ASSESSMENT OF RISKS AWARENESS INFLUENCE ON CAFFEINATED ENERGY DRINKS USE AMONG SECONDARY STUDENTS IN NJIRU SUBCOUNTY, NAIROBI, KENYA

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A Project Submitted in Partial Fulfilment of the Requirement for the Award of the Degree of Master of Arts in Counselling Psychology, Department of Counselling Psychology, School of Humanities and Social Sciences of Africa Nazarene University.

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DECLARATION

I declare that this document and the research it describes are my original work and that they have not been presented in any other university for academic work.

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This research was conducted under our supervision and submitted with our approval as university supervisors.

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DEDICATION

I dedicate this research Study to my beloved husband Albert, my children Winnie, Jennifer, Amos, Luckson, and my grandchildren Luke Ayako, Imani Albert and Ziakhan Moige, for their patience, support, understanding and prayers during this research period.

TABLE OF CONTENTS

DECLARATION 2

DEDICATION 3

LIST OF TABLES 8

LIST OF FIGURES 9

ABSTRACT 10

ACKNOWLEDGEMENTS 11

LIST OF ABBREVIATION 12

DEFINITION OF TERMS 13

CHAPTER ONE 14

INTRODUCTION AND BACKGROUND INFORMATION 14

1.1 Introduction 14

1.2 Background of the Study 14

1.3 Statement of the Problem 19

1.4 Purpose of the Study 20

1.5 Objectives of the Study 20

Specific objectives of the study were: 20

1.6 Research Questions 21

1.7 Significance of the Study 21

1.8 Scope of the Study 22

1.9 Delimitation of the Study 22

1.10 Limitations of the Study 22

1.11 Assumptions 23

1.12 Theoretical Framework 23

1.12.1 Availability Proneness Theory 23

1.12.2 The Health Belief Model (HBM) 25

1.13 Conceptual Framework 26

CHAPTER TWO 28

LITERATURE REVIEW 28

2.1 Introduction 28

2.2 Empirical Literature Review 28

2.2.1 Risk Awareness about Psychosocial risks of CEDs Use 28

2.2.2 Risks Awareness about Addictive Risks of CEDs Use 32

2.2.3 Risks Awareness about Toxicity Risks of CEDs Use 36

2.4 Summary and Research Gap 38

CHAPTER THREE 40

RESEARCH DESIGN AND METHODOLOGY 40

3.1 Introduction 40

3.2 Research Design 40

3.3 Research Site 40

3.4 Target Population 41

3.5 Study Sample 41

3.5.1 Sampling Procedure 41

3.5.2 Sample Size 41

3.6 Data Collection 42

3.6.1 Research Instruments 42

3.6.2 Pilot Testing of Research Instruments 43

3.6.3 Instrument Reliability 43

3.6.4 Instrument Validity 43

3.6.5 Data Collection Procedures 43

3.7 Data Processing and Analysis 44

3.8 Legal and Ethical Considerations 44

CHAPTER FOUR 46

DATA ANALYSIS AND PRESENTATION 46

4.1 Introduction 46
4.2 Response Rate 46
4.3 Reliability Analysis 46
4.3 Demographic Information 47
4.3.1 Gender Analysis 47
4.3.2 Age of the Respondents 48
4.3.3 Which Year of Study 49
4.4 Risk Awareness Influence on Use of Caffeinated Energy Drinks 49
4.4.1 Students' Psychosocial Risks Awareness Influence on Psychosocial CEDs Use 49
4.4.2 Student's Addictive Risks Awareness Influence on CEDs Use 52
4.4.3 Students' Toxicity Risks Awareness Influence on CEDs Use 55
4.4.4 Caffeinated Energy Drinks Use among Secondary Students 58
4.5 Inferential Analysis 59
4.6 Hypothesis Testing 61
4.6.1 Psychosocial Risks Awareness Influence on CEDs Use and Performance 61
4.6.2 Addictive Risks Awareness Influence on CEDs Use and Performance 62
4.6.3 Students Toxicity Risks Awareness Influence on CEDs and Performance 63
4.7 Overall Regression Output Model 64
CHAPTER FIVE 67
SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS 67
5.1 Introduction 67
5.2 Summary of Findings 67
5.3 Discussions 68
5.3.1 Students' Psychosocial Risk Awareness 68
5.3.2 Students' Addictive Risk Awareness 68

5.3.3 Student's Toxicity Risk Awareness 69
5.4 Conclusion 70
5.5 Recommendation 70
APPENDICES 86
APPENDIX I: QUESTIONNAIRES FOR STUDENTS 86
APPENDIX II: AUTHORIZATION LETTER 92
APPENDIX III: NACOSTI PERMIT 93
APPENDIX IV: MAP OF NJIRU SUB-COUNTY 94

LIST OF TABLES

Table 3.1 Target Population 41

Table 3.2: Sample Size 42

Table 4.1 Response Rate 46

Table 4.2 Reliability Analysis Results 47

Table 4.3 Student's Addictive Risks Awareness Influence on CEDs Use Descriptive Results 54

Table 4.4 Students' Toxicity Risks Awareness Influence on CEDs Use Descriptive Results 57

Table 4.5 Reasons for Caffeinated Energy Drinks Use Descriptive Results 59

Table 4.6 Correlation Analysis Results 60

Table 4.7 Regression Summary Results Psychosocial Risk Awareness Influence on CEDs Use 61

Table 4.8 Regression Summary Results Addictive Risks Awareness Influence on CEDs Use 62

Table 4.9 Regression Summary Results on Toxicity Risks Awareness Influence on CEDs Use 63

Table 4.10 Model Summary Output Results 64

Table 4.11 ANOVA Overall Model Output Results 65

Table 4.12 Overall Regression Coefficients Output Results 65

LIST OF FIGURES

Figure 1.1 Conceptual Framework 26

Figure 4.1 Gender Analysis Results 48

Figure 4.2 Age Distribution Analysis Results 48

Figure 4.3 Which Year of Study 49

Table 4.2 Psychosocial Risk Awareness Influence on CEDs Use Descriptive Results 51

ABSTRACT

Caffeinated Energy Drinks have been found by past research studies to be addictive psychoactive stimulants that have also been associated with other toxic and psychological risks to the users. This being particularly due to excessively high caffeine and sugar content. The purpose of this study was to assess risks awareness on levels of caffeinated energy drinks use among secondary students in Njiru Sub County, Nairobi. The study objectives included to assess students' psychosocial risks awareness influence on CEDs use, to evaluate students' addictive risk awareness influence on CEDs use, and to examine students' toxicity risks awareness influence on CEDs use among secondary school students in Njiru Sub-county, Nairobi. The study was guided by the Availability-Proneness theory of Reginald G, Smart and the Health Believe Model (HBM). The study adopted descriptive research design. Target population was 2905 obtained from the Director of Education in Njiiru Sub-County. Stratified sampling technique was adopted, categorized into two strata. The researcher sampled 300 respondents to take part in the study. The respondents comprised of secondary students from four schools in Njiru sub-county, Nairobi. Data was collected using questionnaires. Pilot testing was carried out at Bondeni secondary school to determine the reliability and validity of the developed research instruments before the actual study. Data captured was be processed and entered into the Social Package for Social Science (SPSS) software, version 25, for analysis. The processed data was analyzed using descriptive statistical methods, which included frequencies and percentages, to answer the research questions. Data analysis and interpretation revealed that of the secondary student who participated in the study were aware of some of the three categories of risks associated with CEDs use. The findings of the study also revealed that all the independent variables (psychosocial risks awareness, addictive risks awareness and toxicity risks awareness) have a significant influence on CEDs use among secondary students as they all had a positive regression coefficient. The psychosocial risks awareness had a positive and significant influence with (B=0'516, P=0.000<0'005), addictive risks awareness (B=0.261, P=0.001<0.005) and toxicity risks awareness (B=0.342, P=0.01<0.005) influence on CEDs use among secondary students in Njiru Sub County. The researcher recommends review of Government policy on marketing, sales and clear labelling of CEDs to alert users of the likely risks. In particular inclusion of the warnings on the CEDs containers in the adverts to ensure the users are well warned of the risks and the age restrictions be also clear to both the sellers and buyers. There is need for the Government to standardize recommended caffeine amount consumption per day for adults as they emphasize the age restrictions for CEDs use. .Further recommendation made is need for more studies to create awareness on the use of CEDs among secondary students and even the entire population.

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LIST OF ABBREVIATION

CEDs:	Caffeinated Energy Drinks
DSM-5:	Diagnostic and Statistical Manual of Mental Disorders, 5th Editions
ED:	Energy Drinks
FGDs:	Focused Group Discussions
NACADA:	National Agency for the Campaign against Drug Abuse
NACOSTI:	National Commission for Science, Technology and Innovation
NDO:	National Drug Observatory
UNODC:	United Nations Office on Drugs and Crime
SUD:	Substance Use Disorder
WACD:	West Africa Commission on Drugs
ODD:	Oppositional Deviant Disorder

DEFINITION OF TERMS

Risks awareness: The general knowledge one has or lacks about the possible effects on once physical, psychological or social well-being as a result of consuming a substance; for this study specifically Caffeinated Energy Drinks (CEDs).

Psychosocial Risk: In the study, psychosocial risks constituted the existing factors that can impact an individual's psychological response to their work and workplace conditions.

Awareness of CEDs Use: It refers to the extent to which individuals are informed about and recognize the presence, properties, and potential effects of CEDs. In the study was significant especially to the law enforcement agencies who have adopted the use of CEDs as a tool for handling certain problematic subjects without resorting to other use-of force.

CEDs Toxicity Risks: It refers to concentration of high levels of caffeine content and other stimulating ingredients. It can be toxic when it is consumed in excessive amounts. Therefore, it is worth noting that the main active ingredients in energy drinks is caffeine, and excessive consumption may acutely cause caffeine, intoxication, resulting in tachycardia, vomiting, cardiac arrhythmias, seizures a, and even death

Caffeinated Energy Drink: They are basically beverages that contain caffeine and varied other substances such as guarana, taurine, ginseng, vitamins, herbal supplements and sugar. In the study, they are increasingly popular among adolescents despite growing evidence of their negative health effects (Jagim, et al., 2023).

Risks awareness: It refers to create an understanding and recognition of potential risks that could impact students upon consumption of the caffeinated energy drink.

CHAPTER ONE
INTRODUCTION AND BACKGROUND INFORMATION

1.1 Introduction

This chapter provided the background information that described the factors influencing the use of caffeinated energy drinks among secondary students in Njiru Sub County, Nairobi County. The chapter also highlights the problem statement, study objectives, significance of the study, the scope, the limitations of the study, delimitations, the assumptions of the study, as well as an overview of the theoretical framework and the conceptual framework. This introductory chapter is significant as it analyses the general scenario of the research problem identified by the researcher, globally, regionally and locally.

1.2 Background of the Study

Caffeinated energy drinks are considered to be legalized beverages that are believed to be of significance especially in the reduction of fatigue, increase physical performance, boost brain activity and enhance alertness (Oo et al., 2020). Caffeinated energy drinks do contain traces of caffeine and other constituents such as taurine, glucuno-lactone, vitamins, sugar and some contain alcohol, which when consumed, result in behaviors associated with several risks. Saku et al. (2020) noted that the risk awareness on the use of caffeinated energy drinks has been associated with potential health implications. Notably, the use of the caffeinated energy drinks has become an escalating global public health problem which results to psychomotor side effects on the users. The Caffeinated Energy Drinks (CEDs) are indeed known to be common among students. This is likely to happen when they are at the verge of preparing for examinations and in most cases when they tend to be depressed. The need to put more efforts and time to revise leaves them with no option but to use CEDs.

In a study done by Wiggers et al. (2019) on the exposure of caffeinated energy drink and risk awareness among youths and young adults in Canada, public health authorities have called for increased public health measures including increasing education regarding the health risks associated with CEDs consumption. According to Wiggers et al, (2019), energy drinks manufacturers frequently advertise their products as having the ability to improve physiological function and provide short-term mood and

performance enhancements. Children and young people are the main target markets for energy drinks. Consumption of widely available energy drinks has risen dramatically in recent years, with young person's accounting for most users. Historically, the energy drinks market can be traced to Red Bull's first introduction in Austria in 1987, which gained popularity in the United States in the 1990s (Roldan et al., 2019). This drink's popularity has soared since then.

Many businesses continue to offer new energy drinks in the hopes of capturing a rising client base. Manufacturers push the boundaries in response to the rising demand for new products with which they must compete, creating drinks with increasingly complicated combinations of therapeutic components and even higher caffeine levels which was witnessed in Saudi Arabia (Subaiea et al., 2019). More severe health problems are now being documented due to the increased popularity of energy drinks and more young people drinking higher doses of caffeine in the United States. Energy drink usage has been linked to a variety of significant health issues, including arrhythmias, tachycardia, stroke, psychotic mania, seizures, and even death (Richards, 2016). Despite the concerns, it is essential to remember that the youths and children are the most affected due to their high use levels.

In a survey of college students in United States of America, 67 percent said they take energy drinks to deal with insufficient sleep, 65 percent indicated that the drinks help them feel more energetic, and 54 percent noted that they allow them to have more fun at parties. Also, 50 percent of the students used the drinks for studying or finishing a significant course project, 45 percent for long-distance driving, and 17 percent for curing hangovers (Akinmolusun et al., 2017). The products have also been used to elevate one's social status and alleviate alcoholic depression.

In Nigeria, Olatona, Aderibigbe, Aderibigbe, and Wunmi Ladi-Akinyemi (2018) conducted a study on the risk awareness associated with the consumption of energy drinks among football players in Lagos. It was evident that the prevalence, frequency and reasons for the consumption of energy drinks among registered football club members was in the rise. Evidently, their reason for the consumption of the energy drink was to enhance their sporting performance, which was a concern since one-third of the football players went to the extent of mixing the energy drink with alcohol.

Rashid, (2020) examined a study on caffeinated energy drinks use rate, knowledge and perceived side effects among long distance car drivers in Morogoro municipality in Tanzania. He witnessed that lack of awareness resulted to health effects among the consumers. As a matter of fact, public health education is urgently needed to guide users of CEDs and inform them on the potential adverse health effects that may be caused by excessive intakes. Lifestyle and diet are also on the changing trend in South Africa with a significant consequence to non-communicable diseases. The re-introduction of global economy in South Africa since the inception of democracy in 1994 has been marked by the entrance of multi-national food processing companies which has led to a rapidly changing food environment (Igumbor et al., 2012). With these untamed changes, a severe obesity and other non-communicable disease epidemic have emerged (Mayosi et al., 2019). Ideally, a key factor influencing the use of pre-processed and processed food and drinks is how they are marketed to potential consumers.

