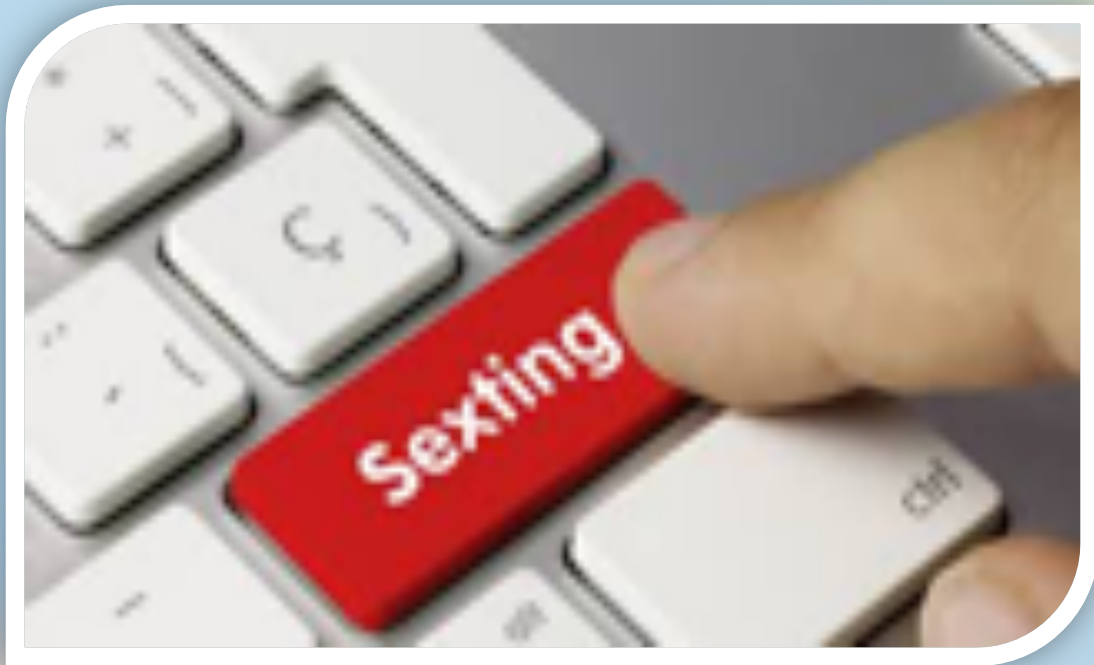


**Mobile Phone Sexting And Self-Esteem Among  
SHS Student At Tema Metropolis In Greater  
Accra District Of Ghana**



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By

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A Thesis Submitted To The Department Of Community Health In The  
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## **Dedication**

I dedicate this work to Abena Akyaa Amankwah, my precious sister in law.

God Richly Bless You.



## **ACKNOWLEDGEMENT**

### **My Allegiance to Abba Father**

One of the biggest challenges I have had to overcome in my academic journey is this thesis. It has taught me a lot about vision, perseverance, calmness, and respect for following my instinct.

I would like to show my sincere appreciation to the community of Ensign Collage of Public Health. This School had afforded me a rare opportunity to explore the world of excellence. A special thank you goes to Dr. Frank Baiden, my advisor. Dr., your encouragements and support throughout my work have brought me this far. You truly bear the mark of a researcher. I am also thankful to Dr. Christopher Tetteh who made it possible for me to be proficient in epi info and outbreak investigation. Dean, in deed you know what public health ought to be. A big shout out to Dr. Juliana Enos. You are awesome. Your approach to lecturing made me confident to think outside the box and change the world one person at a time, thank you. I cannot forget you my smartest lecturer Dr. Stephen Manortey for your immense contribution to making me biostatistics efficient, thank you. Mr Reuben Ahwireng Your hospitality at the Ensign gate had brought me this far and I am very grateful. It would be an error to forget the ECOPH 2015 cohort; you guys are a family out side family. Thumbs up to you all. My heart felt gratitude also go to my husband Dr. Kwaku Adu-Tutu Amankwah who provided timely logistical support and the funds for this work. Finally to my children Jedidiah, Nathan, David and Nana Tiwaah, Amankwahs, you have been patience, supportive and had helped me to endure when the road became rough and tough. You guys rock.

## **Definition Of Term**

**Cyber-Bullying:** The use of electronic communication to bully a person, typically by sending messages of an intimidating or threatening nature.

**Media:** The main means of mass communication (broadcasting, publishing, and the Internet) regarded collectively.

**Millennials:** (also known as Generation Y) are the demography cohort following generation X. Demographers and researchers typically use the early 1980s as starting birth years and the mid-1990s to early 2000s as ending birth years.

**Mobile Phone:** A telephone with access to a cellular radio system so it can be used over a wide area, without a physical connection to a network.

**Self-Esteem:** Confidence in one's own worth or abilities; self-respect.

**Sexting:** The digital exchange of sexually explicit images between teenagers using text messaging services on camera-equipped cell /mobile phones

**Risk Sexual Behaviors:** These are behaviors that increase the chance of contracting or transmitting disease.

**Social Media:** Websites and applications that enable users to create and share content or to participate in social networking.

**Technocrat:** An exponent or advocate of technocracy

**Teenagers:** A teenager, or teen, is a young person whose age falls within the range from 13–19. They are called teenagers because their age number ends with "teen".

## **Abbreviation /Acronyms**

**Mag.:** Magazines

**SHS:** Senior High School

**SMS:** Short Message Service and is also commonly referred to as a "text message".

**Apps:** an application, especially as downloaded by a user to a mobile device.

## **Abstract**

### **Introduction**

There is global concern about the sharing of sexual materials through text messaging (sexting). Tragic consequences of adolescent vulnerability and lack of discretion have been reported. Very little is known about the practice of sexting among adolescents in countries in sub-Saharan Africa and how it relates to the self-esteem of students. This study explored sexting among senior high school students in Tema, a municipality in Accra, Ghana.

### **Methods**

This is a self-administered questionnaire survey conducted among forms one(1) students in six randomly selected public Senior High Schools students in Tema. Students were selected through systematic random sampling. Descriptive, bivariate and multivariate analysis using logistic regression were used to determine the prevalence of sexting, explore its determinants and determine the relationship between sexting, sexual behavior and self-esteem. Self-esteem was assessed using the Rosenberg Self-Esteem Scale

### **Results**

Five hundred and seventy-six students (53% females) students with a mean age of 16 (standard deviation was 1.4) years participated in the survey. About 70% of students own their own mobile phones. About a quarter (24.7%) admitted to have sent sexual materials over the phone. Male students (OR=4.18, 95% confidence interval 2.71-6.46, P-value<0.01) and students aged 16yrs or more (OR=1.60, 1.07-2.41, P-value=0.02) were

more likely to have sexted than female and students younger than 16 years respectively. While sexters were 3.79 (CL2.33-6.14, P-value<0.01) more likely to engage in sexual activity compared to non-sexters. There was no significant association between sexting and self-esteem (p= 0.46 95% CL 0.50-1.37).

## **Conclusion**

The prevalence of sexting is high in the SHS surveyed and the practice has a relationship with student engagement in sexual activities. Education authorities need to adopt strategies to combat the practice. Measures, including policies are needed to protect students from sexual explicit materials online.

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# Chapter 1

## Introduction

Mobile phones are an integral part of everyday life and culture. In today's world, teens are well connected with majorities having their own email address and mobile(Controls, 2009). Again Modern technologies such as digital cameras, smartphones, and other mobile devices with combined video, photography, and audio capabilities have engineered the creation of private sexual content (Lenhart *et al.*, 2007). In addition to that, people are obsessed with the possession and the use of mobile phones both overtly and covertly, in every possible setting, including the classroom as a means of communication and as a research/learning tool. With so much reliance on especially smart mobile phones that are equipped with Internet capabilities current generation is plugged with a new global phenomenon and a public health concern known as "SEXTING", which has no geographical boundaries.

Sexting is a blend of sex and texting, it was first used in 2005 and in August 2012, the word sexting was listed for the first time in Merriam –Webster's Collage Dictionary (Origin and Etymology of sexting, Merriam –Webster). Sexts can be images/pictures, video, or text and most young people refer to it as "naked selfies," "nudies" and "banana pics." (Bauman, 2016)The definition of the term, sexting, has varied over the years. In one sense, sexting is used to describe the act of sending sexual explicit, or pornographic messages or photos over a mobile phone text message SMS (Short Message Service) Or an act of sending and receiving sexually explicit messages or images by cell/mobile phone (Merriam-Webster). In a more resent study, "Stemming Sexting: Sensible Legal Approaches To Teenagers' Exchange of self- Produced Pornography " by Elizabeth C.

Eraker, Sexting was define as “the digital exchange of sexually explicit images between teenagers using text messaging services on camera-equipped cell /mobile phones”.

### **1.1 Sexting As A Problem Behavior**

Sexting has also been conceptualized as a problem behavior. A problem behavior is one that deviates from social and legal norms, is disapproved by society and authorities, and tends to result in social control responses such as reprimand or social rejection (Richard Jessor, 1991). The propensity to engage in risky or problem behaviors has also been suggested to be a function of personality traits, which predispose an individual to seek complex and novel experiences that are "varied, novel, complex and intense", and by the readiness to "take physical, social, legal, and financial risks for the sake of such experiences." (Glicksohn and Zuckerman, 2013).

### **1.2 Sexting and Self-Esteem**

Engagement in problem behaviors has also been investigated in regard to traits such as self-esteem. Low self-esteem has been shown to be associated with risky sexual behavior in both adults and adolescents (Lejuez *et al.*, 2004), Research has shown that self-image influences an individual’s views on sex and sexuality (Tesser, 2001), suggesting that self-esteem issues may contribute to problems of sexuality and sex in adolescents, including engaging in sexual risk-taking, and the experience of lasting consequences associated with sexual risk- taking, such as unplanned pregnancy (Boden & Horwood, 2006). Two studies have investigated self-esteem in relation to sexting, Gordon-Messer,

Bauermeister, Grodzinski, and Zimmermann (2013) found no difference in self-esteem levels across groups of adults categorized according to sexting behavior (nonsexters, two-way sexters [senders and receivers], and sext receivers). Similarly, a study of adolescents found that self-esteem did not predict the exchange of sexual content via a mobile phone (Vanden Abeele, Roe, & Eggermont, 2012). The aftermath of sexting which is irrespective of geographical location, when falling into wrong hands is a pandemic problem that can become a health concern if parents, guardians and school authorities are kept in the dark. (Scholes-Balog, Francke and Hemphill, 2016)

### **1.3 Problem Definition**

The issues of sexting which have sprung forth as a result of sophisticated technological advancements in mobile phones that are equipped with cameras and built-in cyber technology, fueled by the modern wave in communication; easy, fast and instant, have made it possible for mobile phone users to engage in a now growing global health pandemic. Even though the sensational phenomenon of sexting behavior is relatively current, many research and literature have been reported among the youth in Austria and America. But very little is known of the awareness and prevalence among the Ghanaian populace. This study was designed to provide preliminary information about this phenomenon by (i) determining the prevalence of sexting among SHS (Senior High School) students, and (ii) exploring the link between sexting and self-esteem among SHS students. With hypothesis, “students who engaged in sexting are more likely to have low self-esteem”.

## **1.4 Research Objectives**

Sexting is a pressing public health concern with its legality and safety, but there have been no documented research on sexting and the relationship between Sexting and self-esteem among Ghanaian SHS populace.

### **Main Objective**

This research seeks:

- ❖ To determine the prevalence of mobile sexting among SHS students in the Tema Metropolis

### **Secondary Objectives Of The Study Includes:**

- ❖ To explore the association between mobile phone sexting and self-esteem
- ❖ To compare the socio-economic background of sexters and non sexters
- ❖ To identify the sources of sexting materials
- ❖ To explore the association between sexting and sexual behavior
- ❖ Estimate the amount of time spent by students in mobile phone use

## **1.5 Justification**

The research is justified by the following:

- ❖ Knowledge of prevalence and the demography of those who engage in sexting can help researchers, practitioners, and policy makers better understand sexting in the context in which it takes place.
- ❖ It will also help formulate school health programs that will create the awareness

of and educate individuals on the dangers of this practice.

- ❖ It will help in the possible formulation of programs that will sensitize parents, caregivers and educators and in creating tools that will empower them to help protect minors against sexting practice.

### **1.6 Scope of Work**

This work was undertaken to gain important insight into the practice of sexting among senior high school students in the Tema Metropolis. It has limited information on other sexual behaviors and none at all of information about the practice outside of the Tema Metropolis.

Practically it has involved conceptualization of the idea and adoption of study design, stakeholder consultations, production of the thesis proposal, application and ethical approval, recruitment and training of two research assistants, data collection, entry and analysis, and report writing.



### 1.4 Conceptual Framework



Source: Author's construct

Fig. 1: Conceptual framework showing factors and effects of sexting

## Chapter 2

### Literature Review

If you want to know what sexting is and why young people are engage in this media replete buzzword, try asking them. To them Sexting is a 21st- century love letter (Hunt, 2016). One of the primary problems associated with sexting is that the content can be very easily and widely circulated. This is possible with the originator having little or no control. According to Professor Donald Strassberg, a clinical psychologist at the Psychology Department of University of Utah, one loses control of the image the moment the push button is pressed to send. The fallout can be humiliating and terrifying. It presents in the form of unwanted sexual advances, harassment, blackmail, and possible child pornography charges if the teens are still minors. Social and press media are replete of examples of such incidents.

#### ❖ Case examples

Carrie Prejean, the 2009 Miss California was dethroned of her beauty queen title after reports circulated she had sexted. She confirmed the erotic video by saying, "It was me by myself. There was no one else with me. I was not having sex". Prejean said she made the video of herself when she was 17 years old and that it was for her long-distance boyfriend at the time. "I was a teenager," she said. "I cared about him. I trusted him. I think now they call it 'sexting.'" She called sexting the biggest mistake of her life." Miss Prejean was lucky to have lived to tell her story amiss the public humiliation. But not so with Jesse Logan, an 18year old from Ohio USA and Hope Witsell a 13 year old from Florida USA, both of these teen girls committed suicide in a year's interval after their

sexting got into wrong hands and were distributed and viewed by countless schoolmates. They were called names and bullied and harassed till they could not take them any longer. Jesse committed suicide by hanging herself on July 3, 2008, two months after going on a Cincinnati television station to tell her story. With a message: "I just want to make sure no one else will have to go through this again." Hope Witsell on the other hand wrote in her diary "I'm done for sure now. I can feel it in my stomach. I'm going to try and strangle myself. I hope it works". She went home and hung herself in her bedroom on September 12, 2009.

Yaa Boakyewaa from Ghana, a personnel with the Criminal Investigations Department (CID) of the Ghana Police Service, also fell victim to sexting. The incident made her attempt suicide but she was unsuccessful and received hospital treatment in Accra Ghana.

