INFLUENCE OF INTERNET USE ON SEXUAL BEHAVIOUR OF YOUNG PEOPLE IN IBADAN NORTH LOCAL GOVERNMENT AREA ●YO STATE, NIGERIA

BY

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DEDICATION

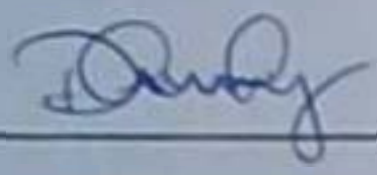
My dedication goes to the Almighty God, the source of my strength and giver of life for HIS grace to the successful completion of this work.

To my supportive parents, my family, my lovely son Raymond-Temple and daughter Chiamaka, my uncle Brig Gen BEN and my siblings

To all that supported me towards successful completion of this work

CERTIFICATION

I certify that this study was carried out by OGBU Ifeyinwa Arinze in the Department of Health Promotion and Education, Facility of Public Health, College of Medicine, University of Ibadan, Nigeria



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ABSTRACT

The proportion of young people exposed to pornographic materials through the internet in Nigeria is increasing. However, the influence of the exposure on their sexual behaviour has not been fully explored. This study was conducted to determine the effects of internet use on the sexual behaviour of young people in Ibadan North Local Government Area.

The study was a descriptive cross-sectional survey. A three-stage simple random sampling technique was used to select 413 young people aged 10-24 years that had ever used internet. A validated self-administered questionnaire was used to obtain information on socio-demographic characteristics, internet use and sexual practices. Data were analysed using descriptive statistics, Chi-square and logistic regression at p-0.05.

Respondents' mean age of males was 21.7 years (SD = 3.4) while that for females was 20.9 years (SD = 3.2). More males (70.5%) used the internet. Forty- nine percent of the respondents between the ages of 15-19 years used the internet for the first time. The main source of information about the internet was friends (63.3%). Most respondents (99.3%) (Males 70.5%, females 28.5%) accessed the internet from *Cybercafe* and 72.6% from their schools. Thirty percent of respondents used the internet daily. Activities engaged in while on the internet included sending and receiving mails (55.0%) and online chatting (34.1%). Seventy-seven percent had ever used instant messenger and of these 48.4% chatted with persons of opposite sex. Fifty-two percent of respondents who ever chatted online discussed relationship. Fifteen percent of respondents admitted intentional exposure to pornography sites. Seventy-two percent had ever stumbled on pornographic sites on the internet and their reactions to the scenes observed include: the closure of the sites (females, 57.5%; males, 38.7%), glancing through before closing (females, 30.1%; males, 46.7%) and minimizing page to view later (females, 12.3%; males, 13.6%). Fifty-two percent of respondents never discussed pornographic scenes viewed with anybody, 32.6% discussed with same sex while 9.6% shared the experiences with the opposite sex. Thirty-seven percent of respondents reported negative changes in their sexual behaviour after exposure to pornographic sites. Respondents' reactions after accessing pornographic sites was a desire to know more about sexual activities (45.0%).

tendency to practice what was seen (23.3%) and urge to have sex (31.7%). Twenty-seven percent of daily internet users who had ever watched pornography sites had practiced what was viewed. Males were more likely than females to report a change in sexual behaviour after exposure to pornographic sites (95% CI OR =1.245-6465) and frequent internet users more likely than less frequent users to report a change in sexual behaviour (95% CI OR =1.168-3.497).

Internet use was common among the young people and many of them stumbled on pornography sites which influenced their sexual behaviour. Interventions designed to reduce exposure to sexual content should focus more on males and frequent internet users especially at the Cybercafés

Keywords: Internet use, Young people, Pornographic sites, Sexual behaviour

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LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CACRC	Crime against Children Research Centre
CDC	Centers for Disease Control and Prevention
CPC	Central Processing Complex
DOD	Department of Defense
DSL	Digital Subscriber Line
GAPP	General Administration of Press and Publication
HIV	Human Immunedeficiency Virus
IBNLGA	Ibadan North Local Government Area
NARHS	National HIV/AIDS and Reproductive Health survey
NCWG	Nigeria Cybercrime Working Group
NIH	National Institute of Health
NPC	National Population Commission
SEWs	Sexually Explicit Websites
SPSS	Statistical Package for Social Sciences
STL	Social Learning Theory

CHAPTER ONE

INTRODUCTION

1.1 Background

Young people are defined as group of persons within the age range of 10 – 24 years. It is a critical period of human development often characterized by confusion, mixed interpretation, exuberance and a penchant for experimentation, especially with drugs, alcohol, sex and truancy (Nnachi, 2003; Nwangwu, 2007). It is a period when information as regards correct and acceptable societal behaviours, laws and customs should be provided by parents, care givers and exemplary role models. However, with the advent of the "computer age", the internet has multiplied the means by which adolescents can access information on any subject matter. Young people typically grow more curious about sex as their own bodies sexually mature in early adolescence. The mass media can be a private and comfortable way to learn more about sex and sexual norms. Visually sexually explicit media (i.e., pornography and erotica) designed to arouse sexual feelings are increasingly available and may be more likely to serve as a source of sexual information and norms for young people (Roberts and Foehr, 2004).

The Internet is the core of computer mediated communication. It is worldwide and connects millions of computer networks, providing an incredible array of information young persons can access (Strasburger and Wilson, 2002) and because of its fluid capacities, the Internet has more up-to-date information than books. Young people throughout the world are increasingly using the Internet, despite substantial variation in use in different countries around the world and in socioeconomic groups.

The key concern about the health of young people is the extent to which they have access to resources that promote their development. This is where information technology, such as the Internet, is expected to play a critical role as a source of valuable healthy information

Unfortunately, the Internet aided by technology-induced anonymity has popularized the sex business more than any other means of advertisement among teens (Sackson, 1996; Adedipe, 2000; Ndu, 2000; Nnachi, 2003).

One major emerging worrisome dimension in cyberspace is pornography in its various guises. Resources such as this that used to be solitude only to consenting adults are now freely available to anyone who has access to the Internet, underage, adolescents inclusive. According to Cheryl (2007) in his study the average age of a child in America when first exposed to Internet pornography was 11years old, with the largest consumers of pornography being the 12-to-17-year old group. He also found that almost 90 percent of 8 to 16-year olds had view pornography online while doing homework. Although empirical data about Internet pornography and its impact on the life of the teeming youth and children in Nigeria are not readily available, the fact that 32% of Internet users in Nigeria are children and teenagers of the age range 7-18years is an important fact that is worthy of note. Fears are rife in some sectors about the possible negative consequences obnoxious and uncensored Internet contents will have on the psychosocial well-being of varying categories of users and, especially children and teens in Nigeria (Longe, 2004).

Several studies have been done on the use of Internet in Africa including that of Ojedokun (2000) who studied use of the Internet by students of the University of Botswana. His study revealed that 77% of the respondents had used Internet. Ajuwon (2003) studied Internet use by first year clinical and nursing students of the University College Hospital in Ibadan, Nigeria and found that 60% of the respondents had used Internet. Odusanya and Bamgbala (2000) found that 58% of the medical and dental students in their final year at the University of Lagos, Nigeria whom they studied had used Internet. Given that so many adolescents are spending so much time on the Internet, it is important one is aware of the impact of its contents on adolescent behaviour, well-being, and development.

According to the prediction of social learning theory, teens exposed to certain unconventional behaviours can adopt and internalize such behaviours as conventional ones. Given the popularity of the Internet amongst young persons, some researchers have investigated the relationship between young person's involvement with online sexual activities (including

online chats, meeting partners, and looking for romantic and sexual relationships) and the development of their sexuality. Cooper et al. (1999) found that excessive usage (as measured by time spent in viewing sexually related activities online) was positively related to stress and sexual sensation seeking. Similar study conducted by Goodson et al., (2000) in Adebayo et al (2005) among university students, found that participants attitude towards seeking sex information and sexual entertainment varied based on the frequency of their Internet usage. It is worthy of note that most countries in the world including Nigeria have a legal provision aimed at protecting young people from any form of exposure to pornography especially in cyber cafes. In Nigeria, the Computer Security and Critical Information Infrastructure Protection bill 2005 worked out by the Nigeria Cyber Crime Working Group (NCWG) remains one of the most powerful legal tool for fighting cyber-crime in Nigeria. The objectives of the acts are to secure computer systems and networks and protect critical information infrastructure in Nigeria by prohibiting certain undesirable computer based activities and for matters connected therewith (NCWG, 2005).

Despite the rising level of Internet usage particularly among young people in Nigeria, few studies have examined the effects that sites with explicit sexual content may have especially on the sexual inclination and behaviour of the adolescent. This study therefore aimed at determining the influence of Internet use on sexual behaviour of young persons in IBNI.GA. This would serve as an essential step towards the design of intervention programmes to tackle risky sexual behaviour practiced among young people as a result of exposure to Internet pornography. Therefore this study identified prevalence of Internet use, activities adolescent engaged in when online and above all determined the influence of Internet pornography exposure on young people's sexual behaviour.

