CONSUMPTION OF HIV AND AIDS COMMUNICATION ON SOCIAL MEDIA AMONG ENGINEERING STUDENTS AT THE UNIVERSITY OF NAIROBI

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DECLARATION

This is to certify that this research project is my original work and has not been presented for a degree in any other university.

Signature…………………………… Date………………………

Ezekiel Mwabili Mwadime

This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

This project is dedicated to my wife Lilian K. Bosire, my son Charlton and my late mother Gladys Mwabili. To God be honour and glory for his grace and favour.

ACKNOWLEDGEMENT

I wish to thank my supervisor Dr. Silas Oriaso, who is also my mentor, for his support, guidance and encouragement in my research project. I also thank my family for their prayers, moral support and encouragement.

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ART - Antiretroviral therapy (ART) is the combination of antiretroviral drugs to subdue HIV virus from progressing to HIV disease.

AIDS - Acquired Immune Deficiency Syndrome

CA - Communications Authority of Kenya

CDC - Center for Disease Control

FGD - Focus Group Discussion

HBM - Health Belief Model

HIV - Human Immunodeficiency Virus

ICT - Information Communication Technology

PEP - Post-exposure prophylaxis (PEP) is taking antiretroviral medicines (ART) after being potentially exposed to HIV to prevent becoming infected.

PrEP - Pre-exposure prophylaxis (PrEP) is when people at very high risk for HIV, take HIV medicines daily to lower their chances of getting infected.

STDs - Sexual Transmitted Diseases

TAM - Technology Acceptance Model

UGT - Users and Gratification Theory

WHO - World Health Organizations

ABSTRACT

The main objective of the study was to investigate the consumption of HIV and AIDS communication on social media among engineering students at the University of Nairobi. It sought to achieve the following specific objectives: to identify types of social media preferred by youth in HIV and AIDS communication; to assess the influence of social media on knowledge and awareness of HIV and AIDS among the youth; and to investigate social media influence on risk perceptions and behaviour in HIV and AIDS among the youth. Theories that guided the study were Uses and Gratification Theory, Health Belief Model and Technology Acceptance Model. The research used descriptive cross-sectional design with mixed method approach that included quantitative and qualitative methods in data collection. Data was collected from a sample of 131 respondents in the School of Engineering in the University of Nairobi through stratified sampling. The findings show that social media provides opportunities for HIV and AIDS communication among the youth as a significant number of youth can access social media. Also, youth use social media with specific preferences to social media platforms in seeking HIV and AIDS information where Facebook and YouTube were most preferred   In addition, results show that information obtained by youth on HIV and AIDS in social media does not influence their knowledge and awareness. Additionally, the results show that youth seeking information in social media has no relationship with risk perception towards HIV and AIDS. In conclusion, the study shows that social media is used to communicate HIV and AIDS using ways that do not fully explore the properties such as interactive and dialogic nature of social media that enhances feedback. The study recommends the application of specific appropriateness of different social media platforms to enhance content creation and consumption with specific preferences in social media platforms while matching the audience gratifications such as entertainment so as to capture attention and attract the audiences to HIV and AIDS information. Lastly, the study recommends that the use of social media for HIV and AIDS communication to be part of communication efforts that supports the objectives of the overall communication strategy.

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter explains the rationale of the study in the context of Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) communication specifically in youth as a priority group. It also explains the HIV and AIDS epidemic in relation to the youth prevalence in Kenya and further gives the justification of the study, the overview, together with the specific objectives and research questions.

1.2 Background of the Study

The Kenya Vision 2030 describes HIV and AIDS as the greatest economic threat in realizing socio-economic development in the country (KASF, 2014/15-2018/19). The Kenya AIDS Progress Report 2016 shows that the national prevalence of women in HIV infections is at 7.0 percent and 4.7 percent for men and the epidemic is also geographically diverse with the prevalence of 26 percent in Homabay County in Nyanza region and 0.4 percent low in Wajir County in North Eastern region. Factors that are said to have contributed to the increase are socio economic especially in women making them more vulnerable to new HIV infections.

The report by Joint United Nations Programme on AIDS (UNDAIDS, 2015) indicates that knowledge and awareness play a big role in communicating about HIV and AIDS as countries that invested more on awareness and education programs on HIV and AIDS reported reduction in new HIV infections. HIV and AIDS communication when conducted through planned interventions that take into consideration the audience needs can help to inform the youth and make them increase their risk perceptions and as result use prevention methods, adherence to treatment for

those who are infected while protecting others and reduce stigma that is related to the disease. Forman (2005) explains the importance of information and communication as a significant element in HIV and AIDS communication intervention strategies. Odine (2015) emphasizes the importance of communication in addressing HIV and AIDS issues in the society through advocacy, empowerment and participation as it influences individual behavior by providing accurate and timely information that addresses several issues related to the epidemic.

Mass media including the internet have a primary function to inform, educate and enlighten the audience, acting as a trigger to make a person take action towards recommended actions (Torwel & Rodney, 2010) which may include the use of condoms for protection, adherence to ARVs (Antiretroviral drugs) treatment, or use of the emerging drug administered methods such as Pre-exposure prophylaxis (PrEP) and Post-exposure prophylaxis (PEP) to prevent new infections and suppress the HIV virus from progressing to HIV disease once it enters the human body respectively. While communicating HIV and AIDS, youth need adequate information on health issues such as living healthy lifestyles and good behaviors, knowing of available preventive options and become aware of health risks that surround them. Heldman *et al.* (2013) emphasize that social media provides opportunities for public health communicators as it facilitates them to take information to where the people are.

Social media has changed how people communicate and also enabled information sharing between individuals. This has transformed every aspect of human life by building and bridging relationships across social, demographic and geographic landscape (Luo & Smith, 2015). It's capability to connect people, together with its cost-effectiveness makes it most preferred in

disseminating information and sharing experiences among the users and the sources of information. Social media consists of online technologies, practices and communities that organizations and people generate content from, shape opinions, insights, perspectives and experiences with each other. Examples of these social media include blogs, video sharing, social networks, microblogging, photo sharing, video conferencing, instant messaging and chats among others. All these technologies are reflected to be of the Web 2.0 which is characterized by user generated content, relational networking and online creation (Magro, Ryan, & Sharp, 2009).

Glacier *et al.* (2010) describe social media as having four major covert strengths which are partnerships, participation, enablement and timeliness. Therefore by its nature, social media is viewed as participatory as it provides users an opportunity to connect with each other and form networks to share information, socialize and significantly attain a collective goal and interests. It gives users space to speak and the capacity to publish and transmit information inexpensively. Health communication has not be an exception in the current information revolution that social media has brought (Kreps, 2011) because public engagement in social media presents many opportunities for health communication. Social media is described to offer a medium to be used by various health stakeholders such as the public, patients, and health professionals in reaching expansive audiences in social marketing campaigns and empowering people through health care communication (Thackeray *et al.*, 2008). It is also described as a powerful tool for collaboration among the users and offers a wide range of interactions in online conversations (Moorhead *et al.*, 2013).

On the other hand, health communication programs aim to increase knowledge and explain issues related to health in a manner that can be understood with the goal to improve health conditions or

situation of the target audience. In achieving this, social media provides opportunities because it is highly used by youth to communicate and maintain relationships while staying connected with friends. In linking social media with HIV and AIDS communication, effective communication goes beyond passing information but engaging the audience through interventions that empower individuals to make health decisions like prevention, treatment, raising risk perceptions and ending stigma related to diseases.

The increase in use of social media by youth creates an opportunity for communicating HIV and AIDS in interventions such as promotion of behavioral and social change among the youth and ensuring that accurate information is made available. Furthermore, social media can be used to dialogue where information given can be clarified with in-depth and further explanation which is supported through online engagement between the source and the receivers of the information in real time. Strategic use of social media may be appropriate channel for dissemination of HIV and AIDS information (Evans, Davis & Zhang, 2008) to the youth in universities in Kenya (Nganga, 2015). In addition, the unique benefits of social media for the larger and targeted audience reach and the opportunities it has for communication makes it suitable for health communication in promoting health and behavior change programs (Freeman, Potente, Rock, & McIver, 2015). Although social media can be used to increase knowledge in HIV and AIDS among the youth, being knowledgeable is not an indicator for behavior change, however, individual's knowledge about a disease is essential for behavior change (Majelantle *et al.,* 2014).

According to the Kenya AIDS Progress Report 2016, about two in every five new infections occurred among youth aged between 15 and 24 years which accounts to 51 percent of total new

infections in the year 2015. The report indicates that youth and young adolescents are a risk group in new HIV infections in Kenya. Communications Authority (CA) of Kenya also attributes the increase of internet use to youth who mostly use the internet for accessing social media. The increase of use of social media among the youth provides for an opportunity to reach the youth with messages that will promote HIV and AIDS communication in areas such as raising their risk perceptions, prevention methods available including the new emerging options such as PreP and PEP, ARV treatment and efforts to end stigma and discrimination surrounding HIV among the youth.

1.3 Problem Statement

Kenya has the fourth largest pandemic in the world with HIV prevalence of six percent and approximately 1.6 million people living with HIV. Adolescents and young people are leading in new infections accounting for 51 percent of total new infections in Kenya with 66 new HIV infections and 12 young people dying every day from AIDS related deaths. The Kenya AIDS Response Progress Report 2016 attributed the increase of the new infections among the youth to ignorance, lack of proper HIV information and stigma.

The increase of new HIV infections specifically among the youth has come at a time when global funding of HIV in Kenya is diminishing, forcing the country to look into alternatives and effective ways to finance and manage the pandemic locally. To reverse the increasing trends of new HIV infections among the youth, interventions through effective communication such as engaging and dialogic are required to enhance understanding of HIV and AIDS issues such as myths and misconceptions that contribute to the increase of new infections among the youth. Communication

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Authority of Kenya Report on statistics of 2016/17 cited the increase of internet use as a result of the increase in number of youth spending much of their time on social media.

The increase of new HIV infections among the youth will have a significant threats to Kenya due to HIV and AIDS economic burden and poor productivity as a result of poor health in the working force. Also, this will translate to more revenue being allocated to HIV responses such as treatment and care to those infected by the disease. In order to reach the youth effectively with messages of HIV and AIDS, social media presents opportunities in dissemination of health information and knowledge sharing, enabling them to make good decisions on their health (Eckle, Worsowicz & Rayburn, 2010). Communication Authority of Kenya Report on statistics of 2016/17 cited the increase of internet use as a result of the increase number of youth spending much of their time on social media. Various communication interventions have been used to reach youth, aimed at reduction of new infections. However, studies that directly address the use of social media in youth and HIV and AIDS communication despite the uptake of social media use by youth are very limited.

1.4 Research Objectives

1.4.1 General Objective

The general objective of the study is to investigate the consumption of HIV and AIDS communication on social media among engineering students at the University of Nairobi.

1.4.2. Specific Objectives

i. To identify types of social media preferred by youth in HIV and AIDS communication.

ii. To investigate the influence of social media on knowledge and awareness of HIV and AIDS among the youth.

iii. To investigate social media influence on risk perceptions and behaviour in HIV and AIDS among the youth.

1.4.3 Research Questions

i. What types of social media that youth prefer in HIV & AIDS communication?

ii. How does social media influence knowledge and awareness of HIV and AIDS among the youth?

iii. How does social media influence risk perceptions and behaviour in HIV and AIDS among the youth?

1.5 Justification

The prevalence of HIV and AIDS among the youth poses a challenge in Kenya's future generation. The increase in new HIV infections among the youth despite various interventions demands for the study and understanding of various channels to reach the youth appropriately with targeted messages, creating avenue for conversations that will inform effective communication interventions. The rapid adoption and use of social media among the youth in Kenya provides an opportunity where HIV and AIDS communication and response interventions can benefit from in order to promote behavior change among the youth and in turn reverse the trends of new infections. Furthermore, social media use offers an opportunity for public health information, targeting larger population with the potential to make the information accessible to various groups and not limited to ethnicity, social economic status or location as compared to the traditional mass media. The increase use of social media has drawn many researchers' interests to understand the motivation

behind the increase and use of the new media and to strategically apply them in various interventions such as business, political and health communication.

1.6 Significance of the study

The research has addressed the gap that most organizations and communication experts find in using social media in strategic communication, health communication and specifically to risk groups such as youth and adolescents to improve public health, prompting them combat HIV and AIDS pandemic by making informed choices such as knowing their HIV status, practicing safe sex, using prevention methods available to them and adherence to HIV treatment. The knowledge can be used in developing best practices and guidelines for public health communication programs and adoption of social media to everyday communication on issues surrounding health communication and other sectors.

1.7 The Scope and Limitations of the Study

The primary focus of the study was to investigate the consumption of HIV and AIDS communication on social media among engineering students at the University of Nairobi. The study looked at specific health issues related to HIV and AIDS communication where youth, who are identified as a risk group are also users of social media. The study was geographically limited to the University of Nairobi which is one of the largest universities in Kenya. In addition, financial constraints and time frame limited the researcher to cover only one university.

1.8 Operational Terms

Social media-A collective term to describe the various online media platforms that enable user to connect to each other, by either generating content for social interaction and collaborative participation or consuming said content at own will.

Social media influencer- Established online user with credibility in certain area of issues and has access to larger audience with persuasion power.

Information source- Looking for information in the online platforms.

Social media interactivity - Interactive media has an output that of the users input in the communication processes.

Affordance - Affordance is a concept that describes the possibilities that come from objects in our environment.