According to Euromonitor (2015), energy drinks are considered to be among the fast-growing segment of the South Africa's extensive soft drink market. Euromonitor (2015) notes that the annual volume of sports and energy drinks sold directly and indirectly to users within the country between 2009 and 2014, rose from 97.7 million Liters to 167.7 million Litres. This accounted for approximately two to three L per capita in only five years. However, this was considered to be an issue of concern due to the health risks associated with the use of energy drinks.

Bekoe, (2015), argues that the primary health risk posed by the consumption of energy drinks is the high-level caffeine. Excess caffeine intake can result in palpitations, hypertension, diuresis, central nervous system stimulation, nausea, vomiting, marked hypokalemia, metabolic acidosis. Caffeine intoxication and convulsions. In regard to the same, the use of high caffeine drinks poses differentiated risks particularly to pregnant women and the youth. For instance, the use of high caffeine is associated with late miscarriage, small or gestational age infants and still birth (Greenwood et al., 2014), and greater risk of negative behavioral and cognitive outcomes among adolescents (Breda et al., 2014; Koivusilta et al., 2016). On the same note, in a study on factors associated with undergraduate students of the college of Health sciences in the University of Nairobi, it was established that most students considered the use of Energy drinks to prolong their study time (Haiwanga, 2020).

Commercial energy drinks contain primarily caffeine and a variety of additional substances, many of which have attracted minimal investigation and are poorly understood, mainly when consumed in large quantities. Since the product's popularity has soared among young adults and children, it is vital to comprehend their potential consequences on the users (Akinmolusun et al., 2017). Energy drinks have become widely available in the modern world. Most manufacturers claim that, besides offering an energy boost, the drinks improve users well-being through medical characteristics and substances such as taurine, guarana, and ginseng. Since the presence and degree of these additives vary greatly between products (Richards, 2016). Another worry is that the additives may raise the overall caffeine content for customers, as some manufacturers neglect to disclose the herbal supplements utilized and nutritional information these products.

The marketing strategies used to attract young people have an impact on the rising use of energy drinks. Initially, the energy drink business was primarily targeted towards athletes, demonstrating that the market was focused on a specific demographic population (Akinmolusun et al., 2017). Today, colorful descriptions and provocative titles are used to sell energy drinks, making them seem entertaining and exciting. "Rockstar, Monster, Full Throttle, Throw Down, and Sobe" are just a few of the appealing brands that can be found on store shelves. The words "Get spiked," "Party like rockstar," and "Feel the freak" are examples of marketing slogans used by energy drink manufacturers to generate interest in their products and set them apart from the competitors (Qamhia, 2019). Such advertising does not include language or imagery that is appropriate for adults. The marketing of energy drinks clears up any misunderstanding about the primary target markets for these products.

Different energy drinks seek to improve users performance levels. However, the existence and magnitude of these effects are debatable. Use of Red Bull, predator and Monster for instance, is said to enhance one's performance, endurance, attention, and reaction time, as well as raise metabolism (Qamhia, 2019). In this way, people may mistakenly feel that "more is better" and consume repeated portions of these products. Besides, the addictive nature of caffeine is likely to cause tolerance in the users. Furthermore, most energy drink firms employ cross-promotional strategies by tying their products to sporting events such as the NASCAR or X Games and advertising their products in conjunction with

well-known musicians (Akinmolusun et al., 2017). Other energy drinks promote their distinguishing characteristics, such as being natural, organic, or suitable for diabetics or vegetarians. The energy drinks market has shown to be incredibly profitable, and innovative products are simply a matter of time.

Teenagers use caffeinated energy drinks for various reasons, including staying awake to work on school assignment, wanting to perform better in sports, and mixing with alcohol while partying (Al0Shibly, Alghizzawi, Habes, & Salloum, 2019). Moreover, caffeinated enegry drink are popular among teengaers, but their use can have potential health consequences. Moreover, the usage of energy drinks increased significantly with age, from 17.85 among sixth graders to 56.2% eighths graders, Marinoni, Parpinel, Gasparini, Ferraroni, and Edefonti, (2022) emphasized the signficance sources of caffeine intake among adolescents are sweetened coffee and energy drinks, with a daily caffeine intake below the current suggested limit. In summary, while caffeine use among teenagers is common, it is important to monitor their intake and limit it to safe levels. Parents and healthcare providers should educate teenagers about the potential health consequences of consuming too much caffein, especially in form energy drinks.

Caffeinated energy drinks use has become increasingly common in the last few years, despite evidence associating these products with vast adverse health (Mansour, Amarah, Nasralla, & Elias, 2019). Worryingly, in spite of having awareness about caffeine, our present study reported high use among students. The most preferred brand among majority of the students was red bull. The most common health side effects among students were headaches, insomnia, increased urination and heart palpitation. Various sectors such as health authorities, social media, parents, academic institutions and health physicians needs to guide young people in reducing the intake of caffeinated products and help them to gain more knowledge and awareness in order to prevent future health problems.

The use of caffeinated energy drinks in Nigeria has been increasing, particularly among young people and in urban areas. According to Adeola and Molehin, (2024) examined a study on survey on the use of energy drinks and the evaluation of related adverse effects among young people in Nigeria. They further established that energy drink use and associated adverse effects among Nigerian youth. With the rising popularity of energy drinks, concerns about potential health risks have emerged. Limited population-

based data exists regarding energy drink habits and their consequences in this demographic. Health conditions were observed among both users and non-users, but causality was not established. Adverse psychological and physical effects were reported, with a higher prevalence among users. The study highlights consumption patterns and the health effects of energy drinks among Nigerian youth. The study concluded that Further, research is needed to confirm causality. Informed decision-making regarding energy drink use, particularly among young individuals, is crucial. These insights can inform policymaking and health campaigns, promoting responsible use and youth well-being.

From the above background information, it is evident that research on caffeinated energy drinks is prudent to shade more light about CEDs use. The use is even more wanting when those involved are under 25 years as their brains are still developing and introduction of any form of psychoactive substances disrupts their brain development. This study is thus a timely initiative to intervene in a situation that is prone to affect the mental, physical and social well- being of many.

1.3 Statement of the Problem

The use of caffeinated energy drinks among teenagers poses a significant risk to their health, and there is likely inadequate awareness of the potential risks associated with the use (Chen, Liu, Jaenicke, & Rabinowitz, 2019). In most cases, excessive energy drink use by teenagers is perceived as a major concern due to the range of reported adverse reactions attributed to excessive caffeine consumption, ranging from heart complications to anxiety and insomnia (La Vielle, et al., 2021). Moreover, Charge, (2020) claimed that energy drinks can pose a health risk in vulnerable groups including teenagers, children, pregnant women, and those with medical conditions like diabetes and cardiovascular disease. The American Academy of Pediatrics states that caffeine and other stimulant substances contained in energy drinks have no place in the diet of children and adolescents (Marinoni, Parpinel, Gasparini, Ferraroni, & Edefonti, 2022). Consequently, students would make informed choices, leading to minimal or no adverse health effects related to energy drink consumption. The consumption levels of these drinks would be low, consistent with recommended dietary guidelines thereby promoting overall health and well being among the student population.

Nationwide, 75% of school districts do not have a policy in place regarding these types of beverages that contain high levels of caffeine for sale in high schools vending machines, school stores, or a la carte in the cafeteria. However, preliminary observations and anecdotal reports suggest that many students in Njiiru Sub-County regularly consume caffeinated energy drink without a clear understanding of the potential risks. The prevalence of energy drink consumption among these students appears to be high, influenced by factors such as peer pressure, marketing strategies, and a lack of comprehensive education on the associated health risks. This gap in risk awareness contributes to unhealthy consumption patterns, which may lead to various adverse health effects, including sleep disturbances, increased heart rate, and potential address.

The high consumption of caffeinated energy drinks coupled with insufficient risk awareness, poses immediate and long term health risks. These risks can affect not only the physical well being of the students but also their cognitive functions and academic achievements. Without interventions, the trend is likely to continue, potentially leading to a public health issue within the community. Therefore, assessing the current level of risk awareness and identifying the factors contributing to energy drink consumption among students in Njiiru Sub-County is crucial. The researcher in this study intended to address the gap in Kenya and specifically I Njiru Sub County. The researcher aimed to to assess risks awareness influence on CEDs use among Kenyan secondary students who are most prone to the use of these caffeinated energy drinks, which has also not been addressed adequately by past studies.

1.4 Purpose of the Study

The purpose of this study was to conduct an assessment of risks awareness on levels of caffeinated energy drinks' use among form four students in Njiru Sub-county, Nairobi.

1.5 Objectives of the Study

Specific objectives of the study were:

i) To assess students' psychosocial risks awareness influence on CEDs use among secondary students in Njiru Sub-county, Nairobi.

ii) To evaluate students' addictive risks awareness influence on CEDs use among secondary school students in Njiru Sub-county, Nairobi.

iii) To examine students' toxicity risks awareness influence on CEDs use among secondary school students in Njiru Sub-county, Nairobi.

1.6 Research Questions

i) What is the influence of psychological risks awareness on caffeinated energy drinks' use among secondary students in Njiru, Nairobi?

ii) How does addictive risks awareness influence caffeinated energy drinks' use among secondary students in Njiru, Nairobi?

iii) What influence does toxicity risks awareness have on caffeinated energy drinks' use among secondary students in Njiru Sub County?

1.7 Significance of the Study

Globally, there has been efforts by governments and other agencies involved in the fight against substance use with the aim of achieving a substance-free society. Many studies have indicated that adolescents and young adults are among the most affected by substances use, especially the use of legalized psychoactive substances like caffeinated energy drinks. They opt for such substances because they are available, affordable and unrestricted. The findings of this study will guide Government policy makers on the manufacture, distribution, marketing and sale of caffeinated energy drinks among students and even among the entire public. The findings will be used to initiate appropriate preventive and intervention programs to address the problem of CEDs use and other legalized substances among students in Nairobi and in Kenya. It is hoped that parents, teachers and other caregivers will also benefit from the findings of this study in terms of risk awareness on CEDs use and thus be in a better positions to guide their children appropriately.

To the future academicians, the researchers can use the study findings as a reference point if one is researching on risk awareness associated with the consumption of caffeinated energy drinks and/or other legalized psychoactive substances.

1.8 Scope of the Study

According to Mugenda and Mugenda, the scope of the study outlines the limits of the study in terms of "the period of study, subject and, geographical area to enable the researcher to come up with usable outcomes" (Mugenda & Mugenda, 2012). The study was carried out in public secondary schools within Njiru Sub County in Nairobi. Clearly the choice of the study areas was informed by the fact that over the past few years there has been a continuous trend of school going children in Njiru and other sub counties in Nairobi seen consuming the energy drinks.

Data was collected from students drawn from four schools in the sub-county using questionnaires. The study focused on the CEDs use among secondary students in Njiru Sub-County because there has been increased incidence of students consuming caffeinated energy drinks. The focus on students' awareness of CEDs psychosocial risks, awareness of CEDs addiction risks and toxicity risks was the focus of the study. These helped to get clear evidence on the risks awareness influence on caffeinated energy drinks use among secondary students.

1.9 Delimitation of the Study

Delimitations are those characteristics that limit the scope and define the boundaries of the study (Simon, 2011). The study was carried out in selected public secondary schools within Njiru Sub County, while other institutions that would possibly be important in the same study were left out due to limited time and resources. The study focused on risk awareness, leaving out all other factors related to adolescent substances use in Nairobi and even in Kenya. The researcher intended to focus the study on one category of legalized psychoactive substances - caffeinated energy drinks leaving out other equally risky and frequently used legalized substances.

1.10 Limitations of the Study

Limitation of the study refers to the various apects that may affect the research negatively and the researcher has no control over them (Ross & Bibler Zaidi, 2019). A number of the respondents may not be willing to provide information relevant to the study due to fear of victimization in the event that they are known to be consumers of the energy drinks. The researcher assured the respondents that the research

was purely for academic purposes and therefore high level of confidentiality was guaranteed. Moreover, there was a limitation of resources as this was a comprehensive research study that was a multi-sectoral, thus required slot of resource in terms of time and funds.

1.11 Assumptions

The researcher carried out the study with the following assumptions in mind, that:

i. Psychosocial risks awareness has a significant influence on CEDs use among secondary students in Njiru Sub County
ii. Addictive risks awareness has a significant influence on CEDs use among secondary students in Njiru Sub County
iii. Toxicity risks awareness has a significant influence on CEDs use among secondary students in Njiru Sub County

1.12 Theoretical Framework

1.12.1 Availability Proneness Theory

The research was guided by the availability-proneness theory of drug abuse by Reginald Smart in 1980. The foundation for the theory can however be traced to previous works by Smart and others in the 70s (Smart & Fejer, 1972; Kandel, 1975; Catton & Shain, 1976). Reginald Smart in this theory posits that drug abuse occurs when a prone individual is exposed to a high level of availability as well as psychosocial situations that make the person prone to the use the substance in question (Smart R. G., 1980). That the availability of or ease of access to all substances varies enormously as does proneness to use of these drugs for social or psychological reasons. Thus, availability of drugs is seen as one of the major determinants of drug use and vice versa.

Examples have been drawn of the proverbial Robinson Crusoe families who had been deserted on a desert island and could not abuse drugs because there was no pharmaceuticals or plant-origin drugs available. Conversely, persons living in ghettos where hard drugs are readily available are likely to abuse drugs because they can readily get them. In areas where opium-bearing plants grow such as Southeast Asia, Turkey, and parts of Mexico people can readily abuse opiates because they are readily available. Availability pertains to ease or difficulty of obtaining drugs based also on cost and amount of physical

effort required to obtain them. In this study, caffeinated energy drinks are readily available in the market and can be easily accessed without any legal restriction. The recent mushrooming of local cheaper brands can also be seen as factor of availability of CEDs.

Proneness to use substances is attributable to many factors. These include: psychological; living in ghetto situations; promise for immense financial returns (Catton & Shain, 1976) as well as desire to pursue a different lifestyle so as to gain a sense of purpose, group belonging and excitement. Proneness can also be explained by other factors unique to the use; for this research study, students are prone to use caffeinated energy drinks to achieve a feeling of alertness, energetic, control sleep to study more and feel part of the peer groups. Besides, the age of secondary students.

In line with this current study thus, tendencies to use substances should vary directly with both availability and proneness (NIDA, 2017). Caffeinated energy drinks, are readily available and easily accessible to everyone in Kenya as they can be purchased without any restrictions – they are available from any outlet willing to stock them and sell to any willing buyer, including children and adults. Adolescence is marked by heightened risk-taking, reward-seeking, and impulsive behaviors (Baumgarter & Amso, 2017), which make them more prone to CEDs use than any other group of persons. Besides, the students (who are at the adolescence stage) are eager to experiment and they want to conform to peer groups and not be left out, thus the psychological proneness. Risks awareness about CEDs use could also play a major role in the availability and proneness to use of these CEDs by secondary students. This theory aided in exploring the relationship between the immense availability and ease of access to caffeinated energy drinks and the social and psychological proneness of the secondary students.