Adolescents are vulnerable. Despite these obvious emotional and psychosocial compounded with legal risks of sexting, particularly when the sexting goes viral, many adolescents still engage in this behavior. Pew Research Center recently released a study that showed teen electronic device use is growing and do not see any decline in the future. According to this study, 78% of teens now have a mobile phone, and almost half (47%) of them own Smartphones. an increase of 23% from the 2011 study (Madden et al., 2013)

## 2.1 What is sexting?

“Sexting” was first used in 2005 and in August 2012, it was listed for the first time in Merriam–Webster’s Collage Dictionary (Origin and Etymology of sexting, Merriam – Webster). In 2009 it was listed in Time magazine as the number one buzzword (Stephey, 2009). It was also a finalist for the 2009 “word of the year” by the New Oxford American Dictionary (Stanglin, 2009). The first published use of the term “sexting” was in a 2005 article in the Australian Sunday Telegraph Magazine (Roberts, Yvonne 2005). This behavior with many different definitions is a blend or a portmanteau of sex and texting. Sexts can be images/pictures/photo, video, or text. The definition of the term, is used to describe the act of sending sexual, explicit, or pornographic messages or photos over a mobile phone text message SMS (Short Message Service), Or an act of sending and receiving sexually explicit messages or images by cell/mobile phone (Merriam-Webster). In a more recent study, “Stemming Sexting: Sensible Legal Approaches To Teenagers’ Exchange of self-Produced Pornography “ by Elizabeth C. Eraker, Sexting was define as “the digital exchange of sexually explicit images between teenagers using text messaging services on camera-equipped cell /mobile phones.” The sexually explicit images or video may be made by a partner of an intimate relationship with the knowledge and consent of the subject, or it may be made without his or her knowledge which could be used for a revenge porn or revenge pornography. Revenge porn or revenge pornography is the possession of the sexual material of another that may be used by a perpetrators to blackmail the subjects into performing other sex acts, to coerce them into continuing the relationship, or to punish, humiliate and intimidate the subject, who has broken off a relationship (Citron & Franks 2014, p. 346).

## **2.2 Self esteem**

Self-esteem, is the positive or negative evaluations of the self, as in how we feel about it." (Smith, E.R., Mackie, D. M. 2007 Page 107). In sociology and psychology, self-esteem reflects a person's overall subjective emotional evaluation of his or her own worth. It is a judgment of oneself as well as an attitude toward the self. It encompasses beliefs about oneself, (for example, "I am competent", "I am worthy"), as well as emotional states, such as triumph, despair and pride (Hewitt, John P. 2009). Smith and Mackie (2007). Self-esteem is attractive as a social psychological construct because researchers have conceptualized it as an influential predictor of certain outcomes, such as academic achievement, (Marsh, H.W. 1990). Psychologists usually regard self-esteem as an enduring personality characteristic ("trait" self-esteem), though normal, short-term variations ("state" self-esteem) also exist. Synonyms or near-synonyms of self-esteem include: self-worth, self-regard, self-respect and self-integrity.

## **2.3 Why Sexting and self-esteem?**

Sexting has been conceptualized as a problem behavior. A problem behavior is a behavior that deviates from social and legal norms, and is disapproved by society and authorities, and tends to result in social control responses such as reprimand or social rejection (Jessor, 1987). Engagement in problem behaviors has been investigated in regard to traits such as self-esteem. Low self-esteem has been shown to be associated with risky sexual behavior in both adults and adolescents (Lejuez, Simmons, Aklin, Daugh- ters, & Dvir, 2004; Magnani, Seiber, Gutierrez, & Vereau, 2001; Wild, Flisher, Bhana, & Lombard, 2004). Research has shown that self-image influences an individual's

views on sex and sexuality (Tesser, 2001), suggesting that self-esteem issues may contribute to problems of sexuality and sex in adolescents, including engaging in sexual risk-taking. Even though research has shown that there is association between sexting and sexual risk behavior, two studies, Gordon-Messer, Bauermeister, Grodzinski, and Zimmermann (2013) have investigated self-esteem in relation to sexting and found no difference in self-esteem levels across groups of adults categorized according to sexting behavior (nonsexters, two-way sexters [senders and receivers], and sext receivers). A similarly study of adolescents found that self-esteem did not predict the exchange of sexual content via a mobile phone (Vanden Abeele, Roe, & Eggermont, 2012).

#### **2.4 Who are sexting?**

According to Dr. Jeff Temple, an associate professor and psychologist at the University of Texas, Sexting has become a completely normal part of teenage dating life. In UK (United Kingdom) 12% of 11–16 year olds have seen or received sexual messages online, 2% receiving them more than once a week Overall, 3% of 11–16 year olds in the UK said they had seen other people perform sexual acts in online messages, 2% had been asked online for an image of their genitals, and 2% had been asked to talk about sexual acts with someone online. (Livingstone et al. 2010, 2011).

In the USA (United States Of America), Pew Internet reported in 2009 from a nationally representative sample of US mobile phone owners aged 12–17 years that 15 % had received sexually suggestive, nude, or near nude images of someone they knew via text messaging on their mobile phone, and 4% had sent such messages (Lenhart, 2009). They reported that sexting occurred equally for boys and girls, but more among older teens

than younger teenagers. In their 2011 update, Pew Internet found little change. 2% of all teenagers have sent a 'sexually suggestive nude or nearly nude photo or video' of themselves to someone else, while 16% (more older than younger) have received a sexually suggestive nude or nearly nude photo or video of someone else they know. A quantitative study 'Sex and Tech', commissioned by the National Campaign to Prevent Teen and Unplanned Pregnancy in 2009, also found that as many as 48% of 13–19 year olds reported receiving sext messages online or via a mobile phone. Another research done by Cox Communications (2009) found that 19% of US 13–18 year olds had exchanged 'sexually suggestive or nearly nude photos' and 9% had sent a 'nude or nearly nude' picture of themselves. In addition, MTV/AP (2009) survey reported that 10% of their respondents' aged 14–24 had sent a naked image of themselves.

## **2.5 Why are the youth sexting?**

Sexting, as a form of a relationship currency, is prevalent and normalized practice among youth in many western, liberal democracies (Yeung, Timothy H, 2014). Sexting images are shared as a part of or instead of sexual activity, or as a way of starting or maintaining a relationship with a significant other, which are also passed along to friends for their entertainment value, as a joke or for fun. (Lenhart, 2009). This art is being aided by advances in mobile phones technology combined with normal risk-taking behavior and sexual experimentation by teenagers and is prolific because It is easier nowadays to say or reveal things by phone that might not be considered okay in a face-to-face situation. Although most teens and young adults recognize that sending such messages could also have negative consequences, many send these messages or images anyway. It also been

argued that Young people's sense of risk is not developed well enough to make good decisions when confronted with pressure to create and/or send a sext, and they are more likely to focus on the immediate rather than the long-term consequences. Thus some young people engage in sexting as a prank or for fun, to be flirtatious, to attract a new romantic partner or as a result of peer group pressure. Some youth also engages in it believing that communicating through social networks is anonymous. Again Modern young people are constantly exposed to images and behavior that the previous generation would have considered unsuitable for viewing. They are exposed to it on the Internet, in music videos, advertising and reality television shows. Thus the boundaries of what teenagers, both male and female, find acceptable has started to shift. It is also done as a way to get to know one's partner sexually and to build intimacy before the actual sex. This is more so with high school pupils who still identify as virgins. To them, it is a way to bridge the gap of distance between two interested, consenting partners who wish to be intimate, experiment or are just curious and wish to explore their sexuality. All of which can happen in the safety and comfort of their own rooms with the power to stop the interaction at any time if the parties choose to do so.

## **2.6 What are the youth sexting?**

According to a survey done by Adam and eve, (a leading inter retailer online sex store) 95% of sexters admit sending sexual thought related ideas, 38% and 36% sent sexy selfies and explicit images respectively while 20% showed their faces in their sexts.



**Fig. 1A. Snap Short Of Mobile Phone Conversation (Chat)**



### **2.7 Who are they sexting to?**

About 48% of female and 45% male had sexted to significant other. 25% of the men and 16% of the women have sexted to people they were not partners. 10% of men and women admitted sexting to total strangers (Adam and eve 2016).

### **2.8 Social Media For Sext Transmission - Sexting 101**

One way to tackle sexting issues is to be well informed about what sexting looks like and the social media through which teens transmit sext. Social media is anything that uses web or mobile-based technologies for interactive communication. This includes mobile

phones and the Internet. Suggesting that anyone with a computers or a mobile phone linked to the internet can participate in sexting and since the major means of communication for the youth is mobile phone there are now countless of sophisticated mobile phone applications that enable the youth to snap and transmit text, images and videos over the Internet or a data plan, allowing anyone with Internet access on a mobile phone to participate. Among the most popular Apps (applications) that are being used to promote sexting are Kik Messenger, WhatsApp, FaceTime, Fleshlight, Launchpad, Tinder, SnapChat, Slingshot, Whisper, Wickr, Burnnote, Whisper, Omegle, Ask.fm, Grindr, Yik Yak, StreetCha , Google Hangouts, ooVoo, and Face Flow.

- ❖ **Kik** allows anonymous, unlimited messaging from phones or iPods/iPads. It is possible to send pictures, videos, and pornographic links within the application and communication with strangers is easy.
- ❖ **WhatsApp** works for sending video messages without the same size limits imposed by traditional MMS (multimedia messaging service) messaging. MMS, like SMS (Short Messaging Service) messaging, send a message from one mobile to another. The difference is that MMS can include not just text, but also sound, images and video from a mobile phone to an email address
- ❖ **FaceTime** is not necessarily an app intended for sexual purposes. However, one company, Lovehoney, has made a way to make it easier to make FaceTime as sexual as possible. This company came up with a selfie stick vibrator that allows the user to provide FaceTime footage of the interior of the vagina.
- ❖ **Fleshlight Launchpad** is a device to help bridge the gap between sexting and

actual sex by allowing users to have sex with their iPads. The gadget is an iPad case with a vagina-like attachment. The Launchpad is an update to an existing Fleshlight line of vagina-like devices for men enables the user to have sex while enjoying content or communicating live with a friend via applications like Facetime or Skype.

- ❖ **Tinder** is a popular app for social networking, meeting new dates and simply getting laid (having sex). It removes the complication of creating a dating profile by using your Facebook page to generate match-finding info. The app presents a seemingly endless series of potential matches, all in ones geographic area, and one can swipe left for those they don't like a swipe right for those they do. Tinder saves the embarrassment of putting yourself out there by only telling you when someone they had swiped right for has also swiped right for them. Then, if you both like each other you can start messaging and set up a date.
- ❖ **Snapchat** is one of the most popular messaging apps teens use. It allows senders to set a time limit on a picture or video they send. When the allotted time is up the images disappear. This fleeting quality makes this app an ideal vehicle for sending sensual photos to each other.
- ❖ **Slingshot** this disappearing messaging app requires a person to snap a photo of your own to send the sender before you can view the picture they shot you. This app also uses tracking information to allow users to see your location.
- ❖ **Whisper.** is often used to confess anything ranging from something embarrassing to the sensual and it is intended for the over 17 crowd.

- ❖ **Wickr** is a messaging app that has a self-destructing message just like snapchat. But unlike snapchat, Wickr allows users to select a default destruction time for all communications. Once the message recipient looks at the message, the clock starts ticking and once time runs out, a satisfying bomb-like explosion animation does away with the message.
- ❖ **Burnnote** is snapchat for text. Essentially teens can pass notes that will self-delete after a period of time.
- ❖ **Omegle** is the modern version of the chat room where anything goes. Chat rooms are anonymous and open to any topic, meaning they are full of drug content, violence.
- ❖ **Ask.fm** is a social site that allows users to ask and answer questions anonymously, and the content can be sexual in nature.
- ❖ **Grindr** is an app that allows users to find others in their geographic location that are interested in quick, gratuitous sex.
- ❖ **Yak** is a social media smartphone application. It is available for iOS and Android and it allows people to create and view discussion threads within a 5-mile radius.
- ❖ **StreetChat** is an anonymous app that uses a “bulletin board” approach similar to YikYak. Users register by school and post photos on the selected board.
- ❖ **Google Hangouts** is a unified communications service that allows members to initiate and participate in text, voice or video chats, either one-on-one or in a group. Hangouts are built into Google+ and Gmail, and mobile phones.
- ❖ **ooVoo** is the world’s largest video and messaging apps. It suggests that kids

be at least 13 years old to create an account. ooVoo has free video calls ,Free text messaging, Unlimited free voice calls ,Patented Super Clear and Superior Audio technology which allow users to have a high quality picture and sound while they are talking to friends and family, Free screen share and works on any type of network – 4G, 3G, LTE and Wi-Fi only devices.

- ❖ **FaceFlow** is an app that allows one to have a video call online with several friends at the same time, for free. Making webcam chat easily accessible for everybody.

## **2.10 Sexting Secret Codes - Sext Dictionary**

Sexting being the new flirting language for the millennial boomers had had it secret code to conceal them from innocent parents and authorities. Millennials also known as Generation Y are persons reaching young adulthood in the early 21st century. Demographers and researchers use the early 1980s as starting birth years and the mid-1990s to early 2000s as ending birth years for the Millennials.