1.2 Problem statement

Young people years are a time for developing individual personalities, experimentation, and discovering new horizons. These are the years when a person wants to either fit in, or stand out from everyone else. Young people are discovering themselves; who they are, and what they want to be. Given the fact that young people spend so much of their hours listening to music, watching television, and surfing the net, they tend to become enveloped by what they are

seeing and hearing. The internet gives access to music, games, chat websites, dating websites, and sex related websites. Pornographic websites are the most prevalent, and hardest to avoid. When using search engines, greater percent of teenagers reported coming across pornography while they were looking up other things (Wolak *et al*, 2006; Fleming *et al*, 2006)

The growing popularity of Internet use in Nigeria has raised concerns in some quarters about the possible relationship among Nigerian teens with respect to Internet use, sexual orientation and the spread of HIV (Emeozor, 2005; Ajakaje & Kanu, 2004). Studies have revealed that risky sexual behaviours among young persons in Nigeria are on the rise (Amazigo, 1998; Okonofua, 2001; Babalola, 2003; and Izugbara, 2004). National HIV/AIDS and Reproductive Health Survey (NARHS), Nigeria (2003) also revealed that STIs are most prevalent among young people aged 20-29 years in Nigeria. The rise of pornographic sites on the digitalized media has become a major global issue of concern in relation to the well-being of the young people. Carlsson's (2006) study on violence and pornography in the media stated that, "consumption of pornography is on the rise, due to the medialization of sexuality" as well as the expansion of new media technology. Although governments around the world are exerting their utmost effort to eradicate harmful and illegal media contents like pornography, which particularly threatens the well-being of the young people, more is yet to be done.

Evidence in the literatures has established an association of exposure to pornographic materials with sexual arousal and cognitive effects, especially changes in attitudes and values (Michael 2009 and Dowell *et al* 2009). Yet, little is known about the impact of such use on young people. Cases can be made for both the benefit and harm of the Internet, suggesting that research needs to be done to understand better the social and psychological effect of this medium. Information about the influence of specific websites on young person's sexual behaviour would be extremely valuable to health providers, educators, and parents.

Hence, the availability and dissemination of pornographic materials and secretly viewing them combined with the vulnerable sexual nature of young people in relation to their exposure to sexually explicit material on internet, as well as the lack of studies as to how this phenomenon may influence young persons, are the problem that initiated this study to be undertaken.

Therefore, this study will provide explanatory results regarding how Internet web exposure influences young people sexual behaviour.

1.3. Justification

The role of Internet use among young persons in developing countries has not been adequately explored. Many studies focused on sexual behaviour of young people, the rising wave of rape, other forms of sexual behaviour and violence against women. Few of the studies examined how exposure to pornography particularly on the Internet may influence young people's sexual behavior.

Online pornography is accessible, affordable and anonymous; and research has linked it to behaviours that can impact on physical and mental health especially in young people. Curiosity about the human body and sex is natural and this generation of young people is not the first to be intrigued by pornography. But a growing body of research that suggests that Internet makes pornography more accessible than ever before, as such there are concerns about how these influence sexual behaviour, especially when it's young people who are looking at it. This the study will address.

Most respondent under studies in Africa and Nigeria on Internet use were adolescents. This study will not only look at the activities young people engaged in while online but will also examine the influence of pornography exposure and sexual behavioural change among young people for proper health education intervention and health promotion.

Generally, studies argue that, sexual images in the mass media can have both immediate and long-term effects. These include: arousal, homosexuality, abusive sexual attitude, premarital sex, and other abusive behaviour (Adeyemi and Kanu, 2004; Emeozor, 2005). However, others argue that, the way sex on media affects young people may depend on age, gender, parental involvement, perceptions of reality and reasons for the media use (Wartella, 2000; Yan Hong *et al*, 2007). These characteristics are also in this study for clearer understanding of the inter relationship between Internet use and sexual behaviour among young people.

This study will contribute to ongoing research for a clearer understanding of increased frequent pornography exposure on sexual activity and its many consequences among young people in

Nigeria. Notably, what is unknown is presumed to be dangerous. As such, this study on the influence of Internet exposure on sexual behaviour among young persons in Ibadan North Local Government Area in Oyo State, attempt to provide the underlying mechanisms influencing the sexual behaviour of a young person.

1.4 Research Questions

1. What is the respondents' first age of Internet use?
2. How frequently do young people use Internet?
3. What activities do young people engage in when they go online?
4. How often do young people get exposed to unwanted and wanted pornography website/explicit materials on Internet?
5. What are the immediate response and after action of young person as a result of Internet pornography exposure?

1.5.1 Objectives of the study

Broad objective:

The broad objective of this study was to determine the influence of Internet pornography on young persons' sexual behaviour.

Specific objectives:

The specific objectives of this study were to:

1. Determine prevalence of Internet use among young persons in Ibadan North
2. Identify activities that young people engage in while on the Internet and respondents' characteristics.
3. Assess the level of wanted and unwanted pornography exposure and, whom young persons' have exposure experience with.
4. Describe young persons reported change in sexual behavior following exposure to pornography and respondents' characteristics
5. Highlight action taken by young persons on exposure to pornography materials
6. Examine change in sexual behaviour of young persons on exposure to pornography sites

Hypotheses of study:

1. There is no association between Internet use and young persons' sexual behaviour
2. There is no association between sex of respondents and the risky behaviour.

CHAPTER TWO

LITERATURE REVIEW

The literature review is organized under the following sub – headings or sections

i. Young persons and Internet
ii. Prevalence of Internet usage
iii. Internet activities
iv. Pornography
v. Unwanted and wanted internet pornography exposure
vi. Factors effecting exposure
vii. Sexual behavior
viii. Influence of exposure on sexual behaviour
ix. The conceptual framework

2.1. Young persons and Internet

According to Centers for Disease Control (CDC), young persons are defined as those between 10 – 24 years. During the 3rd Africa Conference on Sexual Health and Rights launched in February 2008 with a youth summit at the International Conference Center, Abuja, the key discussion during the summit was the definition of 'young people and youth'. Many youth delegates argued on clear cut-off age. Some define it as persons whose age bracket ranges between the end of childhood and the beginning or adulthood. Notably, not all young persons' mature at the same rate. Some 15years old may be ready to assert themselves in sexual relationship but others may still be disgusted by a kissing scene (Jane, Jessone and Kim, 2002). Strelitz (2005) revealed that "the concept of childhood and adulthood do not necessarily refer to fixed points on a continuum as they are not physiological facts but social constructions."

According to Bonfadellie (1993) "Young people" is a very dynamic and unstable phase where the individual has to acquire the skills to fulfill adult roles, norms, search for new things, and develop an identity. It is a period of rapid physical and intellectual development and emotional intensity". Young people are curious and enthusiastic: they do have the urge to try and explore new things. As a result of this, significant numbers of young people have become addicted to alcohol, smoking, chat, sexual abuse, dangerous medical drugs and narcotics drugs, all of which are injurious to health. This risky health behaviour is not different in other parts of the world.

Importantly as the Internet is used frequently by young persons, the effects of access to and exposure of online pornography on their development becomes a health issue of increasing importance. According to the Encyclopedia of computer science, multiple networks are the core technological feature of the Internet. Like almost every invention, Internet is a gigantic but almost invisible universe that includes thousands of networks, millions of computers, billions of users across the world, multilayer communication protocols, various physical connection devices, and numerous application programs (Ralston, Reilly and Hemmendinger, 2000).

Internet was invented by the U.S. Department of Defense (DOD) in 1969. The Internet has evolved from a communication conduit between scientists and engineers engaged in defense work to an information dissemination tool used to resist human rights abuses worldwide. Today, Internet is a vast library covering any topic imaginable. In some respects, it's better than most libraries from the perspective of the adolescents. In terms of sexism, and sexuality, it appears that the Internet solves some social problems, while creating new ones and magnifying old ones. Internet has several tools for sending and receiving information and for communicating with other users. The main tools that cyber café visitors will use include: World Wide Web, E-mail, Message boards, Listservs, Chat and instant messaging, to mention but a few.

The appearance of movies in the 1900s, radio in the 1920s, television in the 1940s, and the Internet in the 1990s was each met with ambivalence. For each emerging media technology,

proponents touted the educational benefits, while opponents voiced fears about exposure to inappropriate material, such as sexual or violent content. When the Internet was in its infancy, the only people with access to it were scientists working for the government or at universities. Today, the Internet, though itself only in its teenage years, is widely used by adolescent. Soon after its commercialization in 1993, the Internet and the World Wide Web gained prominence in producing, disseminating,storing, and presenting pornographic materials known as cyber porn or cybersex. Content analyses (Rimm, 1985; Mehta and Plaza, 1997; Heider and Harp, 2000) have shown that pornographic materials posted and distributed on the Internet have been presented in an unprecedented and interactive dimension. Concerns over the excessive growth of Internet bothography have given rise to a moral panic (McMurdo, 1997). In addition, the risks associated with the Internet included the danger of adolescent being tricked into meeting people offline who turn out to be different from how they presented themselves on-line and the fact that they can be exposed to unsolicited pornography and sexual content (forskningsa versikt, 2005).

Given the proportion of the young persons in Nigeria, their well-being cannot but be a matter of concern to all. One area of their well-being has to do with their sexuality. To enjoy the benefits of sexuality and avoid the negative consequences of risky sexual behaviour, young people must be protected through responsible sexual behaviour. A study conducted by Okpani & Okpani, (2000) amongst female senior high school students in Nigeria showed that the mean age at first sex was 15 years of age. This shows that young peoples' risky sexual behavior is associated with a host of debilitating reproductive health hazards. For example, of the more than 300 million new cases of sexually transmitted infections (STIs) that occur in the world each year, about a third are in young people under 25 years of age (WHO, 2002). Again, the results of the HIV/AIDS Sentinel Survey, NARHS (2003) revealed that STIs are most prevalent among young people aged 20-29 in Nigeria. The survey also revealed that, in 1998 alone, 60% of the 20, 334 AIDS cases documented were among young people. Even though HIV prevalence in Nigeria as of 2005 recorded 4.4%, the foregoing statistics reveal that young people are the most affected by STIs and the HIV/AIDS epidemic in Nigeria. This suggest an urgent need to address young people sexual behavior.

