THE EFFECTS OF HABITUAL *KHAT* USE ON MARITAL SATISFACTION AMONG COUPLES IN SOUTH C WARD, LANGATA CONSTITUENCY, NAIROBI COUNTY, KENYA.

BY

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SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE MASTERS IN CLINICAL PSYCHOLOGY

UNITED STATES INTERNATIONAL UNIVERSITY- AFRICA

SUMMER 2019
DECLARATION

I, the undersigned, declare that this is my original work and it has not been presented to any other college, institution or university other than the United States International University- Africa for academic credit.

Signed: __________________________ Date: __________________________

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This thesis has been submitted for examination purposes with my authorization as the assigned supervisor.

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DEDICATION

All thanks belong to God the Almighty, the All-Knowing, the All-Wise who taught and enabled me to seek knowledge. I dedicate this thesis to my parents and family members who have been a source of support, guidance and assistance through the two-year study. Lastly, I thank all my friends for being a source of encouragement and support.
ABSTRACT

Habitual *khat* use is a widespread and culturally acceptable practice in Kenya but lack of awareness its effects propagate its use in the community. *Khat*, a psycho stimulant, creates several central nervous system effects when ingested such as increased euphoria, motor stimulation, and a sense of excitement and energy. Its long-term effects are debilitating on the user and subsequently on his/her spouse and children. Psychosis, mood swings, depression, anxiety, physiological health problems, lack of intimacy, social isolation, antisocial behavior, are a product of habitual *khat* use. These negative effects include poor communication, verbal and physical abuse, low productivity, separation and divorce, compromise of family finance, increased risk of psychopathology and physiological illness. The study targeted married couples in South C ward, Langata Constituency who engage in habitual *khat* chewing. Snowball sampling was used to select 398 participants. Primary data was collected using researcher administered questionnaires and the Locke-Wallace Marital Adjustment Test was used to measure marital adjustment. Two focus group discussions and secondary data from the Kadhi’s court complimented the primary data. The Statistical Package for the Social Science (SPSS) was used to analyze the quantitative data of the study. Quantitative data were tabulated using percentage and frequency distributions. Regression and correlation analysis were conducted to determine whether habitual *khat* use is a statistically significant predictor of decreased marital satisfaction. Template analysis was used to analyze qualitative data of interview transcripts and focus groups. The research findings indicated that habitual *khat* use reduces marital satisfaction due to the psychological, physiological and socioeconomic effects of *khat* use. A statistically significant negative correlation was found between the effects of habitual *khat* use and marital satisfaction.
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# LIST OF ACRONYMS AND ABBREVIATIONS

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<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>CNS</td>
<td>Central Nervous System</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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CHAPTER ONE
INTRODUCTION

1.0 Introduction

This chapter introduces the research area and outlines the background and rationale for the study. It reviews habitual khat use nationally, regionally and globally. This chapter also highlights the general effects of habitual khat use on marital satisfaction.

1.1 Background Information

Khat is a shrub that is native to the Horn of Africa and the Arabian Peninsula. Cultures in these regions have consumed Khat as a stimulant since the 7th century (Stevenson, Fitzgerald, & Banwell, 1996). Traditionally, the green leaves and stems were harvested and chewed as a social stimulant. The shrub is currently prevalently grown in Kenya, Somalia, Mozambique, South Africa and Yemen (Taha, Sadeer & Abdulrazzak, 2012). It is worth noting that countries such as the US, Canada, UK, Sweden and Germany have banned khat use (WHO, 2016).

Khat contains alkaloids and is related to amphetamines in structure and pharmacological activity (Dhaifalah & Santavy, 2004). Despite containing cathine and cathinone, khat is not currently under international control unlike other substances resembling amphetamines (WHO, 2016). Cathinone is the dependence-producing constituent of khat leaves which reinforce and maintain very high rates of response in animal experiments (Kalix & Khan, 1984). Debates exist as to whether khat can actually cause dependence like amphetamines. Some authors describe a psychological dependence rather than physical dependence (Kassim, Croucher & Al’Absi, 2013). Khat has a stimulating effect and causes hyperactivity and euphoria for those who chew it.
Ingesting low doses of khat results in euphoria, hyper-alertness, decreased appetite and increased intellectual efficiency (Widler et al., 1994; Kalix, 1996; Nencini et al., 1998). However, high doses and habitual ingestion of khat cause more serious psychiatric, neurological, dental, cardiovascular, gastrointestinal and genitourinary effects (Andargachew, Eskin, & Atkilt, 2017).

According to the National Institute on Drug Abuse, approximately 10 million people chew khat worldwide. The reported usage is up to 80% of the adult populations in countries like Somalia and Yemen where khat use is greatly integrated into social and cultural norms. According to Dimba, Aden, Ndolo, and Chindia (2006), studies in Yemen and Somalia indicate that khat abuse is more frequent in societies that have positive social and cultural impressions of its use; this is also compounded by the nonexistence of information on the unfavorable effects of khat. According to Dimba et al. (2006), 88% of respondents in a study carried out in North Eastern province Kenya had a history of khat use while 80% had family members who engaged in the khat habit. Wondemagegn (2016) found that 18% of khat chewers in Ethiopia used it in order to be similar to friends and family members.

A study carried out by Odenwald and Al’ Absi (2017), indicated that paranoid/schizophreniform psychosis and manic psychosis follow the use of khat. According to a study conducted in Kenya by Dhadphale and Omolo (1988), a higher prevalence of psychiatric morbidity among excessive chewers of khat was found than among non-chewers. The same study indicates that when the amount of khat chewed per day was greater than two bundles, psychiatric morbidity was significantly increased. Kennedy (1987) described the following transient psychotic phenomena following a khat session; confusion, disorientation, grandiose fantasies and a mildly depressed mood.
In schizophreniform psychosis, patients presented with paranoid delusion, fear, a hostile perception of the environment, auditory hallucinations, ideas of reference, thought alienation and a tendency to isolate themselves or alternatively displaying aggressive behavior towards others. Resolution of symptoms usually occurs within 3-11 days (Glenix & Hagen, 2003). With manic psychosis, patients present with hyperactivity, shouting, and pressure of speech, grandiose delusions with flight of ideas and a labile mood varying from euphoria to anger.

The respondents defined “mirqanna”, a Somali term defined as a state of feeling high, as distressing overstimulation, which is beyond the control of the khat user. During the state of mirqanna, there are different signs and symptoms that cause significant subjective distress, euphoria or impairment in occupational, social and other important areas of functioning (Awoke, Solomon & Abebaw, 2017).

Habitual khat use has a negative impact on socio-economic development in a country (Hussein, 2008). Khat chewing leads to decreased productivity, diversion of money in order to sustain the habit as well as family and marital problems (Berhanu, Aregash & Alyi, 2013). Kalix and Khan (1984) estimated that about one-third of all wages were spent on khat use in Djibouti. Family life and stability can be harmed because of neglect, dissipation of family income and inappropriate behavior of the khat user. Findings show that khat chewing results in risky sexual engagement and the risky behavior contributes to the spread of HIV infection (Abebe, 2005; & Kebede, Alem, Mitike, Enquselassie, Berhane, Abebe, Gebremichael, 2005).

Bearing in mind the biological, psychological and socio-economic effects of habitual khat use, it is possible that this habit may affect marital satisfaction. The Social Exchange theory posits that human relationships are formed by the use of a subjective cost-benefit analysis and the comparison of alternatives (Paul & Wayne, 2008).
According to the dynamic goal theory of marital satisfaction, marital satisfaction is defined as people’s global subjective evaluation about the quality of their marriage (Li & Fung, 2011). Habitual *khat* use affects personal growth of both spouses and it interferes with companionship and family stability. Habitual *khat* users often ‘choose’ to spend time chewing *khat* than spending time socializing with family members. The physiological, psychological and socio-economic effects of habitual *khat* use may negatively affect marital satisfaction, which can lead to higher probability of couples divorcing. Research findings of a study carried out in Sweden by Mohamed and Yusuf (2012), pointed out that there was a strong correlation between *khat* use and family breakdown among persons of Somali origin. One research participant said:

“If you were to ask Somalis, they would say it has a big impact on divorce.”

(Mohamed & Yusuf, 2012).

From this quote, the effect of habitual *khat* use on marital satisfaction can be understood as marital dissatisfaction, which is often a precursor to divorce. Other researchers explain that couples are more likely to separate or divorce when one of the spouses chews *khat* than is the case where neither of the spouses chews *khat*. According to a study carried out in Djibouti by Abebe et. al. (2005), *khat* has been quoted as a factor in one in two divorces in Djibouti.

Marital satisfaction is a mental state that reflects the benefits and costs of marriage that are identified by an individual (Stone & Shackelford, 2006). The more costs a marriage partner inflicts on an individual, the less satisfied the latter usually is with the marriage and with the marriage partner. Similarly, the more the perceived benefits, the more satisfied one is with the marriage and with the marriage partner. Divorce is the termination of a marital union before the death of either spouse. According to Black’s Law Dictionary (2019), divorce is the legal separation of man and wife effected for cause, by the judgment of a court.
According to the National Vital Statistics System, almost 49% of marriages in the United States end in divorce and according to the National Survey on Drug Use and Health, more than 24 million Americans are addicted to drugs and alcohol. Seven percent of all marriages end up in divorce due to persistent drug and alcohol use. Drug use often magnifies the normal stresses of marriage and makes relatively minor differences seem phenomenal. In a study, it was found that the divorce rate between drug abusers is 400% higher than the divorce rate between non-drug users. Just like any social pastime, allocating a significant amount of time to khat chewing can be counterproductive, more so because many people do not see it as a drug.

According to Balint et al., (2009), there are no physical symptoms upon withdrawing from khat use. However, Corkery et al. (2011) consider that heavy khat chewers experience true withdrawal symptoms, albeit relatively weak ones. These include profound lassitude, anergia, difficulty in initiating their normal activities and a slight trembling several days after ceasing to chew khat. In addition, he reported extremely unpleasant dreams often of a paranoid nature of being attacked, strangled or followed. The effect of stopping khat use is generally beneficial with reported improved sleep, appetite, reduced constipation and a decrease in alcohol consumption (Luqman & Danowski, 1976).

People abuse khat for the same reason drug addicts abuse drugs. Reasons include its use as a temporary escape from the burdens of everyday life, joblessness, dependence, peer-pressure and cultural acceptance (Felix et al., 2010). The deeply ingrained practice of using khat as a socially acceptable mood-altering drug in many cultures has added to its perception as a safe drug. According to Aden (2006), the khat chewing habit was thought to increase levels of happiness, alertness, and activity among users.
There are also several misconceptions especially among the youth surrounding *khat* with many *khat*-chewers believing it increases male sexual performance (Berhanu et al., 2012). Low doses of *khat* have been shown to increase libido, but higher doses have been associated with decreased sexual activity (Aliye, 2010).

Studies show that *khat* is broadly utilized for the desire to elevate mood, alertness, confidence and thinking ability. Wondemagegn (2016) reported that 25.6% of respondents used *khat* to feel relaxed whereas 5.8% consumed it due to being unemployed. The chance of chewing as a habit were found to be seven times higher among divorced and widowed participants compared to their unmarried counterparts. This finding was attributed to the fact that the overall burden of heading and managing family members is placed on the father or mother which in turn leads to psychological stress. This kicks-off *khat* chewing for the sake of getting relief, which is found in the psychoactive stimulant effects of *khat*.

According to Adan (2006), some *khat* chewers stated their concern that the habit might affect their health and overall wellbeing but the failure of public health campaigns against *khat* was obvious. Sixty eight percent of the respondents reported no exposure to education on the unfavorable effects of miraa chewing.

### 1.2 Problem Statement

*Khat*, just like any other drug, is a widely accepted practice in Kenya (Neil, 2005). The drug affects the psychological and physiological health of users (Odenwald et. al., 2005). Habitual use of *khat* also puts a strain on the family’s finances. Chemical dependency significantly affects the ability of an individual to positively contribute to the marital relationship and to focus on the development of one’s children.
Problems such as infidelity, personality problems, lack of communication, physical and psychological abuse, not meeting family obligations, employment problems, financial problems and physiological and psychological health have been cited as causes of divorce (Anderson & Carrier, 2011). Drug use causes erratic and abnormal behavior, which may lead to the same problems. A lack of awareness of the effects of habitual *khat* use propagates its use in the community.

The role incompatibility theory postulates that socially deviant behaviors such as illicit drug use are not compatible with traditional adult, social roles such as marriage or parenthood (Vargas-Carmona, Newcomb, & Galaif, 2002). One such domain that may be impacted by illicit drug use is within the marital relationship. This may be especially true if only one member of the couple is involved with illicit drug use. According to a research conducted by McGill University in Montreal, Canada, 15% of marriages in Kenya end up in divorce. 6% of Kenyans consume *khat* and 54% hold a positive outlook towards its use (Ndege, 2008). This indicates the social acceptability of *khat* use as well as the lack of knowledge of the effects of habitual *khat* use. Although culturally accepted, *khat* has far-reaching side effects. According to Elmi (1983), one out of two divorces in Djibouti were said to be as a result of *khat* abuse.

Marital dissatisfaction and conflict are associated with strong negative consequences on the psychological and physiological health of both spouses. These negative effects include increased risk of psychopathology; increased rates of automobile accidents; and increased incidence of physiological illness, suicide, violence, homicide, significant immunosuppression, and mortality from diseases (Burman & Margolin 1992). Separation and divorce are a common consequence of marital dissatisfaction and have a wide range of damaging effects on children.
These damages include depression, withdrawal, poor social competence, health problems, poor academic performance, and a variety of conduct-related difficulties (Patrick & Aaron 2012; Cowan & Cowan 1987, 1990; Cowan et al 1991; Cummings & Davies 1994; Easterbrooks 1987; Hetherington & Clingempeel 1992).

Families with both parents present are more psychologically and physiologically well balanced. Children with both parents playing an active role in their development tend to be healthier than those raised in single-parent families (Amato, 2001). Habitual khat use often interferes with time spent with the marital partner as well as with children. Single-parent families are associated more with significant stress on the single parent when compared to married couples. The absence of one parent tends to jeopardize the normal psychological development of the child, which may subsequently lead to poor academic performance, development of abnormal behavior such as antisocial personality traits and crime (Billingham & Noyebaert, 1993). In general, a healthy family unit contributes to the wellbeing of the social fabric. In response to this problem, this study proposed to investigate the effects of habitual khat use on marital satisfaction among couples in South C Ward, Langata Constituency.

1.3 Objectives of the Study

The overall purpose of this study was to examine the effects of habitual khat use on marital satisfaction among married couples in South C.

1.4 Research Questions

i. What were the psychological effects of habitual khat use on marital satisfaction among couples in South C?
What were the physiological effects of habitual *khat* use on marital satisfaction among couples in South C?

ii. What were the socioeconomic effects of habitual *khat* use on marital satisfaction among couples in South C?

iii. What are the key factors affecting marital satisfaction?

### 1.4.1 Research Objectives

The study sought to address the following objectives:

(i) Establish the psychological effects of habitual *khat* use on marital satisfaction among married couples in South C;

(ii) Establish the physiological effects of habitual *khat* use on marital satisfaction among married couples in South C;

(iii) Establish the socio-economic effects of habitual *khat* use on marital satisfaction among married couples in South C; and

(iv) Prioritize habitual *khat* use factors affecting marital satisfaction.