The sexting secret codes beginning from 143 – “I love you to” to WYRN – “What's Your Real Name?” Just like “LOL is an abbreviations for “Laugh Out Loud” for WhatsUp users, there are other secret codes that both sexters and non sexters computer technocrat use for texting. Among the ones found in the Sexting dictionary published by The Police Service of Northern Ireland (PSNI) are:

**Table1. Sexting Code**

1. 143 – I love you	41. JSYK – Just so you know
2. 2DAY – Today	42. KFY – Kiss for you
3. 4EAE – For ever and ever	43. KPC – Keeping parents clueless
4. ADN – Any day now	44. L8 – Late
5. AFAIK – As far as I know	45. LMBO – Laughing my butt off
6. AFK – Away from keyboard	46. LMIRL – Let's meet in real life
7. ASL – Age/sex/location	47. LMK – Let me know
8. ATM – At the moment	48. LOL – Laugh out loud
9. BFN – Bye for now	49. LSR – Loser
10. BOL – Be on later	50. MIRL – Meet in real life
11. BRB – Be right back	51. MOS – Mom over shoulder
12. BTW – By the way	52. NAGI– Not a good idea
13. CTN – Can't talk now	53. NIFOC – Nude in front of computer
14. DWBH – Don't worry, be happy	54. NM – Never mind
15. F2F or FTF – Face to face	55. NMU – Not much, you?
16. FWB – Friends with benefits	56. NP – No problem
17. FYEO – For your eyes only	57. NTS – Note to self
18. GAL – Get a life	58. OIC – Oh I see
19. GB – Goodbye	59. OMG – Oh my God
20. GLHF – Good luck, have fun	60. ORLY – Oh, really?
21. GTG – Got to go	61. OT– Off topic
22. GYPO – Get your pants off	62. OTP – On the phone
23. HAK – Hugs and kisses	63. P911 – Parent alert
24. HAND – Have a nice day	64. PAW – Parents are watching
25. HTH – Hope this helps / Happy to help	65. PCM – Please call me
26. HW– Homework	66. PIR – Parent in room
27. IDK – I don't know	67. PLS or PLZ– Please
28. IIRC – If I remember correctly	68. PPL – People
29. IKR – I know, right?	69. POS – Parents over shoulder
30. ILY / ILU – I love you	70. PTB – Please text back
31. IMHO – In my honest opinion / In my humble opinion	71. QQ – Crying. This abbreviation produces an emoticon in text. It's often use sarcastically.
32. IM – Instant message	72. RAK – Random act of kindness
33. IMO – In my opinion	73. RL – Real life
34. IRL– In real life	74. ROFL – Rolling on the floor laughing
35. IWSN – I want sex now	75. RT – Retweet
36. IU2U – It's up to you	76. RUOK – Are you OK?
37. IYKWIM – If you know what I mean	77. SMH – Shaking my head
38. J/K – Just kidding	78. SOS – Someone over shoulder
39. J4F – Just for fun	79. SRSLY – Seriously
40. JIC– Just in case	80. SSDD – Same stuff, different day
81. SWAK – Sealed with a kiss	97. YGM – You've got mail
82. SWYP – So, what's your problem?	98. YOLO – You only live once
83. SYS – See you soon	99. YW – You're welcome
84. TBC – To be continued	100. ZOMG – Oh my God (sarcastic)
85. TDTM – Talk dirty to me	101. 182 – I hate you
86. TIME – Tears in my eyes	102. 420 – Marijuana
87. WYCM – Will you call me?	103. ADR – Address
88. TMI– Too much information	104. CD9 – Code 9 – it means parents are around
89. TMRW – Tomorrow	105. ILU – I Love You
90. TTYL– Talk to you later	106. KOTL– Kiss On The Lips
91. TY or TU– Thank you	107. LMIRL – Let's Meet In Real Life
92. VSF – Very sad face	108. NIFOC – Nude In Front Of The Computer
93. WB – Welcome back	109. P999 – Parent Alert
94. WTH – What the heck?	110. PAL – Parents Are Listening or Peace And Love
95. WTPA – Where the party at?	111. RU/18 – Are You Over 18?
96. WYCM – Will you call me?	112. WYRN – What's Your Real Name?

## **2.11 Is Sexting Wrong Or Right?**

In this technological age, hormones plus smartphones would equal sexting and teenagers will send naughty pictures online (Natasha-Devon 2014)

As children mature, their bodies are influenced by hormones, which leave them susceptible to peer pressure and the need to garner attention. These tendencies and the desire to form their own self identity may encourage sending sensitive images or messages which can leave them vulnerable to harsh consequences that have the potential to follow them for life. A teen's sexual curiosity naturally leads them to explore this new and sensual part of their lives. This can be achieved in many ways, but within our technology concentrated society, teens often do this via sexting. Surprisingly, there is a stark difference in how teenagers sext and the consequences they individually faced. In view of that, one may ask. "Is sexting wrong or right?"

There is no straightforward answer to whether sexting is right or wrong. There are two schools of thoughts one for and the other auguring against sexting. The group for sexting, believes that with the rapid explosion of technology, and life becoming more convenient in many ways, mobile phones, the Internet, email, and texting had allowed people to keep in touch and communicate efficiently, and exchange information at the click of a button. Social media websites allow people to socialize and share their thoughts, photos and details of their lives because its reach is so extensive, its influence is so great, and its imprint is so permanent. It claims social media can be a helping tool but can be harmful for kids. They also think it is a modern day form of self-liberating - sexting may be a novel form for expressing attachment anxiety (Robert S. Weisskirch, 2011). A survey by Adam & Eve showed that 56 percent of those who engage in sexting find that it actually

improved their relationships. Majority of the respondents said it is a playful and flirtatious way to maintain passion and stay on each other's minds until they can find time to meet up in the real world. The same study also found that 95 percent of those surveyed typically send amorous thoughts or messages while only 38 percent send pictures. According Dr. Kat Van Kirk, a Clinical Sexologist and Marriage Family Therapist said , “sexting can be fun and flirting way to keep the passion alive as well as great way to tease your partner to pique his or her interest until they can physically be together”. It can bring two partners together through an intimacy otherwise denied by distance. In addition some researchers are of the view that, sexting is often a safer alternative to physical sex, without the risks of STIs and pregnancy others argue that it is an important feminist space in that, when used correctly it offers both partners equal power to start, stop and direct the interaction of the friendship. Young women feel comfortable with sexting because it diminished their risk of being overpowered or pressured into non-consensual sex (Meyer, 2016). Aside being fun and flirty the millennials use sexting to get positive feedback and boost their self-esteem. The millennials even though are highly aware of the risks posed by sexting and understand the harmful potential of sexting, believe that the benefits of sexting outweighed the risks. Another reason that is argued for sexting is that it builds intimacy. It is exactly this power which, from a cyber feminist theoretical point of view, makes sexting so appealing – especially to young women. Sexting is a turn taking, coauthoring process. Both parties contribute equally and have equal stakes in the outcome. Both partners have the power to sway the story and to back out if they feel uncomfortable. It is a space that allows both parties to ask for what they want, explain what they dislike and get the satisfaction they



desire by giving the other what they want. Suggesting that sexting has the potential to be liberating and empowering if used correctly. But sexters –particularly teenagers – need to be taught how to navigate these sometimes-murky waters.

Others are of the view that it create unnecessary pressure on the youth for example the turn-taking repertoire of sexting, which means that when one, receives a sext it creates the expectation of returning a similar contribution. If you receive a photo of your partner's naked torso, for instance, a text or photo of your face is not considered an appropriate response. For inexperienced sexters, this could create negative pressure. Most people are concern of the social and psychological health of the youth. According to the 2011 Mott's Children's Hospital National Poll on Children's Health, sexting ranked the number 10 in top health concerns for children. It was rated by 20% of adults rating it as a big problem in modern society (Hua, 2012). Adults are right to be concerned. Oftentimes, young people do not realize how serious or permanent these acts are. They may send provocative pictures via text message or email for attention or due to impulsivity, limited judgment and sexual development or curiosity. This combined with social media's immediate access can lead to dangerous consequences. Adolescents may not know that pictures sent through the Internet remain permanently in "cyberspace." This permanency can affect their chances of getting a job or getting into college as many employers and colleges now do Internet searches on applicants. Teens might think sext in good and fun, but far too often people fail to realize that anything online has the potential to be shared or recovered. Young adults might screenshot a smoldering nude photo, share racy images to get back at an ex, or post racy photos to inflict pain on a former friend. These images might be circulated online, in the locker room, or among classmates, which can lead to

severe taunting, depression, and thoughts of suicide for the victim. Often, sexting over the Internet can lead to child pornography court cases. Receivers and senders of sexts can be charged as sexual offenders if they were under age when the photos were taken. This even includes consensual sexting, it is claimed they all boils down to possessing nude photos of a child.

### **2.12 How Sexting Affects Teen And Their Relationships**

Research had shown that about 70% of teen boys and girls admit to sexting with their girlfriend or boyfriend in that teens are beginning to experience their initial romantic relationships and understanding the role of love, lust, and that healthy boundaries are new concepts they need to master. Sexting can often be used as a weapon in an unhealthy relationship and lead to digital abuse. Unfortunately, there is a negative connotation that the boyfriend ‘owns the girl’s body’ among some of the young men involved in these types of relationships. Many researchers feel that boys often feel entitled to a girl’s body and this can range anywhere from choosing her clothing to being overprotective. Boys and girls are both likely to send sexts, but it appears that boys are more inclined to be on the receiving end of sexts. Data from the Pew Internet Research shows that 18% of males as compared to 12% of females have been sent risqué images on their mobile devices 5% of boys of mobile phones owners admit to forwarding a sext. Unlike males, girls are often subjected to criticism and suffer when it comes to anything sexual. This double standard has been around for ages and it still exists. Sexting is not an exception to this long held belief, because many specialists feel girls are vulnerable when they are asked to participate. It appears that no matter what a girl chooses to do with her imaging she will

either be perceived as prudish or easy. Research shows that girls are asked to send sext 68% more than boys. Girls are often blamed for sexting behaviors

### **2.13 Consequences of sexting**

In general, youth obsession with social media may have numerous “dire” consequences. Consequences of sexting can either be emotional or legal or both legal and emotional. Such as depression, sleep deprivation, Internet addiction, social anxiety, aggression, social isolation, cyber bullying, susceptibility to online advertising, harassment, sexual solicitation, and over-sharing of personal information (Farber et al., 2012, p. 1225). Specific to sexuality, Theodore (2011) contends that technology is “changing the way adolescents develop sexually” and can lead to the early sexualization of teens, which is linked to lower self-esteem and other mental health issues such as self-image problems and eating disorders (p. 3). As Van Manen (2010) notes, adolescent use of Momus technologies to publicize the private has the potential to destroy the “inner values of the private,” with digital lifestyles capable of enriching or eroding past conceptions of intimacy and privacy (p. 1024).

Many times, teenagers participate in sexting without thinking about the consequences. But in one impulsive move, they can alter their lives from that point forward. Here are some of the ways teenagers who sext suffers emotionally.

- ❖ **Experience embarrassment and humiliation.** When a sexual or nude photo is sent to another person, there are no guarantees that this picture will remain private, and in many cases the pictures rarely do. Once a relationship breaks up, or a friend becomes angry, the pictures are often mass distributed as an

- act of revenge. As a result, the person in the pictures often experiences embarrassment and humiliation when the picture is distributed. Many teenagers report feeling like they have walked down the halls of their school without any clothes.
- ❖ **Experience bullying.** Once sext messages become public, it often opens teens up to bullying, especially cyber bullying. There are countless stories of young women who have participated in sexting and later have been bullied for it. Jessica Logan, and Amanda Todd are two stories involving sexting that ended with tragic results. These girls were called vulgar names in person and online. Additionally, they were excluded and ostracized by other students. Ultimately, both girls took their own lives by committing suicide in their rooms.
  - ❖ **Experience the end of friendships.** Many times when a sexual image becomes public, friendships dissolve. This experience can leave the teen in the photos feeling betrayed and alone. Because peer pressure is a powerful force, friends often distance themselves from the person being targeted because they fear they also will be bullied. They also worry their reputations will be tainted by the relationship.
  - ❖ **Experience guilt and shame.** Having personal and private images shared with a mass audience can cause immense guilt and shame. As a result, teenagers who participate in sexting often regret having done so. It also impacts self-esteem leaving them feeling vulnerable and exposed.
  - ❖ **Experience feelings of hopelessness.** As bullying, ridicule and embarrassment escalate around the sexting, teens can start to feel hopeless and become depressed.

They also may contemplate suicide which some actually do by ending their lives.

**Legal Consequences:** Teenagers often do not realize that sexting a boyfriend or girlfriend is not a harmless act. Instead, they can face serious legal ramifications. Below are some legal consequences regarding sexting.

- ❖ **Risk receiving criminal charges for child pornography.** Both teens who send the photos and who receive the photos can be charged. Those who send the photos may be charged with distributing child pornography in some states in the USA, and those who receive the photos may be charged with receiving child pornography, even if they did not request the photo. If they distribute the photos to friends, then they also may face charges for distributing child pornography.
- ❖ **Risk having to register as a sex offender.** Aside from possible jail time and probation if convicted of charges related to child pornography, teens that sext also run the risk of having to register as a sex offender as in Phillip Alpert case (Feyerick and Steffen, 2009). This label is extremely burdensome for young people because of the stigmas attached and the reporting required. What's more, it is something that is likely to follow them for the rest of their lives.
- ❖ **Risk exposing parents to legal consequences.** For instance, if parents know that their child is sexting and do nothing to end it, they may be charged with contributing to the delinquency of a minor. The parents can also be subject to a civil suit if the victim's parents choose to sue.
- ❖ **Risk having to enter foster care or being removed from the home.** If parents know about the sexting and do nothing to end it, then they may be subject to an investigation by Child Protective Services. Sometimes these investigations result

in a child being removed from the home.

## **2.14 Overview of the literature**

Over the last decade, sexting has gained increasing amounts of media attention (Lee et al. 2013). Much of the research on sexting is quantitative and often carried out in non-African context. The following study utilizes both quantitative and qualitative approach to explore sexting and self-esteem among SHS student within African context specifically Tema in Ghana West Africa. My goal is to examine sexting within Ghanaian culture. The goal of which is to contribute results that will potentially aid in the development and implementation of social policy and educational measures that will effectively help curb digital abuses. The following chapter delineates my choice of methodology, its relevance to and appropriateness for investigating sexting and self-esteem, and how the study was conducted. This chapter includes study area, type of study, discussion of the sample, sampling technique, and research protocol, or the specific methods used to conduct the study and how the data was collected and analyzed.

## **Chapter 3**

### **Methodology**

#### **3.1 Study area**

The survey was carried out in Tema Metropolis District. Tema is a city on the Bight Benin and Atlantic coast of Ghana. It is located 25 kilometers (16 miles) east of the capital city, Accra, in the Greater Accra region. The Tema Metropolis District is one of the two (2) metropolises in the sixteen (16) districts of the Greater Accra Region of Ghana. Its capital is Tema. This metropolis is grouped into twenty-six (26) communities. The most popular and busiest communities are Communities 1, 2, 4, 7, 8, 9, and 13 (Sakumono). The Metropolitan shares boundaries with Ashaiman Municipal, Adentan Municipal, and Ledzokuku Krowor Municipal to the west respectively, to the east with Kpone Katamanso District, to the North with Dangme West District and to the South with the Gulf of Guinea. Tema is one of Ghana's two deep seaports, the other being Sekondi-Takoradi. (Links *et al.*, 1990). As at 2013, Tema was the eleventh most populous settlement in Ghana, with an estimated population of 161,612 people ('Tema metropolitan', no date).

#### **3.2 Commercial activity and amenities**

Tema is home to the bigger of the two seaports in Ghana. This harbor handles 80% of Ghana's import and export cargo including the country's chief export, cocoa and deals with transit cargo destined for the landlocked countries of Burkina Faso, Mali and Niger. The port contributes substantially to the revenue of the state. There is also a canoe beach

where smaller boats/canoes dock which comprises the Inner Fishing Harbour, the Canoe Basin and the Outer Fishing Harbour, that is equipped with a commercial area, marketing and cold storage facilities to help make marketing of the fish easy. There is also a Free zone enclave that creates employment directly in terms of the number of people employed in the factories. There are numerous industries that engages in products such as aluminum, steel, processed fish, refined petroleum, textile, chemicals, food products, and cement. Major companies operating in Tema include Volta Aluminum (VALCO, Tema Oil Refinery (TOR), Nestle Ghana Ltd, Wahome Steel Ltd Tema Shipyard.

- ❖ **Markets-** Almost all the major communities within the Tema Metropolis have market facilities this includes semi-commercial centers.
- ❖ **Electricity-** The metropolis enjoys electricity from the Akosombo Hydro-electric Dam and almost every part of the metropolis is served with electricity from the dam.
- ❖ **Tourism and hospitality-** Tourism another sectors that play important role in the economy of the Metropolis. The Tema Metropolis has a number of tourist attractions, such as, the Meridian Stone, Greenwich Meridian and the Sakumono beach.
- ❖ **Transportation-** The main mode of transporting goods and services in the Metropolis is by road.