2.2. Prevalence of Internet usage

In the last two decades, Internet use by young persons has changed from an unusual to a common place activity. In a national survey conducted by Ybarra and Mitchell (2005) on the prevalence of pornography exposure on youths and teens, findings showed that about 90% or more teens between 12 and 18 years have access to the Internet. The Internet is just one technology young person use daily. Nearly all young persons in the United States have gone on line and 74% have a home Internet connection, with 31% having high-speed access. A nationally representative sample of 1100 adolescents found that 87% had used the Internet and 51% go online at least daily. Of those who use the Internet, up to 75% reported going online from home. Around half (47%) use a dial-up connection, reported high- speed cable modem (28%) and digital subscriber line (DSL) - enabled phone line (21%). The remaining 2% had a wireless connection. An average American teen now lives in a multimedia environment and the percentage of wireless connections will increase as handheld platforms become more popular. No longer will we think of home access, but rather personalized and constant access (Borzekowski, 2006).

Similar study by Pew Internet and Life Project (2008) also revealed that nearly 75% of all US households have Internet access, and 93% of adolescents aged 12–17 years had gone online. On average, children and adolescents aged 9–17 years of age use the Internet 4 days per week and spend almost 2 hours online at a time. In a study on the prevalence of Internet use among South Korean teens, the study showed that some 97.3% of South Korean teens between the ages of 6 and 19 years used the Internet and about 69.6% of the subjects were male. 60.5% were middle school seniors, and the rest (39.5%) were high school students (12.4% freshmen, 27.1% juniors). One of four teens surveyed (24.9%) said they were of high economic status, 57.9% was of middle economic status, and 17.1% low economic status. Males were more likely to be Internet addicts than females, but the difference was not statistically significant. Among male teens, 11.9% were Internet addicts; rates for females were 8.2%, respectively (Park, Kim and Cho, 2005). Similar study among Chinese teens 12 -18 ages (Cao and Su 2006) reported that the rate of Internet use was 88%, among which the incidence rate of Internet addiction was 2.4%.

This high prevalence is not different in Africa and, Nigeria in particular. Although statistics vary from country to country and may include users who access the Internet at least several times a week to those who access it only once within a period of several months. According to Internet World Statistics (2009), in Africa, Internet users were 86,217,900, 1,809.8% user growth (2000-2009) and account for 4.8% users in the world. In 2000-2007, Nigerian Internet users were 200,000 and 10,000,000 respectively. By 2009, Internet users in Nigeria rose to 23,982,200 which account for 16.1% penetration rate, accounting for 27.8% population users and ranking 2nd in Africa.

According to Ojedokun's (2000) study on use of the Internet by students of University of Botswana, 77% of the respondents had used Internet. Another study conducted by Johns Hopkins University and the University of Ghana among 15- to 18-year-olds living in Accra, Ghana, who was either in school or out of school on their Internet usage and knowledge of health information showed that two thirds (66%) of the adolescent in school and 54% of the adolescent who were out of school had gone online previously. A similar study by Nwagwu (2007) to understand how in-school and out-of-school adolescent girls in Owerri, Nigeria use online resources to meet their reproductive health information needs showed that more than 73% of the girls had ever used the Internet, of which more than 74% and 68% of them being in-school and out-of-school respectively. Forty-four percent of the in-school girls reported having home access and the out-of-school (5.6%), the out-of-school have used the Internet for finding reproductive and related information more than the in-school. This study also revealed that among the in-school, parents (66.22%) and teachers (56.15%) account for other source of health information, while friends (63.18%) and the Internet (55.19%) were two most used sources of information for out-of-school respondents.

Omotayo and Oluwasanmi's (2006) survey on the use of the Internet among undergraduate students of the Obafemi Awolowo University, Ile-Ife, Nigeria revealed a high percentage use of the Internet. Furthermore, Jagboro (2003) study on the use of the Internet showed that in the majority of post graduate students, Internet ranked fourth among the sources for information. Other studies in Nigeria included Ajuwon (2003) study on Internet use among first year clinical and nursing students of the University College Hospital in Ibadan, Nigeria. Study

revealed that 60% of the respondents had used the Internet. Odusanya and Bamgbala (2002) found that 58% of medical and dental students in their final year at the University of Lagos, Nigeria whom they studied had used Internet. In Inyang (2008) study on female secondary school adolescents in Port Harcourt metropolis, revealed that 50.9% respondent have used Internet. Those that browsed on daily basis were 7.5% and those that browsed occasionally were 43.5% and study by Longe, (2004) established that children and teenagers belonging to the age range 7-18 years constitute over 32% of Internet users in Nigeria

2.3. Internet activities

As rapidly as the Internet was adopted in the U.S, the defining characteristics of its use evolve at an even greater pace. Young persons' use of communications applications has undergone rapid change. For many years, e-mail has been, hands down, the most popular application on the Internet that keeps users of all ages coming back frequently. Private communication channels (e-mail and instant messaging) were more frequent than public communication (e.g., chat, message boards). Since Turkle's landmark case studies were published in 1996, new online communication technologies that facilitate communication with known others (e.g., buddy lists), coupled with the rapid growth in home Internet use, meaning that the Internet can now be, more than ever, a medium for both anonymous interaction with strangers and communication with established, offline friends (Kraut et al., 2001; Borzekowski, Dina, 2006).

In a survey conducted in 2000, the Pew Internet and American Life Project (2001) reported that 55% of online teens had visited a chat room. In a second survey conducted in 2001, vast majority (89%) of teen use e-mail and 57% use instant messaging (IM), which allow them to have multiple simultaneous conversations with a defined group of peers. Some of the e-mail appeal to these trend-setting young Internet users as growing number express a preference for instant messaging (IM). Similar study by Kaiser Family Foundation (2001) found that 71% of 15- 17 year-old Internet users participate in chat rooms. Another important psychosocial distinction in Internet use is communication with close friends versus strangers. From a social and developmental perspective, there is a world of difference between the teenagers, who hurries home from school to exchange e-mail with the classmates she just bid goodbye for the day (Subrahmanyam et al., 2000).

Pew (2005) Center report on teens and technology found that about 75 percent of all online teens (about two-thirds of teenagers overall) used IM- and nearly 50 percent used it daily and in 2007, Pew Research Center Study showed that 89 percent of teens used the Internet at least once a week, with 61 percent saying they logged on every day. All that time spent online was not for doing homework. The Pew results showed that most of the time teens spent online was devoted to private communications – such as IM, email and chat. According to the Pew Internet & American Life Project, Generations Online in 2009, the percentage of American teens aged 12 to 17 online in 2008 had grown from 87% to 93%. The report also revealed that young people use social networking sites to keep track of their friends and to update their own activities on the sites so others can stay informed, and to communicate with them. As for favourite teen online activity, 78% reported game playing while 73% stated e-mailing which used to account for 89% Internet use is now replaced with IM, social networking and blogging, according to Pew researchers.

In a similar study conducted on use of the Internet by Singapore's adolescents, three quarters of the surveyed students reported that they utilize the Internet more than once weekly, with about 44% reporting that they use the Internet on a daily basis. Additionally, online activities such as social networking and blogging are also increasing. Majority of respondent reponed that they use the Internet in the afternoon and about one quarter of these students utilize the Internet at night. It is also noted that adolescents tend to use the Internet for extended periods of time, with a total of 65% reporting Internet usage blocks of two hours or more and 35%, three hours or more. Studies also found that both girls and boys utilize the Internet for different reasons. Boys generally use the Internet for activities such as online gaming. Girls on the other hand, use the Internet for online chatting. This is in line with general expectations, considering how boys generally love to play computer and video games, even when online while girls place more emphasis on keeping close touch with friends.

According to the CRC Health Group (2008), adolescent spend every free moment on the computer playing games alone or with others over the Web, chatting in chat rooms, instant messaging, or just surfing various sites. The majority of their Internet activity is unrelated to school work and some teens may even engage in illegal Internet activities such as hacking or copyright infringement. Furthermore, teenage boys tend to investigate pornography sites while

teenage girls tend to engage in risks online chatting where pedophiles frequently visit to prey on young teens. Popular websites are MySpace, Facebook, Hi5, Bearshare, Live Journal, and Xianz that allow teens to easily communicate with friends, family, and millions of other Web users worldwide. These websites allow teens to design personal Web pages that include their name (nickname), age/date of birth, hometown/residency, schools, affiliated clubs/organizations, marital status, interests, hobbies, up to 200 pictures, and the list continues. The information provided on these websites makes it very easy for child predators to become aware of a teen's whereabouts and to easily identify him or her in a crowd of people due to pictures and other personal information posted on their Web page. The Internet has many risks and teens need to know how to protect themselves.

Lenhart et al. (2010), study revealed that 73% of American teens now use social networking websites, a significant increase from previous surveys. Just over half of online teens (55%) use social networking sites in November 2006 and 65% did so in February 2008. As the young people social networking population increase, the popularity of some sites' features also shifted. Compared with activity in February 2008, a smaller proportion of adolescents in mid-2009 were sending daily messages to friends via social networking sites, or sending bulletins, group messages or private messages on the sites. Forty-seven percent of online adults use social networking sites, up from 37% in November 2008. Young adults act much like adolescents in their tendency to use these sites. Young persons are increasingly fragmenting their social networking experience as a majority of those who use social networking sites (52%) say they have two or more different profiles.

