



## Perceived effect of energy drink on athlete's performance in University of Lagos

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### ABSTRACT

This study assessed the perceived effect of energy drink on athlete's performance in University of Lagos. Descriptive method was used while stratified random sampling was used to draw the sample. A four points modified Likert attitudinal scale was used to sample the opinion of the respondents. The sample consists of 100 sprinters and basketball players both male and female from University of Lagos. The data collected from the participant were analysed using the inferential statistics of chi-square ( $X^2$ ) at 0.05 level of significance. The result of the study after analysis of data revealed that all the stated hypotheses were rejected, which simply implies that energy drink intake have an effect on the athletes performance, according to the respondents. It shows that energy drink increased performance during, before and after competition. The study hereby recommends that the effects of these beverages can be quite significant and their use by student-athletes requires analysis, results of which administrators and coaches need to be aware of so that they can share this knowledge with student-athletes in need of direction.

**Keywords:** Perceived; Energy Drink; Performance; Health

### 1. INTRODUCTION

Energy drinks is the beverage that manufacturers claim can boost physical and mental performance. Many of people drink it, and think they are harmless. But in a new review,

researchers from the World Health Organization claim increasing consumption of energy drinks could pose a threat to public health. Although energy drinks are a relatively new class of beverage, they are quickly becoming a central part of the partying subculture, particularly among young people who commonly mix energy drinks with alcohol. The full impact of the rise in popularity of energy drinks has not yet been quantified, but the aggressive marketing of energy drinks targeted at young people combined with limited and varied regulation have created.

Companies like Red Bull have been taking advantage of this market, as over 500 new energy drinks debuted in 2006, contributing to a 5.7 billion dollar industry (Malinauskas, Aeby, Overton, Carpenter-Aeby, & Barber-Heidal, 2007). The Red Bull company, which originated in Austria, controls nearly half of the energy drink market in the United States, and the number of energy drink companies continues to grow (Kapner, 2008). Energy drinks are relatively new to the wider soft drinks market, with the first energy drink launched in Japan in 1960. Energy drinks first appeared in Europe in 1987 before quickly expanding throughout the rest of Europe and appearing in the US in 1997. While no standard definition of an “energy drink” is used in the scientific literature, it is commonly understood to be a non-alcoholic drink that contains caffeine (usually its main ingredient), taurine, vitamins, and sometimes a combination of other ingredients (such as guarana and ginseng, among others), marketed for its perceived or actual benefits as a stimulant, for improving performance and for increasing energy.

Other popular brands of energy drinks include Tab Energy, Monster, Rockstar, No Fear, Fixx and Wired X505 (Doehny, 2008). These products are produced by major corporations, such as Pepsico, Coca-Cola, Anheuser Busch, Miller Brewing Company, and Cadbury Schweppes (Kapner, 2008). In addition, these companies have been producing energy drinks pre-mixed with alcohol, and marketing them to underage consumers as well as youth (Kapner, 2008). Popular brands of this mixed beverage include Four Loko and Joose (Brown University, 2008).

Marketing campaigns that focus on improved performance, as well as a target market of children and adolescents and inadequate labelling, can increase the risk of caffeine intoxication from energy drink consumption. The aggressive marketing of energy drinks and the association of some brands with athletes and sporting events has led to many athletes consuming energy drinks before competitions to improve performance or to recover expended energy after competition. In Europe, a study found that 41% of adolescents consumed energy drinks for physical activity purposes. Excessive caffeine consumption combined with strenuous physical activity can be dangerous, and the association of energy drinks with sports performance should be reconsidered.

Energy Drinks have become popular in the culture of adventure athletes, both recreational and trained, due to their claimed energy enhancement. They are heavily marketed to 18-34 year-old males and these companies often sponsor many extreme athletes and related events. There are many research studies that have examined athletic performance and cognitive performance benefits with consumption of an energy drink prior to or during an activity. The types of activities that have been researched are quite varied and include: cycling time trials, simulated soccer, resistance training, and simulated golf, simulated driving, and fire fighting. Many studies found performance benefits while others did not.

The benefits included: increased time to exhaustion, increased aerobic and anaerobic performance, decreased perceived effort, and increased mental focus, alertness, and

concentration. Some claimed increased metabolism for weight loss. There is some evidence that consuming low-calorie energy drinks may promote a small amount of additional fat loss when combined with a weight loss program. If one is trying to be aware of calorie intake, they shouldn't forget how quickly liquid calories such as an energy drink may add up when consumed in larger quantities.