❖ **Financial Institutions-** There are over 20 financial institutions, such as, Ecobank, Zenith Bank, Ghana commercial Bank, Barclays Bank among others with branches spread throughout the Metropolis. The Metropolis has access to more than ten (10) major free-on-air television stations including, TV3, GTV, Metro TV, NET 2, Viasat 1, Crystal TV, ETV, UTV and TV Africa. All the six (6) main mobile telecommunication companies (i.e. Expresso, MTN, Tigo, Airtel, Glo and Vodafone) operate in the Metropolis. ('Tema metropolitan', no date).

### **3.4 Climate**

Tema is characterized by a dry equatorial climate. It lies in the driest part of southern Ghana, experiencing average annual rainfall of about 750 millimeters (30 in). Average temperatures are high year-round, often exceeding 30° Celsius. (Nkrumah, 2013).

### **3.5 Study Design**

The survey was conducted in a sample of students attending all six public Senior High Schools (SHSs), in the Tema metropolis of the Greater Accra Region of Ghana. It was undertaken between January 2017 and February 2017, a period that coincided with the second school term of their academic program.

### **3.6 School Selection**

The Tema district education office was approached for administrative permission to conduct the survey in the SHSs in the metropolis. The SHSs were selected on the basis of

being public schools in the Tema metropolis. Approaches were then made to the schools to introduce the study and solicit help in selecting the students.

### **3.7 Student Selection**

A multistage sampling technique consisting of probability proportion to size and simple random sampling was used to select respondents.

#### **❖ Students Per School (Probability Proportion to Size)**

Working through the schoolteachers and other authorities, the total number of students in year one (1) of SHS was used to apportion the number of students to be selected in each SHS. This was done in proportion to the size of students in each school. This was done to ensure that all students in the school had the equal probability of being selected irrespective of the size of their school, that is larger population schools and class had the same probability of getting into the sample as those in smaller population schools as well as class and vice versa to achieve the targeted sample size.

#### **❖ Selection of individual students (Simple Random Sampling)**

In each school, the total population of the SHS year one (1) students and a class total was obtained from the academic head. In all there was a total of about 5000 SHS year one (1) students in the six Public SHS in the Tema Metropolis. The study targeted to enroll 540 out of the estimated 5000 SHS one students. This was based on the desired margin of error of 4% in the estimation of the prevalence of sexting assuming a sexting prevalence calculation of 50% at 95% confidence level ([Http://www.calculator.net/sample-size](http://www.calculator.net/sample-size)

calculator.html?type=1&cl=95&ci=5&ps=5732+&x=98&y=17 2015) also because no such work has been done in Ghana. However an anticipated 7% non-response rate was added to increase statistical power proportion and also to account for those who will refuse to take part since a voluntary participation was sorted.

Two (2) numbers 534 and 111 was typed and printed on an A4 sheet and then cut out as ballot papers. The ballot papers were folded and separated into two containers. These papers were used for the random sampling. On the day of the survey, the students were counted and simple random sampling was done using balloting, as this helped to avoid the replacement of absent students for being included in the sample frame. After, the ballot container, the needed number per class and placebo numbers all total to the total number of student present in the class, was shaken and sent round for each student to pick one of the ballots papers from the box. After picking, the students were asked to open their papers and the students with the number 534 were called out counseled and taken to a hall or a class designated in the school for the survey (administering of the questionnaire). The investigator personally oversaw the sampling process in all the participating schools. An ascent letter was read to them before a questionnaire was given to respond. Consents were obtained from each class teacher before the selected students were asked to go to the place to individually and independently complete the questionnaire.

### **3.7 Data collection Instrument**

Data collection instrument was a self-administered questionnaire with question items for sexting and self-esteem. Questionnaires were used because it was less expensive and

easier to administer than personal interviews for group administration and it also allowed for confidentiality to be assured. The questionnaire sought information on the following:

### ❖ **The Questionnaire**

Sexting Questionnaire (Appendix 6) created by the investigator, were developed based on previous research (Lenhart, 2009) (Weisskirch and Delevi, 2011). The researcher also took into account knowledge of the local Ghanaian culture, social norms and topical issues on sexting practices. The questionnaire consisted of 4 sections labeled A to D consisting of 51 items. Section A (items 1 to 8) seeks information about the demographic characteristics of the respondents. Section B (items 9 to 12) seeks information on mobile phone possession and usage. Sections C (Items 13 to 41) seeks information about the knowledge on sexting while section D, consisting of the Rosenberg's questionnaire, (items 42 to 51) targeted self-esteem information. The sexting and self esteem questions were created through research that focused specifically on sexting and the self esteem by (Kirsrt Scholes-Balog at tall 2016) "Relationship Between Sexting, Self-esteem, and Sensational seeking among Australia Young Adults", Self-Esteem and Adolescent Sexual Behavior Among Students at an Elite Bolivian School , (Morris, Young and Jones, 2000), Prevalence and Characteristics of Youth Sexting (Mitchell *et al.*, 2012) and Rosenberg's Self-Esteem (Baumeister *et al.*, 2013). The investigator adapted and modified them based on the current knowledge of the topic to expand the knowledge on the issues. The items on self-esteem was measured with the Rosenberg Self-Esteem Scale (Baumeister *et al.*, 2013) This measure contains 10 items, each scored on a 3-point scale, ranging from strongly agree to strongly disagree. Responses to the 10 items are summed to obtain the

scale score range 0–15 (Results, 2013), with higher scores indicating higher self-esteem.

The questionnaire was in English and had three pages. Page one was the assent form that the researcher read to the students for their agreement or disagreement and the other two pages consisted of questions with section A to D. Section A included items designed to elicit information on socio demographic background such as: course offered, age, gender, ethnicity and parents highest educational level. Section B consists of questions about mobile phones. Section C consists of knowledge and awareness of sexting items and section D Rosenberg Self-Esteem Scale for the measurement of Self-esteem. On average, the questionnaire took 28 minutes to complete. Refreshments were given to the respondents in gratitude for their participation.

The questionnaires were pretested at Ashiaman Senior High School in the adjoining Ashiaman District. This district has the characteristics similar to those of SHS in the Tema Metropolis. Appropriate modifications were made to finalize the questionnaire.

### **3.9 Sample size**

A target sample size of 576 was set. This was based on the assumption that the prevalence of sexting among the about 6000 SHS students in Tema is 50% (assumed to achieve maximum variance). This target was therefore to afford an estimation of the prevalence in the study sample within a margin of error of 3.9% at 95% confidence level.

### **3.10 Data management**

Data entering was done using Epi info7, Imported and cleaned in excel. Quantitative data analysis was conducted using STATA statistical software package (StataCorp. 2015.

*Stata Statistical Software: Release 14*. College Station, TX: StataCorp LP). A univariate analysis of each variable was conducted to calculate summary statistics and bivariate logistic regression analysis was conducted between the independent variables and Sexting as the outcome variable based on the research question, “Have you in the past twelve (12) month sent any sexy material using mobile phone?”

### **3.11 Ethical considerations**

Approval from the Ethics Committee of Ensign Collage Of Public Health and Tema Ministry of Education were granted before the study commenced. Invitation letters (Appendix 3) were sent to the school principals detailing the participating schools and the study objectives. Verbal and, or telephone conversation were held with the academic heads in each school detailing the study procedures, after the heads of the schools had given permission. Consents were obtained from each class teacher before the study was carried out. Assent (Appendix 4) was also obtained from individual students.

## Chapter4

### Results

This research seeks to assess the prevalence of mobile phone sexting among SHS (Senior High Schools) students in the Tema Metropolis and examine the relationship, if any, between mobile phone sexting and self-esteem of SHS students, sexting and engaging in sexual act. It also seeks to assess the average time per day sexters and non-sexters spent on mobile phones.

In all five hundred and seventy-six (576) students in six (6) Public Senior High Schools participated in the study. All the students were in SHS one (1) and were made up of 271 (47%) males and 305 (53%) females. Of the total study participants, 221 (38.4%) reported General Arts (GA) as their course of studying, while 140 (24.3%) reported offering Science, 82 (14.2%) Home Economics, with 51 (8.9%) and 82 (14.2%) reported offering Visual Arts and Business/Technical respectively. The ages of the participants were normally distributed with a mean and standard deviation being 16.0 and 1.4years respectively while median and inter-quartile ranges were 16 years and 15-17 years respectively. Also 25.4% of the respondents were boarders and 74.3% non-boarders i.e. day students.

As (Table 1) Depicts, majority of the respondents, 268 (46.53%) were Akan. The rest were made up of Ga/Ga adangbe 150 (26.0%), Ewe 117 (20.3%) while the remaining belonging to other ethnic group such as Frafra, Mamprosi etc. Assessment of The highest educational level attained by respondents' parents revealed that about 32% had attend SSS educational level while 34% of the mothers ware Junior High School level. More

than half of the respondents 307 (53.3%) lived with both parents. Classification by religious beliefs revealed that 532 (92.4%) were Christians and the rest consisting mainly of Muslims and traditionalist.

**Table 2. Relationship Between Demographic Characteristics Of Students And Sexting**

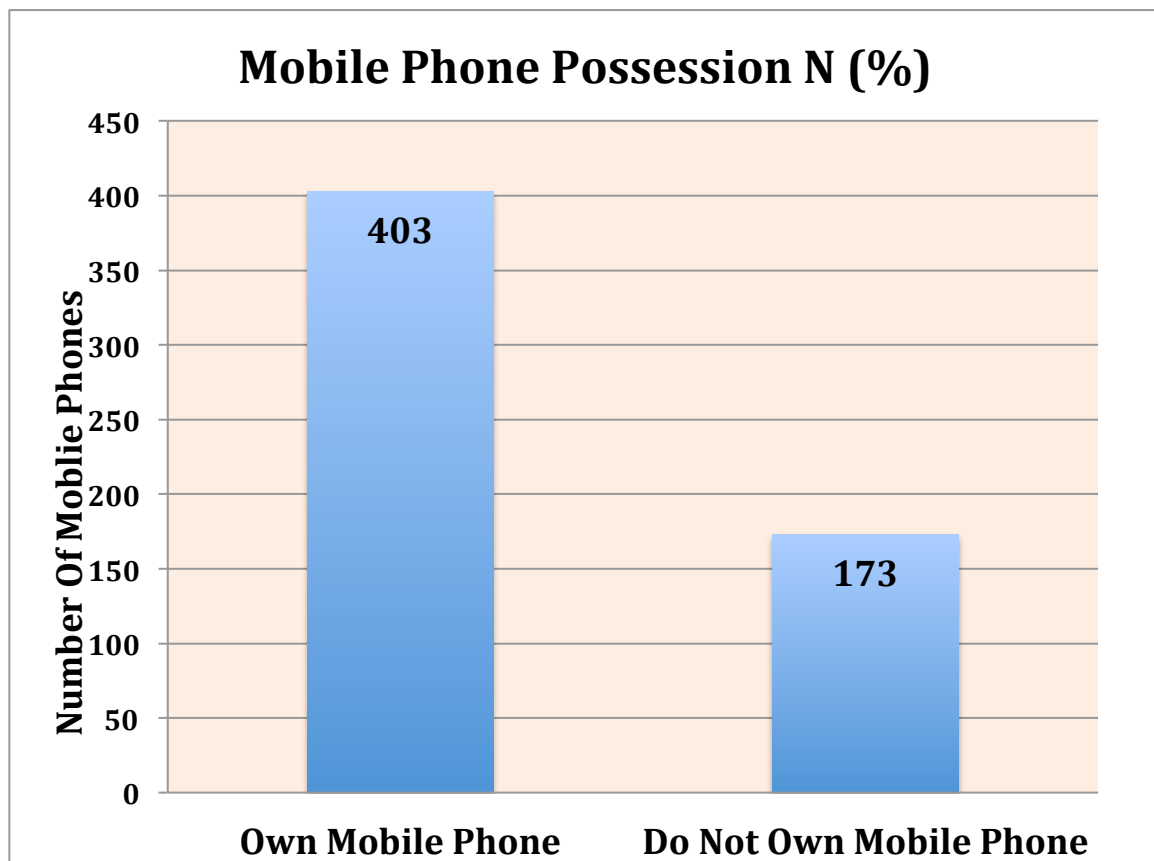
Variable	Category	Number (%)	Sexting			
			Yes (%)	No (%)	OR (95%CI)	P-value
Age	< 16 years	210(36.5)	40(28.2)	170(39.2)	1	-
	>=16 years	366(63.5)	102(71.8)	264(60.8)	1.60(1.072-4.1)	0.02
Gender	Male	271 (47.0)	103(72.5)	168 (38.7)	4.18(2.71-6.46)	<0.001
	Female	305 (53.0)	39 (27.5)	266 (61.3)	1	-
Ethnicity	Akan	268 (46.5)	73(51.4)	195(44.9)	0.81(0.40-1.64)	0.55
	Ga/Dangbe	150 (26.0)	28 (19.7)	122(28.1)	0.49(0.23-1.08)	0.07
	Ewe	117 (20.3)	28 (19.7)	89 (20.5)	0.68(0.31-1.49)	0.33
	Others	41 (7.1)	13(9.2)	28(6.5)	1	-
Religion	Christian	532 (92.4)	130(91.6)	402(92.6)	0.86(0.43-1.72)	0.68
	Islam And Others	44 (7.6)	12(8.5)	32(7.4)	1	-
Highest Educational Level Of Father	College/University	143 (24.8)	31 (21.8)	112(25.8)	0.83(0.34-2.04)	0.68
	Snr. High School	186 (32.3)	56 (39.4)	130(30.0)	1.29(0.55-3.06)	0.56
	Jnr. High School	136 (23.6)	30(21.1)	106 (24.4)	0.85(0.35-2.09)	0.72
	No formal Education	79 (13.7)	17(12.0)	62(14.3)	0.83(0.33-2.04)	0.68
	Some Tech/Voc.	32 (5.6)	8 (5.63)	24(5.5)	1	-
Highest Educational Level Of Mother	College/ University	83 (14.4)	18(12.68)	65(14.98)	1.87(0.57-6.11)	0.29
	Snr. High School	150 (26.0)	37(26.06)	113(26.04)	2.21(0.72-6.80)	0.16
	Jnr High School	194 (33.5)	52(36.6)	141(32.5)	2.49(0.82-7.53)	0.09
	No formal Education	119 (20.7)	31(21.8)	88(20.3)	2.38(0.76-7.43)	0.12
	Some Tech/Voc.	31 (5.4)	4(2.8)	27(6.2)	1	-
Student Is Living With	Both Parents	307 (53.3)	78(54.9)	229(52.8)	1.17(0.70-1.94)	0.55
	Mother Alone	110 (19.1)	25 (17.6)	85(19.6)	1.01(0.54-1.88)	0.98
	Father Alone	44 (7.6)	13 (9.2)	31(7.1)	1.44(0.65-3.15)	0.36
	Others	115 (20.0)	26(18.3)	89(20.5)	1	-
Status Of Student	Boarder	148 (25.7)	43(30.3)	105(24.2)	1	-
	Non-Boarder	428 (74.3)	99(69.72)	329(75.8)	0.73(0.48-1.12)	0.15
Course Offered	General Arts	221 (38.4)	54(38.0)	167(38.5)	0.66(0.38-1.15)	0.14
	Science	140 (24.3)	30(21.1)	110(25.4)	0.56(0.30-1.03)	0.06
	Home Economics	82 (14.2)	12(8.5)	70(16.1)	0.35(0.16-0.77)	0.01
	Visual Arts	51 (8.9)	19(13.4)	32(7.4)	1.21(0.58-2.52)	0.61
	Business	82 (14.2)	27(19.0)	55(12.7)	1	-



