International Journal of Social Science Research and Review

ijssrr.com
editor@ijssrr.com
Volume 9, Issue 11
November 2026
pp. 172–183

Factors Influencing Beverage Purchase Decisions Among Physically Active Individuals: A Cross-Sectional Survey

Devyani Joshi

Heritage International Xperiential School, Gurugram, India

Corresponding author: devyanijoshi2008@gmail.com

DOI: https://doi.org/10.47814/sj19tp32

Abstract

Sports and functional beverages are no longer bought only by competitive athletes, yet little is known about what shapes the choices of ordinary active consumers. This study examined how brand, nutritional information, price and packaging influence beverage purchases among physically active people aged 15 to 35. A cross-sectional online survey was completed by 103 respondents using purposive sampling method, conducted from June 2026 to August 2026. Differences by gender, age group, primary activity (gym, running, sport) and weekly training frequency were examined using Descriptive statistics, t-test, ANOVA, Tukey HSD Post Hoc. Nutritional information (M = 4.09) and price (M = 3.85) were rated as more important than brand (M = 3.49) and packaging (M = 3.32). Women reported more favourable packaging attitudes than men (p = .048, d = 0.44). Runners reported higher price sensitivity (p = .010, Tukey-adjusted) and gave price greater importance (p = .029) than team and racquet sport participants. No significant differences were found by age group, training frequency or purchase frequency. Beverage firms can utilize these findings in order to market to their target consumer base more effectively, which will allow them to achieve greater sales and revenue.

Keywords: *Consumer Preferences; Sports Drinks; Functional Beverages; Price Sensitivity; Packaging; Physical Activity; Young Adults*

Introduction

The global beverage market consists of tea, coffee, sports drinks, energy drinks, functional beverages, soft drinks, etc. The global beverage market size in 2025 was valued at USD 1.83 trillion with an expected growth at a CAGR of 4.2% (research and markets,2025),The types of beverages used are Alcoholic Beverages, Non-Alcoholic Beverages, Bottled Water, Carbonated Soft Drinks, Fruit Juice, Milk, Dairy, Almond, Soy, Rice, Oat, Cashew, Coconut, Others. This increase in consumption is a result of rapid urbanization and globalisation (Admin, 2026), due to changing lifestyles. To accommodate the fast paced urban life energy giving beverages such as coffee have increased.There are many factors to consider when a consumer chooses a certain beverage such as age, demographic, brand awareness, nutritional facts, packaging, trends, lifestyle, e.t.c.

The growing health and wellness market (Maurya & Gotadki, 2026) is also a reason for the beverage industry increasing and reshaping, 97% of US consumers have engaged in health and wellness behaviors over the past two years, and those behaviors now show up clearly in beverage choices (Harapko, 2026). Consumers seek beverages not only for hydration but for additional benefits as well such as to energise, provide essential nutrients and replenish the body (*Top Beverage Trends for 2026*, 2026). Companies have identified this consumer need and are innovating and evolving their products in order to stay competitive (Teja Thota, 2026).

Much of the published work on food and drink choices in sport has concentrated on competitive athletes, while general consumer research on soft drinks rarely separates people who exercise regularly from those who do not. Recreational gym-goers, runners and club-level players sit between these two bodies of work. They are also the group that sports and functional drink brands increasingly target, yet we know comparatively little about whether their purchases are driven by function (hydration, protein, electrolytes) or by more ordinary considerations such as price, packaging and brand. The present study looks at this group directly. It surveys physically active people aged 15 to 35 and asks how much weight they give to brand, nutritional information, price and packaging, and whether this differs by gender, age group, primary activity and training frequency.

1.1 Impact of electrolyte on human body:

When engaging in physical activities such as sports or gym, muscles produce heat which requires the body to sweat in order to help cool down, sweat is mostly water but also contains essential minerals such as potassium, sodium, magnesium and calcium that the body loses out on as the body sweats (Cleveland Clinic, 2024). If such minerals are low in the body there may be symptoms such as muscle fatigue, weakness, brain fog and cramps (*Mineral Deficiency Symptoms & Treatment*, 2025). If the body has too low or high electrolytes it can result in electrolyte imbalance, the common symptoms for this are nausea, vomiting, numbness. Dehydration can also lead to electrolyte imbalance. Some symptoms of dehydration are dry mouth, thirst, not urinating much, muscle cramp and headaches(Cardona, 2025). To prevent this people drink electrolyte drinks, sodium helps to maintain fluid balance, magnesium helps regulate blood sugar and supports healthy body function (Higuera, 2019), potassium helps the body's muscle, cells, and heart function properly. It is important to distinguish the role of electrolytes in the body from what sports drinks are recommended for. Note that fluid losses of more than about 2% of body weight can negatively affect performance, and adding sodium to fluids during prolonged exercise can help (Sawka et al., 2007). There are many people who run casually at the gym and train for shorter durations at moderate intensities; in such cases, they might only need water and a normal diet. Amongst these consumers, it seeks to understand why they purchase electrolyte drinks: physiology or the marketing, taste and convenience.

