of the contents of Health drinks such as vitamins, minerals and little awareness of preservatives and sweeteners.
13. Most respondents prefer Energy drinks without any specific occasion.
14. Most respondents have incomplete information about the contents of Health drinks.
15. Following any heavy lecture, the majority of respondents prefer Health drinks.

VI. CONCLUSION

The survey respondents, aged 18 to 25 years, provided highly insightful and practical responses that allowed the researchers to infer that

- The majority of them preferred caffeine-free health beverages over energy drinks.
- Most young respondents are aware of the nutritional value of the health beverages they choose.
- Although some young respondents love energy drinks, most of them just want one can per week since they are conscious of the caffeine level.
- Most respondents are influenced by their peers to drink what they enjoy.
- The majority of young responders add very little or no alcohol to their energy drinks, and even fewer add it in trace amounts.
- The majority of responders Favor health drinks after any heavy lecture.
- While energy drinks should be used with caution, health beverages are beneficial to the body.
- The article led us to the conclusion that most young people understand the distinction between energy and health drinks that health beverages are favoured more, and that energy drink intake is in limited quantity.

REFERENCES

1. Alsunni AA. (2015). Energy drink consumption: Beneficial and adverse health effects. *Int J Health Sci (Qassim)*, 9(4), 468–74.
2. *Health drink the nutrition source*. [cited 2024 Mar 6]; Available from: <https://www.hsph.harvard.edu/nutritionsource/healthy-drinks>.
3. *Health drink definition*. [cited 2024 Mar 6]; Available from: <https://www.collinsdictionary.com/us/dictionary/english/health-drink>.
4. Rogers, Kara. *Energy Drink*. Encyclopedia Britannica, 15 Mar. 2024, <https://www.britannica.com/topic/energy-drink>. Accessed 23 March 2024.
5. *Energy drink*. [cited 2024 Mar 20]. Available from: <https://www.britannica.com/topic/energy-drink>.
6. *Energy drink*. [cited 2024 Mar 20]. Available from: https://en.wikipedia.org/wiki/Energy_drink.
7. *Health drink*. [cited 2024 Mar 20]. Available from: <https://www.collinsdictionary.com/us/dictionary/english/health-drink>.
8. *Healthy drinks*. [cited 2024 Mar 20]. Available from: <https://www.hsph.harvard.edu/nutritionsource/healthy-drinks/>.
9. *Health care*. [cited 2024 Mar 20]. Available from: https://en.wikipedia.org/wiki/Health_care.
10. *Consumer*. [cited 2024 Mar 20]. Available from: <https://en.wikipedia.org/wiki/Consumer>.
11. *Consumer*. [cited 2024 Mar 20]. Available from: <https://dictionary.cambridge.org/us/dictionary/english/consumer>.
12. *Consumption*. [cited 2024 Mar 20]. Available from: <https://www.britannica.com/money/consumption>.
13. *Energy drinks*. [cited 2024 Mar 17]; Available from: <https://www.hsph.harvard.edu/nutritionsource/energy-drinks/>.
14. Malinauskas BM, Aeby VG, Overton RF, Carpenter-Aeby T, & Barber-Heidal K. (20078). A survey of energy drink consumption patterns among college students. *Nutr J.*, 6(1), 35.
15. *Energy drinks: Health downsides not worth the extra pep*. [cited 2024 Mar 15]; Available from: <https://www.hsph.harvard.edu/news/hsph-in-the-news/energy-drinks-health-downsides-not-worth-the-extra-pep/>.
16. Costantino A, Maiese A, Lazzari J, Casula C, Turillazzi E, & Frati P, et al. (2023). The dark side of energy drinks: A comprehensive review of their impact on the human body. *Nutrients*, 15(18), 3922.
17. *The pros and cons of energy drinks*. [cited 2024 Mar 17]; Available from: <https://n-o-v-a.com/blog/pros-cons-energy-drinks/>.
18. *Are energy drinks good or bad for you?*. [cited 2024 Mar 17]; Available from: <https://www.healthline.com/nutrition/energy-drinks>.
19. *Energy drinks*. [cited 2024 Mar 16]; Available from: <https://www.nccih.nih.gov/health/energy-drinks>.
20. G., Uma, & R, Abarnaa. (2023). 19-NMRJ4888. 8. 220-229.
21. Thomas S, & Scholar MP. A study on consumer preference towards health drinks in Thanjavur town. *Novateur Publications Journal NX-A Multidisciplinary Peer Reviewed Journal*.
22. Goyal A, Nair A, & Kumar B. (2019). *Great Lakes Herald*, 13.