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## A STUDY ON ENERGY DRINKING CONSUMPTION BEHAVIOURS AND AWARENESS OF UNIVERSITY STUDENTS

### ABSTRACT

This study aims to determine the energy consumption and consciousness of the students studying at different faculties at Bingöl University. Besides several sub-problems created for the research, the consumption rate of energy consumption among university students, knowledge level of them concerning the contents of energy drink, and the purpose and frequency of the consumption among them have been attempted to determine. In this sense, "Energy Drink Consumption and Consciousness" scale developed by Ova and et al. (2011), has been applied to five hundred people so as to determine this matter.

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While SPSS 14.0 For Windows Package Program has been used for the statistical analysis of this study, frequency and percentage have been used for the energy drink consumption in terms of gender, and lastly ANOVA test has been utilized for comparisons of smoking-alcohol and energy drink consumption. According to the results obtained, the majority of students (62.8% of men and 71.4% of women) do not consume energy drink. When the reasons of consuming the consumers for the first time are taken into account, it is clearly observed that most of students (19.4%) consume out of curiosity. When the reasons for consumption are examined, it is understood that students consume energy to meet their needs, taste and do sports.

Students usually consume energy drinks between 12-18 p.m. and the vast majority of students consuming energy drink have no preference for brands.

A large majority of the consumers (66.4%) have been observed to drink energy drinks unconsciously and have no adequate knowledge about the content of energy drinks.

As a result, among the reasons for the popularization of energy drinks among university students in recent years, are staying awake, finishing the project, studying more, using more energy in sports activities and getting more pleasure with alcohol in parties.

Key words: University Student, Energy Drink, Consumption awareness

## ÜNİVERSİTE ÖĞRENCİLERİNİN ENERJİ İÇECEĞİ TÜKETİM DAVRANIŞLARININ VE TÜKETİM BİLİNÇLERİNİN ARAŞTIRILMASI

### ÖZ

Bu çalışma, Bingöl Üniversitesi bünyesindeki Fen Edebiyat, Sosyal Bilimler, Meslek Yüksek Okulları, İktisadi ve İdari Bilimler Fakültesi, İlahiyat Fakültesi, Mühendislik ve Mimarlık Fakülteleri olmak üzere bu fakülteler bağlı bölümlerde okuyan öğrencilerin enerji içeceği tüketimi ve bilinci tespit edilmeye çalışılmıştır. Bu yolla üniversite öğrencileri arasında enerji içeceği tüketimi ve bilincini geliştirmeye katkı sağlaması umulmaktadır.

Araştırma için çeşitli alt problemler oluşturulmuştur. Üniversite öğrencilerinin enerji içeceği tüketim oranı, enerji içeceklerinin içeriği ile ilgili üniversite öğrencilerinin bilgi düzeyleri, hangi amaçla ve hangi zaman aralığında kullandıkları tespit edilmeye çalışılmıştır.

Bu durumu tespit etmek amacıyla İççioğlu ve arkadaşlarının (2011) geliştirmiş oldukları "Enerji İçecekleri Tüketimi ve Bilinci" ölçeği 500 kişiye uygulanmıştır. Araştırmanın istatistiksel analizleri, SPSS 14.0 For Windows Paket Programından yararlanılarak frekans, yüzde, kümülatif yüzde gibi tanımlayıcı tekniklerden yararlanılmıştır.

Elde edilen sonuçlara göre; öğrencilerin çoğunluğu enerji içeceği tüketmemektedirler. Tüketenlerin ilk kez tüketme nedenlerine bakıldığında çoğunluğu meraktan tüketmektedir. Tüketme nedenlerine bakıldığında; enerji ihtiyacını karşılamak, lezzet ve spor yapmak için tükettiklerini belirtmişlerdir.

Öğrenciler genellikle, enerji içeceklerini 12-18 saatleri arasında sade olarak tüketmektedirler. Enerji içeceği tüketen öğrencilerin büyük çoğunluğunun marka tercihi yoktur.

Büyük bir çoğunluğu enerji içeceklerini bilinçsiz olarak tüketmekte, enerji içeceklerinin içeriği hakkında yeterli bilgiye sahip olmadıkları görülmektedir. Bu içeceklerle ilgili tüketim bilincinin geliştirilmesine yönelik önlemler alınmalıdır.

