

A Survey on the Intake of Energy Drinks among College Students and Young Professionals in Metro Manila

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ABSTRACT---- *Energy drinks are said to contain many benefits one of which is to boost energy for a short span of time. This type of drinks was first marketed for blue collar workers, however, the marketing campaigns for energy drinks has shifted to include adolescents, college students and young professionals. This study was conducted to assess the intake of energy drinks among college students and young professionals in Metro Manila, Philippines, to determine prevalence and frequency of energy drink intake, the reasons for the intake and to determine which among the two groups consume more energy drinks.*

Keywords---- energy drinks, college students, young professionals, intake, Metro Manila

1. INTRODUCTION

Total value sales of energy and sports drinks in the Philippines have reached Php20.3 billion as of 2013, according to a report by Euromonitor International. Its sales continue to expand although a bit slow, but nevertheless manufacturers continue to expand their market base through advertising using popular celebrities and athletes and sponsoring of various sports events as well as the continuous development of new energy and sports drinks with different functional benefits designed to sustain energy and enhance performance.

At present, the Philippines have several energy and sports drinks in the market with Asia Brewery Inc. as the leader in the manufacture and sales of these beverages (Euromonitor International, 2014). Popular energy drinks in the market today include Cobra®, Sting®, Samurai®, Lipovitan® and Powerade®, however, Red Bull® continues to dominate the market with 47% market share worldwide (Morata, 2013).

Today's fast paced lifestyle and escalating prices of basic commodities have prompted people to have more than just one source of income to make both ends meet. In the Philippines, it is already common to combine employment with a small business on the side to augment the family's income. Whatever the reason, the need to sustain one's energy, productivity, alertness and focus on the job has prompted the need for the development of energy drinks. In fact, these types of beverages have been tailored for the blue collared workers (Morata, 2013).

In order to expand the target market of energy drinks, manufacturers have made these beverages very appealing to adolescents and young adults. According to an article on Freeman by Morata (Jan. 2013), the Philippine Food and Drug Administration stated that approximately 65% of energy drink consumers are between the ages of 13 and 35 years old. To prove its marketability, a total of 67 energy drinks are listed under the Philippine Food and Drug Authority. However, the Philippine FDA also stressed that not all of the energy drinks in the market have been tested, authenticated and registered. Hence, consumers must be cautious on buying and consuming these energy drinks.

The acceptability of energy drinks are based on its ingredients. Energy drinks contain caffeine and lots of sugar. It is well known that caffeine acts as a stimulant to keep an individual alert. Other ingredients commonly found in energy drinks include taurine, ginseng, ginkgo biloba, L-carnitine, B vitamins, Ephedrine, Yerba Mate and Acai (Watson, 2010 & Morata, 2013). However, control on the consumption of energy drinks should be considered. Extreme consumption is found to cause the following side effects: anxiety, headache, palpitation, irritability, insomnia and indigestion (Morata, 2013). Moreover, energy drinks are not intended to replace sports drink during exercise or when engaged in a sports activity because the caffeine content in energy drinks acts as a diuretic and can be a cause of dehydration. Furthermore,

in a report published in the May/June 2012 issue of *General Dentistry*, it confirmed that energy drinks can cause irreversible damage to the teeth.

There has been a particular concern on increasing consumption of energy drinks among adolescents (13-17 years) and young adults (>18 years) that led to several studies regarding consumption practices by these population groups and its possible health risks (Malinauskas et al, 2007; Candow et al, 2009; Buxton and Hagan, 2012; Park et al. 2013; Kumar, Park and Onufrak, 2014; Azagba, Langille and Asbridge, 2014). However, in the Philippines, limited studies have been conducted on the consumption of energy drinks on these two age groups and/or different sectors of the society. If studies have been done, the authors assumed that it has not yet been published. This study was therefore conducted to determine the following: 1) intake of energy drinks among college and graduate students and young employees in Metro Manila; 2) prevalence and frequency of energy drink intake with reasons specified; and, 3) prevalence which among the two population groups consumed more energy drinks.