This is no different case in Nigeria although research has not been fully explored. However, the young Nigerians are said to be the major users of the ever changing ICT innovations in the country, adapting quickly to the Internet. Some of them use the web for information on current issues in health, education, politics, socio economic development, research for projects, sports, and for personal development as well as building skills. Lenhart (2005) in his study show that 26% to 75% of online adolescents report having sought health information on the Web. About one in five adolescents say that they have gone to the Internet to research a difficult health topic, such as drug use, sexual health, or depression. According to Gould, Munfakh, Lubell, et al (2002), similar percentages of adolescent (18.2%) have sought help on the Internet for

emotional problems. The most popular reasons for seeking help on the Internet include problems with romantic partners, friends, and family. Regardless of these users' educational qualification, gender, age or ethnicity, 55% went online to find health information. In fact, the Internet was even a relatively more important source for out-of-school than for in-school teen, a finding with important social implications (Borzekowski, 2001). Young people said the Internet provided interesting material that helped them solve a problem or answer a question.

Hence accessible, anonymous, and nonjudgmental nature of the Internet makes it a valuable source to young persons, who may not have an available health provider or responsible adult in their lives to whom they can turn. Recently, the technological environment is rapidly changing. New communication technologies are often adopted by young people first, with social networking sites such as MySpace and Facebook salient examples. On the Internet, tremendous shifts in patterns of use occur rapidly. This continuous evolution poses a tremendous challenge to parents, health professionals, policymakers, and law enforcement. By the time professionals fully understand the risks and benefits of one particular online environment, which environment may have changed so thoroughly that intervention and prevention strategies are not as applicable as originally designed.

2.4. Pornography

Pornography is defined as "sexually explicit media that primarily are intended to arouse the viewer sexually." Others have defined pornography as "the description of, or pictures of, naked or nearly naked bodies in genital contact" (Traeen, Nilsen, and Sugum, 2006). Sexually explicit content ranges considerably from depictions of rather traditional heterosexual sexual behaviour to multiple sexual partners, coercion, and nontraditional sex including bestiality. Young people have turned to sexually explicit materials to satisfy their curiosity about sexual bodies, how sex is performed, and to arouse themselves sexually. A few small studies of U.S adolescents' exposure to sexually explicit magazines and movies in the 1980s found that even then exposure was almost universal by the end of high school. The average age of first exposure to pornography was 11 years for males and 12 for females; by 15 years old, most had also seen an X-rated film (Bryant & Brown, 1989).

Notably, the Internet and other new media technologies such as digital cameras and cell phones have made sexually explicit materials more accessible to younger people than ever before. In the late 1990s, it was estimated that the online pornography industry was worth more than $1 billion and that half of all spending on the Internet was related to sexual activity (Griffiths, 2000).

Over the past decade, pornography has become both more mainstream and more hard-core. For young people growing up in this era of ever-new and accessible technology, it is almost impossible to avoid exposure to pornography. Consumption (particularly for young men) has become normalised, and the ways young people understand and experience gender and sex are being influenced by what they (or their partners or peers) observe in porn. Pornography's influence on young people's sexual imaginations, expectations and practices has serious implications for their capacity to develop a sexuality that is mutually pleasurable, fully consenting, and respectful, as well as for gender equality (Crabbe and Corlett, 2013).

2.5. Unwanted and wanted Internet pornography exposure

"Exposure" here refers to both deliberate and accidental exposure to pornography. The term 'pornography' originates from two Greek words, porne, which means harlot, and graphein, which means to write. The combination of the two words was originally meant to describe, in literature, the sexual escapades of women deemed to be whores (Carter and Weaver, 2003) cited in (Tefer, 2007). As times had passed, this definition of pornography has grown to include all obscene literature and pictures. Drawing on recent Australian research, the term 'pornography' refers to materials that are, or would be, classified as X18+ rated (movies on DVD, video, film) or Category 1 and Category 2 Restricted (magazines, books and publications with different levels of sexual explicitness) or that would be refused classification based on their sexual content under the National Classification Code (May 2005). As such, pornography includes sexual content ranging from nudity to explicit sexual activity and includes sexual content involving violence or sexual practices.

Pornography varies markedly in terms of its content, ranging from nudity in the sexually explicit and from non-violent to violent. Rigorous quantification of how content varies across media types is difficult. Although much content is likely to be similar due to the presence of

similar commercial interests, online content is more diverse, incorporating self-produced materials. Online content is often unregulated and therefore can include sexual violence and other sexual content that is illegal in Australia, USA, and Nigeria and, many other countries.

There is clear evidence that many teens and young persons who use the Internet are exposed to pornographic website. In a national study of adolescent Internet users ages 10-17 years Finkelhor Mitchell and Wolak (2000) found that one in four had viewed sexual material they did not want to see in the previous year. Another study found that almost one third of adolescent in this age group with computers at home had seen a pornographic website, by accident or on purpose (Kaiser Family Foundation, 2000).

The invasion of pornographic sites on the Internet is an issue of serious consequences. It has been estimated that over 10 million people a week visit pornographic websites in Nigeria alone (UN Statistics Division, 2005). The psychological effects of pornography cannot be overemphasized. An increase in sex crimes resulting from these activities is already noticeable in some advanced countries of the world. The prevalence of pornography online has made the Internet known as a "sexual medium" (Peter & Valkenburg, 2006). As of 2003, there were 1.3 million pornographic websites, 260 million pages. The total porn industry revenue for 2006 was $13.3 billion in the United States and $97 billion worldwide. The average age of first Internet exposure to pornography is 11 years old. As of 2007, the largest consumer of Internet pornography was the 12 - 17 year-old ages group (Internet filter review). According to London School of Economics (January 2002), 9 out of 10 young person aged between the ages of 8 and 16 have viewed pornography on the Internet in most cases unintentionally. Adolescent Internet Safety Survey, U.S. Department of Justice (2001) findings revealed that 1 in 5 adolescent aged 10 to 17 years old receive unwanted sexual solicitations online.

In 2000, the Crime against Children Research Centre (CACRC) conducted a nationally representative interview based survey with 1,501 teen aged 10 to 17 who use the Internet regularly. From the result of the survey, 25% teens reported having had at least unwanted one exposure to sexual pictures in the year before the survey was conducted. Young people see sexually oriented and sexually explicit websites on a regular basis both on purpose and by

accident. Most of these online encounters with sexual material are accidental or unintentional (Cameron *et al*, 2005).

Most individuals have experienced clicking on an image or term, only to be brought to a new website, including sites that one had no intention of visiting. This action can also lead to pop-up images featuring material describing everything from "hot young babes" to "low mortgage rates." Young people frequently see banner advertisements or receive e-mails with links to sexual websites, so it is not surprising that the curious adolescent might follow such links. While many adults are troubled that young people are exposed to such messages, they believe that they are not harmed by these sexually explicit websites. Young males report attitudes more positive toward pornography from an early age while young females usually have very negative attitudes toward pornography, but increasingly more positive attitudes emerge with age (Wallmyr and Welin 2006; Carroll *et al*. 2008).

Although rates of deliberate consumption of Internet pornography among young people in International studies vary, (US survey, 8% of young people had visited pornography sites deliberately Mitchell et al. 2003; UK 10% Livingstone and Bober 2004 and Australia relatively high 38% Flood 2007), studies have shown that deliberate consumption of pornography is highly gendered among adolescent as it is among adult. Males are more likely than females to use pornography. Males use it for sexual excitement and masturbation (Flood and Hamilton 2003; Cameron et al. 2005; Wallymr and Welin, 2006; Flood, 2007; Nsoko 2007 and Sabina *et al*. 2008).

Studies across the globe have also revealed that greater percentage of young people had come in contact with online pornography, and most were viewed unintentionally (Kaiser Family Foundation, 2001; Livingstone and Bober, 2004; Fleming *et al*., 2006). Similarly, a US survey on unwanted exposure to Internet pornography by Mitchelle in 2003 and 2007 showed that there was a rapid increase on the rate of unwanted exposure among young people. Not surprisingly, given the high rates of teen exposure, concern exists that adolescents are being flooded with unwanted and wanted, and possibly violent sexual information before they are developmentally capable of constructively dealing with it. This may detrimentally transform sexual attitudes and behaviours and ultimately sexuality and intimate relationships. Concerns

within different parts of the community focus on the potential of pornography to interfere with normal sexual development (e.g. encouraging sexual activity) foster 'open' sexual lifestyles (acceptance of casual and extramarital sex, multiple partners, etc.) and 'unnatural' practices (anal and oral sex, homosexuality) undermine physical, emotional and psychological wellbeing (generate shame, guilt, anxiety, confusion, poor social bonds, and addictions) undermine relationships and foster sexual violence (Jensen and Oknina, 2004, Zillman, 2000)

A national survey of adolescent, ages 10 to 17 on Internet pornography indicated that 25% of them had unwanted exposure to sexual pictures on the Internet in the year preceding the study, challenging the prevalent assumption that the problem is primarily about young people motivated to actively seek out pornography. Most young people had no negative reactions to their unwanted exposure, but one quarter said they were very or extremely upset (Mitchelle, Finkelhor and Wolak- 2003)