### 1.4.2 Research Hypothesis

The following hypotheses were postulated:

(i) Psychological effects of habitual *khat* use reduce marital satisfaction among married couples in South C;

(ii) Physiological effects of habitual *khat* use reduce marital satisfaction among married couples in South C;

(iii) Socio-economic effects of habitual *khat* use increase marital satisfaction among married couples in South C; and
Physiological effects of habitual *khat* use have the most significant effect on marital satisfaction.

1.5 Significance of the Study

The findings of this study were significant to individuals, institutions and the society at large. Learning institutions benefit since school counselors will have more knowledge of the effects of habitual *khat* use. Anti-drug campaign programs in primary and secondary schools, colleges and universities will assist students make more informed decisions about *khat* use. Psycho-education on the effects of habitual *khat* use will alert potential users about its effects on family wellness.

The findings of this study will be useful to magistrate courts when faced with cases regarding divorce and custody issues of a marriage. Habitual *khat* use affects the psychological, physiological and socio-economic functioning of the user. Magistrates may be assisted by the findings of this study when making a decision in a case where one of the spouses is a habitual user of *khat*. Marriage counselors will gain by being better informed about habitual *khat* use and its extensive effects in regard to the quality of the marital relationship. Additionally, this study will assist marriage counselors in treatment planning as this study discusses the psychological effects of habitual *khat* use.

The findings of this study will be significant to drug rehabilitation centers in appreciating the psychological and physiological effects of habitual *khat* use. The findings will be pertinent in psychotherapy and treatment planning for clinical psychologists working in drug rehabilitation settings.

The study will help in changing social perspectives about the effects of habitual *khat* use. The society at large will benefit from this study considering that complete families with
psychologically and physiologically healthy parents are integral to the healthy development of children.

1.6 Limitations of the Study

One of the expected limitations of the study was the likelihood that participants would not be willing to provide responses to questions they deem to be personal. The questionnaire presented questions of a private nature touching on matters pertaining to sexual intimacy and performance. This is often perceived as a taboo and an intrusion of privacy among most Kenyan communities. The target population mainly comprised of individuals professing the Islamic religion. Participants viewed the disclosure of intimate information as being contrary to their religious teachings. However, ensuring the privacy and confidentiality of the participants mitigated this limitation. This was achieved by not including any identifying information in questionnaires.

Community bias was a limitation due to the use of snowball sampling technique. The first participants had an effect on the sample of the study. Participants who had many friends were more likely to recommend potential participants from their own social group to be in the sample.

Language was also a barrier in data collection. Hence, the researcher translated and explained the meaning of questionnaire items to the participants, especially those pertaining to medical and psychological technical terms.

1.7 Definition of Terms and Concepts

**Anergia**- denotes an abnormal lack of energy.

**Cannabis**- signifies several psychoactive preparations of the plant *Cannabis sativa*.

**Cardiovascular disease**- refers to a class of diseases that involve the heart or blood vessels.
**Depression**- a severe mood disorder characterized by a persistent feeling of sadness and loss of interest in activities.

**Divorce**- refers to the legal dissolution of a marriage by a court or other competent body.

**Gastrointestinal disorders**- these refer to medical problems of the gastrointestinal system. These disorders include constipation, hemorrhoids, irritable bowel syndrome, cancer etc.

**Habitual khat use**- refers to a constant and persistent daily use of more than two bundles of *khat*.

**Insomnia**- refers to habitual sleeplessness.

**Intimacy**- a state marked by physical and/or emotional closeness.

**Khat session**- refers to a social gathering whereby people partake in *khat* chewing.

**Khat**- refers to the leaves of an Arabian shrub (*Catha edulis*), which are chewed as a stimulant.

**Mania**- an unusually elevated mood state illustrated by: incongruous elation, irritability, grandiose beliefs, increased speed of speech, disconnected and racing thoughts, significantly increased energy and activity level, poor judgment, increased sexual desire and inappropriate social behavior.

**Marital satisfaction**- means a subjective appraisal of one’s experience in marriage.

**Marriage**- signifies the state of being united as spouses in a consensual and contractual relationship recognized by law.

**Mydriasis**- refers to excessive dilation of the pupil.

**Migraine**- a recurrent throbbing headache that: usually affects one side of the head and is frequently accompanied by nausea and disturbed vision.
Mirqana- a feeling of intoxication defined by khat chewers as distressing overstimulation, which is beyond the control of the user.

Mood swings- refers to an extreme and rapid change in mood.

Oral diseases- consists of dental cavities, gum disease and oral cancer.

Paranoid delusion- refers to an unchanging and false belief that one is being harmed or wronged by a specific person or group of people.

Poly drug use- signifies the use of two or more psychoactive drugs simultaneously in order to achieve a heightened high.

Psychosis- refers to a state whereby an individual presents with symptoms such as disorganized speech, delusions, hallucinations, abnormal psychomotor behavior and negative symptoms.

Schizophrenia- a mental disorder characterized by delusions, hallucinations and a breakdown between thought, emotion, and behavior.

Schizophreniform disorder- a psychotic disorder with symptoms parallel to those of schizophrenia, but lasting for less than six months.

Sexual dysfunction- refers to a difficulty occurring during any stage of the sexual response cycle that inhibits a couple from realizing sexual fulfillment during sexual activity.

Stimulant- refers to a substance that raises levels of physiological or nervous activity in the body.

Suicidality- a term comprising suicidal ideation, suicide plans and suicide attempts.

Suicidal ideation- refers to thinking about or planning suicide.
1.8 Chapter Summary

Drug use has often been positively related to a decrease in marital satisfaction and subsequently divorce. Drug dependence and its far-reaching effects have been seen to put a strain on marital relationships. This may be attributed to impairments in psychological and physiological health as well as social and occupational functioning that often accompany drug abuse.

The extensive effects of habitual *khat* use impact marital satisfaction. The psychological, physiological and socio-economic effects of habitual *khat* use may put a marriage under pressure leading to decreased marital satisfaction. Relationships in which both spouses play an active role in their own development are more likely to have a higher level of marital satisfaction. The cultural acceptability of *khat* use makes it an insidious and widespread problem in the society. Marital relationships, where one spouse bears the bulk of the demands of family life, are often wrought with significant stress on the part of the active partner. Children of such a relationship are also psychologically more affected than those with both parents playing an active role in their development.

The next chapter focuses on literature review where the psychological, physiological and socio-economic effects of habitual *khat* use on marital satisfaction are explored individually. The theoretical and conceptual framework is also discussed.
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter discusses the theoretical and conceptual framework available for studying the psychological, physiological and socio-economic effects of habitual *khat* use on marital satisfaction and presents relevant literature on these effects.

In Kenya, *khat* has been cultivated, traded and consumed without any prohibitive measures since its legalization in 1977 (Aden, et al., 2006; Asha, 1985). The *khat* plant is mainly cultivated in Meru and Mbeere districts in the eastern provinces of Kenya.

Many W.H.O reports regard the socio-economic effects of drug abuse as the aggregate of the individual effects. These also increase the cost of societal responses, such as prevention and health care, as well as leading to indirect results of control policies, such as organized criminal networks that feed on the profits of illicit trafficking (Hussein, 2008; WHO, 1981).

According to a study carried out in rural homesteads in Ijara District targeting residents between 15-34 years in January 2005, 88% of the individuals had a history of *khat* consumption. Most of the miraa chewers were within the 25-29 year age bracket; more men usually chewed *khat* than women, with 75% of the male respondents and less than 10% of the female respondents disclosing current *khat* use. The majority of those interviewed (76%) were Muslims, 16% were Christians, 2% were Hinds and 2% belonged to other religions.
2.1 Theoretical Orientation

A theoretical framework consists of concepts, definition of the concepts and existing theories that are relevant to the area of study. The Social Exchange Theory and The Dynamic Theory of Marital Satisfaction will be used as a guide in this study.

2.1.1 Social Exchange Theory

The Social Exchange Theory postulates that human relationships are established by the use of subjective cost-benefit analysis and the comparison of alternatives. According to Mark (2015), costs are the reasons that hinder performance of a certain behavior in a marriage, while rewards are the pleasures, which a person enjoys within a marriage. Marital quality is one of the factors that have an effect on marital stability (Qiong, 2018). According to Stone & Shackelford (2006), marital satisfaction is a psychological state that indicates the perceived benefits and costs of marriage to an individual. The more costs a marriage partner exacts on a person, the less satisfied one generally is with the marriage and with the marriage partner. Likewise, the more the perceived benefits are, the more satisfied one is with the marriage and with the marriage partner.

The psychological, physiological and socio-economic effects of habitual khat use may put a marriage under pressure leading to decreased marital satisfaction. The “costs” in this case may be in the form of mental illness such as psychosis, paranoia, mood swings, depression and anxiety. They may also be in the form of physiological illnesses such as cardiovascular complications, gastrointestinal problems, tooth and gum disease, erectile dysfunction and anergia. Social effects of habitual khat use such as verbal and physical abuse, lack of proper communication, lack of intimacy and not spending time with one’s spouse can negatively affect marital satisfaction. Lack of productivity and absenteeism from work may make a habitual khat
user incapable of meeting the family’s financial needs. The psychological, physiological and socio-economic cost of habitual khat use can negatively affect marital satisfaction.

2.1.2 Dynamic Theory of Marital Satisfaction

The Dynamic Theory of Marital Satisfaction defines marital satisfaction as the individual’s global subjective evaluation about the quality of their marriage (Li & Fung, 2011). According to this theory, individuals in a marriage have multiple goals that they desire to achieve. These goals can be classified into three categories: personal growth goals, instrumental goals and companionship goals.

Personal growth goals are concerned with a person’s need to improve themselves in the marriage. The process of gaining new knowledge, social networks, experiences and a new identity, has been acknowledged as a crucial component for initiating and sustaining marriage. (Aron & Aron, 1986; Aron, Norman, Aron, & Lewandowski, 2002). Marriage plays an important role by providing a supportive environment for personal growth (Li & Fung, 2011). Companionship goals refer to an individual’s need for connection and belongingness in a marriage. According to Scott (2009), intimacy and commitment are two of the three components of love in the triangular theory of love.

Instrumental goals are concerned with the everyday nature of marriage. It is essential for spouses to share household responsibilities. This may be in the form of raising children, managing family finances and housework. Imbalanced division of household responsibilities is a major cause of marital conflict, particularly in modern dual-earner families (Frisco & Williams, 2003; Lavee & Katz, 2002). Instrumental support from the spouse increases marital quality (Semmer et al., 2008); Mickelson, Claffey, & Williams, 2006).
Marital goals are subject to developmental changes; the importance of the three types of marital goals varies through adulthood. Personal growth goals are important in young adulthood and steadily decline with age. Li and Fung (2011) theorized that the importance of instrumental goals is at its peak during middle adulthood and is comparatively lower in both early and late adulthood. The need for the spouse’s support with instrumental responsibilities is highest during middle adulthood. This is due to the fact that middle-aged couples are faced with substantial obligations from family and work. The numerous responsibilities vie for their limited physical and mental resources, causing lowered life satisfaction (Feildman, 2000). The importance of companionship goals is low in early adulthood, and progressively grows, as people get older (Carstensen, 2006). Li and Fung (2011), theorized that the need to be connected with the spouse is largely prominent in older adulthood, but less so in younger age.

Achievement of the prioritized goals in marriage dictates marital satisfaction. According to Heta, Katariina and Markku (2008) psychological well-being can be hindered when goals are not realized. According to Li and Fung (2011), factors such as cultural values and life transitions determine the priority of different marital goals. Other factors, for instance problem solving, communication styles and problem attribution, can ease the achievement of the prioritized marital goals.

Habitual drug abuse impairs a person’s physiological, psychological, social and economic functioning (Rohde et al., 2007). These effects of habitual khat use may be a hindrance in the achievement of marital goals such as companionship, personal growth and instrumental goals. The psychological effects of habitual khat use may especially be a barrier to good communication and problem solving which are necessary in a marital relationship.
2.2 Literature Review

2.2.1 Pharmacology of Khat

*Khat* mainly contains cathinone and cathine (Hassan, Gunaid & Murray, 2007). Cathinone has been described as an amphetamine-like sympathomimetic amine (Kalix, 1996) with a half-life of approximately 3 hours in humans (Widler et al., 1994; Toennes et al., 2003). Cathinone reaches a maximum plasma level 1–2 h after oral administration; the effect of cathinone on the user develops more rapidly than the effect of amphetamine, roughly 15 minutes as compared to 30 minutes respectively (Cho & Kumagai, 1994). In addition to cathinone, cathine or d-norpseudoephedrine has been recognized as an additional psychoactive ingredient in *khat* (Graziani et al., 2008); cathine has also been noted to have psychostimulant characteristics. While cathinone appears to be only half as powerful as amphetamine and cathine is generally 7–10 times less potent than amphetamine, the well-developed scientific literature studying the acute and long-lasting neurobehavioral effects of amphetamine and methamphetamine may provide a model to direct future research associated with the acute and habitual effects of *khat* use.

Like other psychostimulants, *khat* ingestion creates several central nervous system effects: increased euphoria, motor stimulation, and a sense of excitement and energy (Widler et al., 1994; Kalix, 1996; Nencini et al., 1998). It also results in reduced appetite and increased heart rate and blood pressure. These effects suggest that *khat* acts through similar central mechanisms as other stimulants. For example, both cathinone and amphetamine increase the activity of the dopaminergic and noradrenergic transmission (Pehek and Schechter, 1990; Pehek et al., 1990; Patel, 2000). While the nature of *khat* dependence remains uncertain, there is accumulating evidence indicating the existence of a low level of tolerance and withdrawal syndrome, which
are classic indicators of dependence. Withdrawal symptoms include nightmares, inertia, sedation, depression, trembling and hypotension (Cox & Rampes, 2003)

2.2.2 Poly Drug Use

Poly drug use is described as the use of two or more psychoactive drugs in combination in order to achieve a particular effect (Francesco, Julie & Jane, 2002). Habitual khat users use khat to increase productivity, stay awake or feel ‘high’. Khat being a stimulant excites the central nervous system thereby increasing energy, alertness and mood (Cox & Rampes, 2003). Khat users often need central nervous system depressants in order to counteract these effects (Hoffman & Al’Absi, 2010). Some users need alcohol to rest, sleep or just calm their nerves; alcohol is used to counteract the stimulating effect and sleeplessness caused by khat.

A survey conducted by Griffiths (1998) noted that 60% of Somali khat chewers in London also smoked cigarettes; 75% of these were men smoking 5-45 cigarettes a day and a minority used other drugs, the most common of which was cannabis, used by 6% of the sample. Omolo and Dhadphale (1987) investigated the use of alcohol with khat and surveyed 100 general hospital outpatients in Kenya: 29% of participants chewed khat and of these, 20% also drank alcohol, 12 of them heavily.