The availability-proneness theory does not however highlight the risks factor in the use of psychoactive substances, thus the researcher's decision to include the Health Belief Model in this research study to fill the gap.

1.12.2 The Health Belief Model (HBM)

The Health Belief Model (HBM) is a theoretical framework that has been used to study the use of psychoactive substances like CEDs among adolescents (Wang & Chen, 2022). According to a study that used the HBM to assess predictors of energy drink consumption among adolscents in South Korea, beliefs regarding the harm and benefits of energy drinks use were the strongest predictors of use and increased the likelihood of use by approximately 2-4.5%(Wang & Chen, 2022). Moreover, another study that tested a model for intention to discontinue drinking highly caffeinated beverages among students found that the HBM could be used to develop a hypothetical model describing intention to discontinue highly caffeinated drink consumption through perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy.

Furthermore, a study that aimed to identify for various negative health indicators are associated with energy drink use frequency found that even infrequent energy drink use was associated with various negative health indicators. The study also found that frequent energy drink use were more likely to report several health-compromising behaviors, such as current smoking, current snus use, cannabis use, and alcohol use. These findings suggest that the HBM could be used to develop interventions aimed at reducing energy drink use among adolescents and undergraduate students by addressing their beliefs about the harm and benefits of caffeinated energy drink use, as well as their perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy.

The HBM thus explains the role of risk awareness in the use of CEDs. That risks awareness has the potential of influencing ones decision to use a substance or to quit having understood and believed the health implications of the use of the substance in question. For this study, risks awareness would influence CEDs use among secondary students.

1.13 Conceptual Framework

The conceptual framework below shows the researchers road map of the research study in terms of how the independent variables will be customized in relation to the dependent variable.

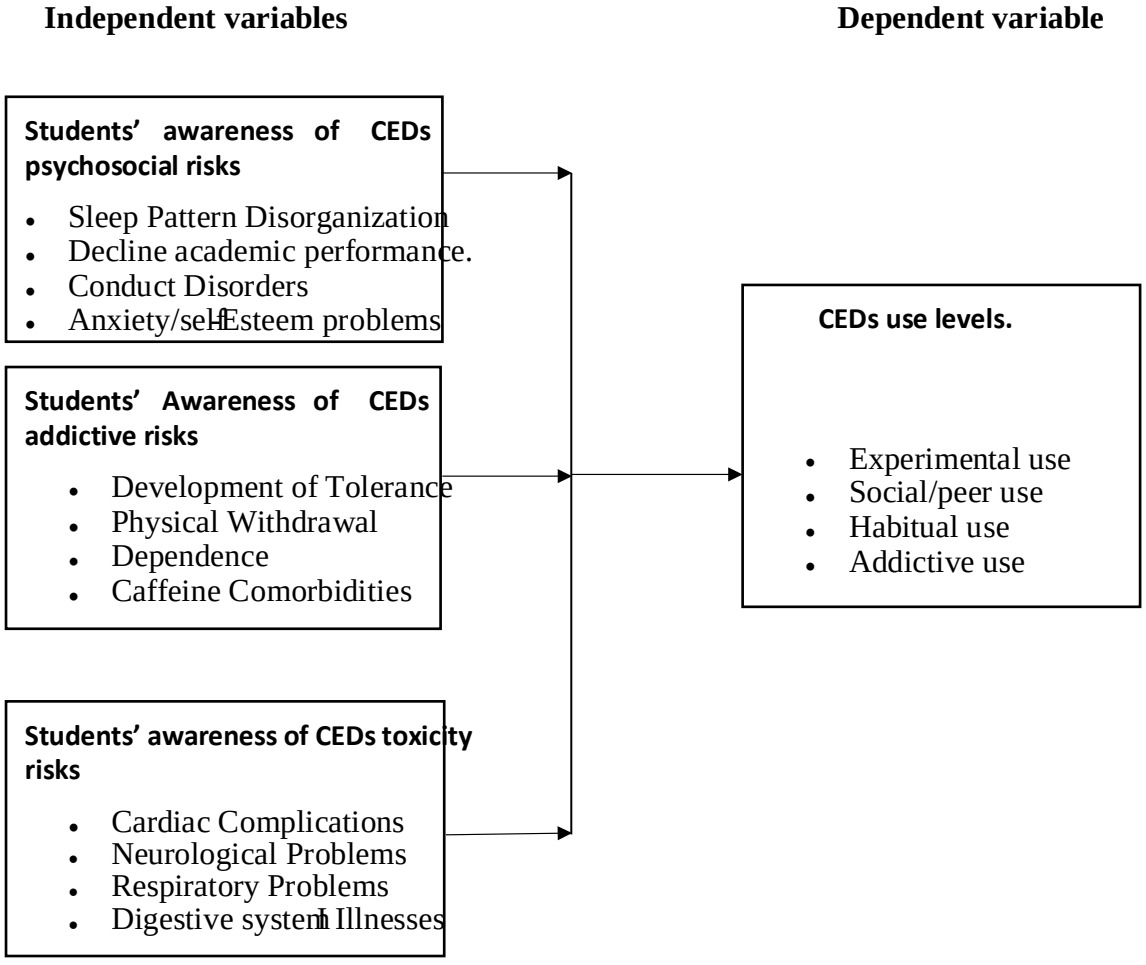


Figure 1.1 Conceptual Framework

Source: Author, (2024)

Psychosocial Risk; the use of caffeinated energy drinks has been associated with several psychosocial risks. Some of the psychosocial risks associated with the use include; stress, anxiety, depression, suicidality. It is important to note that caffeine's health effects vary from person to person and depend on factors like awareness of risks. On the other hand, student's awareness of CEDs addictive risks can

have a serious impact on students' health and wellbeing. It constitutes the physical effects, cardiovascular effects, dental effects, and renal effects. Student's awareness of CED's addiction risk; has been a problem to the students who are at a risk for substance use. Moreover, prevention of substance use among adolescents requires awareness of characteristics that place youth at risk and targeting modifiable risk factors. Some of the risk factors for addiction include having a prior personal history of substance use or having a family history of substance use disorder. Finally, students' awareness of CEDs toxicity; a number of studies have shown CED use among secondary students has seen as a growing concern due to its potential to cause adverse effects and its association with various risks. Serious and adverse cardiovascular and neuropsychiatric outcomes in this population have also been reported, including mood disorders, seizures, gastrointestinal issues or even death.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter carefully reviews the current literature on caffeinated energy drinks use among young adolescents, and the risks associated with the energy drinks' consumption. This chapter will be guided by objectives of the study. Therefore, the chapter will have sections on psychosocial risks of caffeinated energy drinks, addictive risks of caffeinated energy drinks, and toxicity risks of caffeinated energy drinks.

2.2 Empirical Literature Review

2.2.1 Risk Awareness about Psychosocial risks of CEDs Use

Regular consumption of caffeinated energy drinks has greatly been associated with emotional and behavioral problems in adolescents. Adolescents who consume caffeinated energy drinks regularly are at a great risk of mental health problems particularly when in combination with junk food consumption. Indeed, this was echoed by a study that was done by Nuss, Morley, Scully, and Wakefield, (2021) on caffeinated energy drink among Australian adolescent associated with cluster of unhealthy dietary behavior, the caffeinated drinks contain high levels of sugar that is a major concern regarding the suitability for children and adolescents. The aim of the study was to examine the patterns in the consumption of energy drinks among Australian secondary school students and identify sociodemographic and behavioral correlation associated with regular consumption. The study relied on primary data collection in which the target participants were 8,942 students in year 8 to 11 (aged 12 to 17 years) who participated. The study adopted cross sectional survey research design. A multistage stratified random sampling procedure was used. Online questionnaires were administered that aimed at assessing their dietary, physical activity and sedentary behaviors. The study also relied on multilevel logistical regression model which was used to examine association between energy drink consumption and sociodemographic and behavioral factors. The findings of the Australian study noted that the consumption of the caffeinated energy drinks was more prevalent among males, and consumption appears to cluster unhealthy dietary behaviors. The consumption was in line with the influence amongst themselves in wanting to conform to a particular social group.

Psychosocial risks associated with the consumption of caffeinated energy drinks among nursing students have been studied by the current study, Moreover, it was mainly associated with the depressed nursing students were more likely to have consumed the caffeinated energy drink than non-depressed students. According to Choi, (2019) conducted a study on the influence of psychological factors on energy drinks consumption in Korean Nursing Students. The aim of the study was to investigate the status of caffeine containing energy drinks consumption among Korean nursing students and identify associated psychological factors. The target population was 187 Korean nursing students participated in this cross-sectional study. Data collection was primary and majorly relied on self-administered questionnaires that was aimed at identifying participants general characteristics and psychosocial factors such as self-esteem, academic stress, depression, and college adjustments associated with energy drinks consumption. Data was analyzed with SPSS using descriptive statistics, $x^{2,}$ the t-test, and logistic regression. The results for the study suggested that more than two thirds (73.3%) of the participants had consumed energy drinks. Among the investigated psychological factors, depression appeared to most strongly influence energy drink consumption behaviors in this population. The study findings concluded that the consumption of caffeine containing energy drinks was found to be common among nursing students preparing to become health care professionals; depressed nursing students were more likely to have consumed energy drinks than non-depressed students. However, emphasis was also based on the fact that early detection of unhealthy beverage consumption habits to appropriate education to enhance healthy behaviors in future health care professionals.

Regular use of caffeinated energy drinks has significantly resulted to a public health hazard among adolescents, and their consumption which is associated with several negative health indicators. In line with Dillon et al., (2019) examined a study on the gender differences in any source caffeine and energy drink use and associated adverse health behaviors at Mid-Atlantic University. However, it was well noted that a number of college students report caffeine use with many using caffeine daily. Moreover, the use of energy drink (ED) use, in particular, is common among college students and numerous studies link these heavily caffeinated drinks to a variety of adverse consequences including substance use and risky behaviors. However, little is known about the existing correlations between any source of caffeine

use and other substance use problems. The purpose of the study was to evaluate the extent to which psychological and social effects caffeine use on other psychoactive substance use problems. The study adopted longitudinal study of alcohol use and health related outcomes to assess caffeine, alcohol, nonprescription drugs and tobacco use and symptoms of alcohol dependence in 1958 freshmen from Mid-Atlantic university during fall 2012. The results showed that women reported significantly more caffeine use than men; men reported more EDs use. EDs, regardless of the frequency of use, were associated with all adverse health behaviors, but only in female students.

A study that was conducted by Douglas and Nkporbu, (2018) on the psycho-social risks associated with the consumption of energy drinks among secondary schools students in Nigeria further noted that the existence of the relationship between caffeine use and the psycho-social risk behaviors among the secondary school students. Moreover, the study adopted descriptive survey design. Primary data collection was adopted, which was done through administration of questionnaires that assessed socio-demographic, personality traits and other risky behaviors such as sexual intercourse, suicide attempts, bullying, physical fighting, alcohol, cigarette and marijuana. Target population was 106 students that were selected randomly from the secondary school in a period of 30 days. The findings of the study noted that there is significantly an association between psychosocial risks and consumption of caffeinated energy drinks. The study was done in Nigeria while the current study is done in Kenya.

Adolescents who consume caffeinated energy drinks are at a risk of emotional and behavioral problems due to lack of sleep and skipped breakfast. Caffeinated Energy Drinks contains high levels of caffeine along with other plant-based stimulants and ingredients, which can have psychoactive effects on adolescents. Further, it was backed by Mwape and Mulenga, (2019) who examined a study on the consumption of energy drinks and their effect on sleep quality among students at the Copperbelt University School of Medicine in Zambia. The study established that good sleep quality is cardinal to good health, and research has shown that it plays a fundamental role in immunity, learning, metabolism, and other biological functions. Their concluded that energy drink consumption is a popular practice among college students. The main objective of the study was to determine the effects of energy drinks on sleep quality among students at the Copperbelt University. Data collection was through online

questionnaire to 195 undergraduate students at the Copperbelt University School of Medicine in their second and third year of study. Energy drink consumption and sleep quality were assessed by univariate, bivariate and multivariate analysis. About 157 students were enrolled into the study. The prevalence of energy drink consumption was 27.4% among participants. The findings of the study concluded that energy drinks consumption is not a common practice in the Zambian University setting as the prevalence was 27.4%. Furthermore, the prevalence of poor sleep quality among Zambian university students is high and is significantly associated with energy drink consumption, and there is a need to better understand the patterns of energy drink use as well as their effect on various aspects of health including sleep quality in the Zambian setting.

Unfortunately, the study does not provide specific information on the relationship between social risk influence and consumption of CEDs in Kisumu City. In line with Muma, (2018) examined a study on social risk influence and consumption of CEDs in Kisumu City, Kenya. Moreover, the study noted that social media was one-way brands increase global awareness of their existence. The study noted that with growing competition among different brands, getting noticed has become challenging. The major reason for this study was to establish the influence of social media marketing on brand awareness among consumers of soft drinks and beverages in Kisumu City. The study used descriptive research design and the target population was the consumers of soft drink and beverage within Kisumu City shopping at the three major malls. The study determined sample size is 384 respondents. Stratified random method of sampling was used and self-administered questionnaires were used to capture necessary information. Both descriptive and inferential analyses was used to analyze collected data. Findings revealed that the social media platforms such as Facebook, Twitter and YouTube, influence consumer search for different brands, consumer share satisfaction feedback of the brand, and consumer mention brands by electronic word of mouth. Consumer engage through likes and comment on brands and the brands remaining top of mind among consumers are strong and significant determinants of brand awareness in the Kisumu City.

2.2.2 Risks Awareness about Addictive Risks of CEDs Use

Substance abuse including the use of caffeinated energy drinks carries a high risk for negative health outcomes such as underachievement, delinquency, depression, and dependency. It was indeed echoed by Ali, Helou, Ahmad, Al Ali, and Damiri, (2022) who conducted a study on levels of risk awareness and addiction to CEDs, linking it with use of tobacco on obesity and general obesity among male university students in Palestine. Moreover, they noted that obesity is considered to be one of the leading causes of mobility and premature death. Therefore, the prevalence of obesity and being overweight in young adults is on the increase especially in Palestine. They anchored the fact that obesity is linked with lifestyle peer pressures which constituted addiction to CEDs among the Palestinians, especially the university students. The study focused majorly on Male students from An-Najah National University in the West Bank who were recruited to fill out a self-administered questionnaire, in which the cross sectional study was conducted in 2021. The main focus of the study was to establish the existing relationship between obesity and CEDs consumption linking with tobacco use due to peer pressure, were adjusted multiple logistic regression models. The target population were 396 students who participated in filling the questionnaires. The findings of the study established that indeed, smoking and CEDs consumptions was an aspect associated with peer pressures which resulted to obesity. Given the undesirable health consequences of consuming the closely associated tobacco and CEDs, stricter measures needed to be put in place to prevent access to these products. The study majorly focused on the existing association of CEDs and tobacco use leading to obesity while the current study is focused on assessment of students' awareness of the addictive risks of CEDs use.