A telephone survey of a nationally representative sample of 1500 adolescents Internet users aged 10 to 17 years was conducted between March and June 2005. Forty-two percent of adolescent Internet users had been exposed to online pornography in the past year. Of those, 66% reported only unwanted exposure. Multinomial logistic regression analysis was used to compare adolescent with unwanted exposure only or any wanted exposure with those with no exposure. Unwanted exposure was related to only Internet activity, namely, using file sharing programs to download images. Filtering and blocking software reduced the risk of unwanted exposure, as did attending an Internet safety presentation by law enforcement personnel. Unwanted exposure rates were higher for teens, adolescent that reported being harassed or sexually solicited online or interpersonally victimizedoffline, and those who scored in the borderline or clinically significant range on the Child Behavior Checklist subscale for depression. Wanted exposure rates were higher for teens, boys, and adolescents who used file-sharing programs to download images, talked online to unknown persons about sex, used the Internet at friends' homes, or scored in the borderline or clinically significant range on the Child Behavior Checklist subscale for rule-breaking. Young people who used filtering and blocking software had lower odds of wanted exposure (Wolak *et al.* 2007)

In a US study, 31 per cent of children aged 10 to 17 with a computer at home had seen a pornographic web site, including 45 per cent of those aged 14 to 17 (Thornburgh & Lin 2002). In a UK-based national survey of 1,511 youth aged 9 to 19, more than half (57%) had come into contact with online pornography, and most was viewed unintentionally (Livingstone & Bober 2004). Among 13- to 16-year-olds in Australian schools, 93 per cent of males, and 62 per cent of females had seen pornography (Fleming *et al.* 2006). Based on retrospective reports among US university students, 93 per cent of males and 62 per cent of females had seen online pornography before age 18, with a mean age of 14.3 for males and 14.8 for females (Sabina *et al.* 2008).

Kaiser Family Foundation (2001) found that 59% of adolescents think that seeing Internet pornography encourages young people to have sex before they are ready, and approximately one-half believe that it encourages unprotected sex. In all, 70% of 15--17-year-olds have admitted to "accidentally" stumbling across pornography online; almost one-half of these adolescents did not report being upset by what they saw (Rideout, 2001).

Hence, concern arises because young people routinely underestimate the potential effects of media on themselves relative to others, many reporting when they were older that they had been too young to see pornography when they did (Nightingale et al., 2001; Livingstone and Bober, 2003;).

2.6. Factors effecting exposure

There are many factors that influence the developmental characteristics of young persons. Mass media, Internet, materialism, migration and/or urbanization may increase both the desire and opportunity for sexual activity, and many of these young persons' are compelled by peers to engage in sexual intercourse. However, there are potential benefits associated with the use of the Internet for educational, shopping, and banking transactions, medical intervention; and communication in the form of e-mail, instant messaging, and chatting. Again, while the Internet provides a wealth of positive information, there has been increased awareness of its potential dangers, especially to young people as Internet is increasingly becoming a monster in the context of sex. Young people have unlimited access to information on sex through porn spam on their e-mail or by inadvertently clicking on a link to a pornography site.

The proliferation of pornographic materials and their ease of access are such that it is not a matter of whether a young person will be exposed to pornography but when. Exposure may be inadvertent (such as through unsolicited e-mails or an accidental encounter with pornography online) or intentional. Concern exists that young people are being flooded with sexual information before they are developmentally capable of integrating it into a healthy sexual identity, with ramifications for both individual and society. Though pornography exposure is widespread, risks of it vary markedly with characteristic such as gender, age, race, ethnicity, education, income, geographic location, religion, etc.

Gender: Young person's exposure to pornography can be both inadvertent and intentional. Moreover, there are many reasons for which intentional exposure occurs, and these reasons may vary by sex and age. Wallmyr and Welin (2006) found that 15- to 25-year-old males primarily viewed pornography to get aroused and masturbate (48.8%), out of curiosity (39.5%) or because 'it's cool' (28.5%). Although arousal and masturbation remained key uses irrespective of age, there was an increasing tendency to use it to facilitate sexual relationships and less likelihood for 'curiosity motivated' viewing with age. In contrast, similarly aged females primarily viewed pornography out of curiosity (54.6%) and because 'it's cool' (19.1%). Studies also revealed that female use of pornography is more often relationship centered, they are more likely to watch pornography with their partner than with friends.

While the media continue to report that gender difference in Internet use persist, studies have shown that gender gap is narrowing rapidly but the disparities is in the purpose of which Internet is used (Katz et al., 2001; Richard et al. 2005). A telephone survey of 200 young Australians aged 16 to 17, found rates of exposure as follows: X-rated videos: 73 percent of Males compared with 11 percent of females. While 84 percent of males compared with 60 percent of females reported inadvertent online exposure. Deliberate online exposure: 38 percent of males compared with two percent of females. Report suggested that males may also differ from females in how they prefer to engage with pornographic media. Though media usage patterns change rapidly, males in many cultures are more likely than females to seek pornography online, with females demonstrating greater attraction to regulated markets e.g. videos (Flood and Hamilton 2003; Wallmyr and Welin 2006, and Flood 2007).

Similarly, study by Richard et al., (2005) found a number of gender differences in participants' use of the Internet. Study revealed that males were proportionally more likely to have their own web page than were females. They used the Internet more than females; in particular, they were more likely to use game websites, to use other specialist websites, and to download material from the Internet. However, females did not use the Internet for communication more than males. There was a significant positive relationship between Internet identification and total use of the Internet, and a significant negative relationship between Internet anxiety and total use of the Internet. The study also found a significant and negative correlation between gender and use of the Internet. Furthermore, the association between pornography use and age appears to be compound; due to many factors that shape sexual behaviour. Age of first exposure is generally lower in boys than in girls.

It is ambiguous how this has changed as a result of the internet (McKee, Albury and Lumley, 2008). Ybarra and Mitchell, (2005) in their study found that the prevalence of Intentional Internet exposure increased with age, from eight percent among 10- to 13-year-olds to 20 percent among 14- to 17-year-olds, with younger children visiting more traditional media like magazines and videos. In the past, pornography use has been a taboo, and it remains so for young person. Young persons who have high sensationseeking needs who enact rule-breaking behaviours, or who are delinquent commonly report higher rates of deliberate exposure (Bjmebekk 2003; Peter and Valkenburg 2006; Wolak et al. 2007). Delinquent teens not only are more likely to have been exposed to pornography but also report more exposure at an earlier age (often under 10), and more extreme pornography use than their peers (Bjmebekk 2003).

Media: The role of media in sexual socialisation essentially begins in early childhood. Many of the 'problems' credited to pornography have also been attributed to other media e.g. Internet. According to Attwood (2005), adolescent females also use media to generate 'appropriate' sexual identity. In this case, conservative views of femininity and heterosexuality are commonly reinforced through associated discussions about sexuality and body image rather than sexual prowess. Pornography is largely counterproductive to this purpose, as its themes

directly challenge conservative definitions of female heterosexuality (promiscuity threatens female status) and may contribute to unease about attractiveness.

Although fears about the influences that media may have on young person's sexual knowledge, attitude and behaviours range back to the early days of motion pictures. The medical community began voicing its concern about the effects that entertainment media may have on sexual activity nearly three decades ago. Kaiser Family Foundation Report (2003) study on media exposure indicated that young people were using more media for longer periods of time at younger ages. Content analyses of television programming showed that the prevalence of sexual content has been increasing over the past two decades. Suggesting greater exposure to sexual content in media is associated with more permissive attitudes toward sexual activity, higher estimates of the sexual experience and activity of peers, and more and earlier sexual behaviour among young people. Although the body of research evidence is small, the findings seem to parallel those for media violence: young people accept, learn from, and may emulate behaviours portrayed in media as normative, attractive, and without risk.

Peer: According to data from the Pew Internet and American Life Project (2001) on Teenage life online the vast majority of teen use e-mail than instant messaging (IM), which allow them to have multiple simultaneous conversations with a defined group of peers. Young people cite their peers as their principal source of sexual information (Wallmyr and Welin, 2006). However, pornography's role in this process differs markedly between the sexes. Group pornography use is a common means of promoting male bonding and exaggerated male bonding undermines males' platonic relationships with females and even sexual relationships with females and may be seen as dangerously feminising. Risk of sexual coercion and assault is greater in groups and cultures emphasising male dominance, gender-based separation, and ideologies of toughness (e.g. male athletic groups, street gangs and friendship circles). Pornography may exaggerate competition and bonding, but it is not necessarily its origin (Lloyd, 2008).

Peer pressure within groups may potentially exaggerate effects of pornography but pornography use by socially isolated (real or perceived) individuals may also be problematic, due to the absence of the potentially moderating elements of peer sexual socialisation. A danger arises when such individuals find social identification through connections with other individuals with problematic sexual behaviour. Wani (2004) has reported that peers along with media are important sources of sexual information for teens. According to Lefkowitz, Boone and Shearer, (2004), conversations with best friends have been found to be related to sexual attitudes and behaviours.

In a study by Heitner, 2002 on the relationship between use of the Internet and social development, the study found that adolescents who use the Internet to connect with others in real-time social exchanges tended to possess higher peer status, more social skills, and greater social integration than their more socially introverted and withdrawn peers, who spent most of their Internet time in solitary activities. In addition, young person who use chat rooms exhibited lower peer status and had fewer social skills. Similarly, study conducted by Gross et al, 2002 on Internet use and well-being in adolescent, found that teenagers with strong social connections use e-mail and instant messaging (IM) to reinforce pre-existing bonds, whereas those with less developed social networks use the anonymous features of the Internet to find new friends and social outlets, perhaps compensating for what they lack offline.