2.2.3 Marital Satisfaction and Khat Use

Marital satisfaction is the level to which partners in marriages gauge their approval of different features of their marital relations. It is a subjective appraisal of one’s experience in marriage (Li & Fung, 2011). Marital assessment tools try to pool scores in different areas such as sexual satisfaction, amount of time spent together, effective communication, disagreement on children management and disagreement on financial issues. A consistent finding about marriage is that
marital satisfaction decreases over the course of marriage. A study carried out by Hirschberger, Srivastava, Marsh, Cowan and Cowan (2009), followed couples over a 15-year period and established that the deterioration in marital satisfaction endured over the entire time and that the reduction was considerable.

Marital distress is often a difficult and pervasive problem encountered in marital relationships. Any individual who has experienced substantial marital distress, or witnessed the sentiments of a friend or relative amidst such distress, perceives that marital distress is among the most difficult of human issues. Intense feelings of anger, shock, sadness and depression often accompany high levels of marital distress. Marital distress is frequently a central point in the beginning of diagnosable individual psychopathology, for example, dysthymic disorder (Whisman, 2007). Furthermore, for some, marital distress leads to divorce. Statistics in regard to distressed marriages in the American society indicate how insidious and omnipresent an issue this is. Marital dissatisfaction is often a predictor of divorce. Epidemiological studies observe that 20% of the populace is maritally distressed at any given time (Gurman & Fraenkel, 2002). According to Gurman and Fraenkel (2002), the divorce rate has balanced out, with roughly 50% of all marriages ending in divorce.

Divorce, an outcome of marital dissatisfaction, is a historical and universal concept. It is also a fact of modern life. Despite cultural customs as well as religions frowning upon the termination of the union between man and wife, divorce rates have been rising steadily for decades. Studies have shown that wives are more likely to initiate divorce (Albrecht, Bahr, & Goodman, 1983; Goode, 1956; Kitson, 1992), and this may be attributed to the fact that women tend to monitor their relationships more closely, are more mindful of relationship difficulties sooner, and are more prone to start discussions of relationship problems (Thompson & Walker, 1991). In regard
to causes of divorce, women seem to be more likely than men to mention emotional issues, such as basic unhappiness and incompatibility (Cleek & Pearson, 1985). Former wives are also more likely than former husbands to refer to a cluster of negative behaviors, such as physical abuse, emotional abuse, substance use, going out with “the boys,” and neglect of home and children (Bloom, Niles, & Tatcher, 1985; Cleek & Pearson, 1985; Kitson, 1992; Levinger, 1966). Compared to women, men often blame the divorce on external factors, such as work or problems with in-laws (Kitson, 1992; Levinger, 1966). Former husbands are also more likely to report that they do not know what caused the divorce (Kitson, 1992).

Drug use has often been positively related to a decrease in marital satisfaction and subsequently divorce. Drug dependence and its far-reaching effects have been seen to put a strain on marital relationships. This may be attributed to impairments in psychological and physiological health as well as occupational and social functioning that often accompany drug abuse. The literature on the effects of habitual khat use indicate that it reduces marital satisfaction because of the: absence of the user from the home, lack of effective and appropriate interaction between spouses, drain on family resources, neglect of duty, lower productivity and psychological problems of alienation of khat users. Habitual use of khat leads to many health complications and poor health often puts a strain on marriage. The death rate among khat chewers is significantly higher compared to non-khat-chewers due to habitual illness such as stroke and heart disease (Ali, Zubaid & Motareeb et al., 2010).

2.2.4 Psychological Effects of Habitual Khat Use on Marital Satisfaction

Khat use has been shown to be associated with medical problems including psychiatric manifestations such as decline of psychophysical function and schizophreniform psychoses (Nasir, Axel, Kamaldeep, Gerard, Tom & Stephen, 2007). Other well-known psychiatric effects
include a short-lived schizophreniform psychotic illness and mania (Yousef et al., 1995; Odenwald, 2007). Consumption of excessive quantities of *khat* has also been found to considerably increase the risk for psychosis or psychotic-like episodes (Alem and Shibre, 1997; Odenwald et al., 2005; Warfa et al., 2007), including significant mania and paranoid delusions. These effects are comparable to those witnessed in amphetamine users.

Depression has often been reported to be associated with long-term use of *khat* and appears to be especially evident during termination (Odenwald, 2007). According to Cox & Rampes (2003), patients suffering from schizophreniform psychosis present with fear, paranoid delusions, auditory hallucinations, a hostile perception of the environment and a tendency to isolate themselves or alternatively display aggressive behavior towards others. Drug abuse has emerged as one of the chief causes of antisocial behavior, especially among the youth. The psychoactive effects of *khat* are mainly ascribed to cathinone, a powerful alkaloid that has a close structural likeness to amphetamine. The short-lived effectiveness of *khat* leaves is produced by the quick breakdown of – S-cathinone into +-norpseudoephedrine and norephedrine within a few days of harvest.

Other observations also imply long-term effects that range from anxiety, insomnia, agitation, irritability, and aggression to major problems such as paranoid delusions, schizophreniform psychotic disorder, depression, and mania, as well as an apparent increase in suicidal depression and an increased relative risk of hallucinations (Yousef et al., 1995; Alem and Shibre, 1997; Odenwald et al., 2005; Odenwald, 2007; Balint et al., 2009). These consequences are comparable to those witnessed in amphetamine users. Current proofs suggest a likely synergistic connection between *khat* use and post-traumatic stress disorder as a risk factor for paranoia (Odenwald et al., 2007, 2009).
*Khat* chewing sessions may last several hours. After about two hours of *khat* chewing, emotional instability, tension and irritability begin to appear. This is followed by lethargy and low mood. When ingested in high doses, *khat* causes severe cardiovascular, neurological, dental, gastrointestinal and psychiatric effects (Klix & Braenden, 1985). *Khat* chewing is established as a cause of psychosis similar to that seen following the use of amphetamines (Cox & Rampes, 2003).

Depression and anxiety have been linked with *khat* chewing practices. According Wondemagegn et al. (2016), the possibility of depression was around 25 times higher among *khat* chewers while anxiety among *khat* chewers was 5 times higher than among non-*khat* users. A study acknowledged that *khat* chewing was linked to anticipated psychological reactions like sleep disturbance, depression, anxiety and sedation (Griffiths et al. 1997). Sleeping complications were reported by 65% of participants, 51% reported loss of appetite and 44% relayed feeling the need to chew *khat*. Wondemagegn et al. (2016) found that the overall prevalence of depression in a study was 34.7% for depression and 29.7% for anxiety. 10.2% of participants in the study admitted to having hallucinations and 8.8% complained of experiencing delusions.

Bearing in mind the psychological effects of habitual *khat* use, one can predict the effect it has on marital satisfaction. These psychological effects impede the user from fulfilling his/her responsibilities as a spouse. The pharmacological effects of *khat* impair the judgment and thought process of the user which in-turn inhibits him/her from partaking in a healthy marital relationship. Mood swings, a common effect of habitual *khat* use, hinder the realization of intimacy and good communication, which are both integral to a high level of marital satisfaction. According to Whisman, Weinstock and Uebelacker (2004), individuals living with a depressed person report feeling more troubled and distraught by the person’s depressive symptoms.
2.2.5 Physiological Effects of Habitual Khat Use on Marital Satisfaction

The physiological effects of habitual khat use such as cardiovascular disease, periodontal disease, gastrointestinal disorders, sexual dysfunction and extreme fatigue may lower levels of marital satisfaction as they impede the realization of marital goals. Epidemiological and case control studies have shown a strong association between long-term khat use and gastrointestinal, cardiovascular, respiratory, obstetric, metabolic, endocrine, and nervous system dysfunction (Nasher et al., 1995; elShoura et al., 1995; Dalu, 2000; Hassan et al., 2000; Al Habori and Al Mamary, 2004; Al Habori, 2005; Hassan et al., 2005). Reviews of research on the association between khat use and cardiovascular functions have shown increased sympathetic activity (Widler et al., 1994; Hassan et al., 2000), increased pulse rate, increased arterial pressure, and increased risk for acute myocardial infarction (Al-Motarreb et al., 2002).

It has been reported that khat users in Yemen have an increased incidence of esophageal cancer (Balint et al., 2009). Evidence of obstetric complications of khat users signifies that khat use during pregnancy is correlated to low birth weight and decreased lactation (Mwenda et al., 2003). Although habitual use of khat associated with brain problems have not been carefully studied, evidence from the study of other similar drug abused implies that individuals persistently exposed to drugs of abuse demonstrate both structural and functional brain changes (Yucel and Lubman, 2007; Yucel et al., 2007). According to a study carried out in rural Ethiopia, physical illness, under-nutrition and psychological distress were found to be significantly linked to khat use (Belew et al., 2000). Central nervous system deficits associated with khat use involve, headaches, migraines, mydriasis, conjunctival congestion, insomnia, weakened motor coordination, diminished attention, fine tremor and stereotypical behavior (Al-Motarreb et al., 2002).
Habitual khat use has also been associated with impaired sexual activity in men. According to Nassar and Aklan (2014) erectile dysfunction is a public health problem in Yemen, wherein psychological erectile dysfunction is more common than pathological erectile dysfunction. Penile erection is a complicated process that consists of interaction between the nervous, venous, arterial and sinusoidal systems (Nassar & Aklan, 2014). Cardiovascular disease and psychological health problems are both causes of erectile dysfunction. Habitual khat use has been linked to heart disease and psychological illness (Klix & Braenden, 1985). Most men who habitually chew khat complain about their ability to have sex when they chew khat (Hersi, 2016). Habitual khat use can decrease sexual intimacy, arousal, pleasure ability, ability to attain orgasms and the intensity of orgasms (Aliye, 2010).

Habitual khat use affects the potency of male sexuality by affecting spermatogenesis and plasma testosterone concentration (Mwenda et al. 2003). A study to investigate the effect of khat on male rat sexual behavior showed that low doses of khat extract appeared to enhance sexual desire, however, higher doses seemed to decrease sexual desire and performance (Aliye, 2010).

2.2.6 Socio-Economic Effects of Habitual Khat Use on Marital Satisfaction

According to Belew et al. (2000), regular consumption of khat actively affects the social status of the user. Studies have also found that khat-chewing practices are more common among males than females, which may be attributed to gender roles whereby females are seen as caretakers of household members. According to Wondemagegn et al. (2016), khat-chewing practices was higher among Muslims than followers of other religions.

Habitual khat-chewing has been found to increase tension in family relationships whereby female family members especially mothers/wives have been left to bear the burden of meeting both the financial and emotional needs of the family, as the men do not participate in taking up
Responsibilities. According to Kelix and Khan (1984), family life is damaged as a result of neglect and khat is a main factor in family arguments. Khat often causes anti-social behavior, which is a precursor to physical and emotional abuse in the family setting. Irritability, which is a side effect of khat, often leads to psychological and physical abuse of family members. A study found that 30.2% of khat chewers had no adequate relationships with their family members and 26.2% did not participate in important life events such as weddings and funerals with their neighbors (Wondemagegn et al. 2016). Some participants expressed that they would often engage in antisocial behavior in order to get money to sustain their habit. Several studies have found that habitual khat-chewers are less accepted within the community leading to social exclusion, which subsequently contributes to family disruption.

Habitual khat use can decrease sexual intimacy, arousal, pleasure ability, ability to attain orgasms and the intensity of orgasms (Aliye, 2010). This negatively affects marital satisfaction, as sexual intimacy is an essential part of marital satisfaction. In Hersi’s study (2016), a participant said:

“I am neither married nor single because I do not feel that I have a husband. I mean that he does not find me sexually attractive. The only reason I stay with him is for the sake of my children.”

Children need parental love and care to develop physically and emotionally. Habitual khat chewing leaves little or no time for family bonding. Khat abusers are known to neglect their families. Many khat-chewers are unaware of the welfare of their kids. A participant in a study conducted by Hersi (2010), said:

“We do not know where the children are, what they are doing and who they are with because we get home late, while children are asleep and they go to school in the morning while we are still sleeping. Their mothers raise them alone. We have no idea about the children’s education.”

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In a study carried-out by Aden et al. (2006), 78% of respondents stated sleeping after 10pm regularly because of khat chewing. The causes given for this involved the actual time taken for khat consumption and complication of khat-related insomnia. Surprisingly, 58% of the respondents held that khat caused tension on family relationships, but merely 14% would declare that Khat chewing kept them away from their own families.

Somali women in the UK reported family breakdown as the most severe effect of khat use (Turning, 2004). Likewise, Sundhedsstyrelsen (2009) carried out a study in Denmark, among Somali residents and found that two thirds of heavy khat users were divorced and had not finished secondary school.

According to Green (1999), khat is believed to be an enormous drain on financial resources, time and causes severe diminished productivity. This is further confirmed by Kassim and Croucher (2012) and Dhaifalah and Santavy (2004) who found that the daily cost of khat might upset household income to buy food, pay for education or other family needs and finally accelerate financial problems and family breakdown. The amounts of money expended on khat varied broadly with more than half of the respondents devoting Kshs 300-800 to their daily habit. This represented over 50% of the household budget in most cases, showing a compromise of domestic needs. (Aden et al., 2006).

According to Al-Motarreb et al. (2004), a considerable amount of time is spent on the buying and chewing of khat thereby affecting working hours. This in turn causes absenteeism from work, and in the case of students, absenteeism and poor academic performance.

Use of this mind-altering drug usually started during the day in 54% of users, suggesting wastage of time for constructive work. Most khat chewers did not deem the habit to have any negative economic impact on them, with only 28% acknowledging that khat chewing was a waste of
income. However, 40% of the interviewees attributed low productivity and inefficiency at work to *khat*, while 32% linked it to absenteeism (Aden et al., 2006). In the same study, the majority of *khat* chewers used more than half of their domestic budget on their daily habit, to the detriment of vital needs such as medical care and education. The stress caused by economic difficulty increases disagreements over finances, which in turn makes spouses irritable (Conger et al., 1990).

Economic hardship is associated with more strife among married couples. Disagreements over money are often a leading source of conflict for couples at every income level. However, when couples learn to handle their money wisely and make decisions together about spending, saving and investing, families can reach a level of economic stability and even thrive. According to Megerssa, Esayas and Mohamed (2013), the per capita consumption of a male *khat* chewer in Ethiopia was one bundle (0.5kg) costing 1.5 USD per day, whereas women consumed 0.25kg costing 0.75USD per day. According to Dimba et al. 54% of *khat* chewers in the North Eastern Province of Kenya typically start *khat* chewing in the afternoon, implying a waste of time for productive work. According to Megerssa, Esayas and Mohamed (2013), *khat* chewing has led to decreased work-hours, malnutrition, diversion of money to buy *khat*, absenteeism and unemployment. A study in North Eastern Province Kenya found that many respondents used more than half of their domestic budgets on the habit but that only 28% perceived this as a waste of resources (Dimba et al. 2006).

According to a study by Megerssa (2013), respondents with lower annual income who are illiterate were the major users of *khat* as compared to those of higher incomes. This is mainly in an effort to find relief from fatigue, sleep and hunger. The money spent to purchase *khat* could be used for basic needs like food and education. Somalis spend more than 1 milllion dollars a day
on *khat* (David, Axel, Susan, Neil & Degol, 2010). Britain imports some 2 million dollars’ worth of *khat* monthly. In Yemen, where most Yemenis earn less than 2 dollars a day, over half of the adult males chew daily and spend at least 10 dollars a day (Margaret Evans, CBC News June 20, 2008).