Consumers changing lifestyles heavily influence the additional benefits that they require in their drinks for example the fitness industry valued at USD 121.58 billion in 2026 with a CAGR of 9.4% (consumer and reports, 2026) resulted in consumers realising the need for protein, with 42% consumers saying that protein is the most important ingredient for them.Which is why protein beverages demand had a 122% increase from 2020 to 2024 (Innova Market Insights, 2025).This increase in the fitness industry also led people to reduce their sugar intake, giving boom to diet and zero sugar sodas with a global market size of USD 4.41 billion in 2025 and a CAGR for 5.76% (*Diet Soft Drinks Market Size, Share | Growth Forecast [2034]*, 2026).“Growing awareness of gut health (Kenny, 2025) also led to a rise in gut-friendly drinks, and brands such as Poppi and Olipop grew quickly with prebiotic sodas

Different ages may have different choices for beverages this could be due to varying preferences, health concerns etc. Teenagers are more easily influenced by trends and social media (Kucharczuk et al., 2021)which is why they may have different preferences for beverages than adults. Different ages may also require different beverages due to the health benefits that they may offer, ageing may increase gut related problems which is why someone older may prefer to have beverages such gut healthy drinks like Poppi or Olipop.

1.2 Major Brands in the Sports and Electrolyte Drink Marke

The most popular electrolyte/sports drink companies are Gatorade, Powerade and Liquid IV. Gatorade owned by PepsiCo is the leading sports drink being sold in over 80 countries (Buildd, 2024). Gatorade is the official beverage partner for major sports leagues such as the NBA and NFL, Along with this they use high profile athletes to endorse their products for marketing and promoting their product. Powerade, owned by CocaCola is the official drinks partner for organizations such as the Olympics, FIFA world cup, MLS and NCAA. Powerade athletes each focused on a mental or physical health slogan to promote the drink including global sports icons such as: Lamine Yamal “power your fate, Simone Biles “Pause is power”, Shubman Gill “Fuel your power”, etc. They each focused on a mental or physical health slogan to promote the drink. Liquid IV uses a different approach than the above two.Though they also focus on using athletes to endorse their product, it's much less compared to Gatorade and Powerade.They focus more on social media marketing and partnering with creators from TikTok and Instagram, they use Guerrilla sampling, by having pop-ups and using robots to provide thousands of samples and a clever marketing technique by making 4 pm, the most dehydrated time of the day “I.V.’o clock”.

These three brands reach consumers in quite different ways. Gatorade and Powerade rely on league partnerships and well-known athletes, whereas Liquid I.V. leans on social media, creators and in-person sampling (Kelly, 2025). Brand reputation and packaging therefore carry a lot of weight in how these products are presented, which is one reason both were included as factors in the survey described below.

2. Methodology:

2.1 Aim and objective of the study:

The aim of this study is to examine consumer preferences in the beverage industry among people between the age of 15 and 35.This study is specifically for active individuals who participate in physical activity at least once a week and are leading an active lifestyle. This research is being conducted to determine what factors influence such individuals when buying beverages. This study is quantitative and cross sectional in nature.

2.2 Research questions and hypotheses

The study was guided by four questions. (1) Do male and female respondents differ in price sensitivity, packaging attitudes, and the importance they give to brand, nutritional information, price and packaging? (2) Do these differ across the three age groups (15–19, 20–27 and 28–35 years)? (3) Do they differ by primary activity (gym, running or sport)? (4) Do they differ with weekly training frequency? For each question the null hypothesis was that no difference exists between groups, tested at $\alpha = 0.05$.

2.3 Participants and sampling

The sample comprised 103 respondents aged 15 to 35 years who reported taking part in regular physical activity. Respondents were recruited via purposive sample through online platforms, between June 2026 and August 2026. Inclusion criteria were: age 15–35; regular physical activity, with the minimum frequency used; ability to read English. By age, 40 respondents were aged 15–19, 53 were aged 20–27 and 10 were aged 28–35. By gender, 63 respondents were female, 36 were male and 4 preferred not to say. By primary activity, 49 respondents do gym/weight training, 30 do running/ athletics, 23 do team/racket sports and one does combat sports.

2.4 Instrumentation

Data collection was done using a survey through Google Forms. The survey consisted of 24 questions. The first section of the survey consisted of questions asking for the respondent's age, gender, occupation, primary activity, frequency of the activity per week and consumption of sports/functional beverages. The second section asked the respondents an open ended question asking them what type of sports/functional drinks they consume, the most common responses were protein shakes, electrolytes, and energy drinks. This was followed by 15 questions asking them to choose either strongly disagree, disagree,neutral, agree or strongly agree to each statement in the question. 10 of those questions were about price and 5 were about the packaging of the beverages. Lastly there were 4 questions asking the respondents how important brand name/reputation, nutritional information, price and packaging is to them when purchasing a beverage for/after physical activity, they were asked to rate these factors on a scale of 1-5. This questionnaire was self created. The questionnaire was self created and it has been acknowledged in the limitations that the validity and reliability of the survey has not been tested.