Inexperience: Though young people commonly possess a keen desire to explore their own sexuality, they often also have a poor understanding of important sex-related issues, including safe sex, sexual violence, and sexual negotiation and communication, factors that place them at increased risk of experiencing sexual violence. Although many adolescents demonstrated capacity to think about the effects of media, they do not necessarily possess sufficient foundational knowledge or experience to be entirely aware of the subtlety of the messages incorporated within pornography. Pornography might be expected to have an exaggerated effect on adolescents compared with that on adults. This is likely exacerbated when there is an over-reliance on pornography as a source of sexual information (directly or indirectly through equally unknowledgeable peers). As pornography is fantasy-based, it provides little

information that is constructive, and possibly even some that is detrimental, about sexual rights and responsibilities (e.g. respect, safe sex and sexual communication).

2.7. Sexual behaviour

Sexual behaviour is any activity solitary, between two persons, or in a group that induces sexual arousal while human sexuality is refer to the way someone is sexually attracted to another person which is determined by their sexual orientation whether it is to the opposite sex (heterosexuality), to the same sex (homosexuality), having both these tendencies (bisexuality). There are two major determinants of human sexual behaviour: the inherited sexual response patterns that have evolved as a means of ensuring reproduction and that are a part of each individual's genetic inheritance, and the degree of restraint or other types of influence exerted on the individual by society in the expression of sexuality (Likcitis.org, 2009).

Human sexual behaviour may conveniently be classified according to the number and gender of the participants. There is solitary behaviour involving only one individual, and there is socio-sexual behaviour involving more than one person. Socio-sexual behaviour is generally divided into heterosexual behaviour (male with female) and homosexual behaviour (male with male or female with female). If three or more individuals are involved it is, of course, possible to have heterosexual and homosexual activity simultaneously.

However, the realization that people have always done certain things does not necessarily allow us to conclude that they have always thought of them the same way. This is particularly true of the word "sex" and all its derivations. We know, of course, that in ancient and medieval times people had dozens or even hundreds of words for the male and female organs and for the act of copulation. We also know that they talked about being fruitful and reproducing their "own flesh and blood." They knew what was meant by kissing, embracing, or fondling another person. They were familiar with sensual pleasure, physical stimulation, and excitement. They spoke proudly of love, desire, affection, tenderness, passion, Cupid, and Venus. Some young men and women enjoyed displaying their nude bodies or observing nudity in others. Some tried to suppress their "concupiscence" and spoke with disgust of lewdness, lust, or temptation by the devil. While some also praised chastity, modesty, continence, innocence, and virginity while condemning carnal impurities, abominations, sins against God, and crimes against

nature. In the present book, the term "human sexual behavior" is used both in a wider and a narrower sense. In the wider sense, it simply means everything people do as sexual beings. Among other things, this covers the way in which young people perform their masculine and feminine gender roles and how they choose and approach their sexual partners (Kontula and Mannila, 2009).

Most sexual arousal does not lead to sexual activity with another individual. Humans are constantly exposed to sexual stimuli when seeing attractive persons and are subjected to sexual themes in advertising and the mass media. Response to such visual and other stimuli is strongest in adolescence and early adult life and usually gradually declines with advancing age. One of the necessary tasks of growing up is learning to cope with one's sexual arousal and to achieve some balance between suppression, which can be injurious, and free expression, which can lead to social difficulties (Likeitis.org, 2009).

2.8. Influence of exposure on sexual behaviour

There is considerable debate about the impact of pornography on adolescents and young persons, particularly as there is limited scientific research available. However, some cross-sectional studies suggest that prolonged exposure can lead to exaggerated beliefs of sexual activity among peers, sexually permissive attitudes, and sexual callousness and young persons' dispositions toward sexuality (Zillmann, 2000), including more negative attitudes toward sexual partners. *Pornographic influence may not be restricted to attitudes; sexual behaviours can also be affected (Roberts, Foehr and Rideout, 2005).*

Although the Internet has consistent positive impacts on modern society, it has also caused various societal concerns about privacy, security, pornography, Internet crime, and virtual community (Greenfield and Yan, 2006). Internet easy accessibility poses greater risks and dangers for youth as compared to other forms of media. As cited by Adebayo and Udegbe (2004), studies in the United States have revealed that sex is reported to be the most frequently searched topic on the Internet. Further, research has also shown that Internet use is related to sexual behavior among secondary school students in the Bangkok metropolis (Prasertsawat and Petchum, 2004).

According to the National Attitudinal Poll, the number one media concern for parents has shifted from television to the Internet: 85% of parents reported that among all forms of media, the Internet posed the greatest risk to their children (Common Sense Media, 2006). Parental concerns are valid, especially considering that teens are essentially free to view and post whatever they choose and communicate with whoever they want. In line with this, the Internet has become a highly effective and profitable means of distributing sexually explicit material, as well as a sophisticated channel for compulsive sexual behaviour, sex trafficking, and sex crimes (Galbreath and Berlin, 2002). Teens are being subjected to sexual material and messages before they are mentally prepared to understand or evaluate what they are viewing. In addition, the majority of sex education is taking place in the media particularly the Internet, not in the home or school. Research has shown that pornography and its messages are involved in shaping attitudes and encouraging behaviour that can harm young persons' users and their families (Kimberly *et al*, 2006; Tori, 2007; Michael, 2009). Pornography use is often viewed in secret, which promotes the allure of adultery, prostitution and unreal expectations that can result in dangerous promiscuous behaviour.

Ybarra and Mitchell (2005) survey found that 13% of adolescent Internet users, 10 through 17 years of age visited X-rated web sites on purpose in 2004. Thirty four percent of adolescents were exposed to online pornography they did not want to see, primarily through (in order of frequency) links to pornography sites that came up in response to searches or misspelled web addresses or through links within Web sites, pop-up advertisements, and spam e-mail. Although there is evidence that most adolescent are not particularly upset when they encounter unwanted pornography on the Internet, unwanted exposure could have a greater impact on some young persons than voluntary encounters with pornography (Livingstone and Bober, 2004; Wolak, Mitchell and Finkelhor, 2006; Peter and Valkenburg, 2006).

Young people sexuality is influenced by the mass media today more than any other time in history. Internet, television, music video and sexually explicit lyrics all contribute to young persons' attitudes and behaviour concerning sexual activity. Only 9% of the sex scenes on 1,300 of cable network programming discusses and deals with the negative consequences of sexual behaviour (Pawlowski Cheryl Glued to the Tube, Sourcebooks). Hence, the Internet and

the anonymity therein allows young persons' real concerns relating to false information on health issues, sexuality, and sexual violence in the world of intimate sexual relationships (Subrahmanyan, et. al. 2006).

When the Internet was in its infancy, the only people with access to it were scientists working for the government or at universities. Today, the Internet, though itself only in its teenage years, is widely used by young persons. Soon after its commercialization in 1993, the Internet and the World Wide Web gained prominence in producing, disseminating, storing, and presenting pornographic materials known as Cyberporn or Cybersex,. Content analyses have shown that pornographic materials posted and distributed on the Internet have been presented in an unprecedented and interactive dimension. Concerns over the excessive growth of Internet pornography have given rise to a moral panic ((Nichta and Plaza, 1997; McMurdo, 1997; Heider and Harp, 2000). Today's pornography has reached a level of degradation and violence that is alarming.

According to Emezor (2005), the growing popularity of Internet use in Nigeria has raised concerns in some quarters about the possible relationship among young people in Nigeria with respect to Internet search. This concern is not unfounded, as the Internet has profoundly impacted sexuality. In a study by Adebayo et al. (2004) on gender, Internet use, and sexual behaviour orientation among young Nigerian, there was n corresponding relation between gender, Internet use, and sexual behaviour. Increased Internet exposure was associated with the reported extent of sexual behaviour. Further research has also shown that Internet use is related to sexual behaviour among secondary school student in the Bangkok metropolis (Presertsawat and Petchum, 2004).

According to Ojo and Fasuban (2005), young peoples' sexual behaviour in Nigeria and sub-Saharan Africa is seriously going through transformation from what it used to be in the past. They attributed this to the effect of modernization caused by industrialization, education, exposure and importation of foreign culture. Unfortunately, the Internet, more than any other agent of social change has contributed in no small measure to the removal of guilt, fear and shame associated with unconventional sexual activities among young persons. Consequently,

the abuse of the Internet has recently attracted the attention of scholars. Research evidence suggests a relationship between exposure to sexual content in the media and sexual beliefs, attitudes, and behaviours (Brown and Eisenberg, 1995). Given the popularity of the Internet amongst young people, some researchers have investigated the relationship between young persons' involvement with online sexual activities (including online chats, meeting partners, and looking for romantic and sexual relationships) and the development of their sexuality.

In view of the challenges and threats posed by STIs and HIV/AIDS, it is imperative to understand the context and associated factors that may shape sexual behaviour of young people. Gender and Internet use are factors that appear germane to the understanding of young persons' sexual attitude and behavior in Nigeria. Young persons' access to Internet facilities represents another background factor that may influence their sexual behaviour orientation as popularity of Internet use has been facilitated by the emergence of cyber cafes in Nigerian cities. (Ajakaye and Kanu, 2004).