### 2.2.7 Family Interference

Experienced couples have established in-law interference as a key issue that lowers marital satisfaction (Kadiri & Akinkurolere, 2017). The stress that family interference brings to a marriage can be so devastating that some couples opt to divorce. A study carried out by Sprecher and Felmlee (1992) showed that the quality of in-law relationship predicts the stability, satisfaction, and commitment expressed by the spouses, with the exception of husbands’ discord with father in-laws.

### 2.3 Conceptual Framework

The relationship between the effects of habitual *khat* use and marital satisfaction can be conceptualized, depicted in Figure 1, as a two-stage relationship where a set of causal factors influences marital satisfaction.
2.4 Chapter Summary

In this chapter, a literature review was carried out in line with the objectives set out in chapter one. Previous research focused on the physical, psychosocial and economic effects of habitual *khat* use while its effects on marital satisfaction was narrowly covered. In order to achieve a high level of marital satisfaction, personal growth goals, companionship, good communication and
instrumental goals must be met. The effects of habitual *khat* use may prevent the fulfillment of these goals. The psychological, physiological and socio-economic effects of habitual *khat* use are extensive. Prior studies and literature indicate the effects of habitual *khat* use and how these effects affect marital satisfaction.

In chapter three, the research methodology used in carrying out this study is outlined. The specific details of the research design, population and sampling design, data collection methods, research procedures and data are discussed.
CHAPTER THREE
METHODOLOGY

3.0 Introduction

This chapter describes the study location, target population, study design, sampling design and size determination as well as research instruments employed. The validity and reliability of research instruments are discussed. The methods of data collection, data analysis and ethical considerations are also described.

3.1 Research Design

A descriptive research design was adopted in this study. This research design provided data that was collected in large amounts and in-depth information about the data. The study combined quantitative and qualitative methods (Cooper & Schindler, 2014). The researcher used quantitative methods to collect numerical data in reasonably large quantities to facilitate statistical tests. Qualitative methods were used to capture the study population’s perceptions and emotional reactions to the subject of the study.

3.2 Study Population and Sample Selection Procedures

3.2.1 Study Locale

The study was carried out in South C ward, Langata Constituency of the County Government of Nairobi. Langata Constituency is approximately 196.8 square kilometers with a population of 176,314. The constituency has five wards namely: Karen, Mugumo-ini, South C, Nyayo Highrise and Nairobi West wards. South C ward covers approximately 15 square kilometers with a population of approximately 47,000 people. The ward consists of persons who are predominantly Muslims of Somali, Swahili and Arab origin. South C was chosen due to the high population of
Muslims with *khat*-chewing being a cultural habit of the aforementioned categories of people. The map in Figure 2 illustrates the location of South C and neighboring wards located in Langata Constituency.

![Map of wards in Langata Constituency](image)

*Figure 2. Map of wards in Langata Constituency*

### 3.2.2 Target Population

The target population consisted of married couples living in South C ward, whereby one or both spouses habitually used *khat*. The research targeted both married male and female *khat* users between the ages of 30-60 years in households located in South C ward, Langata Constituency. The study population excluded single habitual *khat* users and married habitual *khat* users under the age of 30 years and above 60 years. This was because the effects of habitual *khat* use in a marital relationship could only be identified after long-term use of the stimulant.

### 3.2.3 Sample Size

Slovin’s formula was used to determine the sample size. According to Information Cradle, South C ward has a population of 47,202. Due to the lack of demographics regarding the target
population, the researcher was unable to establish the percentage of married individuals in the sample area and those who are aged between 30-60 years. The formula follows:

\[ n = \frac{N}{1 + Ne^2} \]

Where \( n \) = Sample size,

\( N \) = Total population and

\( e \) = Error tolerance.

Using a confidence level of 95% is accurate and gives a margin error of 0.05.

Hence, the required sample size of:

\[ n = \frac{47,202}{1 + 47,202 \times 0.05 \times 0.05} = 396.6 \approx 397 \]

This sample was distributed proportionately in South C ward. 100% of the questionnaires were administered to habitual khat consumers in the ward.

### 3.2.4 Sampling Techniques

Snowball sampling was used to select participants of the target population, as drug users are often a hidden population. Snowballing works by using research participants to recruit other participants in a study (Nissim & Tamar, 2011). Snowball sampling enabled the researcher to reach populations that were difficult to sample due to the sensitive nature of the feedback required. The researcher used this form of sampling because the study targets married members of the community who engaged in habitual khat chewing. Random sampling and stratified sampling methods were not ideal to the objective of the study as well due to limitations in terms of money, time and effort.
3.3 Data Collection Methods

3.3.1 Data Sources

Primary collection of data was carried out using questionnaires and interviews. Divorce petitions filed at the Kadhi’s Court in Upperhill were used as a source of secondary data to compliment primary data. The deputy chief Kadhi granted access to the petitions. Divorce petitions contained reasons why the plaintiffs were seeking divorce.

Due to the large sample size, the researcher used trained research assistants to aid in the collection of data. Research assistants were trained by the researcher on how to administer the questionnaires and conduct interviews. The researcher and research assistants translated the items of the questionnaires and interviews to the preferred language of the respondents where necessary. The interviews were translated to Somali and Kiswahili languages when necessary.

3.3.2 Researcher Administered Questionnaire

Questionnaires consisted mainly of questions on a Likert-type scale with choices ranging from strongly agree, agree, no comment, disagree or strongly disagree (Appendix II). However, personal experiences may not be communicated sufficiently using questionnaires, hence the administration of the Locke-Wallace Marital Adjustment Test to complement questionnaires.

The questionnaire was researcher-made. It took approximately 10 minutes to complete. It captured the: demographic information of the participant, specifics of khat use and perceived effects of habitual khat use. The researcher-administered questionnaire was preferred because respondent literacy was not necessary; questions and responses could be clarified, and allowed probing for additional information.
3.3.2 Locke-Wallace Marital Adjustment Test

The Locke-Wallace Marital Adjustment Test is an instrument used to measure marital adjustment. The short self-report test was suitable for assessing marital satisfaction among married or cohabiting couples. It comprised of 15 items and takes 5 minutes to complete (Appendix III). It can be scored in 5 minutes and points range from 2-158. 100+ points suggest mutual adjustment. According to Locke & Wallace (1959), the reliability coefficient of The Locke-Wallace Marital Adjustment Test (LWMAT), computed using the split-half technique and corrected by the Spearman-Brown formula, was .90 indicating a high reliability.

3.3.3 Focus Group Interviews

For qualitative data, key informants were interviewed and focus group interviews were constituted to get the views of opinion leaders on the effects of habitual khat use on marital satisfaction. Two focus group discussions comprising of 10 key informants were conducted. A group of opinion leaders comprising of habitual khat users, officers of the Kadhi’s court, marriage counselors, youth and religious leaders discussed the effects of habitual khat use on marital relationships. The researcher guided and helped the group to participate in the discussion. The discussions were audio-recorded and later transcribed into written form for closer study. The researcher obtained consent prior to conducting the discussions. The interview lasted for approximately one hour. Interviews with open-ended questions on the physiological, psychological and socioeconomic effects of habitual khat use in the area were administered to the opinion leaders.
3.4 Reliability and Validity Indices

A pilot survey was conducted to evaluate: feasibility, cost, time, adverse events and test all instruments. According to Marlies et al. (2010), 10-20% of the sample size was a practical number of participants in a pilot survey. The measuring instruments were administered to 39 participants in South C ward, this represented 10% of the actual sample size.

The Locke-Wallace Marital Adjustment Test provided a valid instrument to test marital adjustment. The short self-report test is suitable for assessing marital satisfaction among married or cohabiting couples. It comprises of 15 items and takes 5 minutes to complete. It can be scored in 5 minutes and points range from 2-158. 100+ points suggest mutual adjustment. According to Locke & Wallace (1959), the reliability coefficient of The Locke-Wallace Marital Adjustment Test (LWMAT), which was computed by the split-half technique and corrected by the Spearman-Brown formula, was .90 indicating a high reliability.

The test was administered to 236 subjects of whom 48 were known to be maladjusted in marriage. This was corroborated by extensive case data for 31, 29 of whom were clients of the American Institute of Family Relations. Eleven more cases were recently divorced, and six were separated, making a total of 22 males and 26 females in the maladjusted group. This group of 48 was matched for age and sex with 48 persons in the sample judged to be exceptionally well adjusted in marriage by friends who knew them well. The mean adjustment score for the well-adjusted group was 135.9, whereas the mean score for the maladjusted group was only 71.7. As far as validity is concerned, this test differentiated between persons who are well adjusted and those who are maladjusted indicating that it has high validity. According to Locke & Wallace, only 17% of the maladjusted group achieved adjustment scores of one hundred or more, whereas 96% of the well-adjusted group achieved scores of one hundred or more.
3.5 Data Analysis Methods

The Statistical Package for the Social Science (SPSS) was used to analyze the quantitative data of the study. Quantitative data results were tabulated using percentage and frequency distributions. Descriptive statistics used included frequencies and graphical presentations using pie charts and bar graphs. Inferential statistics, specifically multiple regression analysis was conducted to determine whether socioeconomic, psychological and physiological effects of habitual *khat* were statistically significant predictors of marital satisfaction. Adjusted $R^2$ was computed to determine the overall fit or variance explained by the model and the relative contribution of each of the predictors to the total variance explained.

Template analysis was used to analyze qualitative data of focus group interview transcripts (Goldschmidt et al., 2006) and focus groups (Brooks, 2014). Template analysis is a flexible technique that allowed the researcher to adapt it to match the study’s requirements (Kent, 2000). Template analysis involved the development of a coding template with a list of codes, which summarized themes identified by the researcher as important in data sets. The themes were organized in a meaningful and beneficial manner. Hierarchical coding identified broad themes from specific questions. The template served as the foundation for the interpretation of the data set and the writing up of findings. The coding template was structured to represent the relationships between themes in a hierarchical structure (Kent, 2000). The coding template was then applied to further data, and then refined (Brooks, McCluskey, Turley, & King, 2015).

3.6 Ethical Considerations

Ethical issues were expected using the snowball sampling technique as the information collected was of a personal nature. The researcher ensured that participants were not put in any harm as a
result of their participation. This was achieved by guaranteeing the participants’ confidentiality (Appendix V) by keeping the respondents’ information in the strictest of confidence and ensuring that no identifying information was reflected on the questionnaires. The research participants were given a debriefing form after completing the questionnaires (Appendix VI).

Based on ethical protections, the researcher observed the principle of voluntary participation by ensuring that no one was coerced into participating in the research. Respondents completed an informed consent form (Appendix V). Prospective research participants were also fully informed about the procedures and risks involved in the study and were required to give their consent to participate.

### 3.6.1 Projected Risks

Although psychological and social risks were probable due to the sensitive nature of the data collected, no physical or legal risks were anticipated. Some research participants experienced psychological risks such as feelings of guilt, anxiety and loss of self-esteem. Debriefing the research participants and safeguarding their confidentiality alleviated this.

Social risks such as feelings of embarrassment and loss of respect of others were also expected. This was due to the handling of sensitive information, which could have resulted in injury to subjects through a breach of confidentiality. Ensuring the researcher observed confidentiality mitigated this risk. The researcher briefed the participants about confidentiality and that their responses would be kept in strict confidence. The research participants were informed about the risks of participation prior to partaking in the study.
3.6.2 Storage and Disposal of Research Data

Research data comprised of questionnaires, interview recordings, transcripts and coded data in paper and digital form. Paper data were stored in a locked cabinet under the custody of the researcher. Digital data were encrypted and stored in a password protected desktop computer. Any data containing identifiable personal information such as consent forms or sensitive material were stored in password-protected files as an added security measure. All portable devices such as secure digital cards and flash disks were encrypted.

Research data will be destroyed to meet ethical requirements once the data is no longer of value. Paper will be shredded using an office shredder. Digital data will be erased from physical media such as hard disks, secure digital cards and flash disks.

3.7 Chapter Summary

The chapter discusses the research approach and information regarding the target population used by the researcher to investigate the effect of habitual khat use on marital satisfaction in South C ward, Langata Constituency. In the next chapter, the sample profile and study findings based on the research objectives are discussed.
CHAPTER FOUR
DISCUSSIONS AND FINDINGS

4.0 Introduction

This chapter presents findings on the sample profile, and the psychological, physiological and socioeconomic effects of habitual khat use on marital satisfaction. The findings are based on the study objectives.

4.1 Sample Profile

The study targeted 400 respondents from South C ward, Langata Constituency, Nairobi. A total of 398 individuals responded constituting a 99.5% return rate.

4.1.1 Distribution of Participants by Age and Gender

Figure 3 represents the age of the respondents in the study sample.

Figure 3. Age of respondents
Thirty-five percent of the respondents (139), were aged between 30-34 years while 27% (109), ranged between 35-39 years. The lowest number of respondents were aged 55-60 accounting for 3% (13).

Table 1 shows the distribution by gender. A majority of respondents were male (85%) while 15% were female.

Table 1 *Distribution by Gender*

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>339</td>
<td>85%</td>
</tr>
<tr>
<td>Female</td>
<td>60</td>
<td>15%</td>
</tr>
</tbody>
</table>

### 4.1.2 Level of Education and Occupational Status

Table 2 demonstrates a cross tabulation of the level of education and occupational status of respondents.

Table 2 *Highest Level of Education and Occupational Status Cross Tabulation*

<table>
<thead>
<tr>
<th>Highest Level of Education</th>
<th>Occupational Status</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Working</td>
<td>Not working</td>
</tr>
<tr>
<td>Primary</td>
<td>54</td>
<td>31</td>
</tr>
<tr>
<td>Secondary</td>
<td>166</td>
<td>42</td>
</tr>
<tr>
<td>College/University</td>
<td>92</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>312</strong></td>
<td><strong>87</strong></td>
</tr>
</tbody>
</table>

Fifty-two percent of respondents (208), had studied up to secondary level of education of which 80% (166) were working. Twenty one percent of respondents (85), studied up to primary level of education, of which 63.6% (54) were working. Twenty seven percent of respondents, (106), had studied up to college/university level of education of which 87% (92) were employed.
4.1.3 Monthly Income and Marital Status

The distribution of respondents according to monthly income and marital status are depicted in Table 3 and Figure 5 respectively. Table 3 shows the monthly income of the respondents in Kenya shillings.

Table 3 Distribution by Monthly Income

<table>
<thead>
<tr>
<th>Monthly Income (Ksh)</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>30,000</td>
<td>199</td>
<td>50%</td>
</tr>
<tr>
<td>60,000</td>
<td>56</td>
<td>14%</td>
</tr>
<tr>
<td>90,000</td>
<td>13</td>
<td>4%</td>
</tr>
<tr>
<td>Valid</td>
<td></td>
<td></td>
</tr>
<tr>
<td>120,000</td>
<td>7</td>
<td>2%</td>
</tr>
<tr>
<td>150,000</td>
<td>7</td>
<td>2%</td>
</tr>
<tr>
<td>LESS THAN 30,000</td>
<td>10</td>
<td>3%</td>
</tr>
<tr>
<td>Not Working/No response</td>
<td>107</td>
<td>25%</td>
</tr>
<tr>
<td>Total</td>
<td>399</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 3 indicates that a majority of the respondents, (50%; 199), earned Kshs. 30,000 while 14% (56), earned Kshs. 60,000. Twenty-five percent (25%) did not respond, 8% (27) earned over Kshs. 90,000 while 3% (10) earned less than Kshs. 30,000.