Content consumption - Consuming content in the online media platforms (reading, using, accessing).

Content creation - Creation of new content in social media either by origination, and sharing and contribution.

Privacy -The ability to control one's personal information in an online network context.

Trust -The willingness to believe in online information or the source of information itself online.

Priority Groups -People who are at high risk in HIV infections and their engagement is critical to a successful HIV response everywhere as they are key to the epidemic and key to the response.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter discusses social media in the context of information and communication process and what it offers within the boundaries of health communication and HIV and AIDS. It also looks at opportunities and challenges that social media presents in HIV and AIDS communication that affects in the consumption of social media communication in interventions such as risk perceptions, prevention and treatment and stigma related issues. In addition, the conceptual and theoretical framework that guides the study are discussed in this chapter.

2.2 Definition and Overview of Social Media

The society has become reliant on the online services which has influenced how people and organization communicate to one another (Wellman & Haythornthwaite, 2002) especially when seeking and consuming information. Significantly, many people use social media for online payment of bills, purchase of goods, booking travel and interacting with friends and family members. The growth of social media has seen the adoption and establishment of public communication that is defined as the delivery of information to the people through the use of internet through social media. The emergence of term Web 2.0 explains deeper the concept of social media. O'Reilly (2005) coined this term to explain technologies in social media pointing at opportunities it presents to users and users' activeness in a communication process.

Many people have participated in social media ecosystems through the use of various devices such as computers, cell phones or tablets and in various ways such as watching videos, reading a blog,

text messaging, listening to a podcast or publishing a post. Kaplan and Haenlein (2010) relates social media to the technological foundations of Web 2.0. In order to understand its features specifically in the context of communication practices, it is important to review what the founders have explained on social media. As earlier stated, the term is commonly attributed to O'Reilly in a conference in 2004 to refer to second generation of web based services characterized by openness in participation, interactivity and collaboration among users (Macnamara, 2012).

Another pioneer of Web 2.0 Peter Merholz in his blog *Peterme.com* refers Web 2.0 through a philosophical approach relating it to its openness, trust and authenticity (Merholz, 2005:25). Jenkins (2006) in *Convergence Culture* also gives emphasis on the participatory nature of Web 2.0. Bucy (2004) also emphasizes the aspect of its interactive nature, about voice and conversation in Web 2.0. Founders and architects of Web 2.0 notably give common characteristics of social media as being participatory, involving dialogue, collaboration and co-creativity. This characterizes two-way communication approach among individuals in a networked environment (Macnamara, 2010). The internet through Web 2.0 opened up collaborative and widened communication, reaching many audiences and this led to growth of online platforms that make users interact and actively participate in communication processes (Cheung & Lee, 2009).

Although the nature of social media differs in functionalities and also in connectivity from one application to another, they also have commonalities such as: they are all initiated; created and shared through a network, making them appropriate for promotion of products and services; and enhancing relationships, building personalities, issues and brands (Mangold & Faulds, 2009). Certain elements that make social media more preferred than traditional media (print, radio, and

television) are the interactivity, cost-effectiveness and adaptability (Moorhead *et al.*, 2013). In addition, Korda & Itani (2013) state that social media has the potential to reach many audiences and giving voice to the voiceless. Citizens have various choices provided by many social media platforms to air their views whenever they like and at any given time unlike in the traditional media where editors have control of what goes to the audiences. In the context of the study, all the definitions and the explanation of the social media seem not to give a general universal agreed definition of the term social media. This is attributed by the rapid rise and changes of this media (Hanna, Rolim & Crittenden, 2011; Kaplan & Haenlein, 2010).

Therefore, this study adopted the following definition of social media:

Safko (2009) defines social media as;

> A collection of activities, practices and behaviors among communities of people who gather online to share information, knowledge and opinions using conversational media. Conversational media are web based applications that make it possible to create and easily transit content in the form of words, pictures, videos and audios (p. 6).

The definition above characterizes social media with the ability to enhance two way communication. Social media enables users to have influence over conversation whereas influence is said to be fundamental to any effective communication (Safko, 2009). The ability to share content in social media is related to conversations (Fox & Jones, 2009) whereby users can influence conversations by participating through responding, asking questions and also extending conversations to friends who share similar or have common interests. The process of online communication is described as two way communication in the sense that one can seek for opinion on certain issues (Frey & Rudlof, 2010) and later, the same content can be retrieved by another person and shared again to another person(s), an approach described as many-to-many approach (Kaplan & Haieinlen, 2010). In addition, the interactive nature as emphasized by Schein *et al.*

(2010) gives the media an edge because users create meaning by discussing content posted on social media platforms, creating a collective generated user experience. In summary, social media is described in the following perspectives: the social approach that brings about connectivity of users with each other; as a medium, meaning that content can be created and consumed in a participative manner; and a technology approach where social media is regarded as the collection of tools that enable interactivity and creation of user generated content. The study focused on these three perspectives in relation to investigate the Consumption of HIV and AIDS communication on social media among engineering students at the University of Nairobi. The table below gives an overview of various social media platforms and their application.

Table 2.1: Social Media Platforms and their applications

Platform	Description
Application (App)	This is a utility program designed or coded for specific online tasks or activities.
Blog or Web log	It is a site that has regular updates often displayed in reverse chronological order.
Microblog	Microblogging is the form of sending short or brief messages, videos, and audios to the public or selected group.
Social networking sites	These are platforms that form online communities and allow users share their interests and information with others in the network.
Instant messaging	It is also referred to as texting a real-time online communication enabled by mobile phones or computers.
Wiki	It allows many to generate content, edit and share information in a form of community setting.
Social news and social bookmarking	Social news platforms make users vote for the most popular links prioritizing the most frequent online news on the front or on top while social bookmarking allows users to save and distribute links and also recommend online content to other users.
Photo/video sharing	They allow users to create and upload photos and videos online while sharing with other members in the network.
Virtual worlds	A simulated environment in which users can interact with one another and within their environment.
News aggregators	These are platforms that gather content and people can keep track on certain type of centralized content.
Widgets	These are applications used to promote and direct featured content in the user's web page.

Source: Safko (2009)

Social media platforms in the table above enable users to connect and communicate with others whom they are familiar with or create new networks and interact depending on the common interest they share or pursue and initiate new connections based on their interests. (Ellison, Steinfield & Lampe, 2007; Safko, 2010).

2.3 Affordances of Social Media among the Youth

Affordance is a concept that describes the possibilities that comes from objects in our environment (Gibson, 1979). It has been applied in communication research and specifically in social media to explain needs that drive youth to social media use (Valkenburg and Piotrowski, 2017). For example, the main objective of youth development is the autonomy of self where an individual can make decisions independently depending on what is preferred as useful or important. Schouten *et al.* (2007) state that one in three youths prefer to use social media than face to face when it comes to issues related to love and sexuality due to fear of embarrassment. Social media gives youth a sense of control (Valkenburg & Peter, 2011) which is achieved through psychological privacy – the possibility to control when, what and to whom we share personal information about ourselves (Burgeon, 1982) unlike information privacy that looks at how people control the amount of personal information they give out (Valkenburg & Peter, 2011). The affordance of self-control and autonomy explains the appeal of social media for youth resulting from a psychological privacy yet on the other hand reduces their informational privacy since it provides them with more control over communication.

Other affordances such as synchronicity in social media provides youth with the options to post what they want to post or share. Photos and videos can be shared and chosen when they want to communicate and in addition making them always remaining connected with their friends. Replicability and reliability affords youth with some sense of control where they can share or reply to messages and information even after some time. Through the explained affordances provided by social media, communication strategies therefore has to be informed by the needs such as preference of choice of social media platforms and type of content that youth prefer in HIV and

AIDS communication. The table below summarizes seven affordances of social media that enhance perceived control in youth, making it more suitable for HIV and AIDS communication especially in areas such as sexual behaviors that youth prefer not to talk about face to face.

Table 2.1 : Affordances of Social Media that enhance perceived control in youth

Affordance	The possibility for users to . . .
Asynchronicity	communicate when it suits them, in real time (synchronously) or delayed (asynchronously)
Identifiability	decide to which degree content is anonymous or linked to their true identity
Cue manageability	show or hide visual or auditory cues about the self while communicating
Accessibility	easily find information and contact other persons
Scalability	choose the size and the nature of their audience
Replicability	copy or share existing online content
Retrievability	store and later retrieve posted content

Source: Valkenburg & Peter, (2015)

The above explained affordances give the potential on borrowing the cues when communicating HIV and AIDS using social media. This is further enhanced by the capacity of social media to store information where it can be retrieved at any given time or when needed by the user while seeking such information.

2.4 Characteristics of Social Media for Health Communication

Research in media has considered information as a process of communication involving exchange of information between the sender and receiver (Weiner, 1948; Shannon & Weaver, 1947; Osgood, 1954). Shannon – Weaver (1947) describes the communication process as beginning from the source, then information flows through a selected channel as it reaches the receiver. This model was characterized by linear and non-psychological factors, leaving a gap of creating meaning in

communication process that included human element where source and receiver are referred to as persons who can create meaning (Osgood, 1954). In the era of social media, individuals play a very important role in transmitting information and creating meaning as information alone cannot be of benefit to the user. Additionally, social media has a lot of information where users need to put in effort of cognitive in creation and consumption of any particular information presented to them (Ariel & Avidar, 2015). It is considered a hierarchical feature where liking or sharing of information requires little cognitive effort compared to writing lengthy posts. Social media platforms are rich in information that is posted by various sources. Experts in HIV and AIDS can give information that is accurate, giving clarification to any questions that may arise and also encourage the youth to pass on information by sharing what they have received in their own networks.

2.4.1 What is Health Communication?

Schiavo (2014) states that communication is about people sharing meaning and ideas, based on a two-way mechanism of sharing information. Health communication is the field that is multi-disciplinary in nature making it have many definitions, however, most significantly many point at the role of health communication in the society that is influential, empowering and supporting of various stakeholders to adopt in ways that eventually will improve the public health (Schiavo, 2014). In addition, Schiavo points out key objectives of health communication that revolve around engagement, empowering and influencing of individual and communities through sharing of health related information. Health communication has been used successfully for many years in various sectors such as public health, not-for-profit organizations, commercial among others and it has also been cited to have borrowed from a number of disciplines such as sociology, psychology, anthropology, health education, social and behavioral sciences, community development

marketing and social marketing (Bernhardt, 2004; Kreps, Query & Bonaguro, 2007; WHO, 2003). Center for Disease Control (CDC) defines health communication as "the study and use of communication strategies to inform and influence individual and community decisions that enhance health" (CDC, 2001 p. 54). These definitions emphasize health communication as an approach that is audience oriented as it focuses on prior understanding of the audience needs and audience participation as important factors for a successful communication process such as in HIV and AIDS communication.

There is significant use of social media in promoting activities (Korp, 2006) and communication which is regarded as a way of providing social support to individuals thus playing a significant role to achieve a good health behavior (Abroms & Maibach, 2008). Interventions though research communication indicate that several factors have to be considered before achieving effective communication and this includes messages that are targeted for various types of audiences (Neuhauser and Kreps, 2003; Ruben, 2001).

Latimer *et al.* (2007) emphasize on the importance of tailored messages because they are created with the immediate audiences' needs. In addition, interactivity with framed messages is considered to be effective in persuasive interventions in health communications and when used together with traditional media, interpersonal communication is also considered to be successful in health communication (Neuhauser & Kreps, 2003). Social media as described earlier capacitates users to participate in communication process and enabling the users to create or contribute in understanding of the content that they interact with in online platforms, making it significant to be investigated.

2.5 Social Media for HIV and AIDS Communication

Nieger *et al.* (2013) have showed that there is little prove on application of appropriate use of social media in health communication in a manner that it engages the audience in a meaningful way such as conversations. Heldman *et al* (2013) have pointed out the insufficient investigations on the role of social media in promoting public health communication. This is despite many health organizations such as United States for Disease Control and Prevention (CDC), World Health Organization (WHO) and others who have established presence on the social media.

Communication is viewed as a way of empowering people by providing them with the knowledge and information on health issues and solutions. Nancy W. (2005) gives an account of communication on HIV and AIDS in Kenya by indicating that the approaches used are not proven to be effective in bringing behavior change as they are one-way, making audience as mere receivers of the messages without meaningful engagement and participation to influence their behavioral change. Additionally, Nancy W. (2005) cites that the advent of new technologies (internet, email access and other digital communication platforms) will promote participatory communication that will see wider reach and engagement with audiences through health communication campaigns.

Heldman *et al.* (2013) point out key characteristics by CDC on use of social media that makes them most appropriate channels for public health communication which includes HIV and AIDS communication. For example, social media can be used to reach target and various audience because of the increase of adoption and use by many people in seeking health information. In the US, 80 percent of adults have reported to have used online platforms to search for health information in 2012, therefore making social media as a potential opportunity for channels that are

preferred by many audiences (Heldman *et al.,* 2008). Secondly, social media also provides new spaces, allowing users to share health information thus providing avenues to test the messages and also making available increase in exposure of the health messages. They also provide links between the source or agents of messages such as public health organization and the audience.