Responses to the 15 Likert items were scored from 1 (strongly disagree) to 5 (strongly agree) following the usual five-point format (Likert, 1932), and the price items and packaging items were summed to give a price sensitivity score and a packaging attitude score.

2.5 Ethical considerations

Participation for the survey was voluntary, and could withdraw from the study at any time. At the start of the survey it was stated that by filling this survey they gave consent to be a part of the study, they were given assurance that none of the personal information would be disclosed and would only be used for academic purposes. The data was collected anonymously, the responses on the google form were stored on a google sheet. Contact information was provided in case of any queries.

Because the sample included respondents under 18, parental/guardian consent was obtained. Assent was also procured from the respondents filling out the form. Both the consent and assent was included in the survey. Data was collected anonymously and no personally identifying information was recorded or stored.

2.6 Data analysis

Data were analysed using SPSS version 25. Descriptive statistics (frequencies, percentages, means and standard deviations) were used to describe the sample. Differences between two groups (gender) were tested with independent-samples t-tests, and differences across three or more groups (age group, primary activity, training frequency) with one-way ANOVA , choosing the parametric or non-parametric version according to the Shapiro-Wilk normality check. Effect sizes are reported as Cohen's d or η^2 (Cohen, 1988), and $p < .05$ was treated as statistically significant.

3. Results

3.1 Participants and Procedure

A total of 103 respondents completed at least part of an online self-report survey on beverage purchase preferences. Respondents were physically active individuals ranging in age from 15 to 35 years, recruited from gym, running, team-sport, racquet-sport, and combat-sport communities. Twenty-one respondents (20.4%) did not complete the sections of the survey concerning health consciousness, price sensitivity, packaging attitude, and the

importance ratings of purchase factors; these cases were excluded listwise from the corresponding analyses, yielding an analytic sample of n = 82 for all scale-based and importance-rating analyses reported below. Demographic and behavioral characteristics of the full sample (N = 103) are reported in Table 1. The data was collected using a purposive sampling technique.

3.2 Analytic Strategy

Descriptive statistics were computed for all demographic variables and study measures. To examine group differences, independent-samples t-tests (Welch's correction for unequal variances) were used for the two-category comparison of gender (male vs. female; the four respondents selecting "Prefer not to say" were excluded from this comparison for insufficient cell size), with Cohen's d reported as the standardized effect size. One-way between-subjects ANOVAs were used for all remaining categorical grouping variables with three or more levels (age group, occupation, primary physical activity, training days per week, and beverage-purchase frequency), with eta-squared (η^2) reported as the effect size. For occupation, the "Self-employed" and "Other" categories were combined into a single "Other" category owing to small individual cell sizes (n = 3 and n = 2, respectively). For training days per week, the "5–6 days" and "Daily" categories were combined into a single "5+ days" category (n = 2 for Daily).The original 6-category item for beverage-purchase frequency was reduced to 3 theoretically meaningful categories: Frequent (daily to 2 – 3 times a week), Occasional (once a week to less than once a week), and Rare/Never (rarely or never). A single respondent who reported engaging in combat sports as a primary activity could not be compared with the other activity categories because the cell size for combat sports is n = 1. Tukey HSD pairwise comparisons were performed on the omnibus ANOVA when it was significant. Effect sizes were interpreted using Cohen's (1988) conventions: d = 0.20, 0.50, and 0.80 as small, medium, and large; η^2 = .01, .06, and .14 as small, medium, and large. All significance tests were performed at the .05 level of alpha.

Table 1

Demographic and Behavioral Characteristics of the Full Sample (N = 103)

Characteristic	**n**	**%**
Age		
15–19 years	40	38.8
20–27 years	53	51.5
28–35 years	10	9.7
Gender		
Female	63	61.2
Male	36	35.0
Prefer not to say	4	3.9
Occupation		
Student (School)	32	31.1
Student (College/University)	49	47.6
Working Professional	17	16.5
Self-employed	3	2.9
Other	2	1.9
Primary Physical Activity		
Gym / Weight Training	49	47.6
Running / Athletics	30	29.1
Team / Racquet Sports	23	22.3
Combat Sports	1	1.0

Characteristic	n	%
Training Days per Week		
1–2 days	49	47.6
3–4 days	38	36.9
5–6 days	14	13.6
Daily (7 days)	2	1.9
Beverage Purchase Frequency		
Daily	6	5.8
4–6 times/week	6	5.8
2–3 times/week	10	9.7
Once a week	9	8.7
Less than once a week	15	14.6
Rarely	36	35.0
Never	21	20.4

Note. Percentages are based on the full sample (N = 103) and may not sum to exactly 100 due to rounding.