Consumption of caffeinated energy drink has led to high risk substances use in youth, which is defined as any use of substances with high of adverse outcomes. A study that was conducted by Ghaozayel, Ghaddar, Farhat, Nasreddine, Kara, and Jomaa, (2020) emphasized on the association of caffeinated energy drinks among University students in Beirut, Lebanon. Further, they noted that the energy drinks consisted of caffeine and sugar rich beverages with other ingredients that are marketed for their energy boosting and performance enhancing effects. Their level of consumption was widely influenced by peers which was considered to be perceptions and experiences of young adults towards these beverages. The

study did explore the consumption patterns and correlates of ED consumption, as well as the perceptions and experience of the University study in Lebanon. The study relied on sequential explanatory mixed methods approach. Primary data was collected from the two private universities in Beirut, Lebanon. A self-administered 36 quantitative survey was first used to explore the prevalence and correlates of CEDS Consumption among a convenience sample of 226 University students. The questions from the survey were mainly related to socio-demographic characteristics, anthropometric measurements and other lifestyles behaviors including physical activities of University students. The subsequent qualitative phase consisted of focus group discussions (FGD) conducted to further examine the perceptions' and experiences of university students towards CEDs. The study adopted the descriptive statistics and logistic regression analyses were conducted using survey data, whereas the transcribed FGD were analyzed thematically. The findings of the study highlighted that the need for public health policies and programs to curb the growing public health phenomenon of CEDs consumption amongst University students. The current study on the other hand seeks to assess the students' awareness of CEDs consumption at different levels.

Caffeinated energy drinks use can lead to high risk substances use in youth, which is defined as any use of substance with high risk of adverse outcomes. In study that was conducted by Carsi Kuhangana, et al., (2021) anchored on the fact that caffeinated energy drink consumption among school going adolescent in Lubumbashi, Democratic Republic of Congo is in the rise. Moreover, the study noted that the consumption of the CEDs is increasing in the general population, but little is known about the risk among the pupils. The main focus of the study was to assess the consumption of CEDs among pupils between 10 and 17 years of age and to assess average caffeine concentrations contained in CEDs sold in Lubumbashi. The study adopted cross sectional survey in which five schools participated using a standardized questionnaire taken face-to-face. The findings of the study was evident due to the fact that consumption of the CEDs among pre-adolescents school children was attributed by social conformity. Moreover, the continuous advertisement and pricing of this CEDs without outlining the risk associated

did not limit the regular consumption by the adolescents. The study clearly pointed out that lack of awareness constituted to the regular consumption of CEDs by the adolescent while the current study is focused much on students' risks awareness as a result of different levels of CEDs consumption.

To reduce the risks, reduction of addiction and related health problems associated with substance use, it is important to increase awareness of the risks of use and to enhance protective factors through family, school and community prevention programs. According to Mwape and Mulenga, (2019) conducted a study the consumption of energy drinks and their effects on sleep quality among students at the Copper belt University School of Medicine in Zambia. Moreover, the study noted that good sleep quality is essential to good health which plays a fundamental role in immunity, learning, metabolism and other biological functions. The study identified that CEDs is a popular practice among college students in Zambia which seem to be an addiction among medicine students. The study's main objective was to determine the effects of CEDs on sleep quality among students at the Copperbelt University School of Medicine. The study adopted self-administered questionnaires to 195 undergraduate students at the Copperbelt University School of Medicine in their second and third year of study. CEDs and sleep quality were assess by univariate, bivariate, and multivariate analyses. The findings of the study noted that studying for exams was the common reason for drinking CEDs drinks. As a matter of fact, the prevalence of poor sleep quality among the Zambian university students is high and is significantly associated with energy drink consumption and there is need to better understand the patterns of energy drink use as well as their effects on various aspects of health, including sleep quality.

The current study was more focused on the association between CEDs use and risks awareness. Hauwanga, (2020) conducted a study on the prevalence and addiction factors associated with sleep quality among undergraduate students at the college of health sciences, University of Nairobi, Kenya. The study noted that Sleep is an indispensable necessity of man-kind, imperative for sustaining the quality of life and well-being of all ages. Poor sleep is proven to have an impact on students' academic endeavors and general health. Even though some university students are conversant with health repercussions associated with poor sleep quality, a substantial proportion fail to prioritize sleep health

over their academic tasks or deem their health to be at risk. The main focus of the study was to determine the prevalence and factors associated with sleep quality among undergraduate students at the College of Health Sciences, University of Nairobi. An institutional analytic cross-sectional study was carried out at the College of Health Sciences. A stratified random sampling technique was employed with strata being the schools. A Pittsburgh Sleep Quality Inventory was used to measure sleep quality. Out of the 378 participants, 245 were interviewed through a tablet device-based questionnaire running on the Open Data Kit (ODK) application and the remaining 133 students completed an online questionnaire (Survey Monkey).

The findings of the study noted that the consumption of the CEDs is in the rise due to high level of stress so as to be in position of study for an exam even though they are aware of the risk factors.

Cheloti and Gathumbi (2016) carried out a study on "curbing drug and substance abuse in secondary schools in Kenya with reference to the Disconnect in school community intervention strategies." The study was based on desk review of extant literature. Data was collected from 35 head teachers and 407 students using questionnaires (Cheloti & Gathumbi, Curbing Drug and

Substance use in Secondary Schools in Kenya; the Disconnect in School Community Intervention Strategies, 2016). It was established that students obtained drugs from the school community. Lack of awareness of the real risks associated with substance use contributed to societal tolerance and lack of cooperation in curbing among parents and guardians. This current study set out to find the level to which knowledge about the addictive risks among students themselves militated against use of CEDs among adolescents in secondary schools in Kenya. From the above literature review on the addictive risks of CEDs, it is evident that no research studies have been done specifically on risk awareness levels of CEDs use. The studies have however shown that there is indeed ever increasing CEDs use among adolescents especially those in schools. Examining the level of addictive risk awareness levels of CEDs use and the possible role this level of risk awareness play on levels of use of these substances among students in secondary schools in Nairobi is pivotal.

2.2.3 Risks Awareness about Toxicity Risks of CEDs Use

Caffeinated energy drinks are a significant public health hazard, particularly among adolescents, due to the potential health consequences associated with their use. This risks of caffeine intoxication from energy drink use are increasing, and serious adverse effects and toxicity are seen with energy drinks containing variable amounts of caffeine. In line with Alhumud, Moore, and Morgan, (2020) who carried out a study on the CEDs use and toxicity awareness among young people and adolescents in UK. However, their emphasis was on the fact that CEDs use have been in the increase, particularly among young people. The study relied on secondary data collection method. The study considered whether the health outcomes associated with young people's due to CEDs consumption are too narrowly focused on physiological mechanisms, and whether there is evidence to support the hypothesis that energy drinks consumption incurs broader social costs. The target population were children and adolescent aged 6 to 18 years of age. The findings of the study noted that CEDs use has resulted to health problems including high blood pressure, cardiovascular disease, headaches, sleep disorders, other substances use, stress and hyperactivity. However, causal relationship could not be determined for all outcomes. There is evidence that toxicity associated with consumption of CEDs could extend beyond physical health to educational attainment, mental health complications, including substance use disorder (SUD). Finally, the study outlined the need for increased awareness and further prospective studies required which are being seconded by the current study.

Most cases of toxicity are attributed to caffeine, guarana, and taurine. In overdoses, caffeine toxicity can mimic amphetamine poisoning and lead to seizures, psychosis, cardiac arrhythmias, and, potentially but rarely, death. A study was conducted by Hammond, Reid, and Zukowski,(2018) on the level of toxicity of caffeinated energy drinks among youths and young adults in Canada. This study noted that energy drinks use n have increased dramatically among young Canadians, with anecdotal evidence of adverse health effects. The study sought to examine the level of toxicity from energy drinks among a population based sample of youth and young adults in Canada. The study relied on online survey which was conducted in 2015 with a national sample of youth aged 12-17 years and young adults aged 18-24 years,

recruited from a consumer panel. Respondents reported prior consumption of energy drinks as well as adverse outcomes, concurrent activities with the outcomes and whether medical attention was sought or considered. The study established that more than half the youth and young adults who had consumed caffeinated energy drinks reported adverse outcomes, some serious warranted seeking medical help. The adverse outcomes were consistent with the physiologic effects of caffeine but were significantly more prevalent than with other sources of caffeine such as coffee. This study focused much on the level of toxicity while the current study is more on risk awareness on the level of toxicity associated with the consumption of CEDs.

In a study that was conducted by Ibrahim, U., Sani, H., Ayaba, A., Abdullahi, H., Jalo, R., Amed,

F., et al. (2021) on the level of toxicity in relation to the prevalence and factors associated with CEDs consumption amongst undergraduate students in Kano, Nigeria. The study established that overconsumption of CEDs is considered to be a global public health problem due to its potential health consequences. The aim of the study was to determine the prevalence and factors associated with CEDs consumption amongst undergraduate students in Kano, Northwest Nigeria. The study adopted descriptive cross-sectional study design. A sample size of 381 undergraduate students, selected using two stage sampling technique was used. Data was collected using interviewer administered questionnaires and analyzed using SPSS version 22. The findings of the study noted that the consumption of CED has increased and has become a major habits among the undergraduate students. Therefore, the study concluded there is need for creation of awareness on the risks associated with the consumption of CEDs which is supported by the current study, seeking to find out whether the users actually have attained the risk awareness.

Energy drinks can pose a health risk in vulnerable groups including children, teenagers, pregnant women, and those with medical conditions. According to Park, Lee, Lee, and Jung, (2015) in a study, examined consumption status, risk awareness and experience of adverse effects of high caffeine energy drink among University students in China. The study adopted descriptive survey including 270 students in 2 universities and 7 colleges in metropolitan city. Consumption status, risk awareness and experience of adverse effects of high caffeine drinks tools were developed by literature review. Data analyzed using

descriptive statistics and x^2-test. The results showed that 86.7% of the students had previous experience of energy drink consumption was increasing alertness for studying. 45.7% of the student were aware of the risk of high caffeine energy drink and first risk was sleep disturbance. 51.1% of students were experienced adverse effects, mainly palpitation and sleeplessness. The results suggest a need to increase awareness of adverse effects and potential risks of high caffeine energy drink use in university students. Caffeinated energy drinks contain high levels of caffeine, which can lead to caffeine intoxication if consumed excessively. Moreover, Sanchex, et al., (2013) examined a study on the level of awareness in relation to sleep quality, sleep patterns associated with consumption of energy drinks and other caffeinated beverages among Peruvian College Students. The study sort to evaluate sleep pattern quality in relation to lifestyle characteristics including consumption of energy drinks and other caffeinated beverages among Peruvian college students. The study target population was 2,458 colleges students invited to complete a self-administered questionnaire that collected information about variety of behaviors including consumption of energy drinks, caffeinated and alcoholic beverages. The Pittsburgh Sleep Quality Index (PSQI) was used to assess sleep quality. Logistic regression procedures were used to estimate odd ratios (OR) and 95% confidence intervals (95% CI) for poor sleep quality in relation to lifestyle characteristics. The study findings established that majority of the college students were not aware that consumption of the energy drinks, other caffeinated beverages and alcoholic beverages are risk factors of poor sleep quality. As a matter of fact, increased awareness of these association should promote interventions to improve students' lifestyle habits, including consumption of alcoholic and caffeinated beverages, and overall health.

2.4 Summary and Research Gap

A number of the research on caffeinated energy drinks has been conducted on adolescents in secondary schools, colleges or universities, with limited research being conducted on secondary schools in Nairobi, Kenya (Trunzo, et al., 2014; Richards, Juliano, & Griffiths, 2004; Bernstein, Carroll, Thuras, Cosgrove, & Roth, 2002; Oberstar, Bernstein, & Thuras, 2002; Reid, Hammond,

McCrory, Dubin, & Leatherdale, 2015). This therefore presents a gap in research, in trying to find out whether risks awareness of caffeinated energy drinks use have significant impacts on levels of use of these substances among students in Kenya.

Additionally, most previous studies have analyzed the physiological effects of caffeinated energy drinks (Grósz & Szatmári, 2008; Zenith International, 2007). This research study sought to examine the awareness of the psychosocial, addictive and toxicity risks of caffeinated energy drinks use. The research also aimed to assess the links between the risks awareness and levels of caffeinated energy drinks use among form four students.

The researcher also realized that most research studies have been conducted on levels of consumption, risks of use and general effects of caffeinated energy drinks on the users. Most of these studies have been conducted in the western and Asian countries with minimal research on risks awareness and in local communities on the same. There was therefore a gap in research on the influence of awareness about risks associated with caffeinated energy drinks and the levels of use of the substances in Kenya. Therefore, this study focused on assessing the risk awareness levels about CEDs and the possible role risks awareness play on levels of use of these substances among secondary school students in Njiru Sub County, Nairobi, Kenya.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter gives an overview of the methods and procedures that were administered by the study in order to assess risks awareness influence on caffeinated energy drinks use among secondary students in Njiru Sub County. This section consisted of the research deign, research site, target population, determination of the study sample data, data collection measures, data processing and analysis, legal and ethical consideration.

3.2 Research Design

The study adopted a descriptive research design. Malhora (2007) noted that descriptive research design is a research method in which data to be collected constitute to a specific units or entities, in which the researcher is expected not to influence the environment in any way. Further, the essence of descriptive research design focused on reports on the situation as it occurs. This design was applicable to the study due to the fact that it gave sufficient reports on assessment of risk awareness influence on caffeinated energy drink use among secondary students in Njiru Sub-County, Nairobi, Kenya. The study was of interest in reporting how risk awareness on CEDs was being carried out and hence descriptive study was appropriate. The study adopted questionnire method, collecting both qualitative and quantitative data since the researcher was able to collect data using structured questionnaires.

3.3 Research Site

The research study was conducted in Njiru sub-county, which is located in Nairobi County. The research targeted secondary students in the selected public secondary schools in the sub-county. The schools that took part in the study are; Ruai Girls Secondary school, Muhuri Muchiri Boys Secondary school, Njiru Secondary School and Jehovah Jireh Secondary School. All the selected secondary schools are located within Njiru Sub County. The researcher selected the above schools considering the students' gender, population size in the schools and the location. Thus, two mixed secondary schools were selected, both of which are also day secondary schools, one boys' only boarding school and one girls only day school.

3.4 Target Population

The target population was secondary students in secondary schools within Njiru sub-county in Nairobi. The target population size was 2905 comprising of secondary students Njiru sub-county. This information was obtained from the Director of Education in Njiru Sub County.