In addition, the characteristic of listening and feedback collection in real time through social media bringing the capacity to monitor conversations and social media is proven to support investigations and surveillance both in public health and epidemiology (Kemble *et al*, 2012; Brownsten, 2009; St. Louis, 2012). Benefits of listening and feedback can allow sources of health communication understand the need of their audiences by what the audience says in these platforms, realizing information gaps and addressing them, subsequently making health communication effective and meaningful to the audience. Further, social media engagement promotes building and maintaining trust and also enhances credibility through a two-way communication, enabling interactivity of the source and the receiver of the message. Lastly, social media when integrated with the traditional health communication channels and tactics or other mass communication methods can work best because many strategies that have been successful for social media are known to have worked best in traditional health communication and mass media (Korda, 2013; Abroms, 2009; Mangold, 2009).

2.6 E-Health trends in Kenya and beyond

E-health is the term widely used to refer to various concepts such as health, technology and commerce. E-health provides support from traditional service delivery and communication channels to an extent of meeting the needs of the patients. It has benefits such as access to

information and resources, empowering patients by making informed choices and key decisions in health care (Juma *et al., 2012*).   Its main objective is to ensure that people benefit from improved health through the use of information technology as it provides for mediated platforms that can be used to capture, transmit, store, and retrieve information for various uses (Khotn & Cubuko, 2016). Atkonson *et al.* (2009) indicate that 58 percent of internet users reported to have looked for health information on personal level and women are more likely to have online conversation on issues related to health.

In Kenya, the adoption of e-health is taking shape with the development of e-health policies and strategies in line with national ICT policies and national development plans. This has been done with the support from the private sector which provided for standard and guidelines such as in Electronic Medical Records (EMR) in Kenya in 2010, Strategic Plan for Health Information Systems (HIS) 2009 – 2014, Kenya ICT Policy 2006 and Kenya Communications Act 2009. E-health solutions in Kenya are still in its infancy state although patients are increasing turning to the internet for health solutions. For example *Sema Doc* an online platform that provides doctors' services to patients is becoming increasingly popular where patients can have a chat with a doctor on mobile phone and at anytime anywhere in Kenya.

The ability of social media to create new connections and exchange experiences is attributed to change of market communication process whereas tradition strategies on reaching the market are influenced more by consumers (Cooke & Buckely, 2008; Schein *et al.*, 2010). The emerging social media platforms that aim at reaching the youth, educating them on sexual and reproductive health in Kenya are the *Health Channel* and *Africa Alive Kenya* (both on Facebook) which additionally

informs and reports generally on health issues and stories. Although they are still new in Kenya, the growth is slow thus raising the need for investigating and understanding the consumption of HIV and AIDS communication on social media, despite being highly used by youth on other areas apart from health communication such as entertainment.

In Kenya, it is approximated that over 16.4 million people used various social media platforms in 2015 and with internet penetration of 64percent. This is according to Ogyvil 2015 report on population and internet penetration by country in Africa. The rate of increase in use was by 10.8 percent from 14.8 million users (Kenya Bloggers Report, 2015). The factors that contributed to the increase is the massive investment by mobile operators and internet service providers. Communication Authority of Kenya (CA) attributes the increase by the rising number of youth using mobile data services on social media platforms such as Facebook and Twitter and the use of smartphones to catch up on day to day happenings while engaging in other online activities such as entertainment information seeking, chatting and playing online games. According to a research done by Consumer Insight, a leading research firm in Kenya, in 2014, 67percent of youth in Kenya used mobile phones to access internet.
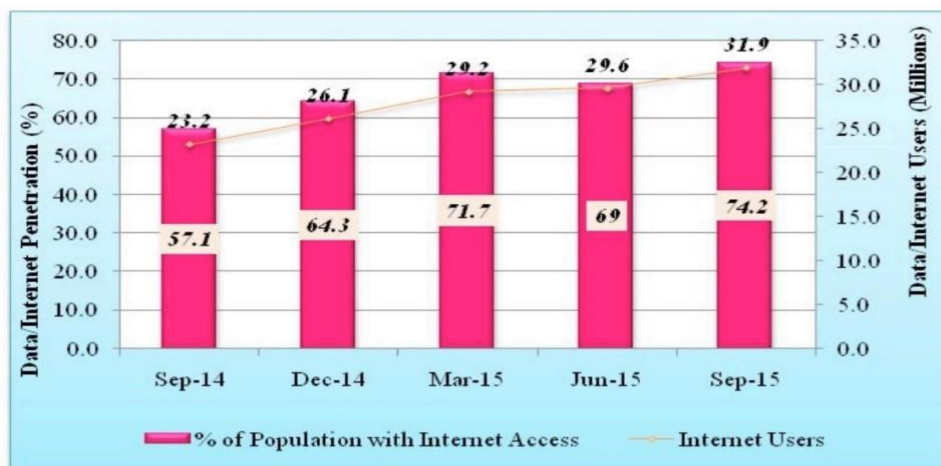
Figure 1.1: Estimated Number of Internet Users and Internet Penetration

2.7 Benefits of Social Media for HIV and AIDS Communication

Majority of youth in Kenya continue to engage in risk sexual practices despite documented widespread awareness shown in many studies such as KAIS (2007) and KDHS (2008/09). Risk behavior in HIV is defined as the probability of an individual to be infected with HIV virus through certain behaviors such as unprotected casual sex and sharing of needles when injecting drugs (UNDAIDS 1998; UNDAIDS 2007). In addition, risk behaviors can also be contributed to lack of accurate information on HIV and AIDS. Social media which is described as interactive, timely, anonymous and cost effective has become most preferred channel for information seeking and dissemination of Sexual Transmitted Diseases (STDs) and HIV and AIDS (Roberto *et al.*, 2004). Youth are believed to have knowledge in using ICT which has made them to bypass traditional channels and traditional sources such as mass media, family members and health practitioners to look for information in the social media (Case *et al*., 2004).

Rapid transformation in communication landscape has seen health communication employ social media platforms for promoting health (Maibach, 2007). This is contributed by factors such as the opportunities that social media has in reaching larger audiences, convergence and the decline in number of audiences in the traditional media (Crastone & Davies, 2009; Lefebvre, 2007; Maicach, 2007). In addition, the convergence of social media channels and the ability to enhance targeted communication has also made social media most preferred communication medium not only in commercial communication but also in health communication (Mangold & Faulds, 2009). Social media platforms present many opportunities as explained earlier on especially through its intrinsic characteristic to enhance engagement and participation with users in communication process, with

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customized and accessible information made available to many and diverse audience at any given time (Neuhauser & Kreps, 2003). Several authors have pointed at the cost effectiveness in social media use, reaching a great number of audience compared to the high cost of traditional media marketing (Frick, 2006; Nuhauser & Kreps, 2003).

Listening to social media conversations online opens up opportunities for communication strategists by finding out what people are saying hence prioritize their topics in health communication. This generally informs the needs of health information when coming up with communication strategies. However, listening should be done under guidelines and best practices so as not intrude people's privacy (Heldman & Weaver, 2013). Social media enables engagement through involving health communication influencers who drive health topics such as HIV and AIDS and enhance mutual relationships with the target users such as youth and young adults. Influencers use social media conversations while maintaining their persistence in messaging (Heldman & Weaver 2013; Brian *et al.*, 2012). An influencer is described as someone who is credible, persistence in convincing people and has the ability to initiate topics that can be easily picked up in online conversations (Bian *et al.*, 2012). Lastly, content can be created and shared by users in social media, presenting an opportunity to encourage other users to participate and share stories and take part in creating messages, including ideas. Users can be requested to submit photos related to particular health campaign and share personal experiences as the current US General Administration does in the website: *www.challenge.gov*.

2.7.1 Limitation of Social Media for HIV and AIDS Communication

Although social media presents many opportunities and benefits for health communication, there are several challenges such as internet connectivity, knowledge and learning attitudes. For example, data internet penetration in Kenya is below 70 percent (Communications Authority of Kenya Quarter Report, 2015), meaning that the other 30 percent cannot benefit from the interventions that utilize social media for HIV and AIDS communication. Also the cost of equipment such as smart phones is another challenge that is cited for hindering access of social media platforms (Seybert, 2011). Issues of privacy and confidentiality also arise when the user gives out too much information that could see vital information out in the public pausing as a security risk. Reliability and quality of information on social media is also cited in various publications especially when health communication content is generated and modified without proper check by the health experts (Moohead *et al.*, 2013). This leads to a potential risk as comments that are not factual, misleading and negative can be picked by other social media users and reshape a conversation to a different level that is not intended which will eventually mislead the audiences (Anderson *et al.*, 2013).

2.7.2 Overview of HIV and AIDS Communication approaches

Various communication approaches have been used for HIV and Communication. These approaches include social and behavioral change communication (Cardey, 2006). Schiavo (2010) provides key theories that have been used in behavioral change approach in communication: the health belief model; the theory of reasoned action; social learning/cognitive theory; diffusion of innovation; and social marketing.

Table 2.3: Social Marketing Campaigns used for HIV and AIDS Awareness and Prevention

Campaign	Research Design	Location	Target Audience
Know HIV/AIDS	Observational	USA	Young Adults
Live Life	Observational	South Africa	Adult and Young Adults
Salama	Observational	Tanzania	Adult and Young Adults
Trust	Observational	Kenya	Adult and Young Adults

Adapted: Evans, (2008)

Portsmouth *et al.* (2015) outline several channels that can be used for health behavior change such as radio, TV, videos and short message texts among others. Social media has become one of the most preferred form of communication because of its participation and engaging characteristics (Beetle, 2015). Behavior change and social change communication have in many instances criticized for being ineffective in addressing HIV and AIDS communication interventions (Singhal & Rogers, 2003). Parker (2004) points out that behavior change communication overlooked the social aspect and considered an individual approach whereas people tend to apply reasoning and intentional thinking during sexual behavior (Airhihenbuwa & Obregon, 2000; Schiavo, 2010). On the other hand, social change and behavioral change communication approaches critics point out the oversight attempts in HIV and AIDS communication strategies especially in implementation processes that are forced to fit into dominant theory or model of social psychology instead of shaping the framework through field experiences (Airhihenbuwa & Obregon, 2000). The critics also note that there is little consideration of audience experience in these communication strategies, a very significant element in developing effective HIV and AIDS communication plans specifically for priority groups such as youth (Airhihenbuwa & Obregon, (2000). Social media tends to offer more on audience experience by providing the opportunities for content creation, sharing and engaging.

2.8 Research Gap

Even though social media has been here for some time now, the literature of social media in the context of health communication in Kenya is limited thus relying mostly on the developed world in a different setting. Klepp *et al.* (2008) state that studies that show most effective medium for communicating HIV and AIDS messages that are related to risk groups such as youth in health communication are very limited. It is also important to consider audience experience with communication channels in health communication (Figneroa *et al.*, 2002, Smith, 2011) while taking into consideration forms of affordance in social media that fulfil the needs of the audiences. Various scholars have studied social media in relation to social marketing and commercial purpose by delivering messages while ignoring the audience needs in communication processes that are enhanced by two-way communication and audience participation as seen in social media.

Ariel and Avidar (2015) implies that research on communication process in social media should begin with accepting the interactive nature of these social media platforms instead of assuming its social nature. The study looked at characteristics of social media audiences, their expectations and preferences in investigating the consumption of HIV and AIDS communication on social media among engineering students at the University of Nairobi. The University of Nairobi students in the School of Engineering participated and were the source of data in this study and provided insight to understand the audience while communicating through social media in HIV and AIDS communication.

2.9 Theoretical Framework

This section explains theories that support literature review and there are: Uses and Gratification Theory (UGT); Health Belief Model (HBM); and Technology Acceptance Theory (TAM).

2.9.1. Uses and Gratification Theory

The Uses and Gratification Theory (UGT) is the most influential theory used in media research (Roy, 2009). The theory was based on assumption that individuals select media and content in order to meet their individual needs or wants (Katz, Blumler, Gurevitch, 1974). Through the psychological communication approach, UGT further explains the relationship between individual's motives for choosing a media use and social and psychological attributes. The early development of UGT focused on traditional media (Radio, Television and Newspapers) and other scholars applied it in films and books (Ivan, Mihovilovic, Sablic, 2014). However, UGT has been applied in various studies because of the interactivity nature in social media (Ruggiero, 2000). The study of social media using UGT by Kayahara & Wellman (2007) identified two gratifications in the media; process and content whereby in the process gratification they described issues of performance on the online activities on social media platforms and in content gratification, they related these gratifications with the process of attaining the behavior after interacting with the information. In addition, the era of the internet has made UGT gain significance and this is attributed to the development and adoption of social media.

UGT further relates the uses of several media with the consequences that arise from using the media. The emergence of new media that is characteristically described as interactive media

applies this theory as it assumes that the users of the media are not passive consumers and that they have the power to create meaning and apply the media messages to their daily lives. The audiences have the power to achieve gratification upon selecting the media that meets their needs and further supports the notion that the media competes with other media in meeting the user's gratification (Blumer & Gurevitch, 1974).

UGT has recently been applied to the emerging context of new media, (Ruben, 2002; Ruggiero, 2000). Social media strength is in interactive while the uses and gratification is towards the interactivity through active audience (Ko *et al.*, 2005). Basilisco *et al.* (2005) state various predictors of social media use that includes entertainment, self-expression, professional, and advancement passing time, communication with friends and family and trends through the lenses of UTG. The study therefore looked at factors that motivate social media use such as information seeking and convenience in the perspective of HIV and AIDS communication.

2.9.2 Health Belief Model

Health Belief Model (HBM) is a model that explains health behaviors (Beker, 1974), and proposes that individual behaviors can be determined on the basis of how vulnerable people consider themselves while focusing on their belief and attitudes. Tarkang & Zotor (2015), describe HBM as the early theories that were developed to predict health behavior and focus on audience abilities and motivation to improve health through health education programs that fit audience needs.