Similarly, the marital status of the respondents is depicted in Figure 4.
Figure 4. Marital status of respondents

Seventy six percent 76% (309) of the respondents were married, 14% (52) had separated from their spouses while 10% (38) were divorced.

4.1.4 Years of Marriage and Number of Children

Majority of respondents (55.3%), had been married for 1-9 years with 46.8% having less than 3 children. Table 4 is a cross tabulation of the number years in marriage of respondents and number of children.
Table 4 Cross tabulation by Number of Years in Marriage and Number of Children

<table>
<thead>
<tr>
<th>Years in Marriage</th>
<th>Number of Children</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-3</td>
<td>4-7</td>
</tr>
<tr>
<td>1-9</td>
<td>187</td>
<td>34</td>
</tr>
<tr>
<td>10-19</td>
<td>54</td>
<td>67</td>
</tr>
<tr>
<td>20-29</td>
<td>9</td>
<td>28</td>
</tr>
<tr>
<td>Not Applicable</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>256</td>
<td>130</td>
</tr>
</tbody>
</table>

Table 4 shows that the highest number of respondents was 221 having been married between 1 and 9 years. Out of these, 187 had between 0-3 children and 34 had 4-7 children. Many of the respondents 30% (121), indicated that they had been married for 10 to 19 years of which 44.6% (54) had less than 3 children, 55.3% (67) indicated that they had 4-7 children. Those married for 20 to 29 years accounted for 10.5% of respondents. Out of these, 21.4% (9) indicated that they had less than 3 children, 66.6% (28) indicated that they had 4-7 children, while 11.9% (5), had 8-11 children.

Respondents who indicated ‘not applicable’ in the number of years in marriage due to divorce or separation accounted for 3.7% (15) of respondents. Of these, 40% (6) had 0-3 and 4-7 children while 20% (3) had 8-11 children.
4.1.5 Reason for Khat Use and Frequency of Use

The study also looked into the reasons and frequency of khat use. Table 5 shows the reasons for khat use.

Table 5 Reasons for khat use

<table>
<thead>
<tr>
<th>Reasons for Khat Use</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress Relief</td>
<td>194</td>
<td>49%</td>
</tr>
<tr>
<td>Dependence</td>
<td>29</td>
<td>7%</td>
</tr>
<tr>
<td>To enhance sexual performance</td>
<td>13</td>
<td>3%</td>
</tr>
<tr>
<td>To increase alertness</td>
<td>161</td>
<td>40%</td>
</tr>
<tr>
<td>No Response</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>399</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Majority of the respondents 49% (194) indicated that they use khat as a stress reliever, 40% (161) used khat to increase alertness while a further 7% (29) cited dependence as the reason for habitual khat use. Three percent, (13), used it to enhance sexual performance, while 1% (2) did not indicate the reason for khat use.

Table 6 is a cross tabulation of the number of days in a week for chewing khat and the number of hours spent chewing khat per day.
Table 6 *Days Chewing Khat in a Week* *Hours per day chewing khat Cross Tabulation*

<table>
<thead>
<tr>
<th>Days in a week</th>
<th>Hours per a day</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-3</td>
<td>4-6</td>
</tr>
<tr>
<td>1-2</td>
<td>46</td>
<td>12</td>
</tr>
<tr>
<td>3-4</td>
<td>39</td>
<td>54</td>
</tr>
<tr>
<td>5-6</td>
<td>11</td>
<td>38</td>
</tr>
<tr>
<td>Everyday</td>
<td>7</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>103</td>
<td>174</td>
</tr>
</tbody>
</table>

Table 6 demonstrates that 39% (157) of respondents used *khat* every day, 25.6% (102) used *khat* 3-4 days per week, 19.8% (79) used it for 5-6 days while 15% (60) used for 1-2 days per week.

The highest number of respondents, (44%; 174) used *khat* for 4-6 hours a day, whereas 25.8% (103) used it for 1-3 hours per day. Seventeen percent of respondents (66), used it for 7-9 hours per day and 13.8% (55) used it for 10 or more hours per day.

### 4.1.6 Poly Drug Use

Poly drug use signifies the use of two or more psychoactive drugs simultaneously in order to achieve a heightened high. Majority of respondents indicated that they use other drugs in conjunction with *khat*.

Figure 5 illustrates the response.
Fifty one percent (51%), 203 of the respondents indicated that they used other drugs apart from khat while 49% (196) indicated that they only used khat.

Drugs used alongside khat included alcohol, cannabis, cigarettes, tobacco, cocaine, and heroin. A high number of respondents used alcohol, cannabis, cigarettes and tobacco. Cocaine and heroin use was rare with less than 1% (3) reporting use.

4.1.7 Reasons for Continued Use or Cessation of Khat Use

Most of the respondents had never tried quitting khat use. Figure 6 illustrates the distribution.
Figure 6. Ever tried quitting khat

According to Figure 6 most of the respondents 54% (215) indicated that they had never tried quitting the use of khat while 46% (182) had tried to quit khat use. Two (2) did not respond.

Table 7 shows the reasons given for trying to quit the use of khat among those who indicated they had tried quitting khat use.

Table 7 Reasons for trying to quit the use of Khat

<table>
<thead>
<tr>
<th>Reasons for Trying to Quit Khat Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Fear of addiction</td>
</tr>
<tr>
<td>(ii) A lot of time is spent chewing khat</td>
</tr>
<tr>
<td>(iii) Development of psychological &amp; physiological health complications: hallucinations, memory loss, gum disease and tooth decay, high blood pressure, heart disease, erectile dysfunction and low libido, reduced energy and weakness.</td>
</tr>
<tr>
<td>(iv) Disagreements with spouse and breakage of marriage</td>
</tr>
<tr>
<td>(v) Loss of energy and feeling weak</td>
</tr>
<tr>
<td>(vi) Lack of money to finance the habit and misappropriation of family income</td>
</tr>
<tr>
<td>(vii) Antisocial behavior such as stealing and selling of household items to finance khat addiction</td>
</tr>
</tbody>
</table>
Table 8 shows the reasons given for not trying to quit the use of *khat* among those who indicated they had not tried quitting *khat* use.

**Table 8 Reasons for not trying to quit Khat use**

<table>
<thead>
<tr>
<th>Reasons for not Trying to Quit Khat Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Dependence was the major reason why most respondents had never tried quitting <em>khat</em></td>
</tr>
<tr>
<td>(ii) <em>Khat</em> increases alertness, energy and helps keep one sober</td>
</tr>
<tr>
<td>(iii) Comfortable using it as they do not experience any side effects</td>
</tr>
<tr>
<td>(iv) Cannot sleep well unless one used <em>khat</em></td>
</tr>
<tr>
<td>(v) Enhances sexual performance and stimulation</td>
</tr>
<tr>
<td>(vi) <em>Khat</em> is a source of entertainment and lessens idleness</td>
</tr>
<tr>
<td>(vii) <em>Khat</em> cheaper than other drugs</td>
</tr>
<tr>
<td>(viii) <em>Khat</em> provides stress relief</td>
</tr>
<tr>
<td>(ix) Peer pressure makes one not quit</td>
</tr>
</tbody>
</table>
4.1.8 Effects of Cessation of Khat Use on Marital Satisfaction

The respondents experienced negative and positive effects in their marriages when they ceased using khat. The respondents gave the reasons shown in Table 9.

Table 9 Effects Experienced in Marriage on Cessation of Khat Use

<table>
<thead>
<tr>
<th>Positive Effects</th>
<th>Negative Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Able to save money for financial stability</td>
<td>Depression and stress</td>
</tr>
<tr>
<td>(ii) Development of good sleeping habits</td>
<td>Difficulty sleeping</td>
</tr>
<tr>
<td>(iii) Stopped drinking alcohol</td>
<td>Decreased work productivity due to lack of concentration, decreased alertness and sleepiness</td>
</tr>
<tr>
<td>(iv) Improved relationship and better communication with spouse</td>
<td>Increase in aggression, abuse and violence toward the spouse</td>
</tr>
<tr>
<td>(v) Happiness in the family</td>
<td>Loss of appetite</td>
</tr>
<tr>
<td>(vi) Improved sexual performance</td>
<td>Lack of energy and dizziness</td>
</tr>
<tr>
<td>(vii) Female respondents were able to help more in providing for the family &amp; taking care of children</td>
<td>Increase in anxiety and discomfort</td>
</tr>
<tr>
<td>(viii) Able to meet the family’s daily needs</td>
<td>Idleness and boredom</td>
</tr>
<tr>
<td>(ix) More time to bond with family</td>
<td>Mood swings and feelings of suicidal ideation</td>
</tr>
</tbody>
</table>

4.1.9 Marital Satisfaction

Marital satisfaction is the level to which partners in marriages gauge their approval of different features of their marital relations. Marital satisfaction was measured using the Locke-Wallace Relationship Adjustment Test. Figure 7 illustrates the responses.
Figure 7. Distribution of marital adjustment and maladjustment

Majority of respondents, 80% (319), indicated that they had marital maladjustment while 20% (80) indicated marital adjustment.

4.2 Psychological Effects of Habitual Khat Use

4.2.1 Hallucinations and Paranoia

Psychosis is a broad word used to refer to a set of symptoms of mental illness that result in peculiar perceptions (auditory, visual), thinking, emotions and behavior. Consumption of excessive quantities of khat has been found to considerably increase the risk for psychosis or
psychotic-like episodes (Alem and Shibre, 1997; Odenwald et al., 2005; Warfa et al., 2007), including significant mania and paranoid delusions.

Figure 8 demonstrates the participants’ responses regarding the experiences of auditory and visual hallucinations.

![Bar chart showing the percentage of respondents for each frequency of auditory or visual hallucinations.]

**Figure 8. Auditory or visual hallucinations**

As illustrated in Figure 8, 7% (27) respondents indicated that they often saw or heard things that other people could not, 37% (147), mentioned that they would sometimes experience hallucination (149), 25% (99) indicated that they rarely had hallucinations while 31% (123) of respondents said they never experienced hallucinations.
Figure 9 demonstrates the responses regarding paranoia.

![Figure 9. Frequency of experiencing paranoia](image)

As illustrated in Figure 9, majority of the respondents (43%; 172), indicated that they sometimes felt that other people wanted to harm them, 21% (84) rarely felt paranoid while 30% (121) never experienced paranoia. Only 6% (22) of respondents reported always or often feeling paranoid.
4.2.2 Mood Swings, Depression and Anxiety

*Khat* chewing is often accompanied by emotional instability, tension and irritability. This is followed by lethargy and low mood. Depression and anxiety have been linked with *khat* chewing practices.

The response on whether the respondents experienced mood swings when using *khat* is demonstrated in Figure 10.

Figure 10. Frequency of experiencing mood swings

Figure 10 demonstrates that 49% (195) of the respondents sometimes experienced mood swings, 26% of respondents mostly experienced mood swings, 17% (67) indicated rarely experiencing mood swings whereas 9% (35) never experienced mood swings when using *khat*.

Depression is a severe mood disorder characterized by a persistent feeling of sadness, hopelessness and loss of interest in activities. Figure 11 illustrates the response on whether *khat* users experienced feelings of sadness and hopelessness.
Figure 11. Distribution of Feelings of Sadness and Hopelessness

Thirty seven percent (147) of the respondents periodically felt sad and hopeless while 14% (55) often experienced the same. However, 22% (87) of the respondents rarely felt sad and hopeless whereas 27% (107) reported never feeling sad or hopeless.
Anxiety is a feeling of discomfort characterized by excessive worry or fear. Figure 12 illustrates the distribution of respondents who experienced anxiety.

![Figure 12. Frequency of Anxiety](chart)

Majority of the respondents, 43% (171), periodically experienced anxiety whereas 18% (71) largely experienced it, 19% (76) were rarely faced with anxiety while 20% (80) reported never experiencing feelings of anxiety.

**4.2.3 Effect of Psychological Factors of Habitual Khat Use on Marital Satisfaction among Couples in South C Ward, Langata Constituency**

Psychosis, paranoia, mood swings, depression and anxiety impede the user from fulfilling his/her responsibilities as a spouse. The pharmacological effects of *khat* impair the judgment and thought process of the user which in-turn inhibits him/her from partaking in a healthy marital relationship. Mood swings, a common effect of habitual *khat* use, hinder the realization of intimacy and good communication, which are both integral to a high level of marital satisfaction.
According to Whisman, Weinstock & Uebelacker (2004), individuals living with a depressed person report feeling more troubled and distraught by the person’s depressive symptoms.

Respondents were asked how the psychological effects of habitual khat affected their level of marital satisfaction. The respondents mentioned the impact these psychological factors had on marital satisfaction. Table 10 shows the negative effects of habitual khat use on marital satisfaction.

Table 10 **Negative Effects of Psychological Factors on Marital Satisfaction**

<table>
<thead>
<tr>
<th>Negative Effects of Psychological Factors on Marital Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) Mood swings lead to domestic violence and create a rift between spouses</td>
</tr>
<tr>
<td>(ii) Poor communication and disputes due to anger and arrogance</td>
</tr>
<tr>
<td>(iii) Depression depicted by sadness and hopelessness</td>
</tr>
<tr>
<td>(iv) Unnecessary arguments and fights between spouses due to bad moods</td>
</tr>
<tr>
<td>(v) Absence of quality time with the family members</td>
</tr>
<tr>
<td>(vi) Absence of sexual satisfaction, due to low libido and sexual dysfunction</td>
</tr>
<tr>
<td>(vii) Feeling anxious</td>
</tr>
<tr>
<td>(viii) Thoughts of committing suicide</td>
</tr>
<tr>
<td>(ix) Mental disorder related to khat use</td>
</tr>
</tbody>
</table>

Breakdown of communication, mood swings, depression, isolation, lack of participation in family activities, and absence of sexual satisfaction, are all foundations for an unhappy marriage. Table 10 shows that the psychological effects of khat have a negative impact on marital satisfaction. These findings were supported by the view of opinion leaders collected in the focus group discussions. Interviewees felt that the psychological effects of habitual khat use have a
profound effect on marital satisfaction, and are often a precursor to separation and divorce. These results indicate that the psychological effects of habitual *khat* use have a negative impact on marital satisfaction among couples in South C Ward, Langata Constituency.

### 4.3 Physiological Effects of Habitual *Khat* Use on Marital Satisfaction Among Couples in South C Ward, Langata Constituency

The physiological effects of habitual *khat* use: cardiovascular disease, periodontal disease, gastrointestinal disorders, sexual dysfunction and extreme fatigue, may lower levels of marital satisfaction as they impede the realization of marital goals. Epidemiological and case control studies have shown a strong association between long-term *khat* use and gastrointestinal, cardiovascular, respiratory, obstetric, metabolic, endocrine, and nervous system dysfunction (Nasher et al., 1995; elShoura et al., 1995; Dalu, 2000; Hassan et al., 2000; Al Habori and Al Mamary, 2004; Al Habori, 2005; Hassan et al., 2005).