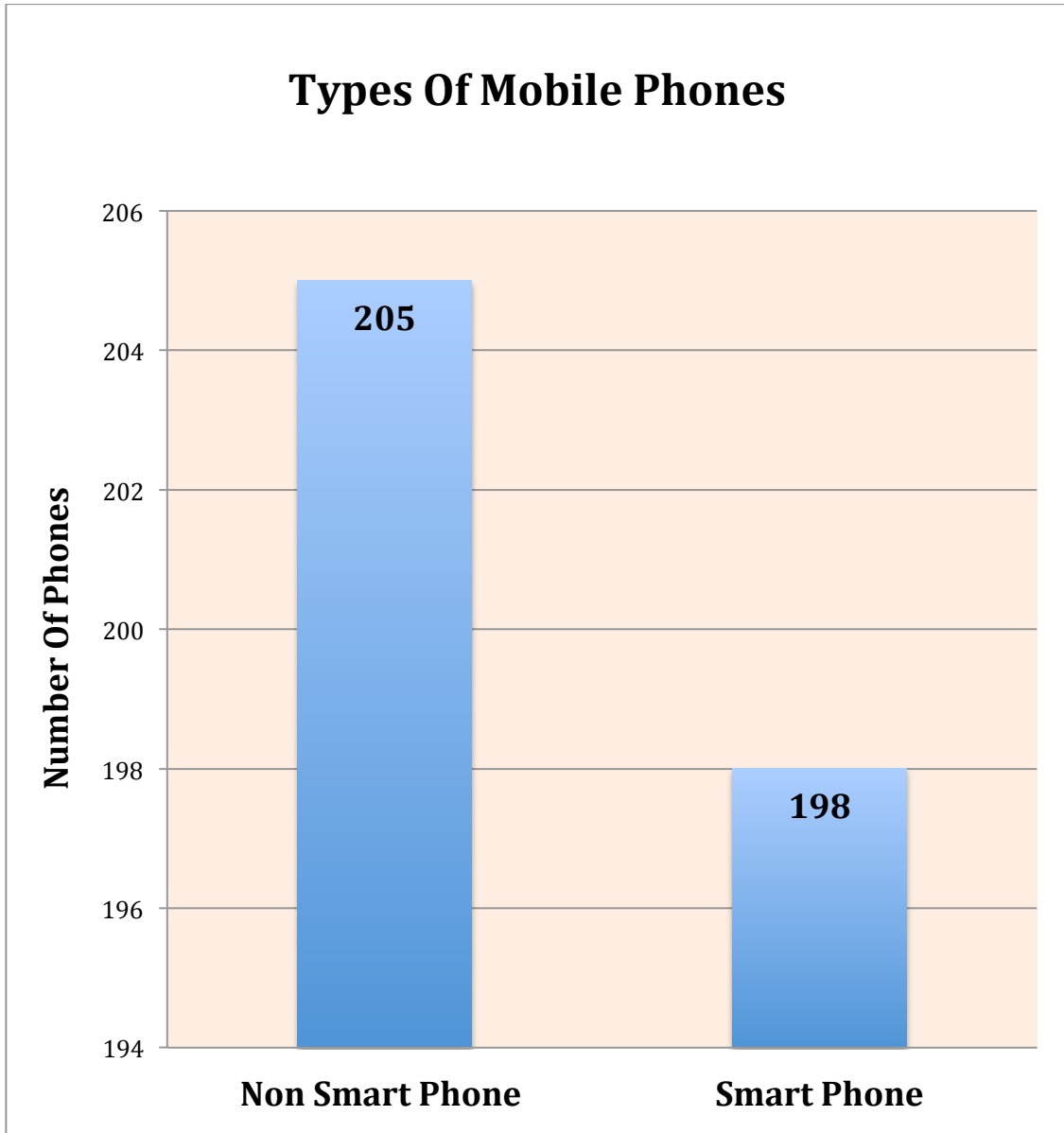
#### 4.1 Possession And Average Time Spent Per Day On Mobile Phones

About 70% of the respondents own their own mobile phones of which 198(34.4%) were smart phones and the rest 378(65.6%) non-smart phones. The median age at which the respondents had their first phones was (10.4years SD = 6.3years). 41.6%, 6.4% and 23.7% of the respondents who had no mobile phone of their own had access to their mothers, fathers and friends phone respectively (Fig. 2, 3 & 4). The average time spent on mobile phone by participants per day was 162.13mins(2.70hours). 211.68(3.53hrs) by sexters and 145.92(2.43) by nonsexters

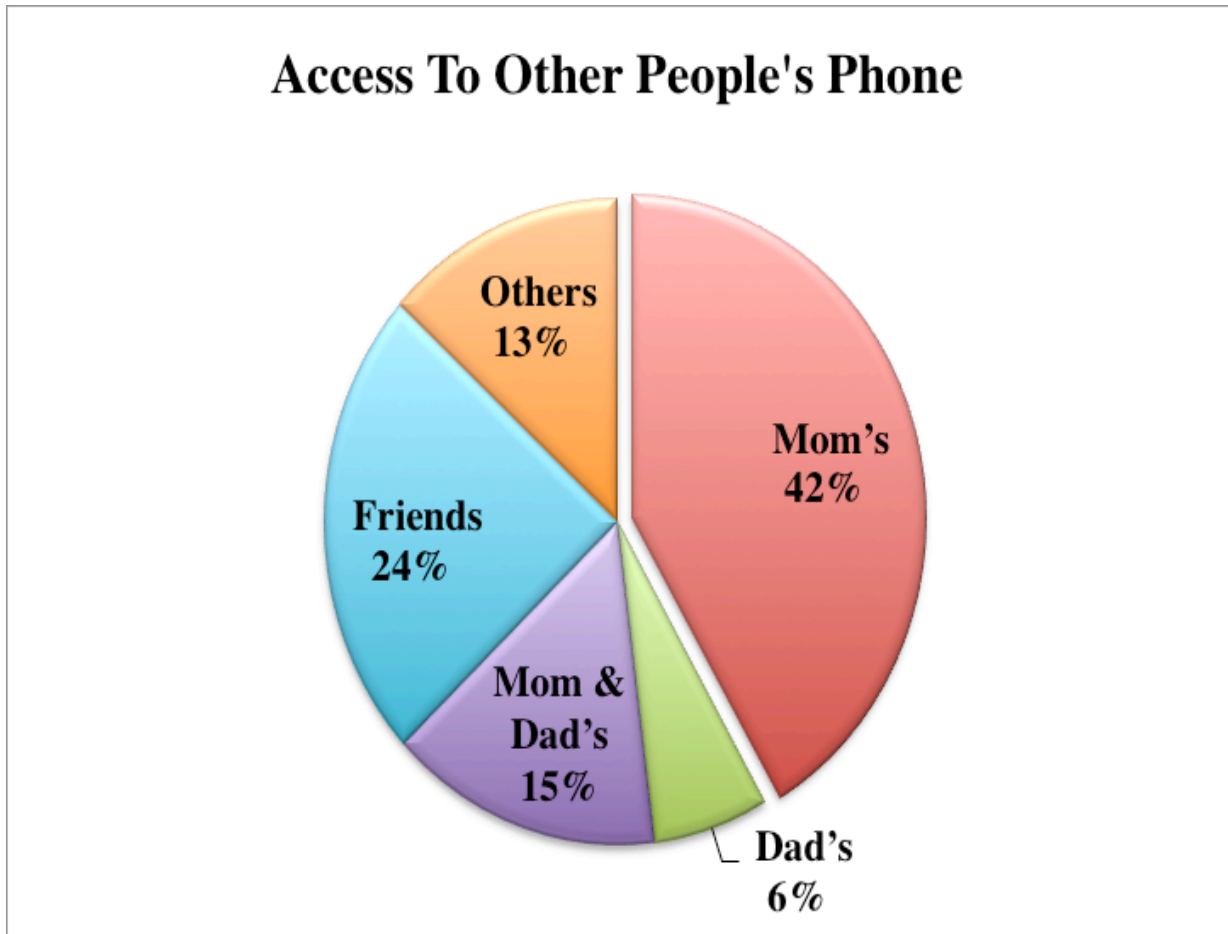
Fig. 2. Possession Of Mobile Phones



**Fig. 3. Type Of Mobile Phones**



**Fig. 4. Accessibility To Other People's Mobile Phones**



#### 4.2 Sexting Awareness, Prevalence And Average Age Of First Sexting

Awareness of Sexting varied slightly by gender. Out of the 229 respondents who, indicated the awareness of sexting, 45% (103) were boys while 55% (126) were girls. 24.7% of the respondents had engaged in sexting in the past 12 months with boys reported higher rates of sexting than girls (72.5%=103 vs. 27.5% = 39). The median age of first sexting was 14.53 years , SD=2.1. The age interval between participant awareness of sexting and actual sext was about 1.58year . About 43% of sexters sexed pictures of which the majority 45% saw the sexual materials on their friends' phones. (Table. 3)

**Table 3. Sexting Awareness, Prevalence And The Average Age Of First Sexting**

Variable	Categories	Boys	Girls	Overall
Heard Of The Word Sexting	Yes	103 (38.0%)	126 (41.3%)	229 (39.8%)
	No	168 (62.0%)	179 (58.7%)	347 (60.2%)
Age of First heard Sexting	Age (Years)	13.49yrs (SD= 2.36)	13.11yrs (SD=2.37)	12.95yrs (SD 2.55)
Sent Sexual Materials	Yes	107 (39.3%)	43 (14.1%)	150 (26.0%)
	No	164 (60.5%)	262 (85.9%)	426 (74.0%)
Age First Sexted	Age (Years)	14.76yrs (SD=2.15)	14yrs (SD=1.83)	14.53yrs (SD=2.09)

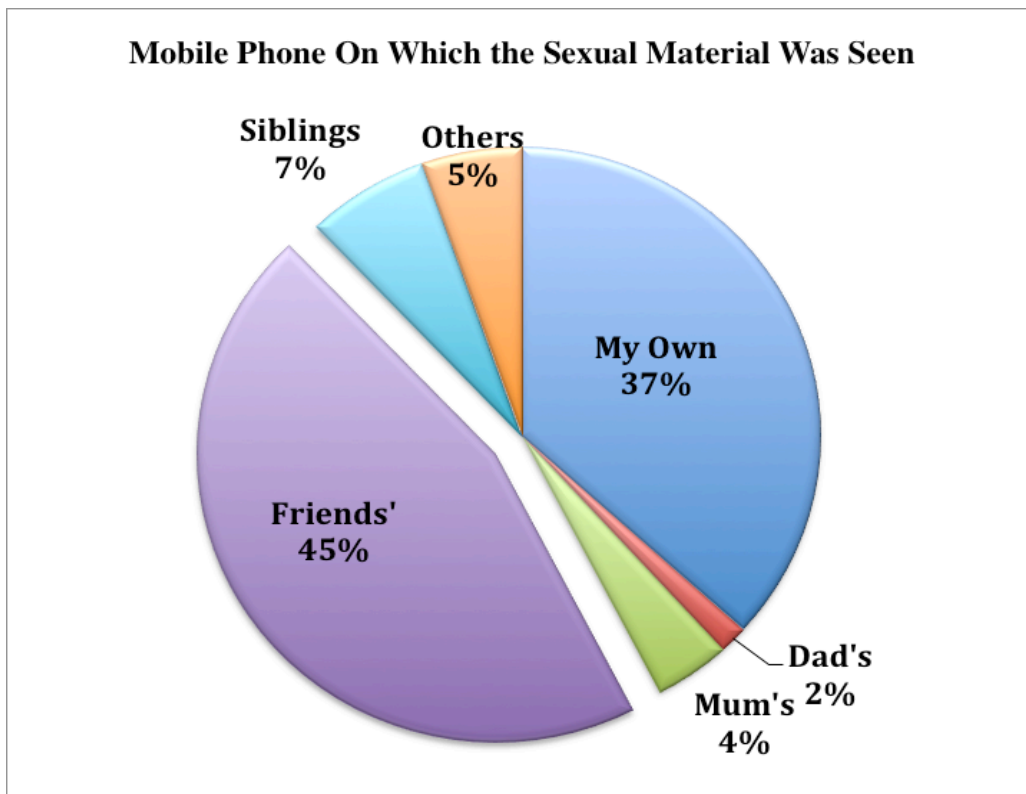
#### 4.3 Sexting By Age Group

Of the 142 sexters, 62 sexted pictures while 45 and 34 sexted Videos and Text respectively. One (1) participant did not respond. Majority Of the respondents 377 (65.5%) who had seen or read sexual materials on phone did so on their friends' phone (Table 4). Majority (176 = 45.5%) of the sexting was done via friend's mobile phone (Fig. 5)

**Table 4. Type of Sexting By Age Group**

Age group	Picture	Video	Text	Total
13–15	15 (24.2%)	14 (30.1%)	11 (32.4%)	40
16–19	46 (74.2%)	30 (66.7%)	21 (61.8%)	97
20-24	1 (1.6%)	1 (2.2%)	2 (5.9%)	4
Total	62	45	34	141

**Fig. 5. The Mobile Phones Via Which The Sexting Were Carried Out**



#### 4.4 Perceptions of Sexting

The survey also asked participants about their perceptions of sexting. That is, the respondents were asked “why do /don't Text/photo/video sext” in order to get more insight about their perceptions or motivations with the practices. Below are some of the responses.