Sciavo (2010), posit that through the HBM, the following factors play significant role for a person to take an action towards preventing a disease or illness. These are *Perceived Susceptibility* which is how an individual strongly perceive the risks for a disease or a health problem; *Perceived*

Severity which is whether a disease or a health problem would have severe effects on one's life thus calling for individual attention; *Perceived Benefits* which is how an individual perceive the advantages of taking actions that are recommended to reduce the risk(s) involved as a result of contacting a disease or a health problem; *Perceived Barriers* which entails individual opinion on the costs of the recommended action. *Cues to Action*; these are factors that stimulate and trigger a person to take a recommended action and this can be social media messages, *Self-Efficacy*; this is an individual's confidence to take an action on a recommended behavior.

HBM provides two basic variables that effect behavior which are an individual value to achieve a specific goal and individual projections of the likelihood that a specific goal will be achieved after a taking a given action (Maiman & Becker, 1974).

In this theory, susceptibility and severity of diseases and illness are the basis for a person to take action whereas the perception of these benefits makes an individual to take action. Social media act as *Cues to Action* where in some way trigger the decision making process such as prevention or adherence to medication among the youth. Therefore the application of this model is evident in leveraging social media for HIV and AIDS communication among the youth.

2.9.3 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was proposed by Fred Davis in 1986 to explain and predict the behavior of the user of a particular information technology (Chuttur, 2009). He proposed that there are two factors that influence the use of information technology and the behaviors that result from the use. These factors are the perceived ease of use and perceived usefulness which act as the basis for attitude when using a particular system, determining the user intention that eventually

forms the usage behavior (Destiana & Salman, 2015). The model explains the adoption of new technology through three constructs namely, perceived ease of use (PEU), perceived usefulness (PU) and the intentions of using social media. Social media users' PU refers to the belief that accepting a certain technology will boost performance while PEU refers to the ease of use with little or no difficulties when using a given technology (Davis, 1989). Therefore PEU and PU are important in understanding the intended use of social media by youth for HIV and AIDS communication.

Brown (2011) describes social media as networks that are targeted to specific audiences and highly used for sharing information. The adoption of social media use has become a phenomenon as it is easily adopted due to its PEU which influences people in using it and thus can be investigated using TAM (Davis, 1989). PU and PEU have been used to predict and describe behavioral intentions that influence acceptance of several technologies such as e-commerce, e-banking, e-learning and social media (Deng *et al.,* 2005).

2.10 Conceptual Framework

A conceptual framework is a diagrammatic representation that shows the direction of relationship between the study variables (Kothari, 2010). According to Kothari, a conceptual framework provides an understanding of the study variables from the researcher's perspective. In the current study, the relationship between the study's dependent and independent variable which are perceived use, perceived usefulness and preferred social media content and perceived susceptibility and severity have been summarized on figure 2.

| **Perceived ease of use** |
| • Types of platforms used |
| • Cost of accessing information |

| **Perceived usefulness and preferred social media content** |
| • Information, |
| • Education, |
| • entertainment, Videos, infographics, audio, textual. |

| **Perceived susceptibility and severity** |
| • Information, security |

Independent Variable

| Social media use for HIV and AIDS communication |

Dependent Variable

| • Social Economic factors |
| • Time |

Intervening Variables

Figure 2.1: Conceptual Framework

The study aimed to investigate the consumption of HIV and AIDS communication on social media among engineering students at the University of Nairobi. In this context, key factors that tend to influence the youth in using social media are the affordance of social media and the nature of its characteristics that makes it easy to adopt among the youth (Valkenberg & Piotrwoski, 2017). The study was directed by social media use in youth as dependent variable while perceived ease of use, perceived usefulness informed the choice of social media platforms driven by individual expectations. In addition, perceived susceptibility and severity are independent variables that informed the youth in the context of seeking information for knowledge, awareness and risk perceptions in HIV and AIDS prompting them to make decisions that influenced their behaviors such as use of protection during sex encounter or the need to take a HIV test.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter focuses on the research methodology that was employed to answer the research questions. It includes research design, study population, target population, sample size and sampling procedure, data collection, ethical considerations that were considered during data collection and how data was analyzed.

3.2 Research Design

The research used descriptive cross-sectional design with mixed method approach that included quantitative and qualitative methods in data collection. Wimmer & Dominic (1991) state, ''Qualitative research attempts to produce a unique explanation about a given situation or individual, believing that reality is holistic and cannot be sub-divided'' (p. 139). On the other hand, it deals with measurable and systematic ways of phenomena investigation and their relationships. Also, quantitative design is used to answer questions that intend to explain, predict and control a phenomena while within measurable variables in a systematic way (Leedy, 2003). The aim of the quantitative approach was to assess the proportion of students using social media to seek information on HIV and AIDS and the proportion reporting HIV and AIDS risky behavior change due to social media use. The qualitative approach captured the students' views on the use of social media as a platform for HIV and AIDS communication.

3.3. Study Location

The study was conducted in the University of Nairobi, School of engineering located in main campus, American Wing and is comprised of five departments; Environmental & Biosystems,

Civil and Construction, Mechanical & Manufacturing, Electrical & Information and Geospatial & Space Technology. The University of Nairobi is one of the largest public universities in Kenya located in the urban setting of the main capital city of Kenya where internet penetration is high.

3.4 Target Population

The target population was the undergraduate students at the school of engineering, University of Nairobi. There are currently 2,110 engineering students in undergraduate at the school; 490 students in first year, 470 in second year, 390 in third year, 420 in fourth year and 340 in fifth year. Kothari (2004) refers target group as the individuals, events or objects having common observable characteristic. The study population comprised of undergraduate students at school of engineering who were on session at the proposed time of the study.

3.5 Sample Size and Sampling Procedure

In the quantitative approach, the main outcome of interest was the proportion of students who consume social media communication on HIV and AIDS. To estimate this parameter, the minimum sample size required was based on Daniel's (1999) formula for finite population.

$$n \geq \frac{NZ^2_{\alpha/2}P(1-P)}{d^2(N-1) + Z^2_{\alpha/2}P(1-P)}$$

Where:

n= minimum sample size required

N=Total estimated population of undergraduate students at school of engineering (N=2110)

$Z_{\alpha/2}$= Critical value for standard normal distribution at α-level of significance (α=0.10, $Z_{\alpha/2}$=1.64)

P= Estimated proportion of students using social media to consume information on HIV and AIDS

(P=0.67, assuming that the 67percent of youths (18-25 years) reported to be using social media by a research done in Kenya by Consumer Insight (2014) also seek information on HIV and AIDS)

d=Margin of error (The margin of error will be set up at 0.06, to reduce the sample size because of the budget constraint)

The minimum sample size required for the study was; n=153 students

3.6 Sampling Procedure

The students were sampled and selected through stratified sampling that was done and based on the year of study. Twenty three students were selected from each stratum using systematic sampling with equal sample size allocation since the distribution of students per year was not very different. The sampling was done in the undergraduate classrooms of engineering students.

The systematic sampling interval k was calculated as shown in Table 3.1

Table 3.1: Systematic Sampling Interval

Year of study	Number of students (Ns)	Sample size (ns)	K (Ns/ns)
Year 1	490	23	22
Year 2	470	23	21
Year 3	390	23	17
Year 4	420	23	19
Year 5	340	23	15

3.7 Data Collection Methods

Instruments that were used for data collection were questionnaires and FDGs. Mugenda and Mugenda (1999) recommends use of various methods of data collection so as to reach maximum

levels of studying phenomenon where one instrument may give more insight than the other. Quantitative data was collected using questionnaires (see appendix III) and qualitative data was collected using FGDs (see appendix II where a total of five FGDs sessions were recorded using a digital audio recorder. The FDGs comprised of five to six participants in each group and the audios recorded were transcribed into Microsoft Word 2013.

3.8 Data Analysis Techniques

In the quantitative approach, data cleaning, coding and analysis was done using STATA version 13. Univariate analysis was done to explore and summarize the variables in the data set. Further, for discrete data such as age of students, histograms were plotted to show the distribution, measures of central tendency (mean/median/mode) and dispersion (SD/IQR) was reported depending on the distribution of the variable. Also in categorical variables such as gender, social media and content preferences, bar charts were plotted to show the distribution while frequencies and proportions are reported. The responses on knowledge, risk perception, and response to HIV and AIDS was coded and categorized in levels. The frequencies and proportions of the levels for each variable were also reported.

Bi-variate analysis was done to examine factors associated with use of social media in seeking HIV and AIDS information using chi-square tests. Chi-square test statistics and corresponding p-values were reported. Statistical significance was considered at alpha level of 10percent (i.e., p-values less than 0.1 was considered significant). In qualitative approach, NVivo version 11 was used for thematic coding of the transcribed texts. The responses were coded into three main themes capturing the influence of social media on the knowledge about HIV and AIDS, HIV and AIDS risk perceptions and response to HIV and AIDS. In each theme, patterns in the opinions on HIV

and AIDS communication via social media within and across the focus groups were examined and classified into nodes.

3. 9 Ethical Considerations

According to Foulkes, (2011), any research that is involving human subjects should be mindful and sensitive on ethical issues. In the era of social media, most online users have negative reactions to studies that are being conducted about personal online activities (Hudson & Brickman, 2004) as they feel that their freedom is being infringed. The study engaged members who actively use social media and ethical considerations were considered when collecting data and confidentiality was stated before any commencement of discussions and consent was sought from all the respondents. In addition, the study followed systematic procedure required by the University of Nairobi where the researcher was cleared to proceed for field work after certified by the board of examiners and issued with the Certificate of Field work (see appendix V). Thereafter, the study was tested for anti-plagiarism and originality report (see appendix VII) was issued by the university and after proposed corrections, certificate of corrections (see appendix VI) was issued for final preparations and binding.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATIONS

4.1 Overview

This chapter contains data analysis, presentation and findings of the study. The results are presented in graphs and tables which are then further discussed in relation to the research questions. 131 respondents participated in the study, giving a response rate of 85.6 percent. Data analysis was guided by research objectives that informed formulation of questionnaires. The presentation further used the objectives as themes and questions in the questionnaires as sub themes.

4.2 Demographic characteristics of the respondents

The study sought to find the demographic characteristics of the respondents based on age, gender, religion and year of study. These characteristics helped to ascertain the information of the respondents involved in the study. The sub-sections below give details of the results that were obtained.

4.2.1 Distribution of respondents based on age

A total of 131 students from the School of Engineering completed the questionnaires. The graph below shows the distribution of respondents 'age.
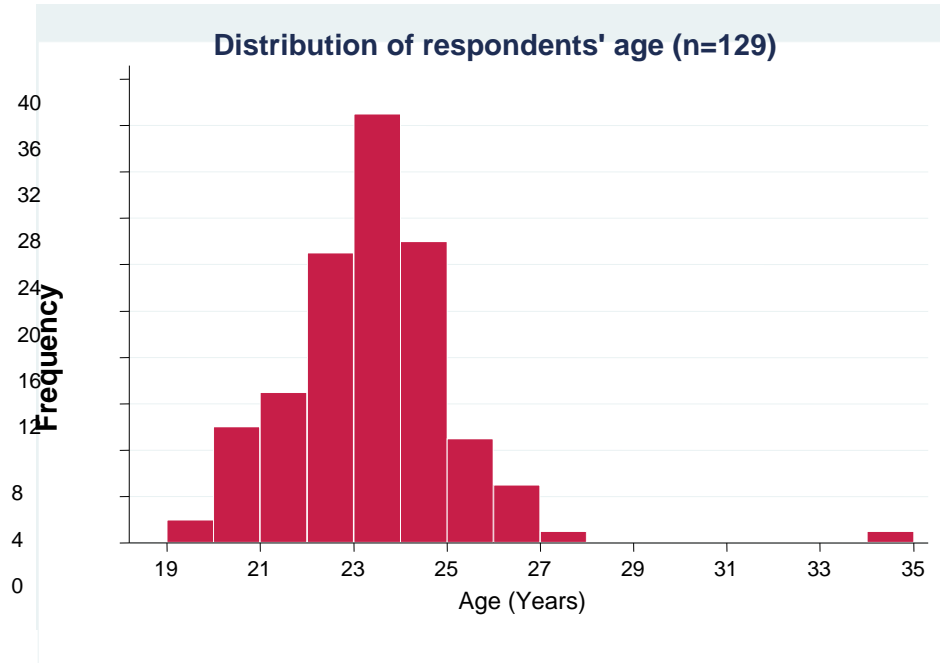
Figure 4.1 : Distribution of respondents based on age

Omitting the extreme value (age=35), the distribution of the students' age was normal, with almost all the students' age lying between 19 and 28 years. The youngest respondent was aged 19 years and the oldest 35 years. The average age of the students in the study was 22.8 years with a standard deviation of 1.6 years. Age is important because according to the Kenya AIDS Progress Report (2016), prevalence of new HIV infections is high among the youth in the age between 18 to 24 years.

4.2.2 Distribution of respondents based on gender, religion and year of study

The table below shows the profile of the respondents in the study in relation to gender, religion, the course they were taking and the year of study.