The largest and most widely known energy drink company is Red Bull. They have supported much of the research on energy drinks both monetarily and by creating and providing sugar-free and placebo versions of their drinks for scientific testing. There is a challenge when testing energy drinks due to the many different ingredients, although caffeine is the primary active ingredient. There may be interactions between ingredients, where one ingredient may enhance the effect of another or may cancel out the effect. Another challenge is the comparison of different energy drinks since they all have a slightly (or dramatically) different ingredient profile. It's also difficult to determine exact dosages of various herbal ingredients (e.g. Proprietary Blend) for comparison. The FDA (Food and Drug Administration) considers energy drinks a supplement; therefore companies are not required to list all ingredients, dosages or verify safety or purity of the ingredients.

The notion that the intake of energy drink improves performance of athletes is common among students, adolescents, trainers, coaches, sportsmen and women but the validity of the notion behind the statement remains in question. The researcher seeks to identify the reasons behind consumption of energy drink and the effect it will have on the athletics performance of athletes. Energy drinks are believed and marketed in a way to show that they enhance mental and athletic performance. Therefore, the concern of this research will be to find out whether energy drink affect the metabolism of human body in such a way that there is an increase in the physical athletic performance or not.

## **2. HYPOTHESES**

The following hypotheses were tested in this study

1. The intake of energy drink will have no significant effect on the performance of athletes.
2. Mixing alcohol with energy drink will have no significant effect on the performance of athletes.

## **3. METHODOLOGY**

The descriptive research method was adopted for this study. This method was considered appropriate because of its power to manipulate variables. The sample for the study comprises of 100 hundred sprinters (male and female) and basketball players (male and female) from university of Lagos. The stratified random sampling was used in selecting respondents using age, gender, and level as basis for stratification.

The instrument that was used is a self-structured questionnaire to collect information from the respondents. The questionnaire was divided into two sections, A and B. Sections A elicit information relating to demographic characteristics of the respondents. Section B was divided into sub-sections according to variables of this study. In this section, a number of

statements under each variable for the respondents was provided to select the best of their choice. Four modified Likert scale rating of strongly Agree (SA), Agree (A), Strongly Disagree (SD), and Disagree (D) was the format of the questionnaire.

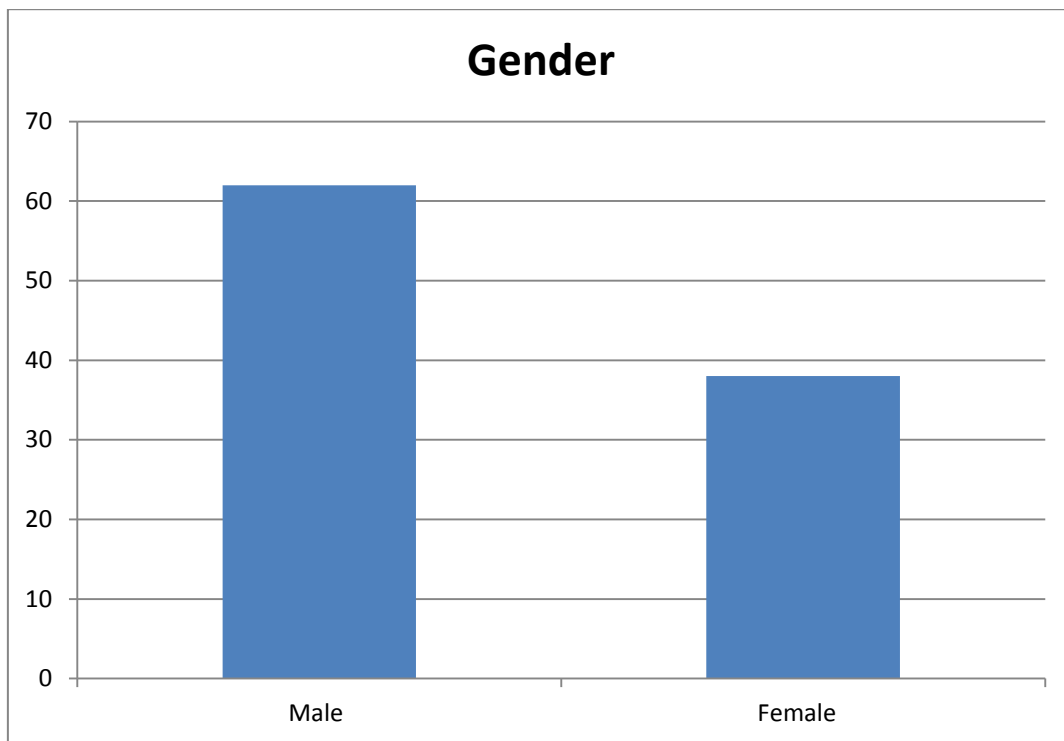
The instrument was validated by two experts in the field of sports administration and management who assisted in content and construct validities through face validation. Their suggestions and corrections were used in appropriating the contents of the instrument before adoption for the study. Test-retest method was used for reliability of the instrument, a correlation co-efficient value of 0.79 was obtained.