**Anahtar Kelimeler:** Üniversite Öğrencisi, Enerji İçeceği, Tüketim Bilinci

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## INTRODUCTION

Energy drinks were first used in Asia and Europe in the 1960s, and became popular in Europe and then in North America in the 1980s. In Turkey, energy drinks were released in 1990s and approximately 42 brands are estimated to be sold today<sup>1</sup>. Meanwhile, energy consumption throughout the world is growing every year<sup>2</sup> and compared to 2006 data, energy consumption in the world amounted to 4.8 billion liters in 2012<sup>3,4</sup>. It is estimated that the energy drink market is 320 million dollars in 2011 and the amount of consumption was 26.3 million liters in Turkey. In 2012, the consumption amount has increased to about 30 million liters<sup>5</sup> and this increase is thought to continue every year.

Energy drinks may contain plant extracts such as taurine, glucuronolactone, inositol, riboflavin, pyridoxine, nicotinamide, other B vitamins, ginseng and ginkgobaroba, as well as caffeine, the active ingredient in energy drinks.

However, energy drinks containing sweeteners have also taken place in the market of non-alcoholic soft drinks<sup>2,6,7,8</sup>. Energy drinks differ from sports drinks or vitamin-assisted water products<sup>9</sup>. Caffeine content of an energy drink can range from 72 to 150 mg. However, caffeine content can reach up to 294 mg per bottle as the amount of drink in a bottle may be too much to drink at once. It has been determined that 400 mg of caffeine per day does not cause side effects in a healthy person. However, daily caffeine consumption should be limited to a

maximum of 300 mg, especially in risk groups such as women in the reproductive age and children. Adolescents should limit caffeine consumption to 100 mg / day due to its relation to high blood pressure. Consumption of energy drinks is not recommended for pregnant women, lactating women, adolescents and children<sup>11</sup>.

Consumption of energy drinks is a concern for healthy people, as well. While intake of a single energy drink does not lead to excessive caffeine intake, consumption of two or more of them within a day may be harmful. Negative situations that can occur after using energy drinks are never mentioned. It is emphasized in the advertisement of energy drinks that the individuals feel more energetic after the consumption of energy, and the amount of energy drink consumption is aimed to increase<sup>12</sup>.

Energy drinks attract attention as a product preferred by especially students, athletes and individuals between 21-35 ages. The side effects associated with caffeine consumption are irritability, insomnia, frequent urination, abnormal heart rhythm, decreased bone mineral density, and stomach discomfort<sup>13</sup>. However, the age of individuals using energy drink in the world is gradually decreasing. The intake of energy drinks, especially with alcohol, has become quite popular among young people. It has been reported that energy drinks reduce the symptoms of alcohol intoxication and as a result increase harms related to alcohol consumption<sup>3</sup>.

## MATERIAL AND METHOD

This study, aiming to determine energy drink consumption and awareness of the university students, includes students studying at Bingöl University. Since it is not possible to make a complete count because of the large number of students, sampling method has been used and a total of 500 people consisting of 274 male and 226 female students from all the departments at

Bingöl University, determined by non-probable sampling method, were included in this study. A questionnaire called "Consumption of Energy Drinks and Consciousness" developed by Ova et al has been utilized and the questionnaire is organized under three main headings. A scale has been used to determine socio-economic and demographic characteristics of the participants in the first part of the

questionnaire, personal characteristics and habits of them in the second part and "Energy drink Consumption and Consciousness" of them in the third chapter. The energy consumption rate, gender, age, graduated high school type, monthly expenditure, smoking, alcohol use, and

mostly preferred drink of the students participating in the survey has been included and SPSS 16.0 For Windows package program, frequency distribution, percentage, t test and ANOVA techniques have been utilized for statistical analysis.

## RESULTS

When the distribution of the participants according to their genders is examined, it is seen that the proportion of the men is larger and it is 64.6%, while it is 35.4% among women. When the distribution of participants according to their ages have been examined, it is observed that participants in the age range 21-24 (46%) participated more, the others who are 25 and older (13.2%) participated less, on the other hand, when the participants' distribution according to their

residency have been examined, it is determined that the participants living with their families (48.8%) have the biggest, whereas the ones living with their relatives (1.8%) have the smallest share in this study. When energy consumption of participants has been evaluated, it has been determined that 37% of men and 28,6 % of women consume energy drinks. Significant differences have been found among the groups.

Table 1: Have you ever tried energy drink?