2. METHODS

A. Recruitment

Approximately 200 participants selected at random using the snowball technique were recruited for the survey. The 200 participants were divided into 2. The first 100 participants were composed of college students between 18 and 21 years old and presently studying from different universities in Metro Manila and the other 100 participants were composed of adults aged between 22 and 35 years old and working in Metro Manila and Bicutan, Taguig City. The participants were given a survey form to fill up. To diversify the recruitment process, the recruitment and survey was conducted at different times of the day.

B. Screening of Participants

Screening was done based on whether the participants passed the inclusion criteria or not. Inclusion criteria are based also on the age bracket and location of the university for college students. For young professionals, the work location should be Metro Manila. The researchers made sure that the respondents are energy drinkers by asking them beforehand if they are energy drinkers.

C. Data Collection

Survey forms were given to respondents who answered “Yes” when asked if they consume energy drinks. The respondents were also assured that the survey is only for research purposes. Before answering the survey questions, the respondents had to give information on the following such as: name, age and gender, marital status, course degree/type of work and name of the university/work. The questionnaire which was administered assessed the respondents on the following areas: brand of energy drink usually consumed, energy drink consumption patterns and reasons for consumption.

D. Statistical Analysis

Using Chi-square, the data was analysed to determine significant differences between the two groups under study in terms of: gender, brand of energy drinks consumed, energy drink consumption practices and reasons for consumption. Significance was based on p value <0.05.

3. RESULTS

A total of 200 respondents who passed the inclusion criteria were recruited for the survey. Assessment of the Students and Young Professionals Energy Drinks consumption practices are presented below. Table 1 showed the basic characteristics and brand of energy drinks usually consumed by the respondents. From the table, result showed no significant difference in the gender among the two groups under study, although there are more male respondents in both the Students and Professionals with 63% and 72%, respectively.

For the brand of energy drinks commonly consumed, Cobra, Red Bull and Monster Energy are significantly different among Students and Professionals (p-values <0.05). These differences occur because those who consume Cobra are significantly higher among Professionals (58%) while those who consume Red Bull and Monster Energy are

significantly higher among Students with 29% and 7%, respectively. On the other hand, Bacchus, Sting, Lipovitan (IRA etc.), Samurai and Others are not significant (p-value >0.05).

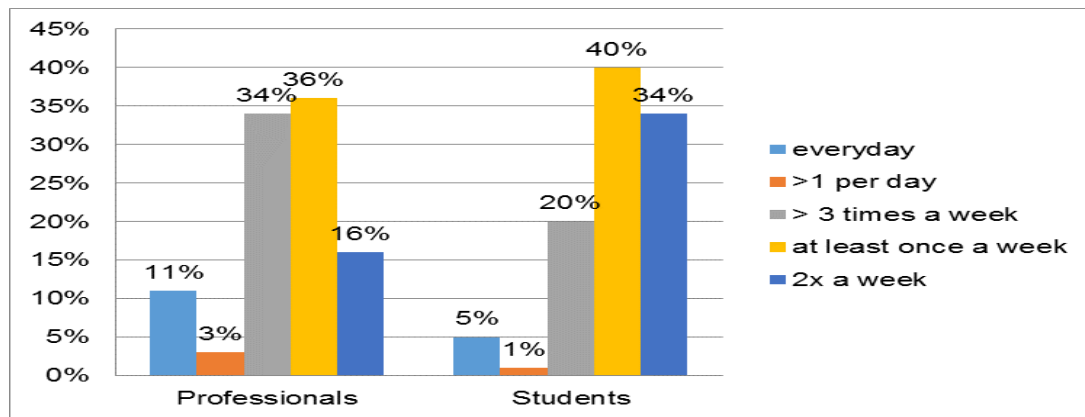
Table 1. Characteristics of respondents and Brand of Energy Drinks Consumed.

| | Young Professionals N=100 | | College Students N=100 | | Chi-square Statistic | P-value |
|--|------------------------------|------------|---------------------------|------------|-------------------------|---------|
| | f | % | f | % | | |
| Gender | | | | | | |
| • Male | 72 | 72% | 63 | 63% | 1.459 | 0.227 |
| • Female | 28 | 28% | 37 | 37% | | |
| Brand of Energy Drinks Consumed | | | | | | |
| • Cobra ^a | 58 | 58% | 37 | 37% | 8.020 | 0.005 |
| • Bacchus | 1 | 1% | 3 | 3% | 0.255 | 0.614 |
| • Red Bull ^b | 8 | 8% | 29 | 29% | 13.265 | 0.000 |
| • Sting | 26 | 26% | 16 | 16% | 2.441 | 0.118 |
| • Lipovitan (IRA etc.) | 12 | 12% | 10 | 10% | 0.051 | 0.821 |
| • Samurai | 2 | 2% | 3 | 3% | 0.000 | 1.000 |
| • Monster Energy ^c | 0 | 0% | 7 | 7% | 5.329 | 0.021 |
| • Others | 7 | 7% | 2 | 2% | 1.862 | 0.172 |

Note: a,b,c - significant at p<0.05.