The researchers administered the questionnaire to the respondents with the aid of a research assistant using on the spot method of administration to ensure a 100% collection of data. Descriptive statistics of bar chart was used to analyze the demographic data, while the inferential statistics of chi-square ( $X^2$ ) was used to test all hypotheses at a 0.05 level of significance.

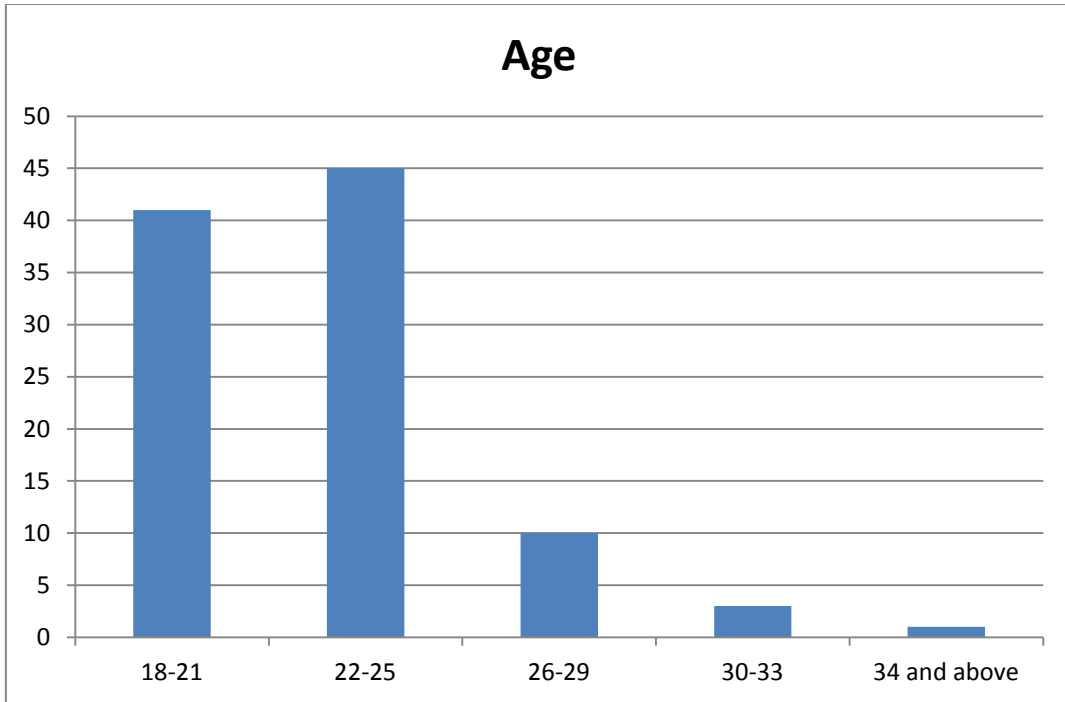
#### **4. RESULTS**

##### Demographic Distribution of Respondents

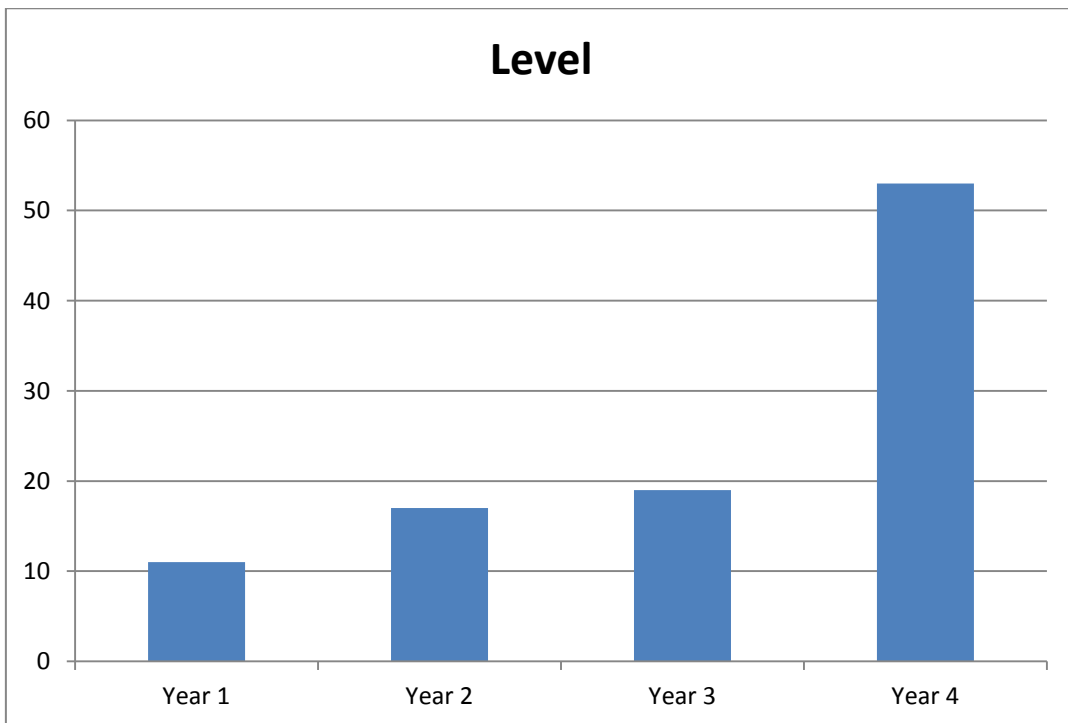
**Figure 1.** Bar Chart Distribution of Respondents by Gender.