Variables	F	%	N	Mean	S.D	p		
Man	Yes	100	37.2	Yes	166	1.397	0.490	0.042
	No	169	62.8					
Woman	Yes	66	28.6	No	334	1.494	0.500	
	No	165	71.4					

When energy consumption of participants was evaluated, it was determined that 37% of men consumed energy drinks and 2% of women consumed energy drinks. Significant differences were found between the groups. ( $p < 0.05$ ).

Table 2: Energy Drink Consumption and Reasons For Consumption

Variables	F	%	Mean	S.D	p	
Frequency of energy drink consumption	I rarely drink.	94	18.8	0.532	.886	0.000
	I sometimes drink.	50	10.0			
	I often drink.	16	3.2			
	I regularly drink.	6	1.2			
First try of the energy drink	Wonder	97	19.4	0.620	1.089	0.000
	Promotions	12	2.4			
	Advirtesements	39	7.8			
	Friends	18	3.6			
In consumption of energy drink	Yes	55	11.0	0.554	.832	0.000
	No	111	22.2			
Brand preferences	Red Bull	32	6.4	0.185	0.620	0.000
	Red Bull Sugar Free	13	2.6			
	Burn	8	1.6			
	Battery	1	.2			
	Others	1	.2			
Health problems of energy drinks	Yes	168	33.6	1.664	0.472	0.000
	No	332	66.4			

When the consumption frequency of energy consumed is evaluated, it is found

that 18.8% of consumers rarely consumed, 10.0% of consumers

consumed occasionally. When the first energy drink consumption tests are examined, it is found that 19.4% of the consumers drink out of curiosity and 7.8% of them are affected by advertisements. When brand preferences in energy drink are evaluated, the ratio of RedBull brand is 6.8%, when energy drinkers are asked

about their thoughts about whether energy drinks lead to health problems, 33.6% of the participants have stated that they could lead to health problems, on the other hand, according to 66.4% of them, they could not lead to health problems. Significant differences were found between the groups. ( $p < 0.05$ ).

Table 3: Smoking-Alcohol Consumption Situations

	F	%	F	%	F	%	Mean	S.D	p	
Do you smoke?	Woman		Man				1.552	0.497	0.000	
	Yes	104	45.0	120	44.6	224				44.8
	No	127	55.0	149	55.4	276				55.2
Do you drink alcohol?	Woman		Man				1.788	0.409	0.000	
	Yes	56	24.2	50	18.6	106				21.2
	No	175	75.8	219	81.4	394				78.8

When cigarette and alcohol consumption have been assessed, it has been found that 44.6% of men, and 45.0% of women smoke, 18.6% of men and 24.2% of women consume alcohol. Significant differences were found between the groups. ( $p < 0.05$ ).

Table 4: Relationship between Smoking-Energy Drink, Alcohol-Energy Drink Usage

Do you smoke?	N	Mean	S.D	p
The use of Cigarette-Energy Drink	Yes	224	1.817	0.000
	No	276	1.547	
The use of Alcohol-Energy Drink	Yes	214	1.917	0.000
	No	286	1.447	

When smoking and alcohol consumption have been assessed by the participants, it has been determined that the smokers also drink energy drink, and those who consume alcohol also drink energy. Significant differences were found between the groups. ( $p < 0.05$ ).

Table 5: The Evaluation of Energy Drink Consumption by Some Variables

Variabes		Never consider	Don't consider	Hesitant	Consider	Consider excessively	Mean	S.D	p
Correspond the need of energy	F	27	60	6	59	14	.9420	1.532	.000
	%	5.4	12	1.2	11.8	2.8			
Keep awake	F	40	19	47	26	34	.9860	1.625	.000
	%	8	3.8	9.4	5.2	6.8			
Making cocktail with alcohol	F	84	49	12	8	13	.6300	1.134	.000
	%	16.8	9.8	2.4	1.6	2.6			
To study	F	42	7	22	37	58	1.1200	1.836	.000
	%	8.4	1.4	4.4	7.4	11.6			
To increase motivation	F	8	25	37	58	38	1.1820	1.802	.000
	%	1.6	5	7.4	11.6	7.6			
Taste	F	26	28	35	61	16	1.0220	1.618	.000
	%	5.2	5.6	7	12.2	3.2			
Sports	F	30	13	30	57	36	1.1080	1.762	.000
	%	6	2.6	6	11.4	7.2			
Using exchange of other alcohol drinks	F	41	17	65	36	7	.8980	1.444	.000
	%	8.2	3.4	13	7.2	1.4			
The press of friends	F	59	64	18	13	12	.7060	1.214	.000
	%	11.8	12.8	3.6	2.6	2.4			
Attract of the package	F	65	27	14	26	34	.8700	1.542	.000
	%	13	5.4	2.8	5.2	6.8			