For Frequency of Drinking. Figure 1 showed a graphical presentation of the frequency of Energy Drink consumption between College Students and Young Professionals. From the figure, it can be seen that the Students are more likely to drink Energy Drinks frequently than the Professionals. Results also showed that 40% of Students drink Energy Drinks at least once a week and likely to increase frequency of drinking to twice a week (34%). On the other hand, Professionals reported frequency of drinking Energy Drinks at least once a week (36%) with likeliness of increased intake to more than 3 times a week.

Figure 1. Comparison between College Students and Young Professionals Frequency of Energy Drink Consumption



For the Reason for Drinking Energy Drinks, Table 2 showed that Overtime for a work/project is the significant reason with 54% College Students more likely to drink Energy

Drinks because they have to work overtime for a project than for the Young Professionals (34%). On the other hand, other reasons such as need for energy, insufficient sleep, travelling, availability/convenience and others are not significant to respondents' status.

Table 2. Comparison between College Students and Young Professionals Reason for Consuming Energy Drinks.

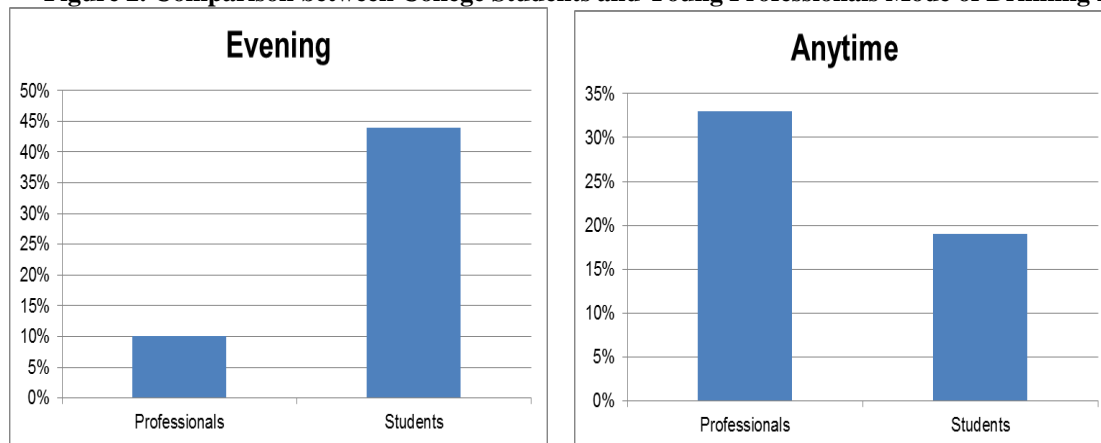
| | Young Professionals N=100 | | College Students N=100 | | Chi-square Statistic | P-value |
|--|------------------------------|-----|---------------------------|-----|-------------------------|---------|
| | f | % | f | % | | |
| Reason for Drinking Energy Drinks | | | | | | |
| • need energy | 63 | 63% | 55 | 55% | 1.013 | 0.314 |
| • insufficient sleep | 25 | 25% | 17 | 17% | 1.477 | 0.224 |

| | | | | | | |
|--------------------------------------|----|-----|----|-----|-------|-------|
| • OT for a work/project ^a | 34 | 34% | 54 | 54% | 7.325 | 0.007 |
| • travelling | 9 | 9% | 3 | 3% | 2.216 | 0.137 |
| • availability/convenience | 9 | 9% | 8 | 8% | 0.000 | 1.000 |
| • Others | 9 | 9% | 3 | 3% | 2.216 | 0.137 |

Note: a- significant at $p < 0.05$.