**Figure 2.** Bar Chart Distribution of Respondents by Age.



**Figure 3.** Bar Chart Distribution of Respondents by Level.



**Testing Stated Hypotheses**

The inferential statistics of chi-square ( $X^2$ ) was used in testing all of the stated hypotheses at a 0.05 level of significance.

**Hypothesis One**

The intake of energy drink will have no significant effect on the performance of athletes.

**Table 1.** Chi-Square ( $X^2$ ) Analysis on the intake of energy drink effect on the performance of athletes.

N	Df	L.S	$X^2$ . cal	$X^2$ . tab	Remarks
100	12	0.05	79.91	21.03	*S*

(Calc.  $X^2 = 79.91 > \text{Crit. } X^2 = 21.03, df = 12, P < 0.05$ ).

The table above indicates that the calculated  $X^2$  value of 79.91 is greater than the tabulated  $X^2$  value of 21.03; hence, the null hypothesis was rejected. This implies that the intake of energy drink will have a significant effect on the performance of athletes.

**Hypothesis Two**

Mixing alcohol with energy drink will have no significant effect on the performance of athletes.

**Table 2.** Chi-Square ( $X^2$ ) Analysis on Mixing alcohol with energy drink effect on the performance of athletes.

N	Df	L.S	$X^2$ . cal	$X^2$ . tab	Remarks
100	12	0.05	54.78	21.03	*S*

(Calc.  $X^2 = 54.76 > \text{Crit. } X^2 = 21.03, df = 12, P < 0.05$ ).

The table above indicates that the calculated  $X^2$  value of 54.76 is greater than the tabulated  $X^2$  value of 21.03; hence, the null hypothesis was rejected. This implies that mixing alcohol with energy drink will have a significant effect on the performance of athletes.

**5. DISCUSSION OF FINDINGS**

Hypothesis one states that the intake of energy drinks will have no significant effect on the performance of athletes. The null hypothesis was rejected which means that the intake of energy drink will have an effect on athletes performance. This finding agrees with Desbrow &

Leveritt (2007) who stated that energy drink which has a nutritional value that boost performance is recommended for different kind of sports, this means that the intake of energy drink by athletes in various type of sports actually have a positive effect on athletes performance during competition. Leveritt (2007) demonstrated that the majority of elite triathletes use caffeine to improve physical performance and concentration. However, these athletes' knowledge of which products contain caffeine (and how much they contain) was limited. Hypothesis four states that mixing alcohol with energy drink will have no significant effect on the performance of athletes the null hypothesis was rejected which means that mixing alcohol with energy drink will have an effect on the performance of athletes. This finding agrees with Reissig (2008) who reported that energy drinks tend to be promoted for their stimulant effects. In addition, energy drink companies often claim that their products increase attention, endurance, and performance as well as having a positive effect on weight loss (Reissig, 2008). Mixing alcohol with energy drinks often increase metabolism and promote extensive performance in athletes.

## **6. CONCLUSION**

The result of the study after analysis of data revealed that all four hypotheses were rejected, which simply implies that in other to improve athletes performance, all tested assumptions should be decline and alternate assumption should be embraced. Based on the findings it was concluded that energy drink intake have an effect on the athletes performance, according to the respondents. It shows that energy drink increased performance during, before and after.

### **Recommendations**

The following recommendations were made from the results obtained in this study and they include:

1. The worldwide market for so-called energy drink has grown exponentially in the last decade. The primary targets of the industry's marketing campaigns are young adults. As a result, university and college athletes are frequent consumers of the products. The effects of these beverages can be quite significant. Therefore, their use by student-athletes requires analysis, results of which administrators and coaches need to be aware of so that they can share this knowledge with student-athletes in need of direction.
2. Administrators and coaches should also track the current trends among student-athletes concerning energy drinks.
3. Coaches and administrators should ensure that athletes comply with the ethics of the World Anti-Doping Agency on the use of ergogenic aids to boost sports performance.

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