## DISCUSSION AND CONCLUSION

500 students including 269 male and 231 female students studying at Bingöl University participated this study. It is determined that 37.2% of men consume and 62.8% of them do not consume energy drink, on the other hand, 28.6% of women consume energy drink and 71.4% of them do not consume energy drink. A statistically significant result has been found in favor of men in terms of gender and in favor of consumers between consumers and non-consumers of energy drink. Studies have shown that 30-45% of students consume energy drink and 70-55% of them do not consume the drink<sup>7,14,15,16,17</sup>. According to another study conducted, the behavior towards the energy drink consumption do not change according to gender. According to the declarations by the students, 32.2% of the students started to consume energy drink upon being affected by their friend, 27.5% of them were influenced by the advertisements and 40.3% of them were affected by other sources.

When the frequency of using energy drinks is evaluated, the majority of the participants have been estimated to consume energy drink rarely and occasionally. When the reasons for using energy drink for the first time are examined, it is considered that curiosity and advertisements are effective in usage, and the brand is not effective in energy drink consumption. In the study conducted at the Aegean University, the first use of participants have been found to be a result of promotion<sup>12</sup>. (dikici).

Consumed brands have been identified as RedBull and RedBullSugarFree, and 33.6% of energy drinkers have reported that energy drink could lead to health

problems, on the other hand, according to 66.4% of them, it could not lead to health problems. Statistically significant difference has been detected. In the study conducted at Aegean University, it was determined that 69% of the participants did not have the knowledge that drinking energy drink could lead to health problems. In the studies in the world and in Turkey, the most preferred product was found to be RedBull (30-45%)<sup>17</sup>. It has been reported that consumers are more influenced by the brand, taste and price than the product content while purchasing energy drink, and they do not have enough information to compare the different energy drink brands and generally consume a single brand.

When smoking and alcohol usage are examined, 45% of females and 44.8% of males have been found to smoke and 24.2% of the ladies and 21.2% of the men have been found to consume alcohol. There is a statistically significant difference in favour of non-consumers.

There is a statistically significant difference in favour of the non-consumers in both values. When the relation between smoking and energy drink has been taken into account, it has been observed that the smokers also drink energy drink and non-smokers drink less energy drink. When the relation between consumption of alcohol and energy drink has been taken into account, it has been observed that the alcohol users also consume energy drink and non-users consume less energy drink. Statistically significant differences have been found. In a similar study, the consumption rate of energy drinks with cigarettes was 32.2%; and with alcohol was 41.6%<sup>14</sup>. Consumers of alcohol use more energy drink compared to those not consuming alcohol. 71.1% of alcohol

users consume energy drink and this difference is found to be statistically significant bulunmuştur<sup>14</sup> ( $P<0,05$ ). As a matter of fact, similar results have been achieved in previous studies<sup>7</sup>. In a similar research, energy drinkers have been observed to consume twice as much alcohol as those who do not drink energy drink<sup>12</sup>. In another study, an relationship between alcohol and energy drink consumption was found<sup>15</sup>. In a study conducted, it was concluded that alcohol consumers consume 3.5 times more energy drink than those who do not consume alcohol<sup>8</sup>.

Given these results, energy drink is found to be consumed too much with alcohol. The most important reason for this is the false belief absorbed by the youth that I harmful effects of alcohol will be reduced

when consumed with energy drink<sup>12</sup>. Smokers' energy drink consumption rate is higher than non-smokers. 61% of smokers consume energy drink and this difference is found to be statistically significant<sup>14</sup> ( $P<0,05$ ). Similar results have been found in the study conducted<sup>7</sup>.

As a result, it has been aimed to investigate the consumption awareness among the university students in terms of energy drink which has been popular among university students in recent years. Among the reasons for the popularization of energy drinks among university students in recent years, are staying awake, finishing the project, studying more, using more energy in sports activities and getting more pleasure with alcohol in parties.

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