Table 3.1 Target Population

Category	Total Population	Percentage
Boys	1604	50.3%
Girls	1301	48.7%
Total	**2905**	**100 %**

Source: Njiru Sub-County (2020)

3.5 Study Sample

3.5.1 Sampling Procedure

The research study employed a three-stage sampling procedure to select study respondents. The first stage involved using purposeful sampling to select target secondary schools from Njiru sub-county. Secondly, the research employed the proportionate stratified sampling technique to obtain individuals from the two strata (Students who have ever used CEDs). Lastly, simple random sampling technique was used to obtain respondents from each stratum based on their percentage relative to the target population. Moreover, the random sampling technique was used in research to select a subset of individuals or items from a larger population. The goal of random sampling is to ensure that the sample is representative of the population, so that any conclusions drawn from the sample can be generalized to the population as a whole.

3.5.2 Sample Size

Sample size determination is used to compute the number of individuals to be included in a study (Kothari, 2004). The sample size was obtained using the formula developed by Yamane (Yamane, 1967). The formula is: $n=N/1+N*e^{2}$

Where:

n=the sample size N= the population size e=the acceptable sampling error (assumed at 0.1)

When fitted, the sample size for 1360 persons is:

$n= 2905 / (1+ (2905*(0.05)^2)$

$n \simeq 300$

Thus, the sample size for this study is 295 Students. This is shown in the Table 3.2.

Table 3.2: Sample Size

Category	Target Population	Percentage	Actual Sample
Boys	1604	55.2%	166
Girls	1301	44.8%	134
Total	**2905**	**100%**	**300**

Source: Researcher (2024)

3.6 Data Collection

3.6.1 Research Instruments

This research study utilized a questionnaire to collect data from secondary students. The questionnaires contained both closed-ended and open-ended questions and was divided according to the study objectives, and contained five sections. The first section measured the demographic characteristics of the selected students. The second section measured CEDs use levels among the students. The third section measured awareness of CEDs psychological risks, fourth section measured awareness of CEDs addictive risks, and the fifth section measured awareness of CEDs toxicity risks. The questionnaires were also based on the study objectives, particularly targeting information on CEDs use, students' awareness of CEDs toxicity risks, addictive risks and psychosocial risks.

3.6.2 Pilot Testing of Research Instruments

Pilot testing was carried out in order to determine the reliability and validity of the developed research instrument. Additionally, the pilot study was useful in correcting any errors that might be present in the research instrument. This enabled the actual data collection exercise to be conducted with minimal or no errors, thus maximizing validity of the data to be captured, thus, ensuring the research findings are valid. Therefore, the research instruments to be effective, a pilot test study was performed on at least 10% to 20% of the target population but should not be on the real population of the study (Mugenda and Mugenda, 2008). The researcher conducted a pilot study on the questionnaire to test for validity.

3.6.3 Instrument Reliability

Coolican (2014) specified that reliability of a study refers to the ability of a test to elicit similar responses or results after repeated administrations. Moreover, the questionnaire assessed the risks awareness on caffeinated energy drinks use. Cronbach Alpha was applied to test reliability of the Likert rating scales. Cronbach alpha tests the internal consistency among the various responses and the higher the alpha, the higher the reliability of the items. A Cronbach alpha of 0.7 is indicated as the threshold below which the scale was not considered reliable.

3.6.4 Instrument Validity

Validity relates to whether all the knowledge and meaning of informants has been achieved. Expert reviews from the supervisor and panel members sought to test whether the questionnaire is valid in terms of content and design. To ensure validity, secondary review of data and information about assessment of students' risks awareness on levels of caffeinated energy drinks use was done to compare with the data from the respondents. Further, recommendations from the pilot test were used to make amendments to the final questionnaire.

3.6.5 Data Collection Procedures

Data was collected using study questionnaires with sections intentionally targeting responses to the study objectives. The researcher involved one research assistant in the data collection exercise. The research assistant was trained on how to administer questionnaire schedules to respondents, how to capture data using questionnaires schedules, as well as training him on research ethics. The researcher opted one

research assistant and was able to familiarize with the targeted secondary school students, administrators as well with the study questionnaires, explaining questions in a manner that was understandable, and capturing the exact responses from the students. The questionnaires were dropped at each respondents' schools. The date and time of collection of the filled questionnaire was agreed upon with the respondents during the time of administration.

3.7 Data Processing and Analysis

Data captured using the questionnaires was processed and entered into the Social Package for Social Science (SPSS) software, version 25, for data analysis. Data processing involved cleaning of the data (through correcting missing values, removing duplicates and removing outliers). Data processing involved organizing the data and coding it using numerical values to ease analysis.

Demographic characteristics of the respondents were analyzed using descriptive data analysis. In order to answer the first, second and third objectives (that is, to determine the students' awareness of the psychosocial risks, addictive risks and toxicity risks of caffeinated energy drinks), frequencies and percentages were used. Frequencies and percentages were used to determine the use of caffeinated energy drinks among secondary students in secondary schools within Njiru Sub County, Nairobi. Qualitative data captured using study questionnaires (open-ended questions) interpretation of patterns and themes conducted before analysis. Qualitative data analysis involved the identification, examination, and interpretation of patterns and themes in textual data to determine how these patterns and themes help to answer the research questions.

3.8 Legal and Ethical Considerations

The researcher sought clearance from relevant bodies before carrying out the research study. In that regard, the researcher sought clearance from the research board at Africa Nazarene University (ANU). Secondly, the researcher sought clearance from the administrators of the selected secondary schools in Njiru sub-county. Lastly, the researcher administered research permit from the National Commission for Science, Technology and Innovation (NACOSTI).

While conducting the data collection exercise, written informed consents sought from the targeted secondary students, and the schools' administrations before collecting data. The respondents were

clearly informed that participation was voluntary. The researcher clearly explained the purpose of the research study, and informed the participants why they were selected to participate in the study. Confidentiality of the collected data was guaranteed, where the researcher informed the students and their teachers that the captured data was to be used for the purposes of this research only. Additionally, contact information including names and initials were not being captured. The questionnaires were differentiated using assigned numerical codes thus avoiding any form of subject identification.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter reports the findings and interpretation of the study. The chapter starts with brief information on the response rate of the study. It then presents a descriptive analysis that covers background information of the respondents and a comprehensive descriptive data analysis of the study variables – including independent and dependent variables. Moreover, the chapter also reports inferential analysis including both correlation and regression analysis. The regression analysis was conducted for each independent variable to the test hypothesis of the study. The chapter concludes by providing an overall regression model of the study.

4.2 Response Rate

A total of 215 questionnaires were filled and returned for analysis out of 295 questionnaires administered for the study. This represents a response rate of 72.9% as shown in Table 4.1. The study considered this response rate good to make study conclusions. According to Mugenda and Mugenda (1999), a response rate of 50% is adequate, 60% is good, while above 70% is excellent. Thus, following Mugenda and Mugenda's assertion, the established response rate is satisfactory to make study inferences. 4.1

Table 4.1 Response Rate

Response category	Target respondents	Response rate (%)
Filled and returned questionnaires	215	72.9
Un-returned questionnaires	85	27.1
Total	295	100.0

4.3 Reliability Analysis

Reliability test was conducted to establish whether the research instrument could yield similar or consistent results when used severally in a similar study. As shown in Table 4.2 of the study, findings demonstrate that all the four variables of the study had a Cronbach's alpha coefficient of 0.7 and above. For instance, the study established that psychosocial risk awareness had a Cronbach's alpha coefficient of 0.731, addictive risk awareness had 0.752, toxicity risk awareness had 0.826, and Caffeinated Energy drink use established 0.797. The findings suggest that the instrument was reliable in giving similar results when used in a similar study.

According to Mugenda and Mugenda (2008), the higher the Cronbach alpha coefficient, especially above 0.7, the more consistent is the test.

Table 4.2 Reliability Analysis Results

Variables	Cronbach's alpha	Items
Psychosocial Risk Awareness	0.731	8
Addictive Risk Awareness	0.752	9
Toxicity Risk Awareness	0.826	9
Caffeinated Energy Drink	0.797	6
Total	0.7765	

4.3 Demographic Information

The study described the characteristics of the respondents including gender, age, and year of study in the. This descriptive information was specific to this study to illustrate the distribution of the study respondents.

4.3.1 Gender Analysis

The descriptive statistics presented in Figure 4.1 of the study show that out of the 215 respondents, 129 (60%) who are the majority were male respondents while 86 (40%) were female. The results, therefore, indicate that the two genders were fairly represented in the study since no gender was more than two-thirds. However, the descriptive statistic evidence suggests that the male gender could be the greatest consumers of caffeinated energy drinks.

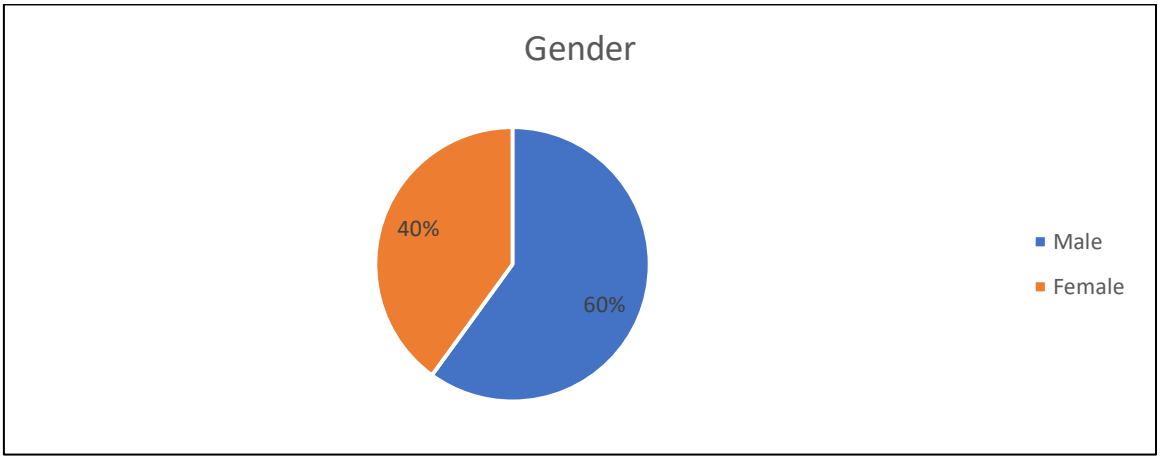


Figure 4.1 Gender Analysis Results

4.3.2 Age of the Respondents

Additionally, the descriptive findings reveal that slightly more than half of the respondents for this study, 120 (56%), were aged between 17 years. 52 (24%) of the respondents were aged less than 17 years, 22 (10%) of the respondents were aged 18 years, and 17 (8%) aged 19 years. Lastly, the findings reported that only 4 (2%) of the respondents were more than 20 years.

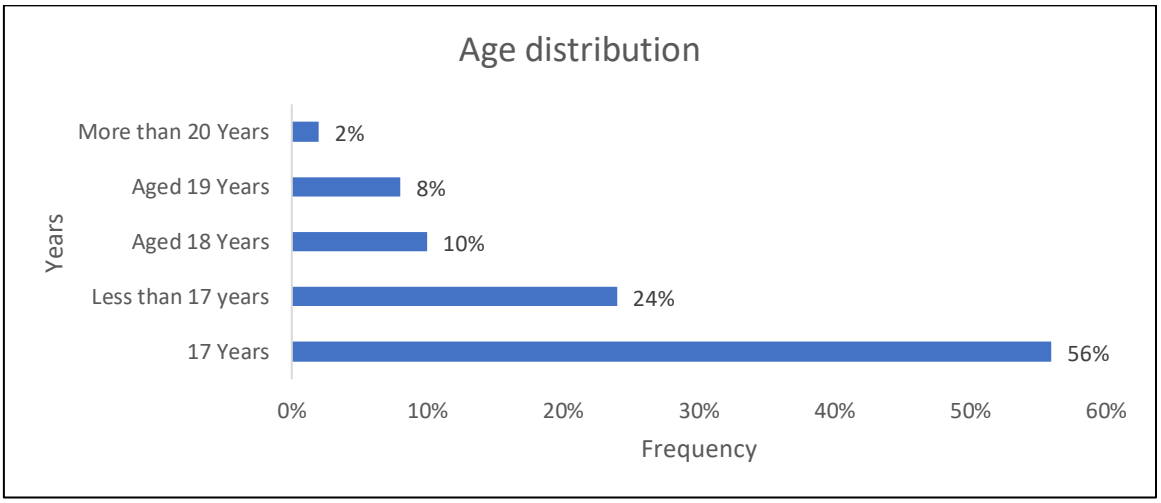


Figure 4.2 Age Distribution Analysis Results

Below 20 years as presented in Figure 4.2 of the study. The findings of this study indicate that the respondents were not proportionally represented since the majority were aged 17 years and above compared to more 20 years. However, all the respondents consisted the target population of adolescents. The results therefore depict that the young people are serious involved in the consumption of caffeinated energy drinks.

4.3.3 Which Year of Study

These descriptive statistics illustrate the year of study by the respondents. The results show that about 114 (53%) respondents were Form threes, 43 (20%) were Form Four, and 32 (15%) were Form Two. Only 26 (12%) of the respondents were Form One. The findings imply that the majority of the respondents were in form three as shown in Figure 4.3 of the study.

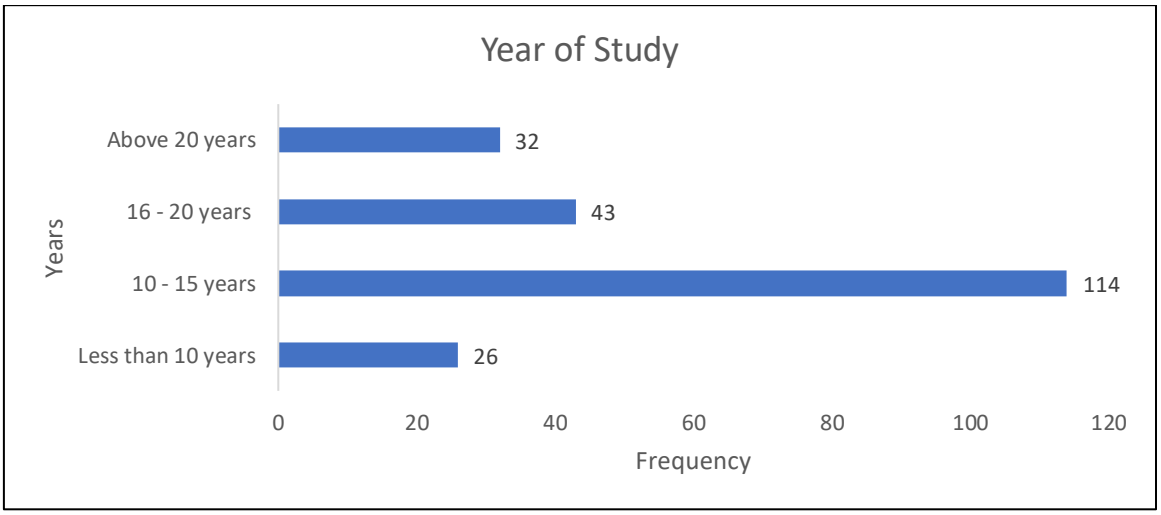


Figure 4.3 Which Year of Study

4.4 Risk Awareness Influence on Use of Caffeinated Energy Drinks

This section presents the descriptive findings of each variable of the study i.e. psychosocial risk awareness, addictive risk awareness and toxicity risk awareness as independent variables and caffeinated energy drinks use as the dependent variable. The objective was to depict respondents' level of agreement (on a scale of 1-5 where 5-strongly agree [SA], 4-agree [A], 3-neutral [N], 2-disagree [D], and 1-strongly disagree [SD]) with various constructs under each variable of the study using frequency, percentages, mean, and standard deviation. Also, a composite mean was established to indicate respondents' overall level of agreement. A composite means above 3.0 suggested that respondents agreed while below 3.0 suggested disagreed as discussed below.