Table 4.1: Profile of the students in the study

Variable	Category	Frequency	Proportion percent
Gender	Female	37	28.2
	Male	94	71.8
Religion	Christian	110	85.3
	Muslim	10	7.8
	Atheist	6	4.6
	Others	3	2.3
Course pursued	Civil and construction	30	23.6
	Electrical	28	22.1
	Environmental and Biosystems	24	18.9
	Mechanical and Manufacturing	23	18.1
	Geospatial and Space	21	16.5
	Architecture	1	0.8
Year of study	First year	3	2.3
	Second year	17	13.1
	Third year	6	4.6
	Fourth year	36	27.7
	Fifth year	68	52.3

Male students constituted 71.8 percent of the respondents in this study. 85.3 percent of the respondents were Christians and 7.8 percent were Muslims. Students pursuing civil and construction engineering were 23.6 percent, Electrical engineering were 22.1 percent, Environmental and Biosystems 18.9 percent, Mechanical and Manufacturing were 18.1 percent, Geospatial and Space Engineering were 16.5 percent and Architecture were 0.1 percent. More than three quarters (80.0 percent) were in their fourth and fifth year of study. Factors such as gender, religion and other social economic factors are said to have significantly contributed to the HIV pandemic across the geographic diversity in Kenya which also put women more vulnerable to new HIV infections (Kenya AID Progress Report, 2016).

4.3 Social Media use among the youth

The study sought to find out the devices that respondents used to access and consume social media communication messages and information on HIV and AIDS, the preferred social media platforms and the time the respondents mostly used social media.

4.3.1 Devices used by youth to access social media

The graph below shows the distribution of respondents by devices owned.
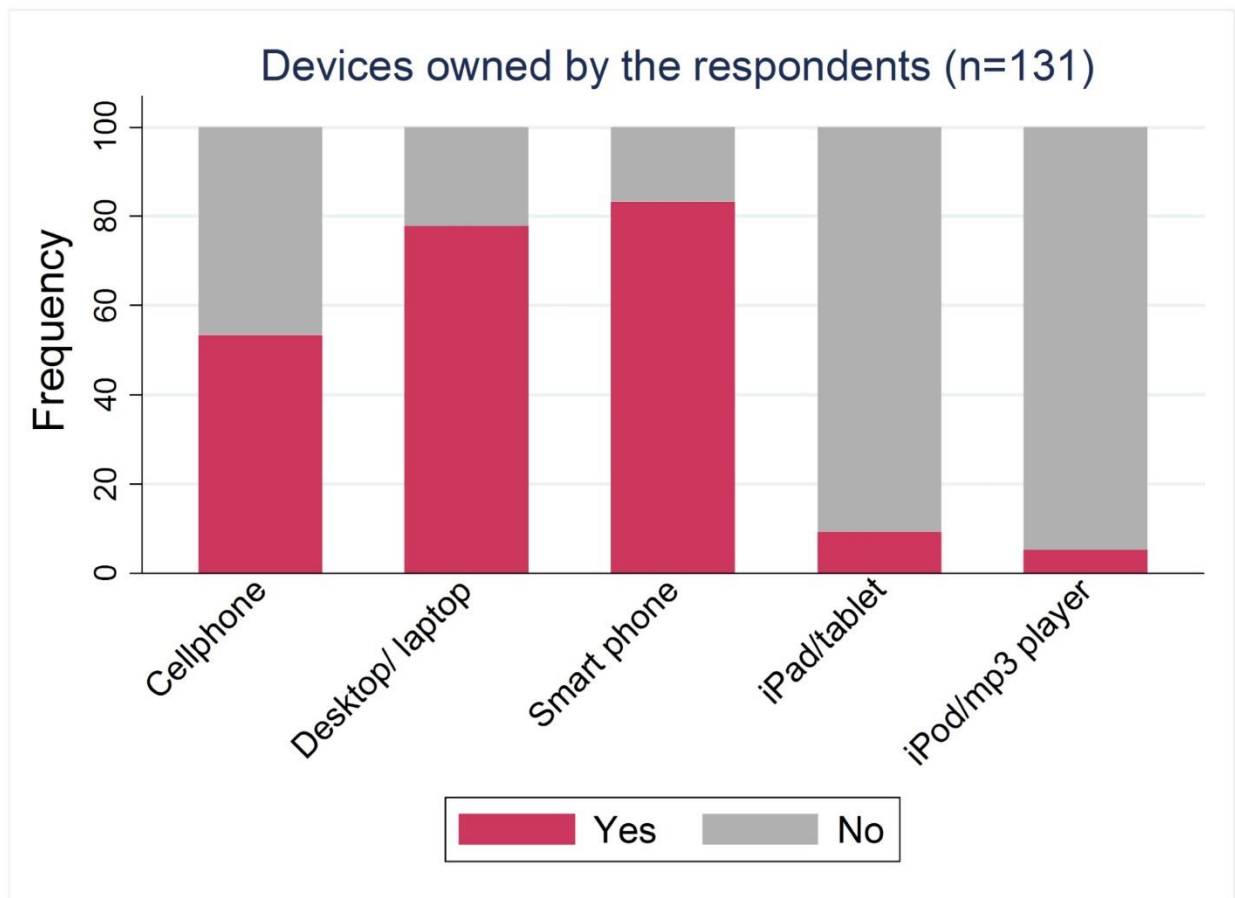
Figure 3.2: Distribution of students by devices owned

The respondents were asked about the devices owned because social media use can be influenced by the type of device used and the results were 53.4 percent (70/131) owned cell phones, 77.9 percent (102/131) owned desktop computer/ laptop, 83.2 percent (109/131) owned a smart phone, 9.2 percent (12/131) an iPad/tablet and only 5.3 percent (7/131). There were only two students who did not have the mentioned gadgets. The findings agree with the Communications Authority of Kenya (CA) report of 2015 that attributes to increase of internet use in Kenya, citing that the youth use devices such as phones and laptops to access the internet and to find out what is happening around the world and communicating with friends using social media.

4.3.2 Types of Social Media used by youth

The study sought to find out the social media platforms used by the respondents. This was important because the preference of social media would inform the study on the popularity of social media use among the youth. The graph below shows the distribution of the respondents by types of social media platforms used.
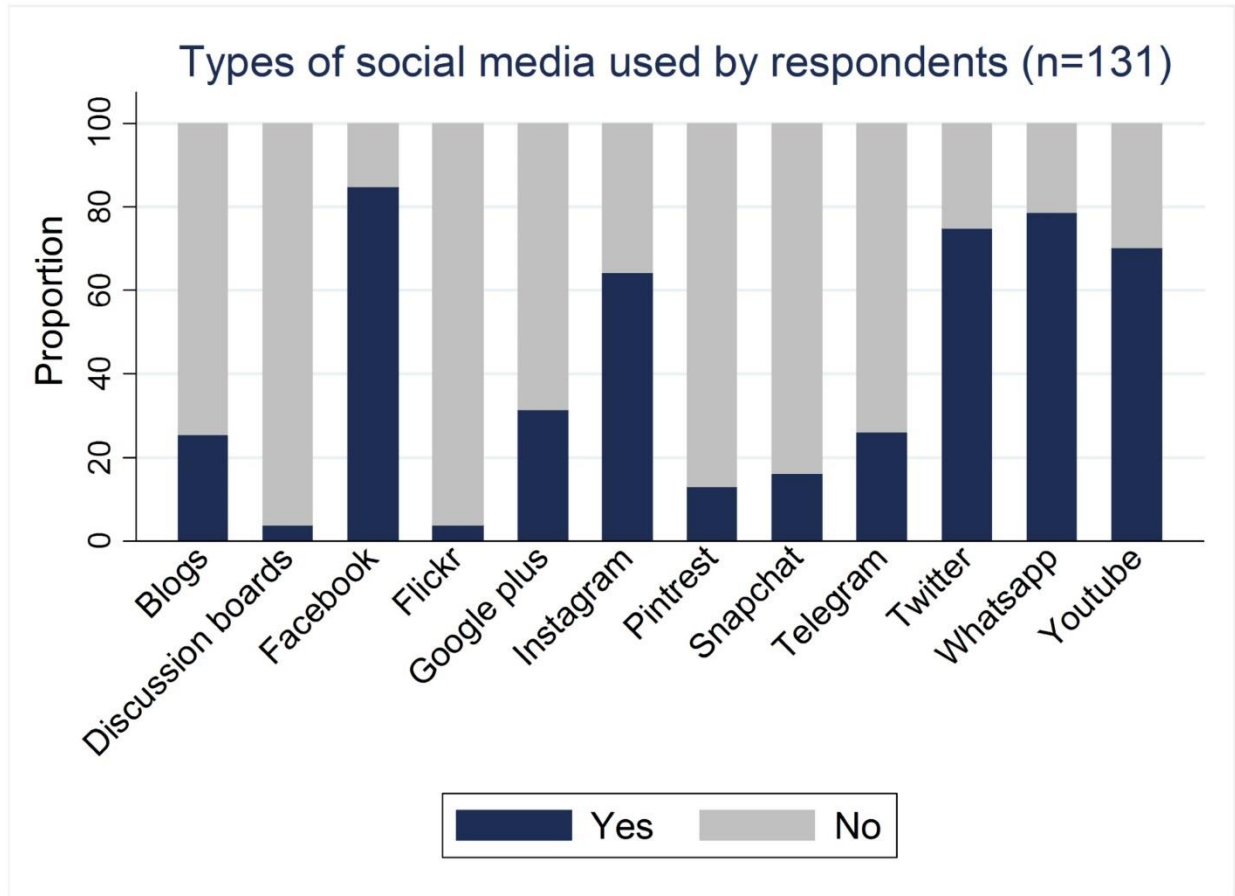
Figure 4.5: Distribution of the students by types of social media platforms used

Facebook was the most used social media platform with (84.7 percent, 111/131), WhatsApp (78.6 percent, 103/131), Twitter (74.8 percent, 98/131), YouTube (70.2 percent, 92/131) and Instagram (64.1 percent, 84/131) and were the most commonly used having been mentioned by more than 50 percent of the respondents. In the discussions, it is evident that many respondents find social media platforms to be a good and efficient tool *"…for dissemination of information…"* reasons being that they are easily accessible by many people, at any given time and irrespective of where one is and within a very short time. With advance in technology, so many people have smart phones which allow them to access social media with ease.

"*A good tool in the sense that it has made the world smaller*"

"*…social media can be accessed from anywhere, wherever it is that you are, you can access information that is available in social media.*"

"*...social media can reach a lot of people, a large mass of people in a short effective time so that's why I support*"

Heldman *et al.* (2013) explain how social media adoption and use by many people seeking health information presents opportunities in reaching many audiences and this can be used to promote HIV and AIDS communication, reaching the youth with messages that are targeted with interventions that can prevent or reduce new HIV infections.

4.3.3 Time and purpose in social media use

The respondents were asked about the time when they use social media and the reasons as to why they used social media. The table below shows the summary of times when youth are active in social media and the purpose that drives them to use social media.

Table 4.2: Summary of times when social media is used and the purpose

Variable	Category	Frequency	Proportion
What time do you use	Morning (6am-12noon)	33	26.2
Social media? (n=131)	Afternoon (12noon 6pm)	49	37.4
	Evening (6pm-12midnight)	83	63.4
	Early morning (12midnight- 6am)	25	19.1
	To become updated on events	119	90.8
	To communicate with family & friends	105	80.2
Purposes for using	To become updated on friends' activities	64	48.9
social media	To meet new people	49	37.4
	To find people (old friends, classmates)	41	31.3
	For playing online games	17	13.0
	For applications of smart phones	47	35.9
	To promote a business or organization	35	26.7

Findings show that respondents used social media mostly during the evening, between 6 pm and 12 midnight as the most frequently mentioned time (63.4 percent, 83/131), followed by afternoon between 12 noon and 6 pm (37.4 percent, 49/131). In addition, among the top reasons for using social media as reported by respondents were to become updated on events (90.8 percent, 119/131) and to communicate with family & friends (80.2 percent, 105/131). Findings from the discussions also show that social media use among the youth is mostly not related to education but for entertainment. "*We don't go there to learn. We go there to have fun and entertain ourselves.*"

The findings imply that audiences of social media are time bound and can be targeted on specific times when reaching them with HIV and AIDS messages. Bertot (2010) describes social media as having four major covert strengths including timeliness. The findings also agree with Kemble *et al* (2012); Brownsten (2009) and St. Louis (2012) that listening and monitoring conversations, collecting and responding to feedback in social media in real time is proven to support surveillance in public health, making health communication effective and meaningful to the audience. In addition, affordances that social media provides explain the needs that drive youth to use social media and (Valkenburg & Piotrowski, 2017) cite entertainment and communicating with friends as the main purpose that drives youth to use social media.

4.4 Influence of social media on knowledge and awareness of HIV and AIDS

The study sought to find out the knowledge and awareness of HIV and AIDS as influenced by social media use among the respondents. The findings are categorized in the following sub themes; sources of HIV and AIDS information in Social Media, social media use and preference in HIV and AIDS communication and HIV and AIDS information exposure through social media by respondents.

4.4.1 Sources of HIV and AIDS information in Social Media

Finding out about sources of HIV and AIDS information available in the social media was significant because it helped to understand if the respondents consume any information related to HIV and AIDS. The following sub themes explain the findings related to the sources of HIV and AIDS information.