##### ❖ Reasons for sexting

Students who admitted to sexting nude photos and videos indicated they did so because it was a source of sexual arousal, impacted positively on their relations and was also source of entertainment. These were typically put as follows:

*“I photo sext when I have the desire for sex”. – An 18year old male business day student.*

*“It is fun”. - A 15years male General Art day student.*

*I sext as a joke to my friends”. - A 16years old male general Arts day student.*

*“I do video sexting because the person I send to is the girl I love ”. - A 16year old male day student.*

*“Because it is interesting and exciting.” – A 16years old male science day students.*

*“I sext because they want to see my appearance”. - A 15years old female Home Economics day student.*

*“I sext because of the group I find myself in”. - An 18years old male Visual Art day student.*

*“It can make me ejaculate and masturbate”. - A 15 years old male business day student.*

*“I did it because I was asked to send”. - A 16years old male science day student*

*“Because it will help me get more position in sex”. - An 18 year old male General Arts day student”.*

*“I do video sexting because I am addicted to it”. - A 16years old day male science student*

**❖ Reasons for not sexting**

Students who do not sext had religious motives, shyness, not having a smart phone or some sort of parental/guardian control. These were typically put as follows:

*“In the Quran, it is very bad for someone to see my nakedness”. - A 17years old female day students.*

*“Because I think the person will not respect me”. - An 18year old General Arts day student.*

*“My phone is not a smart phone”. - An 18years Visual Art male day student.*

*“I sometimes give my phone to my friends”. - A 15year old female General Arts day student.*

*“My dad will beat me up”. - A 15years old female general Arts day student.*

*“Because my mum said it is a bad habit”. - A 15years old Home economics day student.*

*“I do not sext because it is immoral behavior”. - A 16 year old male science border.*

*“I do not do that because the bible teachers me not to”. - A 15year old science male day student.*

**Table 5. Agreement / Disagreement Of Sexting Behavior**

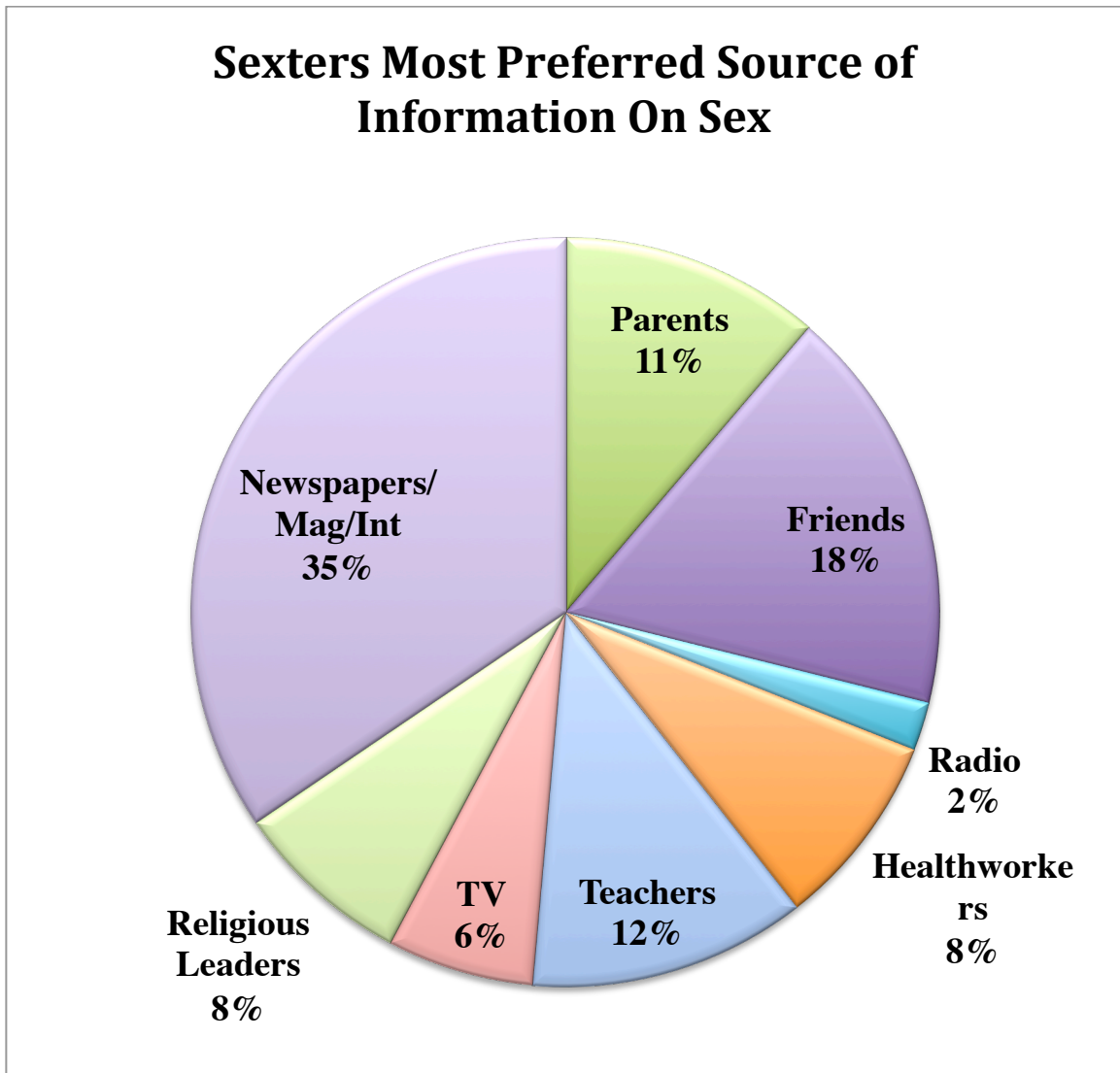
Attitudes Towards Sexting Behavior N (%)		
Behavior	Agree	Disagree
Filthy	408 (70.8)	168 (29.2)
Hot	235 (40.8)	341 (59.2)
Exciting	180 (31.3)	396 (68.6)
Dangerous	430 (74.7)	146 (25.4)
Harmless	195 (33.9)	381 (66.2)
Immoral	438 (76.0)	138 (24.0)
Healthy	112 (19.4)	464 (80.6)
Arousing	341 (59.2)	235 (40.8)
Fun	177 (30.7)	399 (69.3)
Unlawful	345 (59.9)	231 (40.1)

#### **4.5 Participants Preferred Source Of Sexual Information**

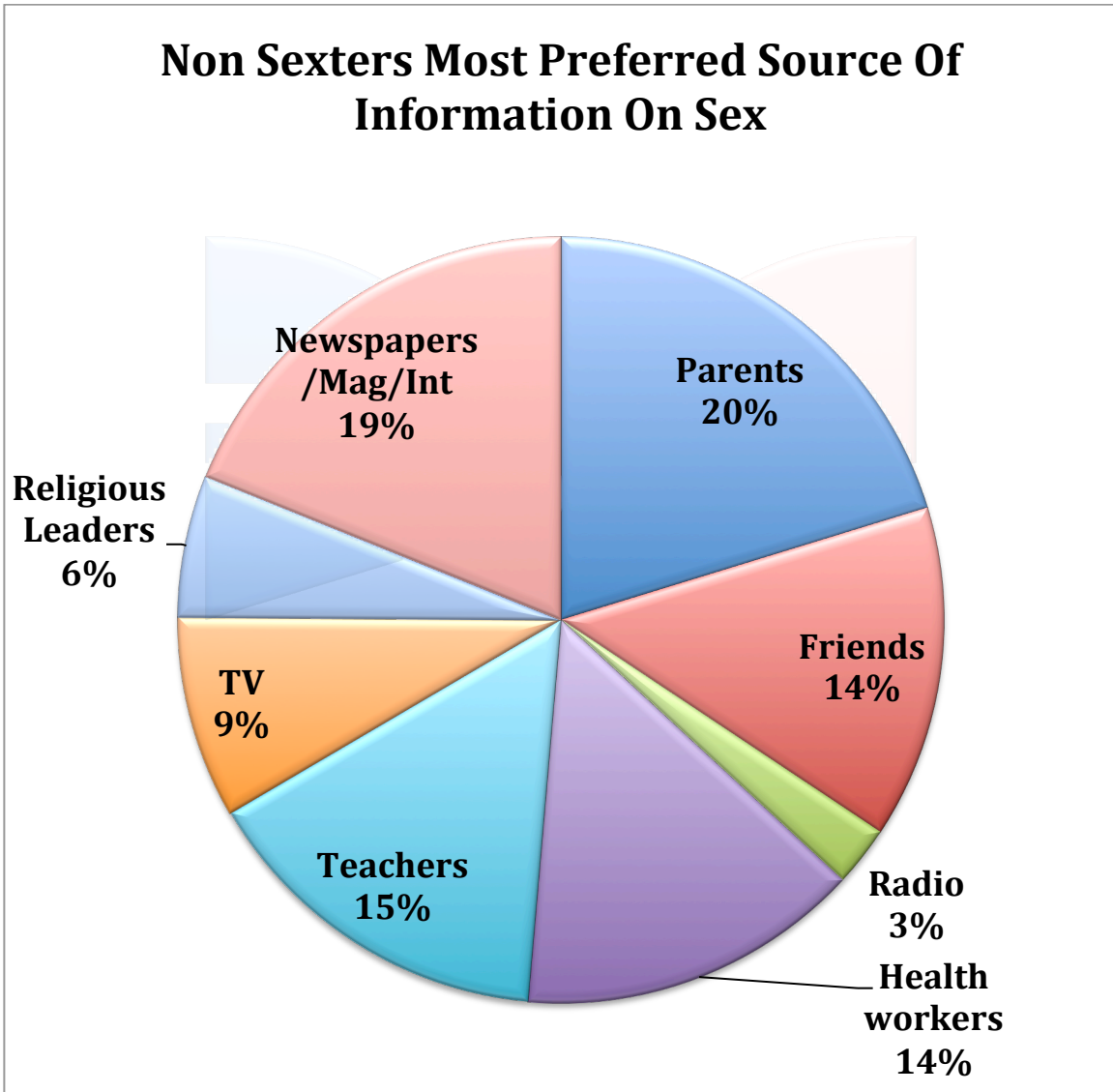
Preferred source of sexual information by sexters and non-sexters differs. Majority of the participants (131=22.7%) out of the 576 preferred News/Mag/Internet as their source of information. Sexters about 35% preferred News/Mag/Internet to about 20% of the Non sexters (Fig6 & 7)



**Fig.6. Sexters Most Preferred Source Of Information On Sex**



**Fig. 7. Non Sexters Most Preferred Source Of Information On Sex**



**Table 6. Self-Esteem Levels (Using 4 Point Likert scale coding)**

Below are list of statements dealing with your general feelings about yourself. Please indicate how strongly you Agree or Disagree with each statement	Strongly Agree	Agree	Disagree	Strongly Disagree
On the whole, I am satisfied with myself.	272	168	77	59
At times I think I am no good at all	99	99	99	147
I feel that I have a number of good qualities	332	173	49	22
I am able to do things as well as most other people	286	183	78	29
I feel I do not have much to be proud of	140	148	130	158
I certainly feel useless at times	107	140	116	213
I feel that I am a person of worth, at least on equal plane with others	191	200	112	73
I wish I could have more respect for myself	309	177	43	47
All in all I am inclined to feel that I am a failure	45	56	131	344
I take a positive attitude towards myself	373	146	29	28

Note: Items were measured on a scale ranging from 1 = strongly disagree to 5 = strongly agree.

#### **4.6 Sexting, Self-Esteem And Sexuality**

The results of the binary logistic regression analyses between sexting and self-esteem indicated no statistical significant associations ( $p=0.41$  95%CL 0.49-1.34). However bivariate analyses to measure the relationships between selected variables (Owning a mobile phone, heard the word “Sexting”, Seen sext on others phone, being in a

relationship) with Sexting (sending Sexy materials) indicated statistically significant associations. Relationship status (having a boy friend or not); being in a relationship (compared to not being a relationship) and sexting were significantly associated with elevated odds of being sexually active. Whiles not owning a mobile phone was protective

**Table 7. Raw Results Of The Logistic Regression of Sexting And Self-Esteem**

Sexting	Odds Ratio	Std. Err.	z	P>z	[95% Conf.Interval]	
Esteem	0.8095135	0.2093414	-0.82	0.414	0.4876432	1.343835
_cons	0.390625	0.0921287	-3.99	0	0.2460393	0.620176

**Table 8 Relationship Between Selected Variables Of Students And Sexting**

Variable	Category	Number (%)	Sexting			
			Yes (%)	No (%)	OR (95%CI)	P-value
Owning A Mobile Phone	Yes	403 (70)	117 (82.4)	286 (65.9)	1	-
	No	173 (30)	25 (17.6)	148 (34.1)	0.41 (0.26-0.67)	<0.01
Type Of Phone	Smart Phone	198 (34.4)	85 (59.9)	293 (67.5)	1	-
	Non SmartPhone	378 (65.6)	57 (40.1)	141 (32.5)	1.39 (0.49-2.06)	0.1
Heard Of The Word "Sexting"	Yes	229 (39.8)	71 (50)	158 (36.4)	1.75 (1.19-2.57)	<0.01
	No	347 (60.2)	71 (50)	276 (63.6)	1	-
Seen Sext On A Mobile Phone	Yes	142 (24.7)	120 (84.5)	257 (59.2)	3.6 (2.26-6.24)	<0.01
	No	434 (75.4)	22 (15.5)	177 (40.8)	1-	-
In A Relationship	No	423 (73.4)	84 (59.2)	339 (78.1)	1	-
	Yes	153 (26.6)	58 (40.9)	95 (21.9)	2.46 (1.63-3.720)	<0.01
Self-Esteem	Negative	89 (15.4)	25 (17.6)	64 (14.8)	1.24 (0.74-2.05)	0.41
	Positive	487 (84.6)	117 (82.4)	370 (85.2)	1	-

**Table 9. Relationship Between Selected Variables Of Students And Sexuality**

Variable	Category	Number (%)	Had Sex			
			Yes (%)	No (%)	OR (95%CI)	P-value
Age	< 16 years	210 (36.5)	17 (18.8)	193 (39.7)	1	-
	>=16 years	366 (63.5)	73 (81.1)	293 (60.3)	2.83 (1.61-4.98)	<0.01
Gender	Male	271 (47.0)	52 (57.8)	219 (45.1)	1	-
	Female	305 (53.0)	38 (42.2)	267 (54.9)	0.60 (0.38-0.95)	0.03
Sexting	Yes	268 (46.5)	44 (48.9)	98 (20.2)	3.79 (2.33-6.14)	<0.01
	No	150 (26.0)	46 (51.1)	388 (79.8)	1	-
In a Relationship	No Boy Friend	423 (73.4)	43 (47.8)	380 (78.2)	1	-
	Have a Boyfriend	153 (26.6)	47 (52.2)	106 (21.8)	3.92 (2.42-6.35)	<0.01