4.4.1 Students' Psychosocial Risks Awareness Influence on Psychosocial CEDs Use

The findings reported in Table 4.5 of the study established a composite mean of 3.2. This result indicates that respondents agreed with the fact that students' psychosocial risk awareness is linked with use of caffeinated energy drink consumption. In statement (1) "caffeinated energy drink can reduce my academic performance," out of 215, 40 (19%) of the respondents strongly agreed with the statement, 74(34%) of the respondents agreed

with the statement, 45(21%) of the respondents were neutral, 29(13%) of the respondents disagreed and finally, 27(13%) of the respondents strongly disagreed with the statement at a mean of 3.36 and standard deviation 0.311. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

In statement (2) "caffeinated energy drinks can reduce my ability to solve the problems I face," out of 215, 33(15%) the respondents strongly agreed with the statement, 80(37%) of the respondents agreed with the statement, 51(24%) of the respondents were neutral, 30(14%) of the respondents disagreed with the statement, 21(10%) of the respondents strongly disagreed with the statement with a mean of 2.97 and standard deviation 0.343. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement. Statement (3) "Caffeinated energy drink use can reduce my self-esteem how I feel about myself," out of 215, 36(17%) of the respondents strongly agreed with the statement, 71(33%) of the respondents agreed, 64(30%) of the respondents were neutral, 26(12%) of the respondents disagreed, and 18(8%) of the respondents strongly disagreed with the statement with a mean of 3.34 and standard deviation 0.142. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

In statement (4) "Consumption of caffeinated energy drink can reduce my general quality of life," out of 215, 39(18%) of the respondents strongly agree with the statement, 83(39%) of the respondents agree, 47(22%) of the respondents were neutral, 33(15%) of the respondents disagreed and 12(6%) of the respondents strongly disagreed with the statement with a mean of 3.28 and standard deviation 0.325. A mean higher than the composite mean suggest that majority of respondents agreed with the statement. In statement (5) " I am aware that consumption of caffeinated energy drink could lead to mental illness, "out of 215, 20(9%) of the respondents strongly agreed with the statement, 67(31%) of the respondents agreed with the statement, 59(27%) of the respondents were neutral, 47(22%) of the respondents disagreed and 22(10%) of the respondents strongly disagreed with the statement at a mean of 3.09 and standard deviation 0.192. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

Finally, statement (6) " consumption of caffeinated energy drink can make me suffer from mental illness, " out of 215, 27(13%) of the respondents strongly agreed with the statement, 69(32%) of the respondents agreed

with the statement, 61(28%) of the respondents were neutral, 31(14%) of the respondents disagreed with the statement, 27(13%) of the respondents strongly disagreed with the statement at a mean of 2.16 and standard deviation 0.352. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

Table 4.2 Psychosocial Risk Awareness Influence on CEDs Use Descriptive Results

Statements	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**	**Mean**	**SD**
Caffeinated Energy drinks can reduce my academic performance	40, 19%	74, 34%	45,21%	29,13%	27,13%	3.36	0.311
Caffeinated energy drinks can reduce my ability to solve the problems I face	33,15%	80,37 %	51,24%	30,14%	21,10%	2.97	0.343
Caffeinated energy drinks consumption can reduce my self-esteem-how I feel about myself worth	36,17%	71,33 %	64,30%	26,12%	18,8%	3.34	0.142
Consumption of caffeinated energy drink can change my sleep patterns and/or organization	43,20%	96,45 %	55,26%	12,6%	9,4%	3.21	0.261
Consumption of caffeinated energy drink can reduce my general quality of life.	39,18%	83,39 %	47,22%	33,15%	12,6%	3.28	0.325
I am aware that consumption of caffeinated energy drink could lead to mental illness.	20,9%	67,31 %	59,27%	47,22%	22,10%	3.09	0.192
Consumption of caffeinated energy drink can make me suffer from mental illness.	27,13%	69,32 %	61,28%	31,14%	27,13%	3.16	0.352
Composite Mean/SD						**3.2**	**0.275**

N – Frequency; % - Percentage; Brackets represent %

4.4.2 Student's Addictive Risks Awareness Influence on CEDs Use

Similarly, the study established respondents' level of agreement with the effect of risk awareness of the addictive risk of caffeinated energy drinks. As shown in Table 4.3, a composite mean of 3.27 demonstrated that respondents agreed with the fact that students' risk awareness of the addictive risk of caffeinated energy drinks. In statement (1) "Continued use of caffeinated energy drink can lead to tolerance to use higher volumes of the drinks to get intended feelings," out of 215, 33(15%) of the respondents strongly agreed with the statement, 61(28%) of the respondents agreed with the statement, 58(27%) of the respondents were neutral, 41(19%) of the respondents disagreed with the statement and finally, 22(10%) of the respondents strongly disagreed with the statement with a mean of 3.10 and standard deviation 0.239. A mean lower than the composite mean suggest that majority of the respondents did not agree with the statement.

In statement (2) " continued consumption of caffeinated energy drink can make me suffer withdrawals symptoms like feeling unwell when I don't take them," out of 215, 31(14%) of the respondents strongly agreed with the statement, 64(30%) of the respondents agreed with the statement, 57(27%) of the respondents were neutral, 46(21%) of the respondents disagreed, and 17(8%) of the respondents strongly disagreed with the statement with a mean of 3.24 and standard deviation 0.119. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement. In statement (3)" Continue consumption of caffeinated energy drink can make me experience unpleasant side effects after consumption," out of 215, 40(17%) of the respondents strongly agreed with the statement, 69(32%) of the respondents agreed with the statement, 60(28%) of the respondents were neutral, 33(15%) of the respondents disagreed, 13(6%) of the respondents strongly disagreed with a mean of 3.54 and standard deviation 0.362. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

In statement (4) "Consumption of caffeinated energy drink makes one lack the ability to control the use by suffering dependence syndrome," out of 215, 41(19%) of the respondents strongly agreed with the statement, 71(33%) agreed with the statement, 59(27%) of the respondents were neutral, 40(19%) of the

respondents disagreed and 4(2%) of the respondents strongly disagreed with the statement with a mean of 3.12 and standard deviation 0.321. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement. In statement (5) " Consumption of caffeinated energy drink makes one continue using them regardless of the harm experienced/likely to be caused," out of 215, 41(19%) of the respondents strongly agreed with the statement, 77(26%) of the respondents agreed with the statement, 30(14%) of the respondents were neutral, 39(18%) of the respondents disagreed with the statement, 28(13%) of the respondents strongly disagreed with the statement with a mean of 3.4 and standard deviation 0.162. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

Finally, statement (6)," Continued consumption of caffeinated energy drink make one dependent and prone to abusing other substances like alcohol, cigarette," out of 215, 47(22%) of the respondents strongly agreed with the statement, 84(39%) of the respondents agreed, 40(19%) of the respondents were neutral, 27(13%) of the respondents disagreed, 17(8%) of the respondents strongly disagreed with the statement with a mean of 3.23 and standard deviation 0.257. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

Table 4.3 Student's Addictive Risks Awareness Influence on CEDs Use Descriptive Results

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD
Continued consumption of caffeinated energy drinks can lead to tolerance to use higher volumes of the drinks to get intended feelings	33,15%	61,28%	58,27%	41,19%	22,10%	3.10	0.239
Continued consumption of caffeinated energy drink can make me suffer withdrawal symptoms like feeling unwell when I don't take them	31,14%	64,30%	57,27%	46,21%	17,8%	3.24	0.119
Continued consumption of caffeinated energy drink can make me experience unpleasant side effects after consumption.	40,17%	69,32%	60,28%	33,15%	13,6%	3.54	0.362
Consumption of caffeinated energy drink makes one lack the ability to control the use by suffering dependence syndrome.	41,19%	71,33%	59,27%	40,19%	4,2%	3.12	0.321
Consumption of caffeinated energy drink makes one continue using them regardless of the harm experienced/likely to be caused by them.	41,19%	77,36%	30,14%	39,18%	28,13%	3.40	0.162
Continued consumption of caffeinated energy drinks make one dependent and prone to abusing other substances like alcohol, cigarettes	47,22%	84,39%	40,19%	27,13%	17,8%	3.23	0.339
Composite Mean/SD						**3.27**	**0.257**

N – Frequency; % - Percentage; Brackets represent %

4.4.3 Students' Toxicity Risks Awareness Influence on CEDs Use

Generally, the findings presented in Table 4.4 convey a composite mean of 3.17 indicating that the majority of the respondents agreed with various constructs students' risk awareness of the toxicity risk of caffeinated energy drink use. The study reported that in statement (1) "caffeinated energy drinks lead to gastrointestinal systems problems (stomachaches and other complication)," out of 215, 44(20%) of the respondents strongly agreed with the statement, 85(40%) of the respondents agreed, 51(24%) of the respondents were neutral, 21(10%) of the respondents disagreed, 14(7%) of the respondents strongly disagreed with a mean of 3.46 and standard deviation 0.305. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

In a statement (2) "caffeinated energy drinks lead to increase in blood pressure, "out of 215, 29(13%) of the respondents strongly agreed with the statement, 73(34%) of the respondents agreed with the statement, 66(31%) of the respondents were neutral, 21(10%) of the respondents disagreed, 15(7%) of the respondents strongly disagreed with the statement at a mean of 3.05 and standard deviation 0.319. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement. In statement (3) " Consumption of caffeinated energy drink might lead to breathing and heart related problems, heart attack and even death," out of 215, 47(22%) of the respondents strongly agreed with the statement, 76(35%) of the respondents agreed with the statement, 30(14%) of the respondents were neutral, 37(17%) of the respondents disagree and 25(12%) of the respondents strongly disagreed with the statement with a mean of 3.11 and standard deviation 0.214. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

In statement (4) "Consumption of caffeinated energy drink might lead to seizures, hallucination and agitation," out of 215, 41(19%) of the respondents strongly agreed with the statement, 69(32%) of the respondents agreed with the statement, 59(27%) of the respondents were neutral, 34(16%) of the respondents disagreed, and 12(6%) of the respondents strongly disagreed with statement with a mean of 3.03 and standard deviation 0.222. A mean lower than the composite mean suggest that majority of the respondents did not agree with the statement. Statement (5) "consumption of caffeinated energy drinks might lead to physiological dependence on the drinks (being unable to work well without taking them)," out of 215, 39(18%) of the respondents

strongly agreed with the statement, 74(34%) of the respondents agreed with the statement, 53(25%) of the respondents were neutral, 30(14%) of the respondents disagreed with the statement and 9(4%) of the respondents strongly disagreed with the statement with a mean of 2.99 and standard deviation 0.343. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

In statement (6)," use of caffeinated energy drink might lead to mental/psychiatric illness," out of 215, 37(17%) of the respondents strongly agreed with the statement, 87(40%) of the respondents agreed, 46(21%) of the respondents were neutral, 25(12%) of the respondents disagreed, and 29(9%) of the respondents strongly disagreed with a mean of 3.17 and standard deviation 0.189. A mean equal to composite mean suggest that majority of the respondents agreed with the statement. In statement (7) " Continued consumption of caffeinated energy drinks increased the risks of addiction to other psychoactive substance, " out of 215, 49(23%) of the respondents strongly agreed with the statement, 91(42%) of the respondents agreed with the statement, 52(24%) of the respondents were neutral, 20(9%) of the respondents disagreed, and 3(1%) of the respondents strongly disagreed with the statement with a mean of 3.36 and standard deviation 0.302. A mean higher than the composite mean suggest majority of the respondents agreed with the statement.

Table 4.4 Students' Toxicity Risks Awareness Influence on CEDs Use Descriptive Results

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD
Caffeinated energy drinks lead to gastrointestinal systems problems (stomachaches and other complications)	44,20%	85,40%	51,24%	21,10%	14,7%	3.46	0.305
Caffeinated energy drink lead to increase in blood pressure	29,13%	73,34%	66,31%	21,10%	15,7%	3.05	0.319
Consumption of caffeinated energy drink might lead to breathing and heart-related (cardiovascular) problems, heart attack and even death.	47,22%	76,35%	30,14%	37,17%	25,12%	3.11	0.214
Consumption of caffeinated energy drink might lead to seizures, hallucination and agitations.	41,19%	69,32%	59,27%	34,16%	12,6%	3.03	0.222
Consumption of caffeinated energy drink might lead to physiological dependence on the drinks (being unable to work well without taking them)	39,18%	74,34%	53,25%	30,14%	9,4%	2.99	0.343
Consumption of caffeinated energy drinks might lead to mental/psychiatric illnesses.	37,17%	87,40%	46,21%	25,12%	29,9%	3.17	0.189
Continued consumption of caffeinated energy drinks increased the risk of addiction to other psychoactive substances	49,23%	91,42%	52,24%	20,9%	3,1%	3.36	0.302
Composite Mean/SD						**3.17**	**0.270**

N – Frequency; % - Percentage; Brackets represent %

4.4.4 Caffeinated Energy Drinks Use among Secondary Students

Caffeinated energy drink use was the dependent variable of the study and was measured using various constructs. The results presented in Table 4.5 demonstrates a composite mean of 3.22 suggesting respondents agreed on the use of caffeinated energy drink. In statement (1) "caffeinated energy drink help me stay awake during late night study," out of 215, 40(19%) of the respondents strongly agree with the statement, 58(27%) of the respondents agreed with the statement, 51(24%) of the respondents were neutral, 39(18%) of the respondents disagreed with the statement, and 27(13%) of the respondents strongly agreed with the statement with a mean of 3.02 and standard deviation 0.112. A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement. Statement (2) "I feel more alert and focused after consuming a caffeinated energy drink," out of 215, 29(13%) of the respondents strongly agree with the statement, 60 (28%) of the respondents agree with the statement, 71(33%) of the respondents were neutral, 35(16%) of the respondents disagreed with the statement, 20(9%) of the respondents strongly disagreed with the statement with 3.16 and 0.343. A mean lower than the composite mean suggest that majority of the respondents agreed with the statement. Statement (3) "Caffeinated energy drink negatively affect my sleep quality," out of 215, 42(20%) of the respondents strongly agreed with the statement, 65(30%) of the respondents agreed with the statement, 53(25%) of the respondents were neutral, 29(13%) disagreed, and 26(12%) of the respondents strongly disagreed with a mean of 3.36 and standard deviation 0.239. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement.