Participants were asked whether they suffered from any cardiovascular, gastrointestinal and oral disorders in addition to sexual dysfunction and anergia. The findings are presented in the following sections.

#### 4.3.1 Cardiovascular, Gastrointestinal and Oral Disorders

According to WHO, cardiovascular disorders is a class of disorders that involves the heart or blood vessels. Figure 13 represents the response on whether *khat* users experienced cardiovascular disorders.
Figure 13. Manifestation of cardiovascular disorders

From Figure 13, 41% (163) of the respondents sometimes experienced cardiovascular complications, 6% (23) often experienced complications while 19% (75) rarely experienced complications. Lastly, 35% (139) of the respondents never experienced any cardiovascular complications.

Gastrointestinal disorders have been associated with long-term khat use. Prior studies have linked its habitual use to constipation and hemorrhoids. Figure 14 represents the responses on whether khat users experienced these disorders.
From figure 14, 48% (191) of the respondents sometimes experienced constipation and hemorrhoids, 14% (56) almost always suffered from these disorders while 14% (56) rarely experienced gastrointestinal disorders. Twenty four percent of respondents (95) never suffered from these disorders.

Habitual khat use has an adverse effect on oral-dental health. Tooth decay and gum disease have been linked to habitual khat use (Ayalew, Meaza, Yemane & Alemayehu, 2015). Figure 15 illustrates the response on whether khat users experienced gum disease and tooth decay.
Figure 15. Occurrence of tooth decay and gum disease

Twenty seven percent (107) of the respondents sometimes experienced tooth decay and gum disease, 39% (155) almost always suffered from oral-dental disorders, 16% (64) of respondents rarely suffered from oral-dental disorders while 18% (72) never experienced the problem.

4.3.2 Sexual Dysfunction and Anergia

Cardiovascular disease and psychological health problems are linked to erectile dysfunction. Most men who habitually chew *khat* complained about their inability to have sex when they chewed *khat* (Hersi, 2016). *Khat* can decrease sexual arousal, pleasure ability, ability to attain orgasms and the intensity of orgasms (Aliye, 2010).

Participants were asked about sexual functioning in the questionnaires. Figure 16 provides the responses.
A majority of respondents 45% (179) indicated that they sometimes experienced erectile dysfunction while 18% (72) almost always suffered from this disorder. Erectile dysfunction was a rare occurrence for 15% (60) of respondents whereas 22% (87) never experienced it.

Anergia is defined as an unusual lack of energy. *Khat* being a stimulant has fatigue-postponing effects thereby interfering with sleep patterns. Consequently, fatigue and extreme exhaustion set in when *khat* is not used. Figure 17 demonstrates the distribution of fatigue occurrence amongst respondents.
Figure 17. Experience of fatigue

From Figure 17, 50% (198) of the respondents sometimes suffered from extreme fatigue, 15% (60) almost always experienced it, 17% (68) rarely suffered from anergia while 18% (72) never experienced it.

4.3.3 Physiological Effects of Habitual Khat Use on Marital Satisfaction Among Couples in South C Ward, Langata Constituency

The physiological effects of habitual khat use such as cardiovascular disease, periodontal disease, gastrointestinal disorders, sexual dysfunction and extreme fatigue may lower levels of marital satisfaction as they impede the realization of marital goals.

Respondents were asked how the physiological effects of habitual khat use affected the level of marital satisfaction. Table 11 shows how the physiological factors mentioned above affect marital satisfaction.
Table 11 Physiological Effects of Habitual Khat Use on Marital Satisfaction among Couples in South C Ward, Langata Constituency

<table>
<thead>
<tr>
<th>Physiological Effects of Habitual Khat Use on Marital Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) High blood pressure and heart problems leading to reduced participation in family activities</td>
</tr>
<tr>
<td>(ii) Erectile dysfunction, lower libido, sexually inactivity leading to divorce and separation</td>
</tr>
<tr>
<td>(iii) Tooth decay and gum disorders leading to lack of confidence and interference with intimacy with spouses</td>
</tr>
<tr>
<td>(iv) Fatigue, weakness and dizziness leading to reduced participation in family activities</td>
</tr>
<tr>
<td>(v) Constipation, decreased appetite and subsequent weight loss</td>
</tr>
<tr>
<td>(vi) Development of hemorrhoids which affects confidence and intimacy</td>
</tr>
<tr>
<td>(vii) Memory loss which affects execution of normal day to day activities</td>
</tr>
</tbody>
</table>

Cardiovascular disorders, especially high blood pressure, precipitate erectile dysfunction. Sexual satisfaction and intimacy are an important part of a healthy marital relationship. Tooth decay and gum disease may be repulsive to the spouse thereby hindering sexual intimacy. The development of hemorrhoids may be a source of discomfort for the habitual khat user and an obstacle to intimacy for a couple. Extreme fatigue and exhaustion may prevent couples from enjoying their relationship to the fullest.

4.4 Socio-economic Effects of Habitual Khat Use on Marital Satisfaction among Couples in South C Ward, Langata Constituency

Several studies have revealed that regular consumption of khat actively affects the social status of the user. Habitual khat-chewing has been found to increase tension in family relationships whereby one parent had to bear the burden of meeting the financial, emotional and social needs
of the family. *Khat* often causes anti-social behavior, which is a precursor to physical and emotional abuse in the family setting. Irritability, a side effect of *khat*, often leads to psychological and physical abuse of family members.

### 4.4.1 Intimacy, Time Spent with Spouse and Effective Communication

Effective communication, intimacy and spending time with one’s spouse is integral to a high level of marital satisfaction. Figure 12 represents the responses on whether habitual *khat* users were intimate and affectionate with their spouses.

![Figure 12](chart.png)

*Figure 12. Intimacy and affection towards spouse*

From Figure 18, majority of the respondents 45% (179) indicated that they were sometimes intimate with their spouses, 39% (155) were almost never intimate and affectionate with their spouses while 15% (60) were almost always intimate and affectionate. No response was received from 1% (4) of respondents.
Figure 19 represents the response on whether *khat* users spent time with their spouses.

![Bar chart showing the percentage of respondents who sometimes spent time with their spouses](chart)

**Figure 19.** Spend time with spouse

From Figure 19, 47% (187) of the respondents sometimes spent time with their spouses, 36% (143) indicated that they almost never spent time with their spouse, 16% (64) almost always spent time with their spouses while one percent (4) of respondents did not respond.

Figure 20 represents the responses on whether the respondents communicated well with spouses.

![Pie chart showing the percentage of respondents who communicated well with their spouses](chart)

**Figure 20.** Communication with spouse
Figure 20 shows that a majority of the respondents 43% (171) almost never communicate well with their spouses whereas 37% (147) sometimes communicated well with their spouses. Lastly, 20% (80) of respondents almost always communicated well with their spouses.

4.4.2 Verbal and Physical Abuse

Any form of abuse reduces the level of satisfaction within a marital relationship. Khat often causes anti-social behavior, which is a precursor to physical and emotional abuse in the family setting. Irritability, a side effect of khat use, often leads to verbal and physical abuse of family members. Figure 21 represents the distribution of respondents who exhibited verbal abuse towards their spouses.

![Figure 21. Distribution of verbal abuse towards spouse](image-url)
Majority of the respondents, 44% (175) were sometimes verbally abusive towards their spouses, 18% (72) were almost always verbally abusive towards their spouses while 38% (151) were almost never abusive towards their spouse.

Figure 22 represents the response on whether the participants were physically abusive towards their spouse.

![Pie chart showing distribution of physical abuse towards spouse]

*Figure 22. Distribution of physical abuse towards spouse*

Figure 22 illustrates that majority of the respondents (33%; 131), were sometimes physically abusive towards their spouse, 22% (87) were almost always physically abusive towards their spouses, while 45% (179) of the respondents were almost never physically abusive.
4.4.3 Productivity and Work Attendance

Habitual *khat* use affects work productivity and attendance. Figure 22 represents the responses on how often habitual *khat* users are productive at work.

![Chart showing productivity levels](chart.png)

*Figure 23. Productivity at work*

Figure 23 illustrates that majority of the respondents 49% (195) were almost always productive at work, 29% (115) of the respondents were sometimes productive at work while 22% (88) of respondents were almost never productive at work.
Respondents were questioned about the frequency of work attendance. Figure 24 illustrates their response.

![Figure 24. Work attendance](image)

According to Figure 24, 21% (84) of respondents almost never attended work, 31% (123) would sometimes attend work while 48% (191) almost always attended work.

### 4.4.4 Ability of Khat Users to Meet Family’s Financial Needs

Due to low work productivity and absenteeism, habitual khat users are unable to meet their family’s financial needs. Figure 25 illustrates the response on whether habitual khat users were able to meet their families’ financial needs.
Figure 25. Ability to meet the family’s financial needs

A considerable portion of respondents, 33% (131), reported almost never meeting their family’s financial needs, 37% (147) were able to meet their family’s financial needs occasionally while 30% (120) almost always realized it.

4.4.5 Contribution to Household Chores and Nurturing of Children

Habitual *khat* use leaves little time to engage in family affairs or for family bonding. This is further compounded by fatigue, which often impedes partaking in family responsibilities. Children need parental love and care to develop physically and emotionally. Figure 26 illustrates whether habitual *khat* users assisted with household chores.
Figure 26. Frequency of assisting with household chores

As indicated in Figure 26, 51% (203) of the respondents almost never helped with household chores. 34% (135) indicated that they occasionally helped around the house, whereas 15% (60) almost always took part in household duties.

Respondents were also asked about taking part in the nurturing of their children. Figure 27 illustrates responses.
According to Figure 27, 37% barely took part in the upbringing of their children, 36% occasionally helped with nurturing their kids while 24% largely took part in this role.

**4.4.6 Socio-economic Effects of Habitual Khat Use on Marital Satisfaction among Couples in South C**

Inadequate intimacy and bonding as well as verbal and physical abuse between spouses leads to the breakdown of marriage. Low productivity and poor work attendance ultimately affects the financial state of the family unit.

Respondents were asked how the socio-economic effects of habitual khat affected the level of marital satisfaction. Table 12 outlines the responses.
Lack of financial support to families can be a chief source of marital conflict. Habitual *khat* use causes misuse of finances consequently leading to constant arguments and disagreements. Lack of spending adequate time with one’s spouse and children can be detrimental to the family’s well-being. The socio-economic effects of habitual *khat* use decrease the level of marital satisfaction, subsequently resulting in separation or divorce.
4.5 Regression Analysis of the Effects of Habitual Khat Use and Marital Satisfaction

4.5.1 Psychological Effects of Habitual Khat and Marital Satisfaction

Multiple regression analysis was conducted on the psychological effects of khat under feelings of anxiety, hallucinations, mood swings, paranoia and depression as shown in Table 13.

Table 13 Model Summary of Psychological effects of Khat and Marital Satisfaction

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.316&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.100</td>
<td>.088</td>
<td>33.314</td>
</tr>
</tbody>
</table>

<sup>a</sup>. Predictors: (Constant), Anxiety, Hallucinations, Mood swings, Paranoia, Depression

Table 14 ANOVA of Psychological Effects of Habitual Khat Use and Marital Satisfaction

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>47307.346</td>
<td>5</td>
<td>9461.469</td>
<td>8.525</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>426166.728</td>
<td>384</td>
<td>1109.809</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>473474.074</td>
<td>389</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup>. Dependent Variable: Marital satisfaction
b. Predictors: (Constant), Anxiety, Hallucinations, Mood swings, Paranoia, Depression

Table 13 and 14 illustrate that there is a weak negative correlation between the psychological effects of *khat* and marital satisfaction as $r$ is 0.316. However, the coefficient of determination, $R^2$, is 0.01 and the relationship is significant as $P$ is less than 0.001 at 0.000. This means that psychological effects of *khat* use explain about 10% of the variance in marital satisfaction in couples. The remaining 90% is explained by other factors and the error term.

**Table 15 Coefficients of Psychological Effects of Habitual Khat Use and Marital Satisfaction**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>95.0% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>99.200</td>
<td>6.095</td>
</tr>
<tr>
<td></td>
<td>Hallucinations</td>
<td>1.161</td>
<td>1.729</td>
</tr>
<tr>
<td></td>
<td>Paranoia</td>
<td>-1.668</td>
<td>2.006</td>
</tr>
<tr>
<td></td>
<td>Mood swings</td>
<td>-3.453</td>
<td>1.645</td>
</tr>
<tr>
<td></td>
<td>Depression</td>
<td>-5.431</td>
<td>1.752</td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
<td>-2.605</td>
<td>1.693</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Marital satisfaction
Table 15 indicates a positive beta coefficient of 0.036 for hallucinations; however paranoia (-0.047), mood swings (-0.113), depression (-0.185) and anxiety (-0.088) display a negative relationship with marital satisfaction. This means that most of the elements of psychological effects have a negative relationship with marital satisfaction.

Using the multiple regression equation:

\[ Y = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + \ldots + b_p X_p \]

where \( Y \) is the expected value of the dependent variable (marital satisfaction), \( X_1 \) through \( X_p \) are the independent variables, \( b_0 \) is the value of \( Y \) when all of the independent variables are equal to zero and \( b_1 \) through \( b_p \) are the estimated regression coefficients. Using the three strongest psychological variables; depression, mood swings and anxiety, we can estimate the marital satisfaction of an individual with known levels of depression, mood swings and anxiety. This is achieved by replacing \( X_1 \)-\( X_3 \) in the equation below with the individual’s psychological test scores in depression, mood and anxiety.

\[ Y = 99.2 + (-0.19) X_1 + (-0.11) X_2 + (-0.09) X_3. \]
4.5.2 Physiological Effects of Habitual Khat Use and Marital Satisfaction

Multiple regression analysis was conducted on the physiological effects of khat under feelings of fatigue, erectile dysfunction, cardiovascular complications, gum disease and gastrointestinal problems as shown in Table 16 below:

Table 16 Model Summary of Physiological Effects of Habitual Khat Use on Marital Satisfaction

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.365a</td>
<td>.133</td>
<td>.122</td>
<td>32.227</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Anergia, Erectile dysfunction, Cardio-vascular complications, Oral-dental problems, Gastro-intestinal disorders

Table 17 ANOVA of Physiological Effects of Khat and Marital Satisfaction

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>60462.031</td>
<td>5</td>
<td>12092.406</td>
<td>11.643</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>392591.594</td>
<td>378</td>
<td>1038.602</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>453053.625</td>
<td>383</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: Marital satisfaction

b. Predictors: (Constant), Anergia, Erectile dysfunction, Cardio-vascular complications, Oral-dental problems, Gastro-intestinal disorders
Table 16 and 17 show that there is a weak negative correlation between the physiological effects of *khat* and marital satisfaction as $r$ is 0.365. However, the coefficient of determination, $R^2$, is 0.133 and the relationship is significant as $P$ is less than 0.001 at 0.000. This means that physiological effects of *khat* use explain about 13% of the variance in marital satisfaction in couples. The remaining 87% is explained by other factors and the error term.