Psychologists Dolf Zillmann and Jennings Bryant (1984), who studied the effects of sustained exposure to non-violent pornography, showed through their studies that males seek progressively more violent material with frequent Internet use. "Pornography can transform a male who was not previously interested in the more abusive types of pornography into one who is turned on by such material" They also cited, after exposure, a higher acceptance of adultery in marriage, more positive views of promiscuity, and more acceptance of dominant and subordinate gender roles. With the growing rates of sexually transmitted disease and the frequency of rape among young people, pornography shows itself to be a contributing factor to these problems. One can also infer that its effects would be just as negative if not more, on young people. The most frightening aspect of the aforementioned study was that after exposure to this type of pornography, the viewer will in almost all cases seek out something more extreme.

A similar study by Jeanette Norris (1991) on the impact of social influence and stimuli indicated that "individuals who have had long-term, in depth exposure" to pornographic materials will have a much more difficult time being able to empathize with the opposite sex on matters such as rape and other forms of sexual aggression. Rather, increased exposure,

therefore, equals increased potential for violent sex crimes, increased acceptance of rape myths, of violence toward women, and insensitivity toward rape victims.

Study conducted by Neil Malamuth (2000) also suggested that where a predisposition toward "aggressive sexual behaviour" already existed, those same young persons exposed to pornography had four times greater levels of sexual aggression than those their age who did not seek out pornography. This, among other studies, indicates that pornography has negative effects on a young ones state of mind, their decision making process, and ultimately their lives.

A book "Pornography as a cause of rape", author Diana Russell, holds many frightening statistics, such as the fact that fifty percent of high school males said that it would be okay to force themselves upon a female if she changed her mind after "turning him on". According to Russell, pornography meant to arouse paired with violent or aggressive imagery follows the "laws of social learning". In her book, she proceeds to make well-supported assertions as well, such as, "pornography undermines some males' internal inhibitions against acting out the desire to rape", and "pornography undermines some males' social inhibitions". Considering all these finding, it is obvious young people cannot truly understand the moral implications that must be considered when viewing this type of material. As such, any of these young boys will have no moral or ethical guidance while dealing with these issues because there is such a taboo surrounding adolescent and pornography. Many individuals undertake multiple risk-taking behaviours, which may compound the potential effects. For example, a higher acceptance of pornography is associated with increased alcohol usage (Carroll et al. 2008), and alcohol may exacerbate the negative effects of pornography exposure and increase the risks of sexual coercion or aggression (Norris and Kerr, 1993).

Statistically, significant associations are found between pornography use and some specific sexual behaviour, but the extent of the causal role of pornography is under debate. Its role in sexual violence is argued to be mediated by personal factors such as general hostility, hostility toward women, hyper masculinity, empathy deficits, impersonal sexuality, precocious sexual behaviour, and behavioural difficulties such as interpersonal difficulties, hyperactivity, impulsiveness, delinquency and antisocial behaviour (Seto, Maric and Barbaree, 2001). According to the above hypotheses, the harmful effects of pornography exploit pre-existing

factors such as hostility and problematic behaviours, which manifest out of childhood experience rather than arising from pornography itself. This does not mean that pornography use is not harmful, but rather that it is not the origin of the harmful effects.

Increased access to pornography is mirrored by a similar rise in consumption and over 90 percent of ninth graders (15–16 years) and third-year upper secondary students (19 years) have already seen some form of pornography. These figures are somewhat lower for girls, with just over half of ninth-graders and two-thirds of third-year upper secondary students having seen pornography. A clear majority of the general public feel that adolescents' sexual habits are affected by watching pornography. Studies which pose similar questions to adolescents indicate that, whilst many feel others are affected by watching pornography, they are much more skeptical as to whether they themselves are affected. Young males than females feel they themselves are affected, however. In general, females also see pornography as a turn-off and disgusting while more males feel it is a turn-on and exciting. More males than females are keen to try what they see in the pornography. Several studies also show that there is a strong relationship between having seen pornography and having tried out certain sexual acts.

In an anonymous survey at a health center in New York City, the cross-sectional survey assessed Internet accessibility, exposure to sexually explicit web sites (SEWs), sexual behaviours, and sexually permissive attitudes. Of the participants, 96% had Internet access, and 55.4% reported ever visiting a SEW. Study also revealed that adolescents exposed to SEWs were more likely to have multiple lifetime sexual partners and have the tendency to display higher sexual permissiveness compared with those who have never been exposed.

Study by Brown and L'Engle (2009) showed that two-thirds (66%) of males and more than one-third (39%) of females had seen at least one form of sexually explicit media in the past year. At baseline, being black, being older, and having less-educated parents, lower socioeconomic status, and high need for sensation were related to greater exposure for both males and females. Longitudinal analyses showed that early exposure for males predicted less progressive gender role attitudes, more permissive sexual norms, sexual harassment perpetration, and having oral sex and sexual intercourse two years later. Early exposure for

females predicted subsequently less progressive gender role attitudes, and having oral sex and sexual intercourse

Yabarra and Mitchelle (2000) national survey on 10- to 15-year-old adolescent who have used the Internet at least once in the last 6 months, the main outcome measures were unwanted sexual solicitation on the Internet, defined as unwanted requests to talk about sex, provide personal sexual information, and do something sexual, and Internet harassment, defined as rude or mean comments, or spreading of rumors. Study revealed that 15% of the adolescent reported an unwanted sexual solicitation online in the last year; 4% reported an incident on a social networking site specifically. Thirty-three percent reported an online harassment in the last year; 9% reported an incident on a social networking site specifically. Among targeted adolescent, solicitations were more commonly reported via instant messaging (43%) and in chat rooms (32%), and harassment was more commonly reported in instant messaging (55%) than through social networking sites (27% and 28%, respectively).

Recently, China has taken a lead to scrap this ugly situation. Beijing. (2010). China has shut down another 16,000 websites on grounds that they were of a pornographic nature. The move is the latest in a string of drives to crack down on pornographic and lewd content appearing on the Internet. Statistics from the International Communication Office of the Central Processing Complex (CPC) revealed that since the crackdown was launched in December 2009, more than 850,000 pictures and 1.3 million messages with lewd or pornographic content have been deleted. Over 30 online novels and 15 mobile phone games have also been halted. China daily reports said the campaign made significant breakthroughs in striking the profit chains for porn web sites as the lewd content on the Internet in the country were reduced and the tendency of spreading such information through cell phones was kept under control. Earlier, the officials had banned in addition, 1,414 works of online literature, which were found to contain lewd or pornographic content and about 30,000 web links to the banned works and 20 online literature websites were closed after scrutiny of about 4,000 literature websites by more than 50 experts organized by the General Administration of Press and Publication (GAPP) of China. The banned works also included pornographic content, any provocative or privacy-violating titles that disregarded common decency (Asian News International, Feb 2010).

Notably, exposure to Internet pornography has potential implications on adolescents' sexual relationships, such as number of partners and substance use. The Computer Security and Critical Information Infrastructure Protection bill 2005 worked out by the Nigeria Cyber Crime Working Group (NCWG) remains one of the most powerful legal tool for fighting cybercrime in Nigeria. Yet there are no obvious concerns for the underage and children in their access to the Internet in Nigeria. Children, young people and adults consume the same vulgar contents with impunity and without deterrents. One would have thought that the trend applicable in the movie industry in Nigeria regarding content ratings would have been applied online. It seems nobody has thought or is thinking along these lines among our policy makers. All we can see and observe are on paper in the Cybercrime Act. As of date and to the best of knowledge, there has been no form of arrest or prosecution of pedophiles, Internet sex hawkers or Internet service provider where the right of users to decent contents especially children and young persons are violated.

Surprisingly, the objectives of the acts were to secure computer systems, networks and protect critical information infrastructure in Nigeria.

2.9. Conceptual framework:

Ecological Model was used in exploring the variables studied.