Statement (4) "I experience a crash in energy levels after the effect of caffeinated energy drinks wear off," out of 215, 41(19%) of the respondents strongly agree with the statement, 59(27%) of the respondent agreed, 66(31%) of the respondents were neutral, 32(15%) of the respondents disagreed and 17(8%) of the respondents strongly disagreed with the statement with a mean of 3.31 and standard deviation 0.239. A mean higher than the composite mean suggest that majority of the respondents agreed with the statement. In statement (5) "Caffeinated energy drink improve my overall academic performance," out of 215, 47(22%) of the respondents strongly agree with the statement, 69(32%) of the respondents agreed with the statement, 48(22%) were neutral, 36(17%) disagreed and 15(7%) strongly disagreed with a mean of 3.24 and standard deviation 0.317.

A mean lower than the composite mean suggest that majority of the respondents did not fully agree with the statement.

Table 4.5 Reasons for Caffeinated Energy Drinks Use Descriptive Results

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Mean	SD
Caffeinated energy drinks help me stay awake during late night study	40,19%	58,27%	51,24%	39,18%	27,13%	3.02	0.112
I feel more alert and focused after consuming a caffeinated energy drink.	29,13%	60,28%	71,33%	35,16%	20,9%	3.16	0.343
I rely on caffeinated energy drinks to get through my classes.							
Caffeinated energy drinks negatively affect my sleep quality.	42,20%	65,30%	53,25%	29,13%	26,12%	3.36	0.239
I experience a crash in energy levels after the effect of caffeinated energy drinks wear off.	41,19%	59,27%	66,31%	32,15%	17,8%	3.31	0.239
Caffeinated energy drinks improve my overall academic performance.	47,22%	69,32%	48,22%	36,17%	15,7%	3.24	0.317
Composite Mean/SD						**3.22**	**0.25**

N – Frequency; % - Percentage; Brackets represent %

4.5 Inferential Analysis

Generally, inferential analysis was conducted to determine the correlation and regression analysis of the study. Correlation, in particular, provided the strength of the linear relationship between the independent and dependent variables of the study. The Pearson Correlation Coefficient was used. According to Pearson Correlation Coefficient, -1 depicts a weak negative correlation while +1 depicts a strong perfect correlation. Regression analysis, on the other hand, was conducted to establish the relationship between study variables. Particularly, the regression analysis model aimed to test the hypothesis of the study. The findings on both correlation and regression analysis are independently discussed below.

Table 4.6 summarizes the strength of the linear relationship between predictors and outcome variables of the study at a 0.01 significance level. The results indicate that all the three independent variables of the study (i.e. psychosocial risk awareness, addictive risk awareness and toxicity risks awareness) had strong and positive Pearson Correlation coefficients ranges between 0.5 and +1 suggesting a strong linear correlation. Specifically, the study established a positive and significant correlation between psychosocial risk awareness Influence on CEDs use ($r = 0.663, p = 0.000 < 0.05$). Also, the study reported a positive and significant correlation between addictive risks awareness Influence on CEDs use ($r = 0.539, p = 0.000 < 0.05$). Lastly, the study demonstrated a positive and significant correlation between toxicity risk awareness on level of CEDs ($r = 0.628, p = 0.000 < 0.05$). Of the three independent variables of the study, results indicate that psychosocial risk awareness had the highest positive and significant correlation coefficient. And so, the findings of this study as reported in Table 4.6 depicts that positive changes in the assessment of risk awareness on levels of caffeinated energy drinks use.

Table 4.6 Correlation Analysis Results

Variables		Caffeinated Energy Use	Psychosocial Risk Awareness	Addictive Risk Awareness	Toxicity Risk Awareness
Caffeinated Energy USE	Person correlation	1			
	Sig. (2-tailed)				
	N	215			
Psychosocial Risk Awareness	Pearson Correlation	0.663**	1		
	Sig. (2-tailed)	0.000			
	N	215	215		
Addictive Risk Awareness	Pearson correlation	0.539**	0.511**	1	
	Sig. (2-tailed)	0.000	0.000		
	N	215	215	215	
Toxicity Risk Awareness	Pearson correlation	0.628**	0.543**	0.412**	1
	Sig. (2-tailed)	0.000	0.000	0.000	
	N	215	215	215	215

**Correlation is significant at the 0.01 level (2-tailed)

4.6 Hypothesis Testing

This section uses regression analysis of each research objective to test the significance of the proposed hypothesis of the study.

4.6.1 Psychosocial Risks Awareness Influence on CEDs Use and Performance

The first hypothesis of the study stated that psychosocial risk awareness has no significant influence on the consumption of CEDs among students in Njiru Sub-County. The results indicated in Table 4.7 regression model summary outcome reveals an R-Square **(R^2)** of 0.469. This suggests that 46.9% of changes in CEDs use among students in Njiru Sub-County are a result of variances in the psychosocial risk awareness on use of CEDs use among students in Njiru Sub-County. Further, the analysis of variance (ANOVA) test provided in Table 4.7 shows that the model is significant for explaining the influence of students; psychosocial risk awareness on use of caffeinated energy drinks use among students' in Njiru Sub-County at ($Sig. 0.000 < 0.05$) level of significance.

Table 4.7 Regression Summary Results Psychosocial Risk Awareness Influence on CEDs Use

Model summary and ANOVA	
Adjusted R – Square	**0.469**
F – Statistics	**8.193**
Sig.	**0.000**

Regression Coefficient Results

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	0.532	0.384		2.01	0.000
Psychosocial Risk Awareness	0.519	0.425	0.462	1.036	0.000

a. Dependent Variable: Caffeinated Energy Drinks Use

Subsequently, the established regression coefficient results suggest that if all factors are held constant, there will be a positive CEDs consumption by 0.532. However, positive changes in the risk awareness would constitute to students consumption of CEDs in Njiru by 0.519. The outcome of this study, therefore, shows that there is a positive and significant relationship between psychosocial risk awareness on use of CEDs use among students' in Njiru Sub-County ($\beta = 0.519, p = 0.000 < 0.05$). And so, the findings in Table 4.7

rejected the stated null hypothesis and concluded that psychosocial risk awareness has a significant and positive relationship on the use of caffeinated energy drinks use among students in Njiiru Sub-County, Nairobi, Kenya.

4.6.2 Addictive Risks Awareness Influence on CEDs Use and Performance

The second hypothesis to test for this specific objective of the study was that addictive risk awareness has no significant influence of the consumption caffeinated energy drinks use among students in Njiiru Sub-County. The findings provided in Table 4.8 shows model summary, ANOVA, and regression coefficient results. Particularly, the model summary results revealed an adjusted R-Square **(R^2)** of 0.351 indicating that 35.1% of changes in the consumption of caffeinated energy drinks in Njiiru Sub-County are caused by addictive risk awareness. Also, the ANOVA results revealed F – Statistics of 13.126 and a significance or p-value of 0.000 < 0.05. This shows that the model was significant (i.e. at 0.01 and 0.05 level of significance) for making study conclusions.

Table 4.8 Regression Summary Results Addictive Risks Awareness Influence on CEDs Use

Model summary and ANOVA					
Adjusted R – Square	**0.351**				
F – Statistics	**13.126**				
Sig.	**0.000**				
Regression Coefficient Results					
	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	0.409	0.391		1.908	0.000
Addictive Risk Awareness	0.327	0.316	0.320	1.104	0.003

a. Dependent Variable: Caffeinated Energy Drinks Use

Accordingly, the regression coefficient result section of Table 4.8 further reveals that if all factors are held constant, the consumption of CEDs would remain positive at 0.409. As such, the study reports a positive and significant relationship between addictive risk awareness on consumption of caffeinated energy drinks use among students in Njiru Sub-County, Kenya (B = 0.327, p = 0.003 < 0.05). The findings imply that there is a positive and significant students' addictive risk awareness on use of caffeinated energy drinks use among

students in Njiru Sub-County, Nairobi. The study, thus, rejects the stated null hypothesis and concludes that addictive risk awareness has a correlation to CEDs use among secondary school students in Njiru Sub-County.

4.6.3 Students Toxicity Risks Awareness Influence on CEDs and Performance

The third and final stated null hypothesis of the study was that students' toxicity risk awareness has no significant influence on consumption of CEDs. The output summary regression results in Table 4.9 shows that regarding the model summary, the established R-Square **(R^2)** of 0.415 suggests that students' toxicity risk awareness has significant influence on use of CEDs among secondary schools in Njiru Sub-County, Nairobi, Kenya. Importantly, the study also reports the ANOVA results with F – Statistics of 11.693

Table 4.9 Regression Summary Results on Toxicity Risks Awareness Influence on CEDs Use

Model summary and ANOVA	
Adjusted R – Square	**0.415**
F – Statistics	**11.693**
Sig.	**0.000**

Regression Coefficient Results

	Unstandardized Coefficients		Standardized Coefficients		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	0.457	0.411		2.314	0.000
Toxicity Risks on Use of CEDs	0.509	0.400	0.431	1.762	0.013

a. Dependent Variable: Caffeinated of Energy Drinks Use

And Sig. of 0.000 ($p = 0.000 < 0.05$). The ANOVA findings, therefore, indicate that the model was significant at 0.01 level of significance in explaining the effect of students' toxicity risk awareness on use of caffeinated energy drinks use among students in Njiiru Sub-County, Kenya.

Moreover, Table 4.9 further reports the regression coefficient result. The findings indicate that when all factors are held constant, consumption of caffeinated energy drinks among secondary students in Njiiru Sub-County, Kenya would stand at 0.457. However, an increase in the implementation of students' toxicity risks would cause the use of caffeinated energy drinks to increase by 0.509. These findings show a positive and significant relationship between the students' toxicity risk awareness on use of caffeinated energy drinks use among

secondary students (B = 0.509, p = 0.013 < 0.05). Thus, a positive and significant influence of toxicity risks awareness has an influence of the consumption of CEDs. Based on the findings, this study rejected the stated null hypothesis and concluded that toxicity risk awareness had an effect on the use of CEDs use among secondary students in Njiiru Sub-County.

4.7 Overall Regression Output Model

This section reports the established multiple regression model output of the study. It provides model summary output, ANOVA output, and regression coefficient output. The objective is to illustrate the overall equation model of the study. The results in Table 4.10 point to the model summary output. An R of 0.721 signifies a positive and significant strength in the linear relationship between the independent and dependent variables of the study. The established overall R-Square **(R^2)** of 0.614 (Multiple squares derived from 32.611/53.10 in the ANOVA summary output) indicates that the independent variables of the study (i.e. psychosocial risk awareness, addictive risk awareness and students toxicity risk awareness) explain 61.4% variability in the dependent variable (i.e. Use of caffeinated energy drinks use). The findings depict that about 38.6% of other changes associated with consumption of CEDs.

Table 4.10 Model Summary Output Results

Model	R	R-Square	Adjusted R-Square	Std. Error of the Estimate
1	0.721[a]	0.613	0.592	0.41625

a. Predictors: (Constant), Psychosocial Risk Awareness, Students' Addictive Risk Awareness, Students' Toxicity Risk

Likewise, the ANOVA overall model output in Table 4.11 validated how well the model fits the study in describing the overall assessment of risk awareness on use of caffeinated energy drink use among secondary studies in Njiru Sub-County. The results report that the F – Statistics is equal to 10.290/0.304 = 33.849. The distribution is F (3, 211), and the significance level is 0.000 < 0.001 significance level. Thus, the findings suggest that there is strong evidence that the model fits the study.

Table 4.11 ANOVA Overall Model Output Results

Model		Sum of Squares	df	Mean Square	F	Sig.
1	**Regression**	32..611	3	10.290	33.849	0.000[b]
	Residual	20.489	211	0.304		
	Total	53.10	214			

a. Dependent Variable: Caffeinated Energy Drinks Use

b. Predictors: (Constant), Students' psychosocial risk awareness, students' addictive risk awareness, students' toxicity risk awareness

Lastly, Table 4.12 illustrates the overall regression coefficient results of the study. The results indicate that all the independent variables included in the study (i.e. students psychosocial risk awareness, students' addictive risk awareness, students' toxicity risk awareness) had positive regression coefficients. For instance, the study established a positive and significant effect of students psychosocial risk awareness (B = 0.516, p = 0.000 < 0.05), students addictive risk awareness (B = 0.261, p = 0.001 < 0.05), and students' toxicity risk awareness (B = 0.342, p = 0.010 < 0.05) on use of CEDs among secondary students in Njiru Sub-County. The study, therefore, rejected the stated null hypotheses and concludes that there is a significant effect of the combined risk awareness on CEDs use among secondary students in Njiru Sub-County, Nairobi, Kenya.

Table 4.12 Overall Regression Coefficients Output Results

Coefficients

	Unstandardized Coefficients		**Standardized Coefficients**		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	1.506	0.433		11.902	0.000
Psychosocial Risk Awareness	0.516	0.418	0.430	4.263	0.000
Addictive Risk Awareness	0.261	0.192	0.201	2.249	0.001
Toxicity Risk Awareness	0.342	0.244	0.295	2.498	0.010

a. Dependent Variable: Caffeinated Energy Drinks Use

The overall equation model of the study, therefore, is as follows:

$$Y = 1.506 + 0.516X_1 + 0.261X_2 + 0.342X_3$$

As illustrated in the equation model, X_1, X_2, and X_3 represent students' psychosocial risk awareness, students' addictive risk awareness and students' toxicity risk awareness respectively. The output in Table 4.12 shows that if all factors are held constant, the overall caffeinated energy drinks use among secondary students in Njiiru Sub-County, Kenya is 1.506. However, such as psychosocial risk awareness, addictive risk awareness and toxicity risk awareness would positively increase by 0.516, 0.261, and 0.342 respectively.

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the findings of the study in relation to its main objective and the theoretical framework, and draws conclusions. It covers summary of the study objectives. The chapter goes further to make conclusions and recommendations.

5.2 Summary of Findings

Assessing the risk awareness regarding caffeinated energy drinks involves evaluating how well individuals understand the potential risks and benefits associated with consuming these beverages to gather data on their awareness and consumption habits. This study sought to establish risk awareness on caffeinated energy drink use among secondary students in Njiiru Sub-County. The study had three objectives; to assess students 'psychosocial risk awareness on CEDs use; to evaluate students' addictive risk awareness on CEDs use; and to examine students' toxicity risk awareness on CEDs use.