**Table 10. Relationship Between Demographic Characteristics Of Students And Self-Esteem**

Variable	Category	Number (%)	Self-Esteem			
			Negative (%)	Positive (%)	OR (95%CI)	P-value
Age	< 16 years	210 (36.5)	95 (23.5)	310 (76.5)	1	-
	>=16 years	366 (63.5)	54 (31.4)	118 (68.6)	0.56 (0.34- 0.93)	0.02
Gender	Male	271 (47.0)	36 (40.5)	235 (48.25)	1.37 (0.87-2.18)	0.18
	Female	305 (53.0)	53 (59.6)	252 (51.8)	1	-
Ethnicity	Akan	268 (46.5)	36 (40.5)	232 (47.6)	1.81 (0.80-4.13)	0.8
	Ga/Dangbe	150 (26.0)	25 (28.1)	125 (25.7)	1.41 (0.60-3.32)	0.6
	Ewe	117 (20.3)	19 (21.4)	98 (20.1)	1.45 (0.59-3.54)	0.59
	Others	41 (7.1)	9 (10.1)	32 (6.6)	1	-
Religion	Christian	532 (92.4)	80 (89.9)	452 (92.8)	1.45 (0.67-3.14)	0.34
	Islam And Others	44 (7.6)	9 (10.1)	35 (7.2)	1	-
Highest Educational Level Of Father	College /University	143 (24.8)	15 (16.9)	128 (26.3)	1.58 (0.53- 4.74)	0.41
	Snr. High School	186 (32.3)	23 (25.8)	163 (33.5)	1.31 (0.46-3.76)	0.61
	Jnr. High School	136 (23.6)	28 (31.5)	108 (22.2)	0.71 (0.25-2.03)	0.53
	No formal Education	79 (13.7)	18 (20.2)	61 (12.5)	0.63 (0.21-1.88)	0.4
	Others	32 (5.6)	5 (5.6)	27(5.5)	1	-
Highest Educational Level Of Mother	College/ University	83 (14.4)	10 (11.2)	73 (15.0)	1.75 (0.57-5.37)	0.32
	Snr High School	150 (26.0)	16 (18.0)	134 (27.5)	2.01 (0.71-5.68)	0.18
	Jnr High School	194 (33.5)	34 (38.2)	159 (32.7)	1.12 (0.43-2.95)	0.82
	None	119 (20.7)	23 (25.8)	96 (19.7)	1.00 (0.37-2.73)	1
	Others	31 (5.4)	6 (6.7)	25 (5.1)	1	-
Student Is Living With	Both Parents	307 (53.3)	39 (43.8)	268 (55.0)	2.01 (1.15-3.50)	0.01
	Mother Alone	110 (19.1)	18 (20.2)	92 (18.9)	1.49 (0.76-2.92)	0.23
	Father Alone	45 (7.6)	6 (6.7)	38 (7.8)	1.85 (0.70-4.90)	0.21
	Others	115 (20.0)	26 (29.2)	89 (18.3)	1	-
Status Of Student	Boarder	148 (25.7)	22 (24.7)	126 (25.9)	1	-
	Non-Boarder	428(74.3)	67 (75.3)	361 (74.1)	0.94 (0.56-1.59)	0.82
Course Offered	General Arts	221 (38.4)	32 (36.0)	189 (38.8)	0.92 (0.44-1.92)	0.81
	Science	140 (24.3)	18 (20.2)	122 (25.1)	1.05 (0.47-2.35)	0.91
	Home Economics	82 (14.2)	17 (19.1)	65 (13.4)	0.59 (0.26-1.37)	0.21
	Visual Arts	51 (8.9)	11 (12.4)	40 (8.2)	0.56 (0.22-1.43)	0.22
	Business	82 (14.2)	11 (12.4)	71 (14.6)	1	-

## **Chapter 5**

### **Discussion**

The current study, to our knowledge is the first to examine sexting among a probability sample of public SHS (Senior High School) students in Ghana. Several important findings are gleaned from the current study including sexting behaviors and self-esteem among SHS students in Tema Metropolis.

#### **5.1 Prevalence**

This study reveals that prevalence of teen involved in sexting varies depending on the activities included in the concept of sexting (Text sexting, Photo sexting or Video sexting). In this study, sexting was defined as sending sexy materials via mobile phone. Based on this definition, our study prevalent for sexting behaviors among the Students was 24.7%. This finding is higher than those found in U.S. studies of teen sexting, on mass media research (National Campaign to Prevent Teen Pregnancy, 2008) particularly the Sex and Tech Survey. But lower than sexting among the youth in Australia as reported by sexting and young people (Lee and MCGovern, 2015).

#### **5.2 Gender**

The current study shows that gender is a significant factor in sexting. The percentage of boys who sexed was higher compared to their girls' counterparts (72.5%=103 vs. 27.5% = 39). Additionally, about girls 55% of the participants in the study had sexting awareness than their boys 45% counterparts. Suggesting that knowing and being educated

about sexting will help curb sexting practice. Also consistent with two findings from The National Campaign to Prevent Teen Pregnancy (2008) and Cox survey (Controls, 2009), that females feel more pressure to send nude or semi-nude pictures of themselves, as well as sexually suggestive text messages, the current study shows that girls were more likely than boys to send or post sexy photos and videos of themselves. The result shows that 65.7% of girls have been asked to send sexy photos, and 65.3 % to send sexy video of them selves to someone else compared to 34.3 % and 34.7% of the boys respectively. In both cases, boys were more likely to ask and girls more likely to have been asked for the sexy photos and videos.

### **5.3 Attitudes**

The survey also provided further findings in regard to attitudes and awareness toward sexting. The results shows that teens were aware of the harms and dangers sexting practices could be. For example 74.7% of the participant agreed that sexting is dangerous while about 66% disagreed that it is harmless. Concerning the legality of the practice, majority 60% agreed that sexting is unlawful which is consistent with the findings of “Sexting and Young People” (Lee and McGovern, 2015). Again majority of the participant disagree that sexting is Fun (59.2%), exciting (68.8%) and healthy (80.6 %) giving parent and educator the hope that something could be done once we have a policy in place for sexting education.

#### **5.4 Mobile Phone Possessions and Use**

The study find about 70% of the participant owning their own mobile phone and about 34% were smart mobile phone. The study also find correlation between ownership of mobile phone and sexting that is compared to those who have mobile phone, non-mobile phone owners are 0.45 less likely to sext ( $p = 0.001$  95%CI 0.30-0.74) and the time sexters spends per day on mobile phone was about 1.5 times more than that of non-sexters which could affect academic work. In future research could be done to find if sexting affects schoolwork.

#### **5.5 Relationships And Sexting**

A bivariate analysis between sexting and being in a relationship (having a boyfriend) shows strong positive correlation. Teens that were in relationship were 2.5 times more likely to engaged in sexting behaviors than those who were not in a relationship ( $p < 0.01$  95%CL 1.63-2.72). While our survey did not ask for the identity of the sender/receiver of the sext messages, the results did show that sexting occur within the context of having a boyfriend (being in a relationship) the data from this study does not allow it to be conclusively stated that those in a relationship are actually sending the images to their partner in that relationship, but it could be established that 72.5% of the sexters were in a relationship. This result seems to reinforce findings from the US (Mitchell et al. 2012) that suggest that having a trusted partner encourages sexting. In doing so they appear to be minimizing their risks, something that could be argued should be taken into consideration by policymakers. But these teens even though were in a relationship, there is no guarantee that these relationships could last, making the sexting practice still a



dangerous act for the teens. Such photos and videos could be forwarded to others without their consent and be used as a tool for manipulating the other person or blackmail such as revenge porn especially if there is a breakup of the relationship. The Results also revealed information in regard to sexting and sexual behavior, indicating a higher number of sexual intercourse among sexters compared to the non-sexters. Previous studies also indicate that sexting was central in sexual exploration among teens and young adults (National Campaign to Prevent Teen and Unplanned Pregnancy, 2008)

### **5.6 Self-esteem**

Low self-esteem has been shown to be associated with high-risk sexual behaviors in many studies (Lejuez et al., 2004; Magnani et al., 2001; Preston et al., 2004), in line with research suggesting that self-image influences an individual's views on sex and sexuality (Tesser, 2001). Although the current study had majority (85.2%) of non-sexters appear to have positive self-esteem, however, the study found no association between sexting and self-esteem, which was, consistent with two studies also examining sexting and self-esteem and reported no significant relationships between sexting and self-esteem in adolescent and adult samples (Gordon-Messer et al., 2013; Vanden Abeele et al., 2012), these two studies differed from the present study substantially in terms of definition and conceptualization of sexting and methodology for analyses. This highlights the importance and utility of investigating specific forms of sexting.

### **5.7 Information Sources**

When asked the preferred source of sexual information, unsurprisingly the responses

were varied. Majority of the sexters (35%) preferred seeking sexual information via newspapers magazine or the Internet as compared to the non-sexters (20%) who preferred seeking sexual information from parents. Suggesting those who have parents to inform them about sex and sexual behaviors were less likely to engage in sexting. It could also be augured that, based on the preferred source of sexual information of the participant, Public education campaigns which focus on teenagers should be mindful of the medium of delivering, Educating the teens regarding the risks of sexting and other issues related to digital safety should be done in a reasoned, non-emotional and non-moralizing fashion would arguably be more likely to bear positive fruit than lecturing in the classrooms.

### **5.8 Limitations**

The current study is preliminary and not without limitations. The sample is convenience in nature and comprised mainly of Public SHS students. Interpreting the findings of this study involves several considerations. First, data for this study came from respondents' self-reports, and with any survey data on sensitive topics; social desirable responding is always a risk. Meaning questions that were highly personal or potentially embarrassing in some way may have caused respondents to respond different than reality. Efforts to minimize this impact included the adaptation of established measures from previous studies that have shown little variability in respondents' reports and the survey conducting in an atmosphere where confidentiality was assured. Second, these findings may or may not be representative of all SHS students in Tema Metropolis. Data were collected from Only Public SHS schools in The Tema Metropolis. Excluding the private SHS may limit to some extent the external validity of the study findings. A balance of

private and public SHS would have at least provide wide representation. Future studies of this nature may benefit from more strategic sampling methodologies in order to minimize this concern.

It would be desirable for future research to probe more broadly at problematic outcomes that may be associated with sexting behavior, such as depression, bullying or negative experiences related to sexting incidents. It is hoped that this article will provide some initial data on this new phenomenon and provide groundwork for future research.

### **5.9 Summary Perspective**

The emergence of the digital technology imposes on education and health authorities the need to adapt teaching and learning instructions to the attendant challenges. This study has demonstrated clearly that sexting is one such attendant challenges for which the education and health systems need clear and urgent adaptation measures. While computer games, internet and mobile telephony are often seen to represent threats, there are ways in which they could be adapted to be beneficial. In this context, sexting could be considered to unintended consequences of digital technology. (Reyns BW et al 2011)

With a recent focus on improving academic outcomes through health promotion efforts from the Ministry of Education and the Ministry of Health, school-based health programs and instruction should include sexting topics. Ghanaian schools, In the meantime, Tema schools can communicate to parents the need for establishing clear guidelines for their children related to the use of mobile phones and sexting. Schools and teachers can similarly work to implement well-established practices for increasing protective factors such as establishing caring relationships with students, maintaining high expectations for student performance, and providing students a variety of opportunities for participation

and contribution in the classroom, school, and community. As more and more research into sexting indicate an increase in this behavior, it suggest that this new phenomena is a global problem that is not going away, in fact, as technology advance and teens becoming more tech savvy, they are going to experiment and make some costly mistakes. Unfortunately, what may seem like fun for now may be one of their most regrettable moments in the future. Reputations have been destroyed and lives have been altered due to a single act of sext. Sext holds the power to change a person's life. Again because sexting is correlated with sexual activities which can self-lead to higher rates of sexually transmitted infections and teen pregnancies, parents, guidance, educators and pediatricians should discuss sexting with teenagers. This may facilitate conversations about sex and sexuality, sexually transmitted infection and pregnancy prevention. Sexting can be curb by closely monitoring the phenomenon and studying its deeper motivations to plan effective educational programs, integrating sexting, associated risks and the correct use of new media should be considered for inclusion in school sex education curricula (Reyns *et al.*, 2013)

## Chapter 6

### Conclusions and recommendation

Sexting is a prevalent practice in Senior High Schools in Tema and possibly across the country. The findings of this study suggest that practices is unregulated and could be having negative consequences on the development of this vulnerable population. In the light of the findings of the study and taking into consideration the findings in similar studies in other parts of the world, I make the following recommendations for the consideration of policy makers, parents and school authorities:

- ❖ Social and systematic adaptation and mitigation measures are needed especially in the education sector. The high prevalence of the practice should be admitted and informed measures instituted. This includes legislation to protect vulnerable groups such as adolescents
- ❖ Sexting and related issues should be incorporated into school health education curricula and regularly adapted
- ❖ Parents should be educated on the threat and opportunities associated with children's access to mobile phone technology. As primary caregivers, they will in turn be well-placed to offer the needed guidance to their wards
- ❖ Schoolteachers need to be given training on how to manage mobile phone possession and use by students and how sexting could make students vulnerable to sexual advances. A comprehensive program for training all school children is

needed

- ❖ Qualitative research is needed to expand on the context of sexting practices in high schools in Ghana
- ❖ Nationally-representative cohort studies will improve understanding of the sexual behavior of adolescents in Ghana

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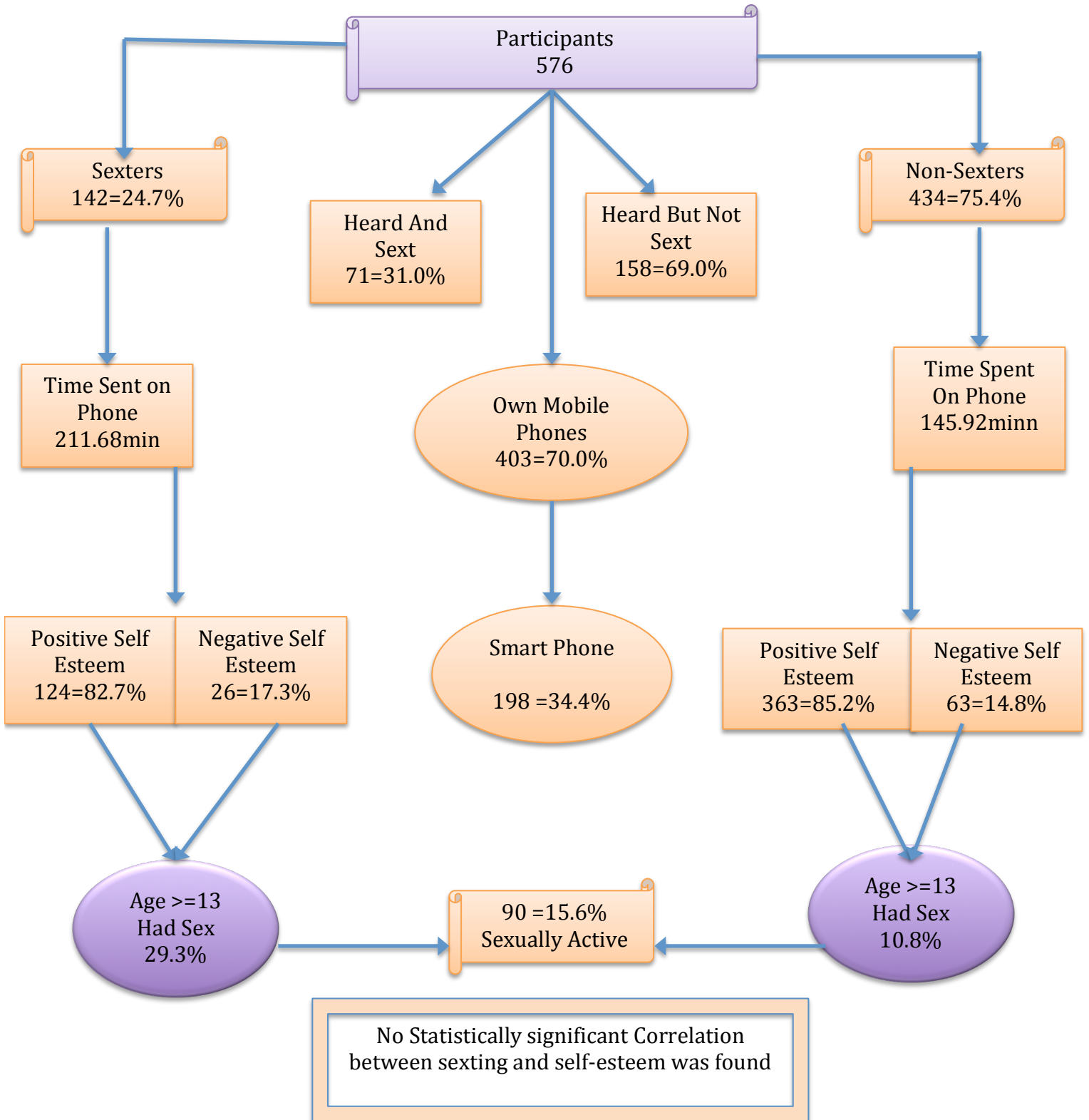
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# Appendices

## Appendix 1. Summary Result



## **Appendix 2. The Consent Form**

Study title: Mobile Phone Sexting and Self-Esteem Among SHS Students In Tema Metropolis

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### **Part 1. Participant Information**

#### **Introduction**

I am from Ensign College of Public Health in Kpong. I am conducting a study that involves research title: Mobile Phone Sexting and Self-Esteem Among SHS Students In Tema Metropolis.