**Table 18 Coefficients of Physiological Effects of Habitual Khat Use on Marital Satisfaction**

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>95.0% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Std. Error</td>
<td>Beta</td>
<td>t</td>
</tr>
<tr>
<td>~~~ (Constant) ~~~</td>
<td>98.382</td>
<td>5.140</td>
<td>19.142</td>
</tr>
<tr>
<td>Cardio-vascular complications</td>
<td>-5.767</td>
<td>2.057</td>
<td>-.175</td>
</tr>
<tr>
<td>Gastro-intestinal disorders</td>
<td>-.024</td>
<td>2.179</td>
<td>-.001</td>
</tr>
<tr>
<td>Oral-dental problems</td>
<td>-.955</td>
<td>1.431</td>
<td>-.040</td>
</tr>
<tr>
<td>Erectile dysfunction</td>
<td>1.011</td>
<td>.368</td>
<td>.133</td>
</tr>
<tr>
<td>Anergia</td>
<td>-6.919</td>
<td>1.765</td>
<td>-.224</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Marital satisfaction
Table 18 illustrates negative beta coefficients for all the variables under physiological effects of khat use: anergia (-0.224), erectile dysfunction (0.133), cardiovascular complications (-0.175), oral-dental problems (-0.040) and gastrointestinal problems (-0.001). This means that there is a negative relationship between the elements of physiological effects of habitual khat use and marital satisfaction.

Using the multiple regression equation:

\[ Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_pX_p \]

where \( Y \) is the expected value of the dependent variable (marital satisfaction), \( X_1 \) through \( X_p \) are the independent variables, \( b_0 \) is the value of \( Y \) when all of the independent variables are equal to zero and \( b_1 \) through \( b_p \) are the estimated regression coefficients. Using the three major physiological variables; anergia, cardio-vascular complications and oral-dental problems, we can estimate the marital satisfaction of an individual with known levels of these complications. This is achieved by replacing \( X_1 \)-\( X_3 \) in the equation below with an individual’s level of anergia, cardio-vascular complications and oral-dental.

\[ Y=98.3+(-0.22) X_1+(-0.18) X_2+(-0.04) X_3. \]

4.5.3 Socioeconomic Effects of Khat Use and Marital Satisfaction

Multiple regression analysis was conducted on the socioeconomic effects of khat use under the following variables: -help with raising kids, intimacy with spouse, go to work, verbally abusive towards my spouse, spend time with spouse, help with household chores, productive at work, physically abusive towards spouse, communicate well with spouse, meet family financial needs as shown in table 19.
Table 19 *Model Summary of Socioeconomic Effects of Khat use and Marital Satisfaction*

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.480&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.231</td>
<td>.210</td>
<td>30.558</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), Nurturing of children, Intimacy, Work attendance, Verbal abuse, Spending time with spouse, Household chores, Work productivity, Physical abuse, Effective communication, Financial support

Table 20 *ANOVA of Socioeconomic Effects of Habitual Khat Use and Marital Satisfaction*

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>103899.469</td>
<td>10</td>
<td>10389.947</td>
<td>11.127</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>346428.447</td>
<td>371</td>
<td>933.769</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>450327.916</td>
<td>381</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: Marital satisfaction

<sup>b</sup> Predictors: (Constant), Nurturing of children, Intimacy, Work attendance, Verbal abuse, Spending time with spouse, Household chores, Work productivity, Physical abuse, Effective communication, Financial support

Table 19 and 20 illustrate that there is a weak negative correlation between the socioeconomic effects of khat use and marital satisfaction as r is 0.480. However, the coefficient of determination, R square, is 0.231 and the relationship is significant as P is less than 0.001 at 0.000. This means that the socioeconomic effects of khat use explain about 23% of the variance.
in marital satisfaction in couples. The remaining 77% is explained by other factors and the error term. Table 21 illustrates the coefficients of satisfaction.

Table 21 Coefficient of Socio-economic Effects of Habitual Khat Use and Marital Satisfaction

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients</th>
<th>95.0% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unstandardized Coefficients</td>
<td>Standardized Coefficients</td>
</tr>
<tr>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>59.559</td>
<td>9.308</td>
</tr>
<tr>
<td>Intimacy</td>
<td>.121</td>
<td>.177</td>
</tr>
<tr>
<td>Spending time with spouse</td>
<td>4.897</td>
<td>2.021</td>
</tr>
<tr>
<td>Effective communication</td>
<td>2.933</td>
<td>2.096</td>
</tr>
<tr>
<td>Physical abuse</td>
<td>-2.780</td>
<td>1.856</td>
</tr>
<tr>
<td>Work productivity</td>
<td>-.033</td>
<td>1.711</td>
</tr>
<tr>
<td>Work attendance</td>
<td>-.520</td>
<td>.581</td>
</tr>
<tr>
<td>Financial support</td>
<td>-.095</td>
<td>1.935</td>
</tr>
<tr>
<td>Household chores</td>
<td>.570</td>
<td>1.647</td>
</tr>
</tbody>
</table>
Nurturing of children | 2.931 | 1.754 | .108 | 1.671 | .096 | -.519 | 6.381

Table 21 indicates positive beta coefficients for nurturing of children (0.108), intimacy with spouse (0.038), spending time with spouse (0.157), assisting with household chores (0.020), and effective communication with spouse (0.100). However, financial support of the family (-0.049), work attendance (-0.044), verbal abuses towards spouses (-0.199) work productivity (-0.001), and Physical abuse towards spouses (-0.099) display negative beta coefficients. This means that the socio-economic effects of khat use have elements of both positive and negative relationships with marital satisfaction.

The coefficients for intimacy, effective communication, physical abuse, work productivity, work attendance, financial support, household chores and nurturing of children are not statistically significant because their p-values are larger than 0.05.

The coefficients for spending time with spouses and verbal abuse are statistically significant because their p-values, 0.016 and 0.01 respectively, are less than 0.05.

Using the multiple regression equation:

\[ Y = b0 + b1X1 + b2X2 + b3X3 + \ldots + bpXp \]

where Y is the expected value of the dependent variable (marital satisfaction), X1 through Xp are the independent variables, b0 is the value of Y when all of the independent variables are equal to zero and b1 through bp are the estimated regression coefficients. Using the three strongest socio-economic variables; verbal abuse, physical abuse and work attendance, we can estimate the marital satisfaction of an individual with known levels of these variables. This is achieved by
replacing $X_1$-$X_3$ in the equation below with the individuals test scores in work attendance and verbal and physical abuse.

$$Y = 60 + (-0.2) X_1 + (-0.1) X_2 + (-0.04) X_3.$$ 

Chapter five discusses the summary of key findings and conclusions reached through this study. Recommendations are also proposed based on the results of the study.
CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

In this chapter, a detailed summary of the study results, conclusions and recommendations will be discussed.

5.1 Summary of Key Findings

5.1.1 Sample Profile

The study found that 89% of the respondents were between the ages of 30-49, with the remaining 11% falling between 50-60 years of age. Eighty five percent of respondents were male and 15% were female. Seventy six percent of respondents were married, 14% were separated and 10% were divorced. Majority of respondents (55%), had been married between 1-9 years, 30% for 10-19 years and 10.5% had been married for more than 20 years. Sixty four percent of respondents had three children or less, 32.5% had between 4 and 7 children while 1.2% had more than 8 children.

The highest level of education for most respondents (52%) was secondary level, followed by college level (26.5%), and lastly primary level with 21%. Seventy-eight percent of respondents were employed or self-employed with 50% earning Kshs. 30,000, 14% earning Kshs. 60,000. Twenty one point eight percent (21.8%) of respondents were jobless. Thirty nine percent of respondents used khat every day of the week, 45.4% between 3 and 6 days a week and 15% used it less than three days a week. In a day, 60% of respondents chewed khat for 4-9 hours, 26% between 1 and 3 hours while 14% chew it for more than 10 hours a day.
The research found that the reasons for *khat* use were varied; 49% of respondents used it to combat stress, 40% to increase alertness, 7% due to psychological and physical dependence and a small percentage (3%), used it to enhance sexual performance. Forty six percent of respondents said they had tried quitting *khat* use due to deteriorating psychological and physical health, financial strain and reduced marital satisfaction. Fifty four percent of respondents did not try quitting *khat* use citing a lack of negative side effects, dependence, fatigue, stress, peer pressure, joblessness, enhanced sexual performance and lack of sleep as driving factors for continued use. Fifty-one percent of respondents mentioned using other drugs alongside *khat*, whereas 49% used *khat* only.

### 5.1.2 Psychological Effects of Habitual *Khat* Use on Marital Satisfaction

The first objective of this study was to establish the psychological effects of habitual *khat* use on marital satisfaction among married couples in South C. The results indicated that most respondents experienced negative psychological effects. Thirty-four percent of habitual *khat* users reported experiencing psychosis in the form of hallucinations, 49% experienced paranoia, 26% experienced mood swings frequently, 14% almost always experienced symptoms of depression and 18% almost always suffered from anxiety. Regression analysis indicated that there is a weak negative correlation between the psychological effects of *khat* and marital satisfaction as $r$ was -0.316. However, the coefficient of determination, R square, is 0.100 and the relationship is significant as $P$ is less than 0.001 at 0.000. This means that the psychological effects of *khat* use explain about 10% of the variance in marital satisfaction in couples. The remaining 90% is explained by other factors and the error term. Analysis indicated a positive beta coefficient of 0.036 for hallucinations; however paranoia (-0.047), mood swings (-0.113), depression (-0.185) and anxiety (-0.088) display a negative relationship with marital satisfaction.
This means that all elements of the psychological effects of habitual *khat* use, other than hallucinations, have a negative correlation with marital satisfaction.

The findings of the psychological effects of habitual *khat* use on marital satisfaction were supported by focus group discussions, which showed that paranoia, depression, mood swings and anxiety were major psychological effects of habitual *khat* use that negatively impacted marital satisfaction.

### 5.1.3 Physiological Effects of Habitual *Khat* Use

The second objective of the study was to establish the physiological effects of habitual *khat* use on marital satisfaction among married couples in South C. The results indicated that a significant number of respondents experienced physiological effects such as cardio-vascular, gastrointestinal and oral-dental disorders as well as sexual dysfunction and anergia. Forty seven percent of respondents experienced cardio-vascular complications with 6% experiencing these complications often.

Sixty two percent of respondents experienced gastro-intestinal disorders with 14% almost always suffering from constipation and hemorrhoids. Thirty nine percent of respondents suffered from tooth decay and gum disease regularly.

Contrary to popular belief, sexual dysfunction was a common problem amongst habitual *khat* users. Sixty three percent of male respondents indicated experiencing erectile dysfunction with 18% almost always experiencing it. Furthermore, some female respondents mentioned suffering from low libido following *khat*-chewing sessions. Majority of respondents (65%), experienced extreme fatigue with 15% almost always suffering from anergia.
Regression analysis indicated a negative correlation between the physiological effects of *khat* and marital satisfaction as $r$ was -0.365. However, the coefficient of determination, R square, was 0.133 and the relationship was significant as $P$ was less than 0.001 at 0.000. This means that the physiological effects of *khat* use explain about 13% of the variance in marital satisfaction in couples. The remaining 87% is explained by other factors and the error term. Analysis indicated negative beta coefficients for all the variables under physiological effects of *khat* use: anergia (-0.224), erectile dysfunction (0.133), cardiovascular complications (-0.175), oral-dental problems (-0.040) and gastrointestinal problems (-0.001).

Focus group discussions indicated that erectile dysfunction and oral-dental disorders were key physiological effects of habitual *khat* use that negatively influenced marital satisfaction among couples in South C Ward.

### 5.1.4 Socio-economic Effects of Habitual *Khat* Use on Marital Satisfaction

The third objective of the study was to establish the socio-economic effects of habitual *khat* use on marital satisfaction among married couples in South C. The research findings indicate that a noteworthy number of respondents were incapable of meeting the social needs of their family. Thirty nine percent of respondents were almost never intimate or affectionate towards their spouses whereas 36% seldom spent time with their spouses. Twenty percent rarely communicated effectively with their spouses, 51% seldom contributed in carrying out household chores while 37% stated that they do not assist in nurturing their children.

Thirty two percent of respondents were almost never productive at work, 21% rarely attended work while 33% hardly ever met their family’s financial needs.
The findings indicated that domestic violence was routine amongst habitual *khat* users. Eighteen percent indicated almost always being verbally abusive towards their spouses while 22% were frequently physically abusive towards their spouses.

Beta coefficients were positive for nurturing of children (0.108), intimacy with spouse (0.038), spending time with spouse (0.157), assisting with household chores (0.020), and effective communication with spouse (0.100). However, financial support of the family (-0.049), work attendance (-0.044), verbal abuse towards spouses (-0.199) work productivity (-0.001) and physical abuse towards spouses (-0.099) display negative beta coefficients. This means that the socio-economic effects of *khat* use have elements of both positive and negative relationships with marital satisfaction.

The coefficients for intimacy, effective communication, physical abuse, work productivity, work attendance, financial support, household chores and nurturing of children were not statistically significant because their p-values were larger than 0.05. However, the coefficients for spending time with spouses and verbal abuse were statistically significant because their p-values, 0.016 and 0.01 respectively, were less than 0.05.

Focus group discussions indicated that inability to meet the family’s financial needs, lack of intimacy, spending time with spouses, participation in nurturing children, verbal and physical abuse were socio-economic effects that greatly reduced marital satisfaction among couples in South C Ward.
5.1.5 Relationship between the Effects of Habitual *Khat* Use and Marital Satisfaction

The Locke-Wallace marital adjustment tool was used to measure marital satisfaction, of which 80% of respondents scored less than 100 points indicating maladjustment whereas twenty 20% of respondents were well adjusted indicating a high level of marital satisfaction.

5.2 Conclusions of the Study

5.2.1 Psychological Effects of Habitual *Khat* Use on Marital Satisfaction among Couples in South C, Langata Constituency, Nairobi

The study found that the psychological effects of habitual *khat* use- paranoia, mood swings, depression and anxiety- negatively affected marital satisfaction. These findings were reinforced by focus group discussions, which indicated that the psychological effects of habitual *khat* use reduced marital satisfaction. The study’s findings were supported by Wondemagegn et al. (2016), who found that the possibility of depression was around 25 times higher among *khat* chewers while anxiety among *khat* chewers was 5 times higher than among non-*khat* users. The study’s findings regarding paranoia and psychosis were supported by Warfa et al. (2007), who found that consumption of excessive quantities of *khat* considerably increased the risk for psychosis or psychotic-like episodes, including significant mania and paranoid delusions. However, hallucinations were found to have a positive correlation with marital satisfaction.

5.2.2 Physiological Effects of Habitual *Khat* Use on Marital Satisfaction among Couples in South C, Langata Constituency, Nairobi

The physiological effects of habitual *khat* use: cardio-vascular complications, gastrointestinal disorders, oral-dental disorders, sexual dysfunction and anergia, negatively affected marital satisfaction. The study findings also indicated that the physiological effects of habitual *khat* use
on marital satisfaction were significant as P-value was 0.000. These findings were further supported by focus group discussions, which indicated that erectile dysfunction, and oral-dental disorders were key physiological effects of habitual khat use that negatively influenced marital satisfaction among couples in South C Ward.