4.3.1.1 Types of social media that contain HIV and AIDS information

The graph below shows the distribution of responses about types of social media with HIV and AIDS content.
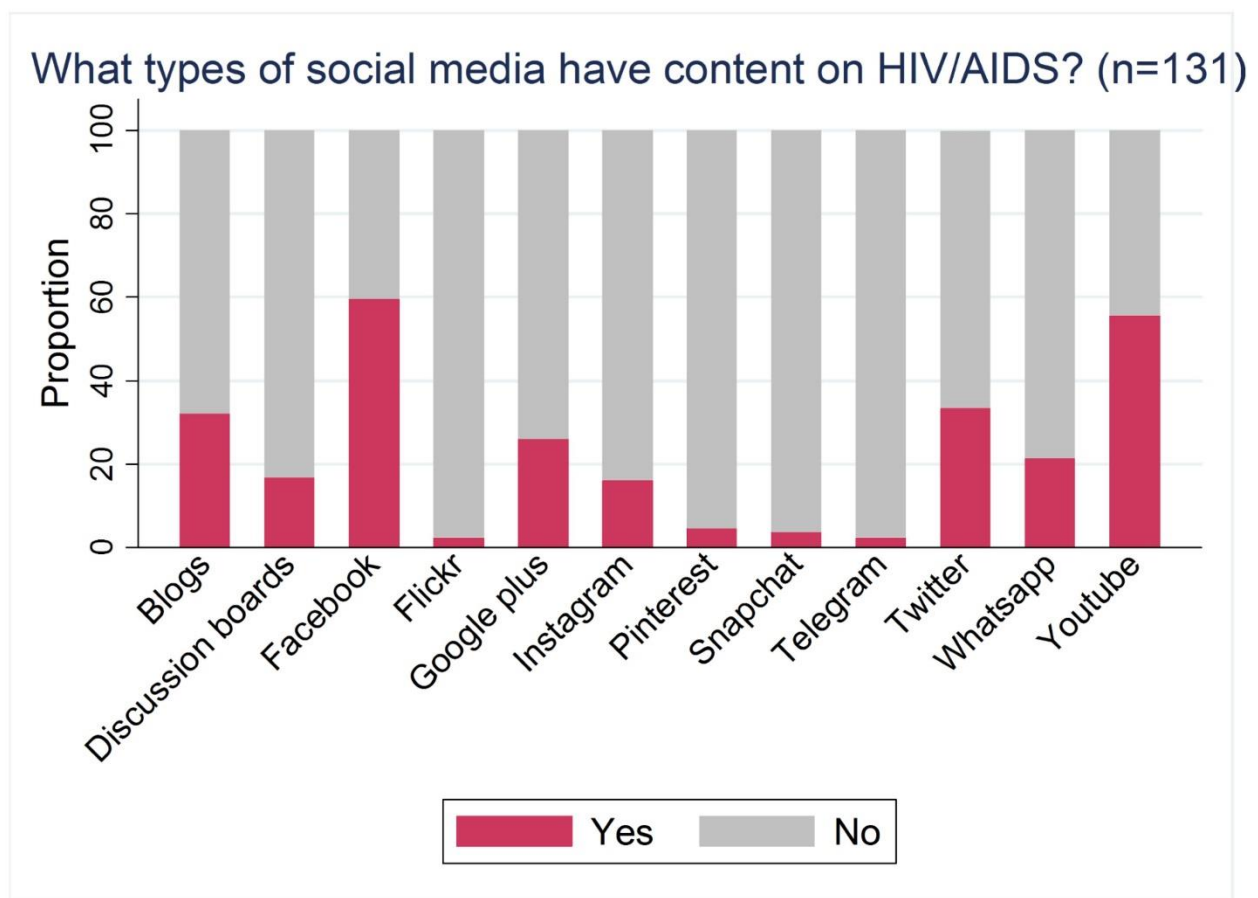
Figure 4.3: Distribution of students' responses about types of social media content

To establish the awareness of the students on sources of HIV and AIDS information, students were asked to list the social media platforms which they have interacted with that contain HIV and AIDS information. The two most frequently mentioned were Facebook (59.5 percent, 78/131) and YouTube (55.7 percent, 73/131). Out of the 131 students, more than half (61.1 percent, 80/131) reported having sought HIV and AIDS information from social media in the past mainly through YouTube (51.3 percent, 41/80), Facebook (41.3 percent, 33/80), Google Plus (36.3 percent, 29/80) and Twitter (28.8 percent, 23/80).

Findings from the discussion show that majority of the respondents show that people follow pages or search for information on social media depending on their interests and HIV and AIDS did not seem to feature in the list of stories they would be so keen to follow or read.

> *"There are things that I wouldn't look for so probably I don't think HIV and AIDS would be best publicized or the education about HIV and AIDS would be best publicized on social media because youth go there for different reasons and not to be educated…"The discussion also show that unless one is interested in HIV and AIDS information, then he or she is less likely to take notice, search and or read any social media content on the topic. "Social media is of value but then there is also another different side to it that people follow topics and people of interest. If you're not interested, then we will not follow those channels of such information."*

Besides interest, there is lack of consistency in publishing and sharing of HIV and AIDS information on social media which seems to negatively impact of the effectiveness of social media in HIV and AIDS communication.

"… for some of the issues like for HIV/AIDS, the campaigns are not consistent; They only come for a while. You only see them for a while and then they disappear. Then now you see them nearing World's AIDS Day and then they disappear. Maybe they could make them more consistent. Social media is more effective than putting up billboards or putting it in the newspaper because people rarely use those things nowadays."

The findings show that social media use is influenced on individual's gratification needs and this agrees with the UGT where Ko *et al.* (2005) state various predictors of social media use that includes entertainment, self-expression, professional, and advancement passing time, communication with friends and family and trends. Lack of consistency and availability of HIV and AIDS information in the many social media platforms agree with Nieger *et al*. (2013) who indicate that there is little prove on application of social media use even by leading health organizations such as United States for Disease Control and Prevention (CDC), World Health Organization (WHO) and others who have established presence on the social media.

4.4.2 Social media information seeking and preferences

The study aimed to find out the information seeking and the preferred social media in communicating HIV and AIDS among the respondents. The table below shows social media use and preference in HIV and AIDS communication by respondents.

Table 4.3: *Social Media Use and Preference in HIV and AIDS Communication*

Variable	Category	Frequency	Proportion
Ever sought HIV/AIDS information from	Yes	80	61.1
Social media? (n=131)	No	51	38.9
	Facebook	33	41.3
	Twitter	23	28.8
	Instagram	10	12.5
	Blogs	19	23.8
Which social media did you seek info about	Discussion boards	8	10.0
HIV/AIDS? (n=131)	Snap chat	3	3.8
	YouTube	41	51.3
	Google Plus	29	36.3
	Pinterest	3	3.8
	WhatsApp	8	10.0
	Facebook	53	40.5
	Twitter	28	21.4
	Instagram	14	10.7
	Blogs	37	28.2
	Discussion boards	15	11.5
Types of social media preferred for	Snap chat	4	3.1
HIV/AIDS communication? (n=131)	Flickr	1	0.8
	YouTube	60	45.8
	Google Plus	27	20.6
	Pinterest	1	0.8
	Whatsapp	19	14.5
	Telegram	4	3.1
	Wordy/textual	80	61.1
What format do you prefer HIV/AIDS	Videos	70	53.4
Information in social media? (n=131)	Pictures	39	29.8
	Audio	26	19.9

The students were also asked about their preferred social media platform for HIV and AIDS communication and YouTube ranked top with (45.8 percent, 60/131) followed by Facebook with (40.5 percent, 53/131), Blogs with (28.2 percent, 37/131), Twitter with (21.4 percent, 28/131) and Google Plus with (20.6 percent, 27/131) among others. Students also reported to prefer content

that is Wordy/textual format with (61.1 percent, 80/131) and videos format with (53.4 percent, 70/131) for HIV and AIDS information in social media.

Findings from the discussions indicate that content and format used for the HIV and AIDS information shared on social media seems not to be targeted for the intended audience and it is for this reason that most social media users may not take interest in this kind of information. One respondent suggested incorporating HIV and AIDS information with the entertainment pieces since most social media users actually are more interested in entertainment and fun stories on their preferred platforms. *"Maybe in passing of information, I think it's more reliable when you use these other methods like entertainment. When it comes to mobilization as well, maybe using the artists to communicate the message maybe. If I'm following this certain type of artist and he or she has posted the message, I can get it but just like that, it's very, very difficult."*

There is also a lack of or low interest in educative material particularly on HIV and AIDS in social media compared to other social issues and entertainment as revealed in the discussions. Creating that interest among the youths would go a long way in ensuring the messages conveyed through social media reach the intended audience

> *"… We must really create the interest of the youth to get that information. Because passing the information through the social media is one thing and getting someone interested in it is something else. We really need to get our people interested into getting that information first before we really take it as a correct platform to do so."*

The findings in the discussion agree with the UGT where Basilisco *et al* (2005) cite entertainment as part of the predictors that motivates users to select a media.

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4.4.3 HIV and AIDS information exposure through social media by respondents.

The study sought to find out the influence of social media in awareness and knowledge of HIV and AIDS obtained through social media. The graph below shows the distribution of students' responses on HIV and AIDS information exposure through social media.
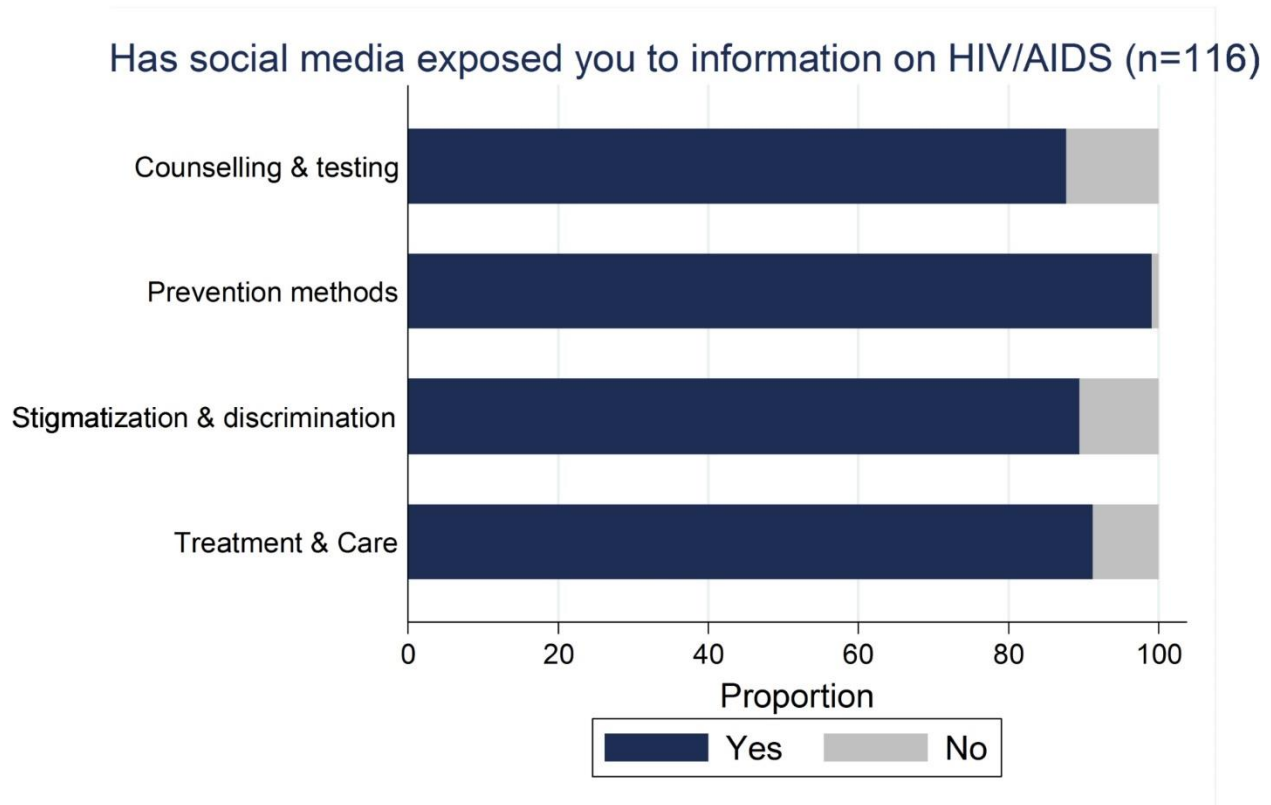
Figure 4.4: Distribution of students' responses on HIV and AIDS information exposure

The findings show that 88.5 percent (116/131) of the students had been exposed to HIV and AIDS information through social media. Among them, 99.1 percent (115/116) had been exposed to information on HIV prevention methods, 91.3 percent (105/116) information on HIV and AIDS treatment and care, 89.5 percent (102/116) information on stigma and discrimination and 87.8 percent (101/116) had exposure to information on HIV counselling and testing. While some

respondents reported that it was because they had not come across HIV and AIDS content on social media platforms, other respondents claim information shared about HIV and AIDS is a repetition of what they already know through the school curriculum.

> *"... It's very rare for me to go for example to Facebook or Twitter and search educative things about HIV and AIDS, the risks, the causes or things like that.   I don't think it has any influence in my knowledge to do with the risks or anything to do with HIV."*

> *"...given that most of us learned about HIV while in school, we see it as a repetition on social media so we don't take it so seriously, when we are looking out for information about HIV on social media or on the internet. We rely more on what we learned..."*

Emerging from the discussions was the potential of communication about HIV and AIDS through social media to raise awareness of HIV and AIDS and maybe influence their perception and response to HIV and AIDS related issues since most of the youths happen to use social media.

> *"... I think through WhatsApp, it can be really spread out for the awareness because almost, I can say 70 percent of Kenyans are in WhatsApp currently at the moment, even youth. Youth is like 90 percent..."*

The respondents indicate that social media has effectively communicated about HIV prevention such as condom use.