The study further established that majority of the respondents who took part in the study were male respondents at 129(60%) while female were 86(40%). The study further indicated that age of the majority of the respondents aged 17 years were 120 (56%), less than 17 years were 52(24%), 18 years were 22(10%), aged 19 years were 17(8%) and finally, above 20 years were 4(2%). The study further established that majority of the respondents, 114(53%) of the respondents were in form three, 43(20%) of the respondents were in form four, 32(15%) of the respondents were in form two while 26(12%) of the respondents were two. The study further indicated that respondents agreed that assessment of risk awareness on caffeinated energy drinks use among secondary students in Njiiru Sub-County was associated with students' psychosocial risk awareness, students' addictive risk awareness and student's toxicity risk awareness.

This study also determined that of the three variables, psychosocial risk awareness had the highest significant positive correlation and relationship the intake of caffeinated energy drinks. This was followed by students' addictive risk awareness and students' toxicity risk awareness.

5.3 Discussions

The discussion of the study is based on the objectives of the research study.

5.3.1 Students' Psychosocial Risk Awareness

Ideally**,** raising awareness about psychosocial risk among students is crucial for fostering a healthy and supportive educational environment. Psychosocial risk basically constitutes factors in the educational and social environment that may harm the students' mental health and well-being. This study sought to establish the assessment of risk awareness on caffeinated energy drinks use among secondary students in Njiiru Sub-County. Majority of the respondents agreed that caffeinated energy drinks can reduce my academic performance *(M=3.36,SD=0.311*). Moreover, majority of the respondents agreed that consumption of caffeinated energy drinks can change my sleep patterns and/ or organization (*M=3.21, SD=0.261*). The findings of the study were backed by a study highlighted by Choi, (2019) conducted a study on the influence of psychological factors on energy drinks consumption in Korean Nursing Students. The aim of the study was to investigate the status of caffeine containing energy drinks consumption among Korean nursing students and identify associated psychological factors. Ideally, emphasis was on the fact that psychological factors constitute to potential risk result to the likelihood of experiencing stress, anxiety, depression, or other mental health issues.

The study also performed a correlation analysis between students' psychological risk awareness on caffeinated energy drink use among secondary students in Njiiru Sub-County. The result established that there was a positive correlation between students' psychological risk awareness on caffeinated energy drinks use among students in Njiiru Sub-County. The study also did a regression analysis which established that there is a statistical significant relationship between risk awareness on caffeinated energy drinks use among secondary students in Njiiru Sub-County. The study further indicated that students psychosocial risk awareness on caffeinated energy drinks use among secondary students was accepted while null hypothesis rejected.

5.3.2 Students' Addictive Risk Awareness

The second variable of the study was to evaluate students' addictive risk awareness on CEDs use among secondary students in Njiiru Sub-County. Further, CEDs offer short benefits, the long-term risks, particularly the potential for addiction and adverse health effects, are significant. Increasingly students' awareness through

education and support is essential in mitigating these risks. Comprehensive strategies involving schools, health services, and families can help students make informed decision about CEDs consumption and promote healthier lifestyle choices. Based on descriptive findings, the study established that an overall, respondents agreed that students' addictive risk awareness is a determinant on the consumption of the caffeinated energy drinks.

Additionally, the study indicated that there was a positive correlation between students' addictive risk awareness on CEDs use among secondary students in Njiiru Sub-County. Dependence on CEDs has led to a cycle of reliance, affecting students' natural energy regulations and leading consumption overtime. Ideally, the negatively affect academic performance due to fluctuating energy levels and potential absenteeism caused by health issues. Notably, social interaction may also suffer due to mood swings and irritability. This study was backed by Kuhangana, et al., (2021) anchored on the fact that caffeinated energy drink consumption among school going adolescent in Lubumbashi, Democratic Republic of Congo is in the rise. Moreover, the current study emphasizes on the consumption of the CEDs and increase in the general population, but little is known about the risk among the pupils. The main focus of the study was to assess the consumption of CEDs among pupils between 10 and 17 years of age and to assess average caffeine concentrations contained in CEDs sold in Lubumbashi. The study further tested the hypothesis using the regression analysis. From the study, it was estimated that there was a significant relationship between students' addictive risk awareness on caffeinated energy drink use among secondary students in Njiiru Sub-County Nairobi, Kenya. The study further indicated that students' addictive risk awareness on caffeinated energy use among secondary students in Njiiru Sub-County was accepted while null hypothesis rejected.

5.3.3 Student's Toxicity Risk Awareness

Awareness of toxicity risk among students is essential to ensure a safe and conducive learning environment. Toxicity risks can manifest in various forms including harmful behavior. This study sought to examine students' toxicity risks awareness on CEDs use among secondary school students in Njiiru Sub-County, Nairobi. Based on the descriptive findings of the study, the results revealed that respondents agreed that student's toxicity risk awareness of caffeinated energy drinks use among secondary students has a significant influence on the use of the substance. The findings noted that majority of the respondents agreed with the

statement which was seconded by a study by to Park, Lee, Lee, and Jung, (2015) the study, examined use status, risk awareness and experience of adverse effects of high caffeine energy drink among University students in China. Ibrahim, U., Sani, H., Ayaba, A., Abdullahi, H., Jalo, R., Amed, F., et al. (2021) on the level of toxicity in relation to the prevalence and factors associated with CEDs use amongst undergraduate students in Kano, Nigeria. The study emphasized on caffeinated energy drinks has become increasingly popular among students for their quick energy boosts and enhanced alertness. However, there are growing concerns regarding students' awareness of the potential risks associated with these beverages.

5.4 Conclusion

The study on the assessment of risk awareness regarding caffeinated energy drink use among secondary school students in Njiiru Sub-County, Kenya, reveals significant findings. A substantial portion of students are regular consumers of caffeinated energy drinks, often driven by peer influence, perceived academic benefits, and marketing strategies. However, awareness of the potential health risks associated with excessive consumption is relatively low. The findings indicate that while some students are aware of immediate effects such as increased alertness and energy, many are unaware of long-term health risks, including cardiovascular issues, addiction, and sleep disturbances. Furthermore, the study highlights a gap in knowledge and attitudes towards the responsible consumption of these beverages.

5.5 Recommendation

The study recommends the following;

- Educational Programs: Implement comprehensive educational programs within schools to raise awareness about the health risks associated with caffeinated energy drinks. These programs should be integrated into the existing health education curriculum and include information on the physiological effects, potential for addiction, and long-term health consequences.
- Parental Involvement: Engage parents in awareness campaigns to ensure they are informed about the risks associated with these drinks and can guide their children towards healthier choices. Workshops and informational materials can be provided to parents during school meetings and through school communications.

- Policy Implementation: Advocate for policies that regulate the marketing and sale of caffeinated energy drinks to minors. This could include age restrictions on purchases, clear labeling of caffeine content, and warnings about potential health risks on packaging. The Marketing of CEDs need to communicate the warnings on populations that need not use these products due to associated risks and sensitivity to caffeine.
- Peer Education Programs: Develop peer education initiatives where trained students can educate their peers about the risks of caffeinated energy drink consumption. Peer-led discussions and activities can be particularly effective in altering perceptions and behaviors among adolescents.
- Alternative Solutions: Promote healthy alternatives to caffeinated energy drinks, such as natural juices, water, and snacks that provide sustained energy without the negative side effects. Schools can facilitate this by ensuring access to healthy food and drink options within the school premises.
- The researcher also recommends that more research studies be carried out on the use of CEDs, possible risks associated with use and general awareness and knowledge among the users of the risks.

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APPENDICES

APPENDIX I: QUESTIONNAIRES FOR STUDENTS

I am a student at Nazarene University, pursuing a Master of Arts degree in Counseling Psychology.

As a partial fulfillment for award of the degree, I am required to carry out research on *Assessment of Risks Awareness on levels of caffeinated energy drinks use among form four students in Njiru Sub-county, Nairobi.*

You are kindly requested to fill the following questionnaire to the best of your knowledge. All the information provided will be treated with utmost confidentiality and will be strictly used for the purpose of this research.

Instructions: Please tick [] where appropriate.

SECTION 1: RESPONDENTS' DETAILS

1. What is your gender?

   Male [] Female []

2. What is your age? Less than 17 years [] 17 years [] 18 years []

   19 years [] More than 20 years []

3. Which year of study are you in?

   Form One [] Form Two [] Form Three [] Form []

SECTION 2: STUDENTS' LEVELS OF CAFFEINATED ENERGY DRINKS USE

(NB: Q 4-8 is cage screening tool modified questions)

4. Have you ever taken energy drinks to increase your concentration during study?

   Yes [] No []

5. If **Yes to Q4 above**, have you ever felt you should cut down on your drinking of caffeinated energy drinks? Yes [] No []

6. If **yes to Q4** have people annoyed you by criticizing your caffeinated energy drinks use?

Yes [] No []

7. If **yes to Q4,** have you ever felt bad or Guilty about your caffeinated energy drinks use?

   Yes [] No []

8. If **yes to Q4,** have you ever had a drink first thing in the morning to steady your nerves or to get rid of a bad feeling (Eye opener)?
   Yes [] No []

9. If **yes** to **Q4**, kindly indicate any of the drink(s) that you have ever taken before from the list provided below.

The following statements concern possible consumption of caffeinated drinks on a typical busy day. Please check the drinks and **tick 'Yes' or 'No'** to indicate whether you have ever taken any of the drinks.		
STATEMENTS	**Yes**	**No**
i)XL energy drink		
ii) Power play energy drink		
iii) Red Bull		
iv) Afia energy drink		
v) Azam energy drink		
vi) Monster		
vii) Sharky		
viii) Bravado energy drink		
ix) Hypno energy drink		
x) Bullet energy drink		
xi) Energy in control energy drink		
xii) Simba charge wild energy drink		

SECTION 3: STUDENTS' RISK AWARENESS OF THE PSYCHOSOCIAL RISKS OF CAFFEINATED ENERGY DRINKS USE

10. To what extent do you agree with the following statements regarding possible psychosocial risks of caffeinated energy drinks? Rate in a scale of 1 to 5 (1-Not at all, 2-to a little extent, 3- to a moderate extent, 4-to a great extent, 5-to a very high extent)

STATEMENTS	1	2	3	4	5

i) Caffeinated energy drinks can reduce my academic performance					
ii) Caffeinated energy drinks can reduce my ability to solve the problems I face					
iii) Caffeinated energy drinks consumption can reduce my self-esteem- how I feel about myself/ self-worth					
iv) Consumption of caffeinated energy drinks can change my sleep patterns and/or organization					
v) Consumption of caffeinated energy drinks can reduce my general quality of life.					
vi) I am aware that consumption of caffeinated energy drinks could lead to mental illness					
vii) Consumption of caffeinated energy drinks can make me suffer from a mental illness					

SECTION 4: STUDENTS' RISKS AWARENESS OF THE ADDICTIVE RISKS OF CAFFEINATED ENERGY DRINKS USE.

11. To what extent do you agree with the following statements regarding possible addictive risks of caffeinated energy drinks? Rate in a scale of 1 to 5 (1-Not at all, 2-to a little extent, 3- to a moderate extent, 4-to a great extent, 5-to a very high extent)

STATEMENTS	1	2	3	4	5
i) Continued consumption of caffeinated energy drinks can lead to tolerance (need to use higher volumes of the drink to get intended feeling)					

ii) Continued consumption of caffeinated energy drinks can make me suffer withdrawal symptoms like feeling unwell when I don't take them					
iii) Continued consumption of caffeinated energy drinks can make me experience unpleasant side effects after consumption					
iv) Consumption of caffeinated energy drinks makes one lack the ability to control the use by suffering dependence syndrome					
v) Consumption of caffeinated energy drinks makes one continue using them regardless of the harm experienced/likely to be caused by them					
vi) Continued consumption of caffeinated energy drinks makes one dependent and prone to abusing other substances like alcohol, cigarettes and other drugs					

SECTION 5: STUDENTS' RISK AWARENESS OF THE TOXICITY RISKS OF CAFFEINATED ENERGY DRINKS USE.

12. To what extent do you agree with the following statements regarding possible

Toxicity/intoxication risks of caffeinated energy drinks? Rate in a scale of 1 to 5 (1-Not at all, 2-to a little extent, 3- to a moderate extent, 4-to a great extent, 5-to a very high extent)

STATEMENTS	1	2	3	4	5
i) Caffeinated energy drinks lead to gastrointestinal systems problems (stomachaches and other complications)					
ii) Caffeinated energy drinks lead to increase in blood pressure					
iii) Consumption of caffeinated energy drinks might lead to breathing and heart-related(cardiovascular) problems, heart attack and even death					
iv) Consumption of caffeinated energy drinks might lead to seizures, hallucination and agitations					

v) Consumption of caffeinated energy drinks might lead to physiological dependence on the drinks (being unable to work well without taking them)					
vi) consumption of caffeinated energy drinks might lead to mental/psychiatric illnesses					
vii) continued consumption of caffeinated energy drinks increases the risk of addiction to other psychoactive substances					

13. Do you think that knowledge of the risks associated with caffeinated energy drinks influence your consumption of energy drinks? Please explain

……

SECTION 6: CAFFEINATED ENERGY DRINK USE AMONG STUDENTS

14. To what extent do you agree with the following statements regarding possible on caffeinated energy drink use among students? Rate in a scale of 1 to 5 (1-Strongly Agree, 2-Agree, 3-Neutral, 4-Disagree, 5-Strongly Disagree)

STATEMENTS	1	2	3	4	5
i) Caffeinated energy drinks help me stay awake during late night study					
ii) I feel more alert and focused after consuming a caffeinated energy drink.					
iii) I rely on caffeinated energy drinks to get through my classes.					
iv) Caffeinated energy drinks negatively affect my sleep quality.					
v) I experience a crash in energy levels after the effect of caffeinated energy drinks wear off.					
vi) Caffeinated energy drinks improve my overall academic performance.					

vii) I am aware of the potential health risks associated with frequent consumption of caffeinated energy drinks.					

Thank you for your time!

APPENDIX II: AUTHORIZATION LETTER

AFRICA NAZARENE
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29th January 2024

RE: TO WHOM IT MAY CONCERN

Grace Mokua (17M03EMCP011) is a bonafide student at Africa Nazarene University. She has finished her course work and has defended her thesis proposal entitled: -

" Assessment of Risks Awareness on Levels of Caffeinated Energy Drinks use among Form Four Students".

Any assistance accorded to her to facilitate data collection and finish her thesis is highly welcomed.

Prof. Rodney Reed
Deputy Vice Chancellor, Academic & Student Affairs

APPENDIX III: NACOSTI PERMIT

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

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Date of Issue: **01/July/2024**

RESEARCH LICENSE

This is to Certify that Miss.. Grace Mongina Mokua of Africa Nazarene University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: ASSESSMENT OF RISK AWARENESS INFLUENCE ON CAFFEINATED ENERGY DRINKS USE AMONG SECONDARY STUDENTS IN NJIIRU SUB-COUNTY, NAIROBI, KENYA for the period ending : 01/July/2025.

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APPENDIX IV: MAP OF NJIRU SUB-COUNTY