The study findings are further reinforced by epidemiological and case control studies that showed a strong association between long-term khat use and gastrointestinal, cardiovascular, respiratory, obstetric, metabolic, endocrine, and nervous system dysfunction (Nasher et al., 1995; elShoura et al., 1995; Dalu, 2000; Hassan et al., 2000; Al Habori and Al Mamary, 2004; Al Habori, 2005; Hassan et al., 2005).

5.2.3 Socio-economic Effects of Habitual Khat Use on Marital Satisfaction among Couples in South C, Langata Constituency, Nairobi

From the findings, the study concluded that the socio-economic effects of habitual khat use: poor work attendance, low work productivity, lack of financial support and verbal and physical abuse negatively affected marital satisfaction. These findings were supported by studies conducted by Kassim & Croucher (2012) and Dhaifalah & Santavy (2004), which indicated that the daily cost of khat may upset household income in buying food; paying for education or other family needs as well as accelerating financial problems and family breakdown. Low work productivity according to Al-Motarreb et al. (2004), is attributed to a considerable amount of time being spent on the buying and chewing of khat thereby affecting working hours.

However, ineffective communication, failure to participate in household chores, failure to partake in nurturing one’s children, lack of intimacy and spending time together, had a positive relationship with marital satisfaction. This may be attributed to the collectivistic nature of Kenyan communities. In collectivistic societies, individuals prioritize the welfare of the extended
family rather than their own interests. Furthermore, relationships with other family members (e.g., parents, siblings, and in-laws) are considered more important than bonding with the spouse (Dion & Dion, 1993) and marriage is typically regarded as existing to carry on the family line (Riley, 1994). Psychological intimacy and romantic love are more likely to be an essential foundation for marriages in individualistic rather than collectivistic cultures (Wong & Goodwin, 2009).

5.2.4 Overall Effects of Habitual Khat Use on Marital Satisfaction

The last objective of the study was to assess the relationship between habitual khat use and marital satisfaction. The Locke-Wallace Marital Adjustment Tool was used to measure marital satisfaction, of which 80% of respondents scored less than 100 points indicating maladjustment. Regression analysis indicated that there is a weak negative effect of the psychological effects of habitual khat use on marital satisfaction as the coefficient of correlation R, was -0.316. Overall the psychological effects of habitual khat use accounted for 10% of the variance in marital satisfaction in couples as the coefficient of determination, R-squared, was 0.099.

The study found that the physiological effects of habitual khat use negatively affected marital satisfaction. Regression analysis indicated that there is a weak negative effects between the physiological effects of khat and marital satisfaction as r was -0.365. However, the coefficient of determination, R square, was 0.100. The physiological effects of habitual khat use accounted for 13% of the variance in marital satisfaction in couples as the coefficient of determination, R-square, was 0.100 and the effect is significant as P is less than 0.001 at 0.000.

The socio-economic effects of habitual khat use negatively affected marital satisfaction in couples living in South C. Regression analysis indicated that the socio-economic effects of habitual khat had a weak negative effect on marital satisfaction as the coefficient of correlation R
was 0.48. Focus group discussions indicate that lack of finances to meet household needs due to poor work attendance and performance and misuse of finances on habitual khat use, inevitably led to a decline in marital satisfaction.

The negative correlation between the effects of habitual khat use and marital satisfaction is reinforced by secondary data collected at the Kadhi’s Court in Nairobi. Seventeen percent, (38), of 220 divorce petitions filed in 2018 at the Kadhi’s Court cited the effects of habitual khat use as the primary factor in marital dissatisfaction. This indicates that the effects of habitual khat use account for a substantial number of divorces in Nairobi.

5.3 Recommendations

5.3.1 General Recommendations

Opinion leaders mentioned various reasons for habitual khat use. Joblessness and stress were cited as the main reasons why individuals in South C Ward habitually used khat. Khat was used for different amounts of time depending on whether the individual was working or not. Some participants mentioned that several individuals in South C Ward used khat for over 12 hours per day. Job creation was suggested as a way to create financial independence and to reduce stress subsequently curtailing habitual khat use. The establishment of community centers would also aid in reducing idleness and engage the youth in healthier options such as sports.

Opinion leaders felt that many khat users were uninformed of the far-reaching effects of khat and accordingly recommended grass-root level campaigns to raise awareness of the psychological, physiological and socioeconomic effects of habitual khat use. The introduction of drug awareness programs in primary and secondary schools would act as a preventative measure to curb khat use. Some participants endorsed the illegalization of khat to lessen its use whereas
others recommended the establishment of affordable rehabilitation centers to aid people that are dependent on *khat*.

### 5.3.2 Suggested Areas for Further Research

Previous studies indicate that *khat* positively affects libido. According to Aliye (2010), low doses of *khat* extract appear to enhance sexual desire. Similarly, Aziz, Peh & Tan (2009), found that a positive effect on sexual desire is more commonly observed in females than in males when *khat* is chewed. However, interviews indicated that habitual *khat* use negatively affects women’s sexual functioning. A number of female research participants implied that their libido decreased after *khat* sessions. This contradicts studies that indicate that short-term use of *khat* increases libido. Based on these findings, further research should look into the effect of *khat* use on sexual functioning in women.

The study also found a positive correlation between hallucinations and marital satisfaction. This finding goes against previous studies, which suggest a negative correlation. Further research should delve into this subject in order to understand it better.
REFERENCES


Abubeker M. (2010). Effects of khat extracts and cathinone on reproductive parameters of male rats. School of Pharmacy, Addis Ababa University.


Jacqueline Kubania, Daily Nation 11.1.2016: 8


W.H.O. (2006), Assessment of *Khat* 34th ECDD


APPENDIX I

Map of South C Ward

(Inset Map of Langata Constituency showing location of South C Ward)

## APPENDIX II

**Self-Administered Questionnaire on Effects of Habitual Khat Use on Marital Satisfaction**

My name is Halima Khalif, a Clinical Psychology Masters student at the United States International University. I am carrying out a study on the effects of habitual *khat* use on marital satisfaction. You have been chosen as a participant and the information shared will be used for purposes of research. Please note that there will be no monetary compensation for participation in this study.

The identity of the participants will remain anonymous and the data obtained will be treated with confidentiality. You are requested to voluntarily give honest information in order to facilitate reliable and accurate deductions. If you feel that you want to discontinue the interview at any time, you are free to do so.

### PART A: Demographic Information

1. **Age:**
   - 30-34 □
   - 35-39 □
   - 40-44 □
   - 45-49 □
   - 50-54 □
   - 55-60 □

2. **Gender:**
   - Male □
   - Female □

3. **Highest level of education:**
   - Primary □
   - Secondary □
   - College/University □

4. **Occupational status:**
   - Working □
   - Not working □

5. **Monthly income (Kshs.):**
   - 30,000 □
   - 60,000 □
   - 90,000 □
   - 120,000 □
   - 150,000 □
   - 180,000 □

6. **a) Marital status:**
   - Married □
   - Separated □
   - Divorced □

   **b) (I) If married, for how long (years)?**
   - 1-9 □
   - 10-19 □
   - 20-29 □

   **(II) Number of children:**
   - 0-3 □
   - 4-7 □
   - 8-11 □
7. Reasons for *khat* use?  Peer-pressure ☐ Stress-relief ☐ Dependence ☐ To enhance sexual performance ☐ To increase alertness ☐

**PART B: Specifics of Khat Use**

8. a) How many days do you chew *khat* in a week?  1-2 ☐ 3-4 ☐ 5-6 ☐ Everyday ☐
   
   b) How many hours do you use *khat* per a day?  1-3 ☐ 4-6 ☐ 7-9 ☐ ≥10 ☐

9. a) Do you use any other drugs other than *Khat*?  YES ☐ NO ☐
   
   b) If yes, please specify.

10. a) Have you ever tried quitting *khat* use?  YES ☐ NO ☐
    
    b) If yes, why?
    
    c) If no, why?

11. What **Two** effects did you experience in your marriage when you ceased using *khat*?
**PART C: Perceived Effects of Khat Use**

12. For each of the questions below, circle the response that best describes how you feel about the statement, where 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often, and 5 = Always.

<table>
<thead>
<tr>
<th>A) Psychological Effects</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. I see and/or hear</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>things other people</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>cannot</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. I feel that other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>people want to</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>harm me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. I experience mood</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>swings</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>IV. I feel sad/hopeless</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>V. I feel anxious</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

a) How have these psychological effects of habitual khat use affected your level marital satisfaction?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

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<table>
<thead>
<tr>
<th><strong>b) Physiological Effects</strong></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. I suffer from cardio-vascular complications (heart problems)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>II. I experience gastrointestinal problems (constipation, IBS, hemorrhoids)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>III. I suffer from gum disease, tooth decay.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>IV. I experience erectile dysfunction</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>V. I feel tired</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

b) How have these physiological effects of habitual *khat* use affected your level of marital satisfaction?

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

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## b) Socio-economic Effects

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>I am intimate with my spouse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>II.</td>
<td>I spend time with my spouse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>III.</td>
<td>I communicate well with my spouse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>IV.</td>
<td>I am verbally abusive towards my spouse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>V.</td>
<td>I am physically abusive towards my spouse</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>VI.</td>
<td>I am productive at work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>VII.</td>
<td>I go to work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>VIII.</td>
<td>I meet my family’s financial needs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>IX.</td>
<td>I help with household chores</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X.</td>
<td>I help with raising the kids</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
b) How have these socio-economic effects of habitual *khat* use affected your level of marital satisfaction?

_____________________________________________________________________________

_____________________________________________________________________________

__________________________________________________
APPENDIX III

LOCKE-WALLACE RELATIONSHIP ADJUSTMENT TEST

Circle the dot on the scale below which best describes how happy your relationship is. The middle point (“happy”) represents the degree of happiness you believe that most people get from romantic relationships. Do not share answers with your partner.

1. State the appropriate extent of agreement or disagreement or disagreement between you and your mate on the following items by checking a response for each time. Do not share answers with your partner.

<table>
<thead>
<tr>
<th>Always Agree</th>
<th>Almost Always Agree</th>
<th>Occasionally Disagree</th>
<th>Frequently Disagree</th>
<th>Always Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Handling Family Finances</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) Matters of Recreation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Demonstrations of Affection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please answer the following items by circling ONE answer.

2. When disagreements arise, they usually result in:
   a) Husband giving in
   b) Wife giving in
   c) Agreement by mutual give and take

3. Do you and your mate engage in outside interests together:
   a) All of them
   b) Some of them
   c) Very few of them
   d) None of them

4. Do you ever wish you had not married?
   a) Frequently
   b) Occasionally
   c) Rarely
   d) Never
5. In leisure time do you generally prefer:
   a) To be “on the go”
   b) To stay at home?

6. Does your mate generally prefer:
   a) To be “on the go”
   b) To stay at home?

7. If you had your life to live over again, do you think you would:
   a) Marry the same person
   b) Marry a different person
   c) Not marry at all

8. Do you confide in your mate:
   a) Almost never
   b) Rarely
   c) In most things
   d) In everything

Time interview ended:

Thank you for your assistance.
APPENDIX IV

FOCUS GROUP DISCUSSION GUIDE FOR OPINION LEADERS

My name is Halima Khalif, a Clinical Psychology Masters student at the United States International University. I am carrying out a study on the effects of habitual Khat use on marital satisfaction. I have chosen you as one of the participants in a Focus Group Discussion to assist me to understand the effects of habitual Khat use on marital satisfaction. Please note that there will be no monetary compensation for participation in this study. The information that you share with me will be used for purposes of this study and will be treated with confidentiality. If you feel that you want to discontinue the interview at any time, you are free to do so.

Time Started:

Part A: Identification

Name ................................................ Position of Respondent

1. In your view, kindly explain the reasons why residents consume khat habitually in South C ward.
2. Roughly how many hours do habitual khat users spend on this habit on a daily basis?
3. Describe some of the common;
   a) Psychological effects of habitual khat use on marital satisfaction among couples in South C ward.
b) Physiological effects of habitual \textit{khat} use on marital satisfaction among couples in South C ward.

c) Socio-economic effects of habitual \textit{khat} use on marital satisfaction among couples in South C ward.

4. What can be done to tackle the issue of habitual \textit{khat} use?

\textit{Time discussion ended:}

\textit{Thank you for your assistance.}
APPENDIX V

INFORMED CONSENT AND CONFIDENTIALITY FORM

Briefing Guide

You are invited to participate in a research study conducted by Halima Khalif, from the university of USIU-A. You must be 18 years or older to participate in this study. Your participation is voluntary. Please take time to read the consent form. Completion and return of the questionnaire or response to the interview questions will constitute consent to participate in this research.

Purpose of the Study

Sometimes, it is necessary not to tell research participants the hypothesis of the study as it may affect the results. If participants are informed of the purpose of the study, they may intentionally respond how they think the researcher wants them to respond or they may intentionally respond contrary to what they think the researcher hypothesizes. However on completion of the interview, you will be debriefed.

Procedures

You will be interviewed as one of the spouses in a marital relationship whereby one or both of you are habitual *khat* users. The survey will take approximately 20 minutes and the location will be determined according to your preference. You will be asked some questions regarding how you perceive the effects of habitual *khat* use on marital satisfaction.

Potential Benefits and Risks to Participants

The findings of this study may provide you with a better understanding of the effects of habitual *Khat* use on marital satisfaction in your marriage.
There are no anticipated risks to your participation. However, if you do feel some discomfort at responding to any question, please communicate the same to the research assistant.

**Compensation for Participation**

You will not receive any payment for your participation in this study.

**Confidentiality**

Any information that is obtained in connection with this study will remain confidential and will be disclosed only with your permission or as required by law. The information collected about you will be coded using initials and numbers, for example abc-123, etc. The information, which has your identifiable information, will be kept separately from the rest of your data.

The data will be stored in the investigator’s office in a locked file cabinet and within password-protected computer. When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity.

**Rights of Research Subjects**

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims or rights because of your participation in this research study.

**Identification of Investigators**

If you have any questions or concerns about the research, please feel free to contact the Principal Investigator:

Halima Khalif

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USIU-Africa

Nairobi, Kenya.
APPENDIX VI

Debriefing Form

Debriefing Guidelines

In the study today, you completed a number of questionnaires. The purpose of this study is to determine the effects of habitual Khat use on marital satisfaction.

Prior to the interview, we concealed this purpose to facilitate valid results.

We also request you not to discuss the nature of this study with others, as there are other people who are currently participating in this research. Sharing any information about this study will jeopardize the validity of the data collected.

Do you have any questions? Comments? Suggestions?

__________________________________________________________________________________________

I have read aloud and discussed all of these points with the participant and allowed her/him to ask questions.

_________________________ ___________

Name of Researchers Date

I have had all the points on this form explained to me, and I had the opportunity to ask questions about the true purpose and experimental manipulations that took place in this study.

_________________________ ___________

Research participant Date
Now that you have learned the true and full purpose of the current study and know about the actual manipulations that took place as part of this study, will you wish to have your data to be included in this research project?

Please sign only one of the lines below.

YES, I want my data to be included in this study

____________________  __________
Participant  Date

OR

NO, I do not want my data to be included in this study

____________________  __________
Participant  Date