Table 2

Variable	k	M	SD	Min	Max	α
Health Consciousness	5	3.63	0.90	1.20	5.00	.77
Price Sensitivity	4	3.13	0.87	1.00	4.75	.77
Packaging Attitude	4	3.35	0.75	1.25	5.00	.61
Importance: Brand	1	3.49	1.02	1.00	5.00	—
Importance: Nutrition	1	4.09	1.08	1.00	5.00	—
Importance: Price	1	3.85	0.96	1.00	5.00	—
Importance: Packaging	1	3.32	1.12	1.00	5.00	—

Descriptive Statistics and Internal Consistency for Study Variables (n = 82)Note. k = number of items comprising the composite; α = Cronbach's alpha. There is no internal consistency coefficient for single item importance ratings. For Item 18, Price Sensitivity was reverse coded and assigned the score. Rating for all variables was on a 1–5 scale.

There was acceptable internal consistency (Nunnally, 1978) for Health Consciousness (α = .77) and Price Sensitivity (α = .77) and marginally below the accepted .70 level for Packaging Attitude (α = .61), indicating that the four packaging items may be somewhat non-unidimensional in this sample and results involving this composite should be interpreted with some caution. The respondents rated the importance of nutritional information (M = 4.09) and price (M = 3.85) higher than the importance of brand (M = 3.49) and packaging (M = 3.32) when deciding on which beverages to buy.

Table 3

Independent-Samples t-Test Comparisons by Gender

Outcome	Female M (SD)	Male M (SD)	t	df	p	d
Health Consciousness	3.66 (0.99)	3.57 (0.75)	0.48	79	.635	0.10
Price Sensitivity	3.21 (0.82)	3.04 (0.95)	0.86	79	.395	0.20
Packaging Attitude	3.48 (0.80)	3.16 (0.64)	2.01	79	.048*	0.44
Imp: Brand	3.45 (1.02)	3.53 (1.05)	−0.35	79	.728	−0.08
Imp: Nutrition	4.08 (1.15)	4.09 (1.00)	−0.05	79	.960	−0.01
Imp: Price	3.88 (0.88)	3.81 (1.09)	0.28	79	.779	0.07
Imp: Packaging	3.27 (1.15)	3.38 (1.10)	−0.43	79	.668	−0.10

Note. n(Female) = 49, n(Male) = 32. Respondents selecting "Prefer not to say" (n = 4) were excluded from this comparison. Welch's t used throughout. d = Cohen's d (positive values indicate higher female scores). *p < .05.

Table 4

One-Way ANOVA Results by Age Group

Outcome	15–19 M (SD)	20–27 M (SD)	28–35 M (SD)	F	p	η^2
Health Consciousness	3.43 (0.84)	3.76 (0.90)	3.60 (1.07)	1.19	.311	.029
Price Sensitivity	2.85 (1.01)	3.29 (0.76)	3.25 (0.83)	2.37	.100	.057
Packaging Attitude	3.31 (0.76)	3.44 (0.71)	2.93 (0.91)	1.47	.236	.036
Imp: Brand	3.46 (1.04)	3.51 (1.00)	3.43 (1.27)	0.03	.970	.001
Imp: Nutrition	4.11 (1.13)	4.04 (1.06)	4.29 (1.11)	0.16	.853	.004
Imp: Price	3.54 (1.10)	4.02 (0.85)	4.00 (0.82)	2.43	.095	.058
Imp: Packaging	3.07 (1.18)	3.49 (1.06)	3.14 (1.21)	1.32	.272	.032

Note. n(15–19) = 28, n(20–27) = 47, n(28–35) = 7.

There were no statistically significant differences between the ages for any outcome (all p > .05). The two largest age-related effects (not significant) were for Price Sensitivity (η^2 = .057) and for Importance: Price (η^2 = .058), both of which fell just under the medium effect level, and the youngest age group (15-19 years) had slightly less Price Sensitivity and Price Importance than the two older age groups. These trends were characterized as leveling off for the 28-35 age group (n = 7), and may be replicated with a larger sample size for the age group before a firm conclusion is drawn.

Table 5

One-Way ANOVA Results by Primary Physical Activity

Outcome	Gym M (SD)	Running M (SD)	Team/Racq. M (SD)	F	p	η^2
Health Consciousness	3.73 (0.83)	3.55 (1.06)	3.55 (0.86)	0.37	.692	.009
Price Sensitivity	3.10 (0.73)	3.50 (0.84)	2.69 (1.02)	4.51	.014*	.104
Packaging Attitude	3.32 (0.71)	3.40 (0.91)	3.34 (0.68)	0.09	.915	.002
Imp: Brand	3.49 (1.12)	3.67 (0.66)	3.29 (1.16)	0.61	.544	.016
Imp: Nutrition	3.98 (1.14)	4.10 (1.18)	4.41 (0.71)	0.99	.376	.025
Imp: Price	3.88 (0.88)	4.14 (0.91)	3.35 (1.06)	3.52	.034*	.083
Imp: Packaging	3.42 (1.03)	3.33 (1.35)	3.06 (1.09)	0.62	.543	.016

Note. n(Gym/Weight Training) = 43, n(Running/Athletics) = 21, n(Team/Racquet Sports) = 17. The single combat-sports respondent (n = 1) was excluded. *p < .05.