> *"In regards to social media and spreading word about HIV and AIDS prevention and all that, it has worked so far and it could be made to work further…"*

"There are many advertisements which talk about ways of preventing HIV and AIDS and other diseases like STDs."

"Most of the messaging I've seen on social media is mostly on condom use which is prevention and testing, which also goes into prevention."

The information on HIV prevention through social media does have an influence on the response towards HIV prevention as claimed by some of the respondents.

Treatment and care has not been featured so much like prevention*;*

"... I hardly see anything to do with treatment. I mostly see prevention messages." However, there have been television programs such as "Shuga" that cast scenes with HIV treatment and care content that was very informative and can influence the youth's response towards HIV infection. There are also organizations with social media channels and blog posts that post updates on the current advancements in developing HIV drugs; this "...really boosts the knowledge of the youth in terms of treatment and care"

Besides the recent "Jijue, Jipange, ..." advert, almost all the respondents had not come across information on HIV testing and counselling on social media. To this, one respondent suggested an upgrade sharing information about testing and counselling an area that is not adequately addressed in Kenya.

"I think social media should upgrade in terms of testing and counseling. Then when it comes to counseling, I also did HIV and AIDS in my undergrad. I think counseling generally, Kenya, we have a very poor way of dealing with HIV and AIDS."

The findings from discussion show that social media has another side of promoting stigma where those who come out to express and declare their HIV status mostly meet backlash from other social media users. Social media is a platform for people to express their honest views strongly and share personal life experiences including on issues to do with HIV and AIDS. Although social media helps in creating awareness, the discussion revealed instances where people respond negatively *"I think we all use social media. We contribute to lashing it out than preventing it"* to such stories instead of giving support to the victims.

"I think there is a lot of stigmatization when it comes to social media. I have given my example from that person. I don't think social media even helps in reducing or preventing stigmatization"

The findings show that many respondents are aware and have been exposed to information that is useful in fighting the pandemic. Knowledge and awareness is said to play a big role in communicating about HIV and AIDS (UNDAIDS, 2015), however, the new HIV infections among the youth keep on increasing despite the level of awareness about the pandemic. Moonhead *et al.* (2013) cite reliability and quality of information on social media as a challenge when health communication information is altered without proper check by health experts and eventually leads to comments that are not factual, misleading and elicit negative perceptions. Conversation can be shaped by users of social media and bring results that are not intended (Anderson *et al.,* 2013) such as stigma and discrimination. The findings tend to agree with the narrative citing that social media use can be a challenge in effectively communicating HIV and AIDS.

4.5 Social media influence on risk perceptions and behavior in HIV and AIDS

The last objective was to investigate social media influence on risk perceptions and behavior in HIV and AIDS. This was achieved through the following sub themes; behavior, attitude and risk perceptions of HIV and AIDS' influenced by social media, the impact of social media or respondents' lifestyle and finally level of agreement on usefulness of social media in HIV and AIDS communication among the youth.

4.5.1 Social Media influence on risk perceptions and attitudes towards HIV & AIDS

The table below shows the influence of social media on decision making and perceptions on HIV and AIDS by the respondents.

Table 4.4: Influence of social media on decision making and perception

Variable	Category	Frequency n/N	Proportion percent
	I decided to abstain	32	41.6
	To practise safe sex	26	33.7
What decision did you	To have & be faithful to one partner	12	15.6
take regarding HIV	Not to take alcohol/abuse drugs	3	3.9
(n=77)	Others (avoid sharing sharp objects, always get tested and raise awareness)	4	5.2
Based on HIV and AIDS information	Like any other disease	44	35.5
from social media, what do you think	A very bad disease	74	59.7
About HIV and AIDS as a disease? (n=124)	I don't know	6	4.8
Based on HIVand AIDS information			
from social media, are you at	Yes	32	26.9
Risk of HIV infection? (n=119)	No	87	73.1

Below is a summary of some of the decisions taken based on information obtained from social media.

The findings show that the respondents who chose to abstain and practice safe sex, whose decision was influenced by messages on social media is (41 percent and 33.7 percent) respectively. More than half (59.7 percent) of the respondents consider HIV and AIDS as a very bad disease and close to a third (35.5 percent) consider it like any other disease. The study showed non-significant association between seeking HIV and AIDS information and attitudes towards HIV and AIDS (Chi-square=3.288, p-value=0.193). Based on the information that youth have obtained from social media, almost three quarters (73.1 percent) of the respondents consider themselves as not being at risk of HIV infection. The HIV and AIDS risk perception of the respondents was not

associated with their seeking information about HIV and AIDS from social media (Pearson chi2=1.267, p-value=0.260).

To further establish the attitude and perceptions of the students on HIV and AIDS as communicated through social media, respondents were asked to give their views on current situation of HIV and AIDS among the youth as portrayed in social media. The respondents (22/98) felt that the youths are the most vulnerable and (14/98) felt that youth are most affected, carrying a high burden of the disease. Whereas some said that HIV and AIDS transmission has reduced due to social media HIV and AIDS communication (6/98), others felt that social media has failed to address HIV and AIDS by promoting risk behavior among the youths (4/98).

4.5.2 Impact of social media on HIV Communication of respondent's lifestyle

The table below shows the impact of social media HIV and AIDS communication on respondents' lifestyle.

Table 4.5: Impact of HIV/AIDS communication on students' lifestyle

Variable	Category	Frequency	Proportion percent
Behaviour change in regards to Early onset of sexual activity (n=131)	I abstain	55	42.0
	I use condoms	48	36.6
	I have one sexual partner	30	22.9
	No influence at all	10	7.6
Behaviour change in regards to Having multiple sexual workers (n=131)	I abstain	52	39.7
	I use condoms	42	32.1
	I have one sexual partner	29	22.1
	No influence at all	13	9.9
Behaviour change in regards to Having multiple sexual workers (n=131)	I abstain	78	59.5
	I use condoms	12	9.2
	I have one sexual partner	19	14.5
	No influence at all	19	14.5

This study also sought to find out if and how HIV and AIDS communication in social media had influenced the students' lifestyle with regards to early onset of sexual activity, having multiple sexual workers and exchange of money or gifts for sex. The findings show that HIV and AIDS communication through social media has less than 50 percent influence on the lifestyle in most students in terms of reducing HIV risk behavior (through abstinence, condom use or having one sexual partner).

4.5.3 Usefulness of social media in HIV and AIDS communication

The figure below shows the agreement on usefulness of social media in HIV and AIDS communication in social media.
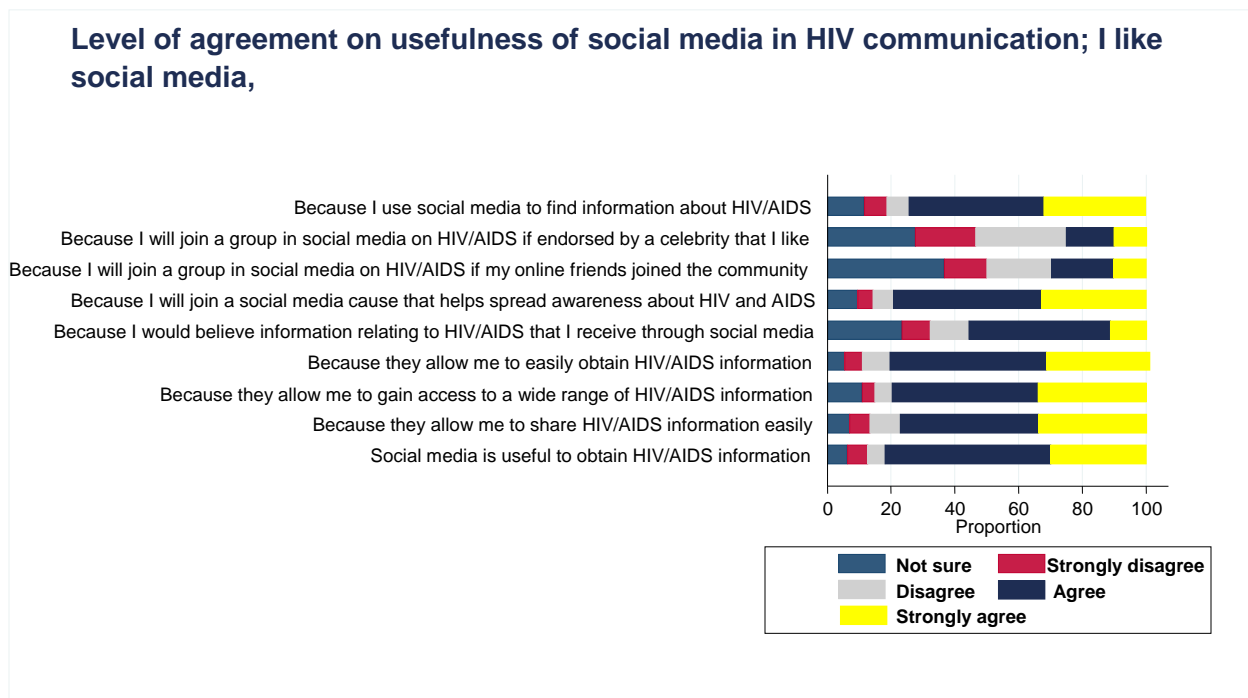
Figure 4.5: Level of agreement on usefulness of social media

Over 50percent of the respondents agreed that social media is useful to communicate HIV and AIDS with specific reference to believing that social media is important source of HIV and AIDS

information such as spreading awareness about the epidemic. The findings agree with Roberto *et al*. (2004), who describe social media as the most preferred channel for information seeking and dissemination of Sexual Transmitted Diseases (STDs) and HIV and AIDS. In addition Case *et al*. (2004) agree that this is made possible because youth are believed to have knowledge in using technologies such as social media.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Overview

This chapter concludes with the summary, conclusions and recommendations of the study based on the findings. The research sought to investigate the consumption of HIV and AIDS communication on social media among engineering students at the University of Nairobi.

5.2 Summary of the findings

Social media offers opportunities for HIV and AIDS communication because youth own devices that can facilitate them in accessing social media platforms and consume the information at any given time. The desire that drives youth to use social media is highly for entertainment, connecting with people around them such as friends and family members and following on updates of what is happening around the world with little interest on educative issues such as health behaviors. Most youth are active in social media on specific time of the day, mostly in the evening to midnight and further, the study found out that there are specific social media platforms that youth prefer for HIV and AIDS communication.

Youth use social media to seek HIV and AIDS information however, the information that is available is very limited and does not fully address HIV and AIDS issues. In addition, messages that are available in social media do not elicit any interest to make the audience have interest to such messages. Further, the findings show that information obtained by youth in social media on HIV and AIDS does not influence their knowledge and awareness about the disease as it did not have much influence in decision toward promoting health behavior.

Lastly, the study found out that youth are aware and knowledgeable about HIV and AIDS but there is no relationship with them seeking information about HIV and AIDS in social media and their risk perception. The messages and information that youth are exposed to do not make them consider themselves at risk of getting infected with HIV. Social media is being used to communicate HIV and AIDS using old ways because the available information is said to be the same that the youth were exposed to in their school curriculum. However, youth agree that social media is useful for HIV and AIDS communication in spreading awareness about the epidemic.

5.3 Conclusion

Social media has interactive and dialogic properties among many opportunities that makes them appropriate for strategic HIV and AIDS communication thereby supporting consumption of information that would promote specific behavior for health promotion but the findings show that social media is used in the same way old ways where messages are dumped with very little or no considerations of feedback. Information that is available is the same as the old as it is compared to what they have been exposed to in the school curriculum. Social media can be utilized to promote HIV and AIDS communication among the youth who frequent social media platforms in seeking HIV and AIDS information. The following conclusions were informed by the findings.

5.3.1 Types of social media preferred for HIV and AIDS communication by youth

The study concludes that social media is highly used among the youth and the provision of various social media platforms also inform the youth to select specific platforms because of the gratification they intend to derive from it such as entertainment. The study shows that social media use also varies in time whereby there are specific times of the day when youth are active on social media. The influencers and programmers in HIV and AIDS communication can target messages on specific times so as to have real time engagement and enhance the understanding of information and consumption. Considering packaging information or messages that are captivating so as to attract the youth while ensuring credibility and quality of information, is in conformity to the expected outcome such as prevention and behavior change which will promote consumption of HIV and AIDS messages.

5.3.2 Influence of social media on knowledge and awareness in HIV and AIDS

Social media provides a number of platforms that can be leveraged for HIV and AIDS communication so as to reach as many youth as possible with key messages thus promoting consumption of such messages. However, only two platforms (Facebook and YouTube) are highly reported to contain HIV and AIDS information. There is significant number of youth who are seeking HIV and AIDS information on social media, however, the information that is available in social media on HIV and AIDS does not have influence on their knowledge and awareness because of predisposed information the students already obtained either in their school course work or elsewhere which is repeated. The study concludes that social media is still used to communicate messages that were used in previous types of media with the expectation to have impact such as behavioral change.

5.3.3 Social media influence on risk perceptions and behavior in HIV and AIDS

Social media use among the youth is high and this translates to its potential it has in reaching the youth. In health communication such as in HIV and AIDS, messages that tend to predict health behavior are those that conform to perceived severity, perceived susceptibility, perceived benefits, perceived barriers, cues to action and self-efficacy. Furthermore, social media can act as a cue to prompt health promotion behaviors among the youth. Findings show that there is no relationship between seeking of HIV and AIDS information through social media and risk perceptions on HIV among the youth. The study therefore concludes that social media does not address the risk perceptions that address factors that can change health behaviors using specific interventions such as perceived susceptibility by engaging youth and by information that brings about consequences of not adhering to a promoted health behavior and information of factors that can reduce risk behaviors.