I will be explaining all about the study to you. You may ask me any questions about anything you do not understand at any time. You can choose not to allow your ward to take part.

#### **Why you are being asked to participate**

You have being asked to allow your ward to take part in this study because you have a ward below 18 years who is a senior high school student who lives in Ghana. Specifically, I am interested in talking to students between the ages: 15 and 20 years old in senior high schools in Ghana.

#### **Procedures**

If you agree for your ward to participate in the study, the researcher will provide your ward with a questionnaire for her to tick or circle the appropriate responses, which will last for 25 to 30 munities.

Her responses will be entered into a computer excel and transport into stata for statistical analysis. As a respondent, if you agree that she participate in this study, data from her responses will be used as part of my assessment of determining Mobile Phone Sexting and Self-Esteem Among SHS Students In Tema Metropolis

#### **Confidentiality**

All data will be de-identified and will be kept private. His/hers identifiable data such as name or date of birth will not be used in documents, reports, or publications related to this research. All documents will be kept secured and under lock.

When typing the survey responses into the computer, all data will be entered without any information that will make it possible for students or the schools

identity to be known. The information you provide will be kept strictly confidential and will be available only to persons related to the study (My supervisors and myself). The Office of Ethical Review Board of Ensign College may also have access to study records upon their request.

Other respondents or other students will not know student responses. The original paper survey forms will be destroyed once data entry is complete.

### **Voluntariness and Withdrawal**

Student participation in the study is completely voluntary and he/she reserves the right not to participate. This is her right and the decision he/she takes will not be disclosed to anyone. Please note however, that some of the information that may have been obtained from them without identifiers may be used in analysis reports and publications.

### **Cost/Compensation**

Students' participation in this study will not lead them to incurring any monetary cost during or after the study.

### **Who to contact**

Since students are under 18 years, we ask them to show this to their parents or guardians before deciding whether to participate or not. The Institutional Review Board of Ensign College has approved this study. If you have any concern about the conduct of this study, the welfare or the rights as a research respondent or if there are willing to ask questions, or need further explanations later, you may contact me. Josephine Amankwah (0548283820) of Ensign College of Public Health, or My supervisor Dr. Baiden (0204591181) You may also contact the Administrators of the Institutional Ethics Committee of the Ensign College of Public Health at (+233245762229).

Thank you.

### **Do you have any questions?**

Study title: Mobile Phone Sexting and Self-Esteem Among SHS  
Students In Tema Metropolis

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**Part 2. CONSENT DECLARATION**

*"I have read the information given above, or the information above has been read to me. I have been given a chance to ask questions concerning this study; questions have been answered to my satisfaction. I now voluntarily agree that my ward participate in this study knowing that his/her confidentiality is assured"*

Name of **parent/guidance** \_\_\_\_\_

Signature of **parent/guidance** \_\_\_\_\_

Date: // 2016

Left thumbprint of Respondent



Name of **investigator:** **Josephine Amankwah**

Signature of **investigator** \_\_\_\_\_

Date: // 2016

\_\_\_\_\_  
Left thumbprint of Respondent

## Appendix 3. The Letter Of Introduction

### ENSIGN COLLEGE OF PUBLIC HEALTH - KPONG

OUR REF: ECOPH/DO/EL/ST.JA/051  
YOUR REF:  
Tel: +233 245762229  
Email: info@ensign.edu.gh  
Website: www.ensign.edu.gh



P. O. Box AK 136  
Akosombo  
Ghana

January 17, 2017

**The Metropolitan Director  
Ghana Education Services  
Tema**

Dear Sir/Madam,

#### LETTER OF INTRODUCTION

We write to respectfully introduce to you Mrs. Josephine Amankwah (Student Identification Number 157100051), a second year student of the Master of Public Health (MPH) degree program of the College.

As part of her graduation requirements, Mrs. Josephine Amankwah is writing a thesis on; **Mobile phone sexting and self-esteem among senior high school students in Tema Metropolis in the Greater Accra Region of Ghana.**

She has indicated that the research methodology she will use for the study includes structured questionnaire to be administered to students in Tema Senior High School, Olam Senior High School, Tema Manhean Senior High School, Tema Methodist Day Senior High School, Presbyterian Senior High School and Chemu Senior High/Technical School.

The student will seek the consent of the individuals involved and conduct a confidential and anonymous study.

We would be grateful if you kindly accede her any assistance she may require in this regard.

Thank you.

Respectively yours,

Patrick Kuma  
Ag. Academic Registrar

For: Dean/ Head of Institution

#### BOARD OF DIRECTORS:

Mrs. Lynette N. Gay - Chair, Prof. Agyeman Badu Akosa- Vice Chair, Dr. Stephen C. Alder, Lowell M. Snow, Prof. Michael Hardman, Dr. Kwesi Dugbatey, Prof. Tsiri Agbenyega, Togbe Afede XIV

**Appendix 4. The Ascent Form**

**ENSIGN COLLEGE OF PUBLIC HEALTH**

**MOBILE PHONE SEXTING AND SELF-ESTEEM AMONG SHS STUDENTS IN  
TEMA METROPOLIS**

Hello.

My name is **Josephine Amankwah**, a graduate student of Ensign College of Public Health, undertaking research work for the award of a Master of Public Health (MPH) degree.

I am interested in finding out what SHS students like you know about **Mobile Phone Sexting**. The information you provide in this questionnaire is strictly confidential. The final report aggregates all answers and cannot therefore be attributed to you individually or by name. You are further assured that no personal harm or disadvantage will apply to you as a result of your participation in this study. Moreover, you can choose not to continue with, or answer any particular question if you feel strongly about it. Your participation will however, contribute to knowledge generation to help understand the level of awareness and the association of **Mobile Phone Sexting and Self-esteem of** your age groups. Do I have your consent to administer the questionnaire to you now?

**YES** [  ]

**NO** [  ]

QUESTIONNAIRE No.....

Date .....

## Appendix 5. The Questionnaire

**INSTRUCTION: PLEASE TICK A BOX LIKE THIS  TO SELECT AN ANSWER THAT BEST APPLIES TO YOU OR BY WRITING YOUR ANSWER IN THE SPACE PROVIDED WHERE APPLICABLE.**

Questionnaire # .....

### Section A: (Demography)

1. **Which course are you offering?**  
 General Art [1]    Science [2]  
 Home Econs. [3]    Visual Art[4]    Business [5]
2. **How old are you? .....**
3. **Which religion do you belong to?**  
 Christian [1]    Islam [2]  
 Traditional [3]    No Religion [4]  
 Others [4] .....
4. **I am a Boarder [1]    Day Student [2]**
5. **I am a Male [1]    Female [2]**
6. **Who do you live with?**  
 Mom & Dad [1]    Mom alone [2]  
 Dad alone [3]    Grand mom/dad [4]  
 Others [5] .....
7. **Parent(s) Highest Educational Level**
  - 7a. **Father's**  
 No Formal Education [1]    JHS [2]  
 SSS [3]    College/University [4]  
 Others [5] .....
  - 7b. **Mother's**  
 No Formal Education [1]    JHS [2]  
 SSS [3]    College/University [4]  
 Others [5] .....
8. **Your Ethnic Group?**  
 Akan [1]    Ga/Ga Adamgbe[2]  
 Ewe [3]    Frafra [4]  
 Other[5].....

### Section B: (mobile Phones)

9. **Do you own mobile phone?** Yes [1]    No [2]  
 9a If No why.....

9b. **If yes how old were you when you first own a mobile phone .....**

9c. **I Own a:** Non Smart Phone [1]    Smart Phone[2]

10. **Do you have access to other people's mobile phone?**    Yes [1]    No [2]

11. **Whose mobile phone do you have access to?**  
 Mom's [1]    Dad's [2]    Mom & Dad's [3]  
 Friends' [4]    Grand mom/dad [6]  
 Others [6] .....

12. **How many hours in a day do you use a mobile phone .....**

### Section C: (Knowledge of sexting)

13. **Have you ever heard of the word Sext/Sexting before?**    Yes [1]    No [2]

13a. **Have you ever Sext before?**    Yes [1]    No [2]

14. **If Yes (Qu.13) How old were you when you first heard of the word "Sext/Sexting"?** .....

15. **If Yes (Qus 13a) How old were you when you first "Sext/Sexting"?** .....

16. **Have you in the past one (1) year seen/read any sexual material on mobile phone?**    Yes [1]    No [2]

17. **If Yes( Qu. 15), on who's Phone?**

My own [1]    Father's [2]    Mother' [3]    Friends [4]  
 Sibling [5]    Other [6] .....

18. **What is your most preferred source of information on Sex and sex education?**

[PLEASE CHOOSE ONE]

Parents [1]    Friends [2]    Radio [3]    HealthWorkers [4]  
 Teachers [5]    Television [7]    Religious Leaders [8]  
 Newspapers/Magazines/internet [9]  
 Others (*SPECIFY*).....

**P. T. O.**



**Please TICK Yes / No for each of the questions**

TEXTING		Yes	No
18	Have you sent sexy message/text of yourself to another before?		
19	Have you ever asked someone to send sexy message/text of themselves to you before?		
20	Have you EVER BEEN asked to sent sexy message/text of yourself to another before?		
21	Have you forwarded someone's sexy message/text to another Before?		

**B1. Why do you or **don't** Text sexting?**

.....  
 .....

PICTURE(S)/PHOTO(S)		Yes	No
22	Have you sent sexy picture of yourself to another before?		
23	Have you ever asked someone to send sexy picture of themselves to you before?		
24	Have you EVER BEEN asked to sent sexy picture of yourself to another before?		
25	Have you forwarded someone's sexy picture to another Before?		

**B2. Why do you or **don't** Picture/photo sexting?**

.....  
 .....

VIDEO(S)		Yes	No
26	Have you sent sexy Video of yourself to another before?		
27	Have you ever asked someone to send sexy Video of themselves to you before?		
28	Have you EVER BEEN asked to sent sexy video of yourself to another before?		
29	Have you forwarded someone's sexy video to another Before?		

**B3. Why do you or **don't** Video sexting?**

.....  
 .....

Do you Agree or Disagree that the behavior of sending or forwarding sexy text/pictures/videos is		Agree	Disagree
30	Flithy		
31	Hot		
32	Exciting		
33	Dangerous		
34	Harmless		
35	Immoral		
36	Healthy		
37	Arousing		
38	Fun		
39	Unlawful		

<b>40. Have you ever had sex before? Yes [1] No [2]</b>
<b>40a. How old were you when you first had sex?.....</b>
<b>40b, If No to (Qus. 39) why not?.....</b>
<b>41. Please which one applies to you</b>
Am not in a relationship/Don't have a boy friend [1]
Am In a casual/ dating relationship/ boy friend [2]
AM In a serious relationship [3]/kave a serious boyfriend


**Section D: (Other)**

#	Below are list of statements dealing with your general feelings about yourself. Please indicate how strongly you Agree or Disagree with each statement					
		Strongly Agree	Agree	Disagree	strongly Disagree	
42	On the whole, I am satisfied with myself.					
43	At times I think I am no good at all					
44	I feel that I have a number of good qualities					
45	I am able to do things as well as most other people					
46	I feel I do not have much to be proud of					
47	I certainly feel useless at times					
48	I feel that I am a person of worth, at least on equal plane with others					
49	I wish I could have more respect for myself					
50	All in all I am inclined to feel that I am a failure					
51	I take a positive attitude towards myself					

## Appendix 6. The IRB Approval Letter

**ENSIGN COLLEGE OF PUBLIC HEALTH - KPONG**

OUR REF: ENSIGN/IRB/M2  
YOUR REF:  
Tel: +233 245762229  
Email: irb@ensign.edu.gh  
Website: www.ensign.edu.gh



P. O. Box AK 136  
Akosombo  
Ghana

21<sup>st</sup> November, 2016.

**INSTITUTIONAL REVIEW BOARD SECRETARIAT**

Josephine Amankwah,  
Ensign College of Public Health.

Dear Mrs. Amankwah,

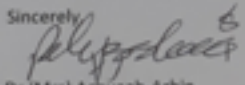
**OUTCOME OF IRB REVIEW OF YOUR THESIS PROPOSAL**

At a meeting of the INSTITUTIONAL REVIEW BOARD (IRB) of Ensign College of Public Health held on 16<sup>th</sup> and 17<sup>th</sup> November 2016, your proposal entitled "**Mobile Phone Sexting and Self-Esteem among SHS Students in Tema Metropolis**" was considered.

Your proposal has been approved for data collection in the following settings:

1. Amend the topic to include the Region.
2. Include Assent form and explain the terminologies in the consent form in simple terms.

We wish you all the best.

Sincerely,  
  
Dr (Mrs) Acquah-Arhin  
(Chairperson)

Cc. Dean of Ensign College.  
Cc: Ag. Academic Registrar, Ensign College.

**BOARD OF TRUSTEES:**  
Mrs. Lynette N. Gay - Chair, Prof. Aggreyman Basu Akonta- Vice Chair, Dr. Stephen C. Alder, Lowell M. Snow, Dr. DeVon C. Hale,  
Dr. Kwesi Dugbatory, Prof. Tsiri Aghenyega, Prof. Samuel Oluwole Amiaah, Tagbo Alade STP

**Appendix 7**  
**Map. 1. Tema In Map Of Greater Accra Distracts**