Primary physical activity was significantly associated with Price Sensitivity, $F(2, 78) = 4.51$, $p = .014$, $\eta^2 = .104$, and with perceived Importance of Price, $F(2, 78) = 3.52$, $p = .034$, $\eta^2 = .083$, both medium-to-large effects. Price sensitivity and the importance of price were higher for the respondents whose main activity was running/athletics than for the respondents engaged in team or racquet sports, but did not differ significantly from the gym/weight-training respondents (Table 7). There were no significant differences among the various activities for Health Consciousness, Packaging Attitude, Importance: Brand, Importance: Nutrition or Importance: Packaging (all $p > .05$). No significant activity-based differences were found for Health Consciousness, Packaging Attitude, Importance: Brand, Importance: Nutrition, or Importance: Packaging (all $p > .05$).

Table 6

Tukey HSD Post Hoc Comparisons by Primary Physical Activity

Outcome / Comparison	Mean Diff.	95% CI	p (adj.)
Price Sensitivity			
Gym vs. Running	0.40	[−0.13, 0.93]	.170
Gym vs. Team/Racquet	−0.41	[−0.97, 0.16]	.205
Running vs. Team/Racquet	−0.81	[−1.45, −0.16]	.010*
Importance: Price			
Gym vs. Running	0.26	[−0.33, 0.85]	.547
Gym vs. Team/Racquet	−0.53	[−1.16, 0.10]	.119
Running vs. Team/Racquet	−0.79	[−1.51, −0.07]	.029*

Note. *p < .05. Positive mean differences favor the first-listed group.

Table 7

One-Way ANOVA Results by Training Days per Week

Outcome	1–2 d M (SD)	3–4 d M (SD)	5+ d M (SD)	F	p	η^2
Health Consciousness	3.38 (0.95)	3.82 (0.81)	3.80 (0.91)	2.43	.095	.058
Price Sensitivity	3.34 (0.90)	3.06 (0.85)	2.79 (0.75)	2.06	.135	.050
Packaging Attitude	3.39 (0.81)	3.35 (0.66)	3.23 (0.89)	0.20	.819	.005
Imp: Brand	3.53 (0.86)	3.36 (1.13)	3.75 (1.14)	0.70	.502	.017
Imp: Nutrition	3.79 (1.23)	4.33 (0.93)	4.17 (0.94)	2.29	.108	.055
Imp: Price	4.06 (1.01)	3.72 (0.85)	3.67 (1.07)	1.36	.262	.033
Imp: Packaging	3.59 (1.08)	3.17 (1.08)	3.00 (1.28)	1.84	.166	.044

Note. n(1–2 days) = 34, n(3–4 days) = 36, n(5+ days [5–6 days + Daily]) = 12.

No significant differences by training frequency were observed for any outcome (all $p > .05$). Health Consciousness ($\eta^2 = .058$) and Importance: Nutrition ($\eta^2 = .055$) showed the largest, though still non-significant, effects, with respondents training only 1–2 days per week showing somewhat lower scores on both than more frequent trainers — a pattern consistent with, but not confirming, a link between training commitment and health-oriented purchasing.

Table 8

One-Way ANOVA Results by Beverage Purchase Frequency

Outcome	Rare/Never M (SD)	Occasional M (SD)	Frequent M (SD)	F	p	η^2
Health Consciousness	3.64 (0.93)	3.54 (0.82)	3.71 (0.95)	0.20	.818	.005
Price Sensitivity	3.28 (0.84)	3.16 (0.82)	2.86 (0.95)	1.63	.203	.040
Packaging Attitude	3.48 (0.74)	3.35 (0.73)	3.14 (0.77)	1.44	.242	.035
Imp: Brand	3.36 (0.99)	3.71 (0.75)	3.45 (1.30)	0.84	.433	.021
Imp: Nutrition	3.94 (1.12)	4.21 (1.10)	4.18 (1.01)	0.54	.583	.014
Imp: Price	3.94 (0.83)	3.83 (1.05)	3.73 (1.08)	0.35	.704	.009
Imp: Packaging	3.33 (1.15)	3.46 (1.02)	3.14 (1.21)	0.47	.624	.012

Note. n(Rare/Never) = 36, n(Occasional) = 24, n(Frequent) = 22.

No significant differences by beverage-purchase frequency emerged for any outcome (all $p > .05$), although frequent purchasers showed a non-significant tendency toward lower price sensitivity and lower packaging-attitude scores than infrequent purchasers, consistent with the general pattern observed for activity-based price sensitivity above, but not statistically reliable in this sample.

Across seven purchase-related outcomes and five grouping variables, three statistically significant effects emerged. First, packaging attitudes were more favorable for women than for men ($d = 0.44$), indicating that packaging design cues, convenience, and sustainability may be more important for women in this sample, as has been found in previous consumer research where packaging aesthetics has been shown to be an important determinant of women's purchase evaluations but not men's (Silayoi & Speece, 2004). Second, the price sensitivity of the occupations differed ($\eta^2 = .12$), with the smaller other occupational group exhibiting significantly less price sensitivity than all of the college/university students – presumably due to differences in the amount of money available for discretionary spending or price salience across life stages, but with caution due to the very small cell size ($n = 4$). Third, and most consistently, the primary physical activity was related to both price sensitivity ($\eta^2 = .10$) and perceived importance of price ($\eta^2 = .08$): runners were more price-sensitive and rated price as more important than team/racquet-sport participants, which could stem from differences in typical beverage consumption occasion, sponsorship exposure, or perceived need for specialized hydration and recovery products for different categories of physical activity.