5.4 Recommendations

Efforts towards achieving effective HIV and AIDS communication among the youth should consider the needs of the audience and the demands that come with social media use when delivering messages.

The study recommends the application of specific appropriateness of different social media platforms so as to enhance content creation and consumption because youth use different media platforms with specific preferences in message format. Social media messages can be designed to match the audience gratifications such as entertainment so as to capture attention and attract the audiences to HIV and AIDS information.

Targeting communication during the time when the audiences are active in the social media platforms provides opportunities for real time feedback and also listening to online conversations so as to understand whether HIV and AIDS messages are received as intended. There is need also to quickly change tactics that suit the needs of the audience if need be and establish the type of information that social media audience are looking for. In addition, listening to online conversation can be used as a measure to identify the types of messages that are mostly shared in relation to different health topics.

The study found out that not everyone uses social media and therefore recommends that the use of social media for HIV and AIDS communication should be part of the other communication efforts while supporting the objectives of the overall communication strategy.

5.5 Suggestions for further research

More research should be conducted to understand social media audience in relation to their information seeking patterns so as to attract and retain the audiences. This will help organizations and individuals dealing with health communication like HIV and AIDS to come up with strategies that will achieve successful and effective communication in relation to behavior change. The retaining of audiences in the social media will also build loyalty and audiences can benefit from credible information from the message source.

The study also recommends research to establish the relationship between information seeking in social media and attitude, risk perceptions for behavioral change communications interventions that could effectively promote health behavior after the users have consumed such information.

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APPENDICES

APPENDIX I: STUDENT CONSENT IN FGD

Focus Group Discussion Consent Form

Dear responded,

The Focus Group Discussion will take approximately 30 minutes long and your answers will be confidential. The findings will be used for academic purpose and especially towards the researcher's Master's Degree at the University of Nairobi.

By participating in this process you imply that you have given consent to participate in the research study.

In case of any further enquiries. Please contact Mwabili Ezekiel - emwabili@gmail.com

Name of the participant: ....

Signature of the participant: ……………………………….

Signature of the Researcher: ………………………………… Date: ……………………

APPENDIX II: FOCUS GROUP DISCUSSION QUESTIONS

Semi-structured FDG Questions

Study title: Consumption of HIV and AIDS communication on social media among engineering

students at the University of Nairobi.

1. What is your view about social media in communicating to young people on different issues? (Hint: violence, peace, drugs, diseases, employment etc.)
2. What is your view about social media in communicating to young people about HIV and AIDS?
3. How does social media influence your knowledge, awareness and risk perceptions about HIV and AIDS?
4. How does social media influence your response to HIV and AIDS? (Treatment and care, prevention, anti-stigma, HIV counselling and testing)

APPENDIX III: STRUCTURED QUESTIONNAIRE
Introduction

My name is Mwabili Ezekiel Mwadime, a student of Master of Arts (Communication Studies) at The University of

Nairobi. I am carrying out a research as part of my coursework on Consumption of HIV and AIDS communication

on social media among engineering students at the University of Nairobi. I kindly request you to assist me fill this

questionnaire. All answers provided will be treated with confidentiality.

SOCIO-DEMOGRAPHIC CHARACTERISTICS

1. Age: (…….…..….) years
2. Gender:

   ☐ Male   ☐ Female

3. Relationship status
   a. Single
   b. In a relationship
   c. Married
4. Religion
   a. Christian (Specify denomination)………………………………………………………………
   b. Muslim
   c. Other (Specify)……………………………………………………………………………….
5. State County of origin …………………………………………………………………………………
6. What course are you pursuing at the University? .... (e.g. Electrical, Mechanical, Civil and Construction, Geospatial and Space, Environmental and Biosystems)
7. Indicate the year of study;
   ☐ First Year
   ☐ Second Year
   ☐ Third Year
   ☐ Fourth Year
   ☐ Fifth Year

SECTION B

SOCIAL MEDIA AND CONTENT PREFERENCE

8. Select the devices in which you own below. (Select all that apply.)

☐ Cell phone   ☐ Desktop or laptop computer

☐ iPad or similar tablet device   ☐ Smart phone   ☐ iPod or mp3 player

9. What types of social media do you use (Tick all that apply.)

☐ Facebook	☐ Twitter	☐ Instagram	☐ Blogs
☐ Discussion Boards	☐ Snapchat	☐ Flickr	☐ YouTube
☐ Google Plus	☐ Pinterest	☐ WhatsApp	☐ Telegram

☐ I do not use social media
Other, please specify:
………………………………………………………………………………………………….
10. What time do you mostly use social media? (Multiple responses allowed)

☐ Morning (6 a.m – 12 noon)   ☐ Afternoon (12 noon – 6 pm)
☐ Evening (6 pm – 12 midnight)   ☐ Early morning (12 midnight 6 am)

11. For what purpose(s) do you use social media? (Tick all that apply.)
   ☐ To communicate with family and/or friends
   ☐ To become updated on events
   ☐ To become updated on friends' activities
   ☐ To meet new people
   ☐ To find people (old friends, classmates, etc.)
   ☐ For playing online games
   ☐ For using applications for smart phones
   ☐ To promote a business / organization
   Others (specify) …………………………………………………………………………………………

12. What types of social media have content on HIV and AIDS (Tick all that apply.)

☐ Facebook	☐ Twitter	☐ Instagram	☐ Blogs
☐ Discussion Boards	☐ Snapchat	☐ Flickr	☐ YouTube
☐ Google Plus	☐ Pinterest	☐ WhatsApp	☐ Telegram

☐ I do not use social media
Other, please specify:
……...

13. Have you ever sought information about HIV and AIDs from social media?
   ☐ Yes   ☐ No

14. If Yes to Q.13, What types of social media did you use to seek/get information about HIV and AIDS (Tick all that apply.)

☐ Facebook	☐ Twitter	☐ Instagram	☐ Blogs
☐ Discussion Boards	☐ Snapchat	☐ Flickr	☐ YouTube
☐ Google Plus	☐ Pinterest	☐ WhatsApp	☐ Telegram

☐ I do not use social media
Other, please specify:
……...

15. What information on HIV and AIDS were you seeking?
....
……...

16. What types of social media do you prefer for HIV and AIDS communication? (Tick all that apply.)

☐ Facebook	☐ Twitter	☐ Instagram	☐ Blogs
☐ Discussion Boards	☐ Snapchat	☐ Flickr	☐ YouTube
☐ Google Plus	☐ Pinterest	☐ WhatsApp	☐ Telegram

☐ I do not use social media
Other, please specify:
……

17. In what format do you prefer HIV and AIDS messages in social media? (Tick all that apply.)
☐ Wordy/textual   ☐ Videos
☐ Pictures   ☐ Audio
Others (specify)…………………………………………………………………………………………

KNOWLEDGE, AWARENESS AND RISK PERCEPTIONS ABOUT HIV AND AIDS

18. Has social media exposed you to any information on HIV and AIDS?
    Yes ☐   ☐ No
19. If Yes to Q.18, what kind of information were you exposed to?
    ....
    ....
20. Has social media exposed you to any information on HIV prevention methods?
    Yes ☐   ☐ No

21. Has social media exposed you to any information on HIV and AIDS treatment and care?
    Yes ☐   ☐ No

22. Has social media exposed you to any information about HIV testing and counseling?
    Yes ☐   ☐ No

23. Has social media exposed you to any information about HIV stigma and discrimination?
    Yes ☐   ☐ No

24. If Yes to Q. 18, what information pertaining the following, have you gained through social media?

	Information 1	Information 2	Information 3	Information 4
HIV prevention				
HIV and AIDS treatment and care				
HIV testing and counseling				
HIV stigma and discrimination				

25. Indicate any risk behavior in regards to HIV and AIDS transmission you know of
    a. …………………………………………………………………………………………………….
    b. …………………………………………………………………………………………………….
    c. …………………………………………………………………………………………………….
26. Have you ever taken a decision regarding potential HIV and AIDS risk behavior change based on information obtained from social media?
    Yes ☐   ☐ No

27. If Yes to Q. 26 what decisions did you take?
    ....
28. Do you think social media has any influence on the decisions you make on potential HIV and AIDS risk behavior?
    Yes ☐   ☐ No

29. What is your view on current situation of HIV and AIDS among the youth as portrayed in social media?
    ....

30. Based on the HIV and AIDS information from social media;
    a.   What do you think about HIV/AIDS as a disease?
    Like any other disease (e.g. malaria) ☐   ☐ Very bad disease

Other
(specify)…….

    b.   Are you at risk of HIV infection?

Yes ☐ (why?)……………………………………………………………………………………………….

No ☐ (Why?)…………………………………………………………………………………………

RESPONSE TO HIV AND AIDS

31. How effective was the social media information and how did it affect your behavior?

Type of Information	Very Effective	Fairly Effective	Not Effective	What did you do after getting the information? *Eg. Abstinence, went for HIV Testing, started using condom or did nothing*
Prevention (e.g. Condom use, HIV Testing)				
HIV Testing & Counseling				
Anti-Stigma				
HIV Treatment and Care				
Others (specify)_____				

32. How has HIV and AIDS communication in social media affected your lifestyle regards to the following?

a) Early onset of sexual activity
    ☐ I abstain ☐ I use Condom   ☐ I have one sexual partner
    ☐ No Influence at all
b) Multiple Sexual partners
    ☐ I abstain ☐ I use Condom   ☐ I have one sexual partner
    ☐ No Influence at all
c) Exchange of money or gift for sex
    ☐ I abstain ☐ I use Condom   ☐ I have one sexual partner
    ☐ No Influence at all

33. Please indicate your level of agreement with the following statements.
1 = strongly disagree and 5 = strongly agree.

	Social media are very useful;	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
a)	to obtain HIV and AIDS information	1	2	3	4	5
b)	Because they allow me to easily obtain HIV and AIDS information	1	2	3	4	5
c)	Because they allow me to gain access to a wide range of HIV and AIDS information	1	2	3	4	5
d)	Because they allows me to share HIV and AIDS information easily	1	2	3	4	5
e)	Because I would believe information relating to HIV/AIDS that I receive through social media	1	2	3	4	5
f)	Because I would join a group in social media on HIV and AIDS if endorsed by a celebrity that I like	1	2	3	4	5

g)	Because I will join a group in social media on HIV and AIDS if my online friends joined the community	1	2	3	4	5
h)	Because I will join a social media cause that helps spread awareness about HIV and AIDS	1	2	3	4	5
i)	Because I use social media to find information about HIV and AIDS	1	2	3	4	5

APPENDIX IV: A SAMPLE OF A FOCUS GROUP DISCUSSION CONSENT FORM

APPENDICES

APPENDIX A: STUDENT CONSENT IN FGD

Focus Group Discussion Consent Form

Dear responded,

The Focus Group Discussion will take approximately 30 minutes long and your answers will be confidential. The findings will be used for academic purpose and especially towards the researcher's Master's Degree at the University of Nairobi.

By participating in this process you imply that you have given consent to participate in the research study.

In case of any further enquiries. Please contact Mwabili Ezekiel – emwabili@gmail.com

Name of the participant: Kdungu David Mutulha

Signature of the participant:

Signature of the Researcher: Date: 8/12/2017

APPENDIX V: CERTIFICATE OF FIELDWORK

UNIVERSITY OF NAIROBI
COLLEGE OF HUMANITIES & SOCIAL SCIENCES
SCHOOL OF JOURNALISM & MASS COMMUNICATION

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Telex: 22095 Fax: 254-02-245566
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Nairobi, GPO
Kenya

REF: CERTIFICATE OF FIELD WORK

This is to certify that all corrections proposed at the Board of Examiners' meeting held on _26|06|2017_ in respect of M.A/Ph.D final Project/Thesis defence have been effected to my/our satisfaction and the student can be allowed to proceed for field work.

Reg. No: _K50|8111H|2015_

Name: _MWABILI EZEKIEL MWADIME_

Title: _CONSUMPTION OF HIV AND AIDS COMMUNICATION_

ON SOCIAL MEDIA AMONG ENGINEERING STUDENTS AT THE UNIVERSITY
OF NAIROBI

DR. S. ORIASO   SIGNATURE   26/06/2017
SUPERVISOR

Dr Samuel Siringi   SIGNATURE   27/06/2017
ASSOCIATE DIRECTOR

Dr. Ndeti Ndati   SIGNATURE/STAMP   27.6.2017
DIRECTOR

APPENDIX VI: CERTIFICATE OF CORRECTIONS

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Reg. No: __K50| 81114/2015__

Name: __MWABILI EZEKIEL MWYADIME__

Title: __CONSUMPTION OF HIV AND AIDS COMMUNICATION ON SOCIAL MEDIA AMONG ENGINEERING STUDENTS AT THE UNIVERSITY OF NAIROBI__

DR. SILAS ORIASO
SUPERVISOR   SIGNATURE   13|12|2017 DATE

Dr Samuel Siringi
ASSOCIATE DIRECTOR   SIGNATURE   13|12|2017 DATE

Dr. Ndeti Ndati
DIRECTOR   SIGNATURE/STAMP   13.12.2017 DATE

APPENDIX VII: ORIGINALITY REPORT

Turnitin Originality Report

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