For Mode of Drinking, Figure 2 showed that evening and anytime are significant for both groups under study wherein College Students (44%) are more likely to drink in the evening while 33% Young Professionals are more likely to drink anytime.

Figure 2. Comparison between College Students and Young Professionals Mode of Drinking Energy Drinks.



DISCUSSION

Results of the study indicated consumption patterns of energy drinks among College Students and Young Professionals in Metro Manila, Philippines. Assessment of the answers given by the respondents showed that energy drinks consumption is indeed a common practice between these two groups. Marketing campaigns for energy drinks which included students and young adults as the target consumers have been effective as indicated in the survey with 58% of Young Professionals commonly consuming Cobra and 29% of College Students consuming Red Bull. In the Philippines, Cobra is the number one and best-selling brand of energy drink which propelled Asia Brewery Philippines as the top manufacturer for energy drink category (asiabrewery.com). On the other hand, Red Bull was launched in the Philippines by Red Bull Singapore only in September 2012. The Philippines is the 165th country to include Red Bull Energy Drink in its market.

Cobra Energy Drink is popular among young adults in the Philippines primarily because of its affordable price and availability as compared to Red Bull. Cobra Energy Drink is said to contain 195g calories, 39g sugar, a combination of B-vitamins (B1, niacin, B6 and B12), inositol, taurine and 80mg caffeine (Altatis, 2012). The caffeine content in Cobra is similar to other local and imported energy drinks in the market. Red Bull Energy Drink's popularity among college students, although a bit expensive being an imported brand, is explained by its own website. According to the website, energydrink.redbull.com, "it is a functional beverage providing wings when you need them". It was recommended to be consumed on the road, during lectures and study sessions etc. Red Bull Energy Drink contains 115g calories, 27g sugar, a combination of B-vitamins (niacin, panthothenic acid, B6 and B12), glucuronolactone, inositol, taurine and 80mg caffeine.

Main reason for energy drink consumption among College Students and Young Professionals is working overtime to finish a course project or working overtime at the office. In this situation, it is important that individuals stay awake and energy drinks are found to promote alertness and treat sleep deprivation (Malinauskas et al, 2007). Moreover, energy drinks are conveniently sold inside the university campus and office canteens, which can lead to over consumption.

Energy drinks contain caffeine which is known to have a cognitive stimulating effect (Smit, et al. 2004). Although there is no human requirement for caffeine, adverse health effects can occur if consumption exceeds necessary amount needed to promote cognitive stimulation (Malinauskas et al, 2007; Alsunni, 2011; Bawazeer & AlSobahi, 2013). Prevalence of excess caffeine intake can happen as results from this study indicate frequency of consumption from once a week to 2 times a week for college students and once a week to more than 3 times a week for the young professionals.

This finding is similar to other similar studies conducted on energy drink consumption patterns of college students in the US, medical students in Saudi Arabia and student-athletes in Ghana (Malinauskas et al, 2007; Buxton & Hagan, 2012; Bawazeer & AlSobahi, 2013).

4. CONCLUSION

The present study indicated prevalence of energy drink consumption among college students and young professionals in Metro Manila. This study also reported no gender difference in terms of consumption. However, there is significant difference in terms of choice of brands for energy drinks among college students (Red Bull) and young professionals (Cobra). Frequency of consumption of energy drinks reported significant intake of once a week to two times a week for college students and once a week to more than 3 times a week for young professionals. Main reason for consumption is doing overtime for a course project or overtime work at the office.

Despite a limited demographic data and study location and a greater percentage of male participants may have been recruited resulting in an unequal gender distribution, this study provided baseline data for determining energy drink intake and consumption patterns among college students and young professionals. This study proposes public awareness on health benefits and risks associated with consumption of energy drinks. The researchers recommend further studies with larger population size and location as well as the creation of intervention programmes designed to promote safe consumption.

5. COMPETING INTERESTS

The author(s) declare that they have no competing interests.

6. AUTHORS' CONTRIBUTIONS

Capule did the research and conceptualized the outline for the study on energy drinks, conceptualized the survey questionnaire and drafted the final research paper. Cruz wrote some parts of the final paper and did the collation and tabulation of the survey results. Macam consulted with the statistician for the statistical analysis of the study. Capule, Cruz, Macam and Robles all participated in the recruitment and conduct of the survey.

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