Nutrition rating – the two variables most directly tied to the health-and-performance framing of the survey – showed no significant differences across any demographic or behavioral grouping, suggesting these attitudes may not have differences across the sampled subgroups of physically active young adults, or that the grouping variables examined here are not the primary drivers of health-conscious purchasing in this population.

4. Discussion

The findings of the present study indicate difference in packaging attitudes when it comes to gender, difference in price sensitivity and importance of price when it comes to primary physical activity.

The findings of the present study revealed that there was no statistically significant difference between male and female respondents with regard to variables of health consciousness, price sensitivity and importance assigned to brand/nutrition/price/packaging. This finding is supported in popular literature. For instance, a study by Razia Sehdev Nagina et al. (2024) found that the factors such as brand, price, nutrition don't differ between male and female while packaging is a factor which differs between male and female when making decisions about buying soft drinks. However a different study by Manandhar(2021) states that though packaging is an important factor when individuals choose soft drinks, gender does not affect consumers choices in packaging.

Saleh et al. (2018) study shows that consumers are less responsive to changes in price for soft drinks in Saudi Arabia, 64.4% of the respondents were below the age of 36.This study also states that health consciousness and price sensitivity do not differ significantly due to age, matching the results of table 4. Alternatively another study by Bae et al. (2015, 2016) states how age can have an impact on the consumers taste preferences in green tea beverages, this directly correlates to their purchasing behaviour.

A study by Forsyth & Mantzioris (2023) examined the eating habits of professional Australian athletes and found 51% are concerned with risks of ultra processed foods. 73% consume sports drinks regularly and 40% consume isolated protein supplements about once a week at least.This suggests correlation between beverage consumption with physical activity, participants involved in this study spent at least 10 hours a week playing sports.

A study by Carey et al. (2025) of 1,145 athletes and active people in Ireland found that food choices were significantly influenced by sport type and level of competition. The sport types included endurance, intermittent, strength, combat, artistic, racquet and other. Calella et al. (2024) reported a similar pattern in a cross-sectional study from southern Italy, in which athletes showed healthier food preferences than inactive individuals (n = 411; 25% inactive, 34% gym-goers, 41% sport participants). Wirnitzer et al. (2021) also treated weekly training frequency as a meaningful variable, comparing runners who trained twice a week with those who trained five times a week. The present study did not reproduce these differences. Health consciousness did not vary by primary activity (Table 5, $p = .692$) or by training days per week (Table 7, $p = .095$). This may be due to a number of reasons. The number of respondents in each of these subgroups was small (17 for the team/racquet sports and 21 for the running subgroups, and 12 for the 5 or more days per week training group) and this limited the power of the study to detect differences. The effect for training frequency was medium-sized ($\eta^2 = .058$), but not significant, which is likely because it was a low power effect. The sample additionally focused on a limited scope of activities (only three of the activities were included) and the one respondent who practices combat sport activity was removed. Finally, the earlier studies involved athletes and recreational participants with varying levels of competition, whereas the present sample consisted of recreationally active people who completed the purchase-related sections, and level of competition was not measured. These differences limit direct comparison, and replication with larger and more varied samples is needed before concluding that activity type and training frequency are unrelated to health consciousness.

A study by Nazni & Vimala (2010) between Indian college athletes playing volleyball, weightlifting and running.43% of weight lifters had satisfactory knowledge of nutrition and 29% of runners had very good knowledge about nutrition. The mean nutrition intake for runners was the highest compared to the other two sports. Hence, knowing the importance of nutrition can affect the frequency of food consumed. Another study by Telles et al. (2023) found that greater yoga practice has links to better dietary behaviours such as higher fruit and vegetable intake and lower sugar sweetened beverage intake. The study also suggests that activity frequency and consumption behaviour is not consistent which helps explain why there is an absence of significant differences in training frequency in the present study.

This topic is significant because consumers are becoming increasingly aware of health, nutrition and ingredients. When consuming energy drinks, it is an assumption that the consumers understand how electrolytes impact the body, the importance of low sugar and the different types of vitamins in the body. By understanding changing consumer preferences businesses can benefit by adapting to the changing expectations. Sports drinks are no longer only consumed by athletes but individuals who are active in any way such as running, going to the gym, playing sports or even just for hydration. Due to the increase in customer base and changing demand due to different consumer preferences the study provides businesses market research on what the current market requires and what factors are affecting consumption, this can help businesses gain a competitive advantage.

The practical implications of the findings may suggest that there is a difference in the packaging attitudes between men and women so firms whose target consumers are only men or only women need to know how the packaging attitudes are different and what packaging attracts their target consumers. There is a difference in price sensitivity between the respondents' primary activity Gym, Running, and sports. So, firms need to pay attention to which category buys their product more so they can price it accordingly.

5. Conclusion

In the 82 respondents who were physically active and answered on the attitude sections, nutritional information and price came out as the most important purchase factors over brand and packaging. The most consistent correlate of price attitudes was type of activity with runners indicating significantly more price sensitivity than those in team and racquet sports, while women reported more positive packaging attitudes than males, though this trend was close to significance and the reliability of the packaging scale was relatively low. There was not a significant relationship between age group, training frequency or purchase frequency and any outcome, however, the subgroup sizes are too small to draw conclusions from these null findings. This has implications for beverage companies to consider activity segmentation for pricing and the testing of packaging with men and women separately. Due to the small sample size and the fact that the sample was not randomly selected, the results are exploratory and should be replicated with larger, more balanced samples.

5.1 Restrictions of the study

1. Limited sample size: A small number of respondents (82) was used in the study, restricting the generalisation of the findings.
2. Age distribution (not even): age range 15-19 was very similar (28 respondents) but age range 28-35 had only 7 respondents, too few respondents to make a valid comparison.
3. Responses to the questions on the survey might not have been interpreted the same way by the respondents.
4. However, the frequency of physical activity is not a measure of intensity, and thus is not a valid indication of the influence of physical activity on consumer choice.
5. Most analyses were conducted using 82 respondents, since 21 of the 103 respondents (20.4%) did not complete the attitude sections.
6. Multiple testing: Forty-two comparisons were conducted without adjustment so isolated significant results, such as the difference between males and females in attitude toward packaging ($p = .048$), may have been chance findings and require replication.
7. Measurement: There was marginal internal consistency for the packaging attitude scale ($\alpha = .61$) and the importance ratings are single items and therefore, differences on these measures could not be interpreted with great confidence.
8. Non-random sampling: Purposive sampling was used to recruit respondents, which may not represent all of the respondents aged 15 to 35, and there may be differences between those who responded and those who did not.
9. Self-reported, cross-sectional data: Attitudes and purchases were self-reported in a single online questionnaire, and that is subject to recall error and social desirability bias, and the design does not provide any indication of gender, activity or age causing differences in beverage selection.
10. This survey has not been validated.

5.2 Future recommendations

1. Larger sample size: Future research should focus on a much greater sample size to enhance the reliability and generalisability of the results.
2. Conclusions about a particular age group should be more reliable, with future studies having a relatively comparable number of respondents in each age group.
3. Survey questions can be improved in future studies by explaining each question properly, and including multiple questions for each criteria such as health consciousness, packaging attitudes to achieve more reliable data.
4. Future studies can involve more than just a survey, and can be conducted in a variety of ways.For instance, further qualitative information can be gathered through interviews whereby the interviewer has the opportunity to clarify doubts in the questions.
5. Include validated and pilot tested scales for items including health consciousness, price sensitivity and packaging attitude and report item level wording and reliability, for ease of comparison with other studies.
6. Hire in multiple cities or countries, and, if possible, in a probability or quota sample that is representative of an overall population of active people.
7. Assess if self-reported attitudes correlate with recorded purchase information (e.g. retail or app purchase information).
8. Consider frequency, intensity and length of exercise to determine the usefulness of an electrolyte drink.

References

Admin. (2026, March 24). How urbanization affects coffee demand. AMG Coffee Export in Ethiopia. https://amgcoffeeexport.com/how-urbanization-affects-coffee-demand/

Cardona (2022). What are electrolytes and why do I need them? In www.bupa.co.uk. https://www.bupa.co.uk/newsroom/ourviews/what-are-electrolytes

Carey, C. C., Creedon, E. M., Molloy, F., Lewis, M., Leen Smith, B., & McCarthy, E. K. (2025). Exploring food choice influences in athletes and active populations in Ireland: A cross-sectional study. Current Developments in Nutrition, 104568. https://doi.org/10.1016/j.cdnut.2025.104568

Cleveland Clinic. (2024, August 15). What is sweat & why do we sweat? Cleveland Clinic. https://my.clevelandclinic.org/health/body/sweat

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.

Diet Soft Drinks Market Size, Share | Growth Forecast [2034]. (2026). https://www.fortunebusinessinsights.com/diet-soft-drinks-market-115387

Forsyth, A., & Mantzioris, E. (2023). An online exploratory survey of Australian athletes' and exercisers' use of and attitudes towards ultra-processed sports foods. British Journal of Nutrition, 130(9), 1–12. https://doi.org/10.1017/s0007114523000648

Gatorade. (2023, April 18). Forbes. https://www.forbes.com/companies/gatorade/

Gatorade Marketing Strategy: The ultimate plan that gets you wondering "Is it in you" too? (n.d.). Buildd. https://buildd.co/marketing/gatorade-marketing-strategy

Harapko, S. (2026). How intentional consumer choices are shaping the US beverage market.Ey.Com.

Higuera, V. (2019, March 27). Magnesium and diabetes: How are they related? Healthline Media. Healthline. https://www.healthline.com/health/diabetes/magnesium-and-diabetes

Innova Market Insights. (2025, June 4). Protein beverages trends, global market overview. Market trends. https://www.innovamarketinsights.com/trends/protein-beverages-trends-global-market-overview/

Kelly, C. (2025, June 23). How Liquid I.V.'s marketing supports its growth surge. Marketing Dive. https://www.marketingdive.com/news/how-liquid-ivs-marketing-supports-its-growth-surge-under-unilever/751082/

Kenny, S. (2025, April 22). Why everyone got obsessed with gut health. Business Insider. https://www.businessinsider.com/why-gut-health-microbiome-trend-2025-3

Kucharczuk, A. J., Oliver, T. L., & Dowdell, E. B. (2021). Social media's influence on adolescents′ food choices: A mixed studies systematic literature review. Appetite, 168(105765). https://doi.org/10.1016/j.appet.2021.105765

ltd, R. M. (2023, March). Global beverage market - forecasts from 2023 to 2028. Www.Researchandmarkets.Com. https://www.researchandmarkets.com/report/beverage

Manandhar, R. B. (2021). Factors affecting consumer preference toward soft drinks in Nepal. Management Dynamics, 24(2), 81–88. https://doi.org/10.3126/md.v24i2.50042

Maurya, S., & Gotadki, R. (2026). Health And Wellness Product Market Research Report - Forecast till 2035. In Market Research Future. https://www.marketresearchfuture.com/reports/health-and-wellness-product-market-24639

Medline Plus. (2019). Potassium. National Library of Medicine. Medlineplus.Gov. https://medlineplus.gov/potassium.html

Mineral deficiency symptoms & treatment. (2025, November 20). Cleveland Clinic. https://my.clevelandclinic.org/health/diseases/mineral-deficiency

Nazni, P., & Vimala, S. (2010). Nutrition Knowledge, Attitude and Practice of College Sportsmen. Asian Journal of Sports Medicine, 1(2). https://doi.org/10.5812/asjsm.34866

Nunnally, J. C. (1978). Psychometric theory (2nd ed.). McGraw-Hill.

Patrizia Calella, Mirella Di Dio, Concetta Paola Pelullo, Gabriella Di Giuseppe, Liguori, F., Paduano, G., Valerio, G., Liguori, G., & Gallè, F. (2024). Sedentary behaviors and eating habits in active and inactive individuals: A cross-sectional study in a population from southern Italy. Behavioral Sciences, 14(3), 208–208. https://doi.org/10.3390/bs14030208

Razia Sehdev Nagina, Kaur, J., Qazi, S., & Mohammad Mir Alam. (2024). Exploring consumer perception and preference factors influencing carbonated beverage purchase decisions: A... In ResearchGate. EnPress Publisher. https://www.researchgate.net/publication/380208112_Exploring_consumer_perception_and_preference_factors_influencing_carbonated_beverage_purchase_decisions_A_comprehensive_study

Saleh, M. A. H. S., Alhidari, A. M., Al-Mansour, A., & Al-Khudhair, A. (2018). Health awareness and price sensitivity as predictors of consumer's purchase attitude towards soft drinks. Expert Journal of Marketing, 6(1), 22–32. https://faculty.ksu.edu.sa/sites/default/files/health_awareness_0.pdf

Sawka, M. N., Burke, L. M., Eichner, E. R., Maughan, R. J., Montain, S. J., & Stachenfeld, N. S. (2007). American College of Sports Medicine position stand: Exercise and fluid replacement. Medicine & Science in Sports & Exercise, 39(2), 377–390.

Silayoi, P., & Speece, M. (2004). Packaging and purchase decisions: An exploratory study on the impact of involvement level and time pressure. British Food Journal, 106(8), 607–628.

Teja Thota, S. (2026, July 17). Functional beverages become the new product development battleground: Hydration, Gut Health & Clean Energy Trends. DataM Intelligence. https://www.datamintelligence.com/blogs/functional-beverages-market-hydration-gut-health-clean-energy-trends

Telles, S., Sharma, S. K., Gandharva, K., Prasoon, K., & Balkrishna, A. (2023). Yoga practice and choices of foods, physical activity, and leisure: A convenience sampling survey from India. International Journal of Yoga, 16(1), 20–26. https://doi.org/10.4103/ijoy.ijoy_195_22

Top beverage trends for 2026. (2026, January 5). BeverageDaily.com. https://www.beveragedaily.com/Article/2026/01/05/top-beverage-trends-for-2026/

Wirnitzer, K., Motevalli, M., Tanous, D., Wirnitzer, G., Leitzmann, C., Wagner, K.-H., Rosemann, T., & Knechtle, B. (2021). Training and racing behaviors of omnivorous, vegetarian, and vegan endurance runners—Results from the NURMI study (step 1). Nutrients, 13(10), 3521. https://doi.org/10.3390/nu13103521

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (CC BY 4.0).