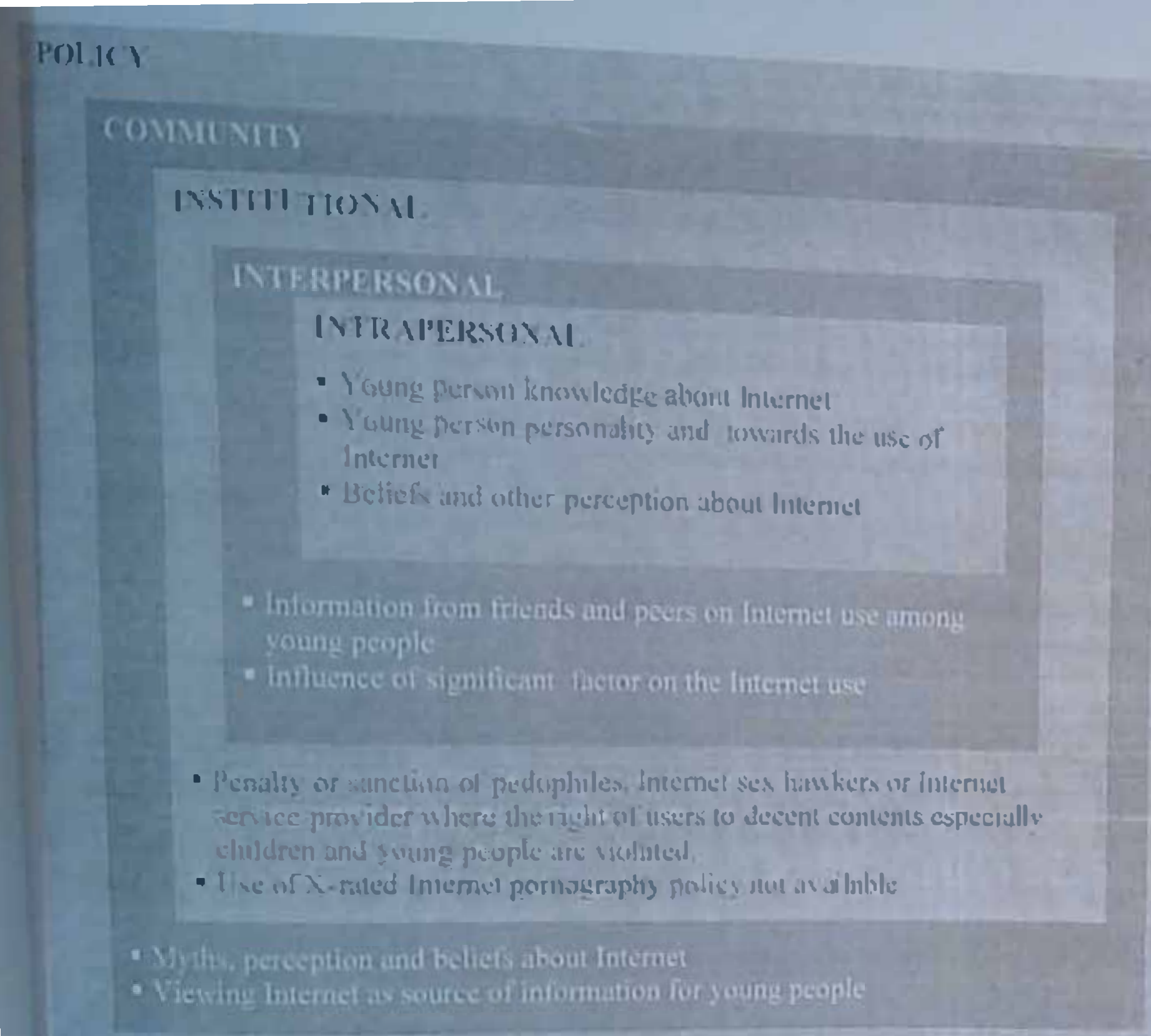
2.9.1 The Ecological Model

The ecological model emphasizes the interaction between, and interdependence of, factors within and across all levels of a health problem. It highlights people's interactions with their physical and socio-cultural environments. Two key concepts of the ecological model help to identify intervention points for promoting health. The first is that behaviour both affects, and is affected by, multiple levels of influence while the second is that individual behaviour both shapes, and is shaped by, the social environment (reciprocal causation).

In order to explain the first key concept of the ecological perspective, (multiple levels of influence), McLeroy, Bibeau, Steckler, and Glanz (1988) identified five levels of influence for health –related behaviours and conditions. These levels include: 1) intra-personal or individual factors; 2) inter-personal factors; 3) institutional or organisational factors; 4) community factors and 5) public policy factors (NIH, 2005). An ecological perspective shows the advantages of multilevel interventions that combine behavioral and environmental components. Clearly, the ecological model stresses a holistic approach to problem identification resolution. Figure 2.1 highlight the key concepts of the model while the ecological model as adapted to facilitate the study of internet and sexual behaviour of adolescent is presented in Figure 2.2

An Ecological Perspective: Levels of influence	
Concept	*Definition or Clarification*
Intrapersonal Level	Individual characteristics that influence behaviour, such as practice and personality traits
Interpersonal Level	Interpersonal processes and primary groups, including family, friends and peers that provide social identity, support and role definition
Community Level	
Institutional Factors	Rules, regulations, policies, and informal structures, which may constrain or promote recommended behaviour
Community Factors	Social networks and norms or standards, which exist as formal or informal among individuals, groups, and organizations
Public Policy	Local, state and federal policies and laws that regulate or support healthy actions, control and management of cyber operation

Fig 2.1: Explanation of the basic concepts in ecological model



Source: Concepts adapted from National Institute of Health (2005) Theory at a glance: A guide for health promotion practice. National Institute of Health. U.S Department of Health and Human Services

Fig 2.2: Ecological model adapted to explain influence of Internet use on adolescent sexual behavior

The ecological model was useful in the selection of the following variables for measurement during the study: source of information, activities, practices and influence of Internet use.

CHAPTER THREE

METHODOLOGY

3.1. Study Design

The study was a descriptive cross – sectional survey designed to examine the influence of Internet on sexual behaviour of young people.

3.1.2. Study Site

Ibadan North Local Government Area constitutes the study setting. The LGA is one of the five LGAs in Ibadan metropolis. Ibadan North LGA was created on 27th September 1991 out of the defunct Ibadan Municipal Government.

The headquarters of the local government is Bodija. The local government is bounded in the North by Akinyele LGA, in the West by Ido and Ibadan North West LGAs, and in the South by Ibadan North West and Ibadan South West LGAs. Ibadan North LGA is bounded in the East by Ibadan North East and Lagelu LGAs (see appendix I)

Ibadan North local government area has a population of 302,271 people. The males account for 152,061 people while the female population was 150,210. Total males and females within 10-24 years were 110,767 accounting for 36.6% of the total population (National Population Commission, 2006). Ibadan North LGA comprises of 12 wards (See Table 3.1)

The LGA is multi – ethnic in composition. It is predominantly dominated by the Yorubas. The Igbos, Edos, Urhobos, Itsekiris, Ijaws, Hausas, Fulanis and non-Nigerians from Europe, America, Asia and other parts of the world also live within the LGA.

Majority of the residents of Ibadan North LGA are in the private sector. They are mainly traders and artisans. Some residents of the LGA are civil servants who live around Bodija estate, Agbowo, Sango, Mokola, the University of Ibadan and the Polytechnic Ibadan. There are six major markets in the local government area, namely Bodija market (which is the largest

food market in Ibadan), Mokola, Sabongeri, Agodi Gate, and Ijokodo/Gbaremu markets Thousands of people patronise these markets on a daily basis from within and outside Ibadan The LGA is governed by an elected Executive Chairman. The Executive Chairman is assisted by a Vice Chairman, the Secretary and the Supervisory Councilors. The Councilors constitute the legislative arm of the local government while the administrative head is the Director of Personnel Management. The customary courts form the judiciary arm of the local government

There are numerous educational institutions in Ibadan North LGA (IBNLGA); these include the University of Ibadan, The Polytechnic, Ibadan, Oyo State School of Midwifery, Yemetu, 78 public and 48 private primary schools as well as 30 public and 20 private secondary schools. The public health facilities in the LGA include one tertiary health facility, one secondary health facility and 12 primary health care facilities. There are myriads of private clinics and patent medicine stores in the LGA. The business concerns in the LGA include numerous one-man business entities, large corporate organizations as well as public and private educational institutions. There are quite a number of cybercafés all over Ibadan north LGA. This is of various sizes from city center to small streets but many of them were not registered with cooperate body. Statistics about the diffusion and current number of cybercafes in Ibadan north are problematical because of uncertainties in definition and the absence of authoritative measurement mechanisms. Government statistical agencies and commercial mernes groups have not been collecting and publishing about number of cyber cafes. Notably, majority of well known cybercafés were concentrated more around Agbowo, Polytechnic and Bodija areas.

Table 3.1: The 12 Wards in Ibadan North LGA and their constituent communities

Ward	Areas/Neighbourhoods/Communities
1	Beere, Kannike, Agbadagbudu, Oke Aare, and Odo-Oye
2	Ode-Oolu, Inalende, Oniyarin and Oke-Oloro
3	Adeoyo, Yemetu, Oke-Arimo, and Oke-Alfa
4	Ilutaba, Idi-Oino, Oje-Igosun, Kube, Oke-Apon, Abenla, Ali-Iwa/Total Garden, and NTA area
5	Basorun, Oluwo, Ashi, Akingbola, Ikolaba, and Gate
6	Sabo area
7	Oke-Itunu, Coca Cola, and Ore-Meji
8	Sango, Ijokodo
9	Mokola, Ago-Tapa, and Premier Hotel area
10	Bodija, Secretariat, Awolowo, Obasa and Sanusi
11	Samonda, Polytechnic and University of Ibadan
12	Agbowo, Bodija market, Oju-Irin, Barika, Iso-Pako, Lagos /Ibadan Expressway

3.1.3. Study Population.

The study population consists of both in and out of school youth aged 10 – 24 years. The breakdown of age group of study population is shown in Table 3.2.

Table 3.2: Age distribution by both sex

No	Age	Both sexes in number	Both sexes in %
1	10 – 14	42,118	13.9
2	15 – 19	36,288	12.0
3	20 – 24	32,361	10.7
Total		**110,767**	**36.6**

Source: National Population Commission – 2006 Population Census

3.2.0 Sample Size

The sample size was calculated using the following formula:

$$n = \frac{x^2 p(1-p)}{d^2}$$

where n = sample size

x = confidence level at 95 % (standard value of 1.96)

p = reasonable estimate of key proportions 61% or 0.61 (Adebayo et al 2006)

d = margin of error at 5% (standard value of 0.05)

$$n = \frac{1.96^2 \times 0.6(1-0.6)}{0.05^2} = 368.79$$

10% of the calculated Sample size (37) was added to 368 to take care of non-response making the minimum sample size to be 405.

3.2.1. Sampling Procedure

In order to obtain a sample of the population for the study, some procedures were taken. A multi-four stage approach was use to sample respondent for the study asfollow.

Stage 1: Five wards were selected out of twelve wards in Ibadan north LGA.

Stage 2: Five streets were randomly selected in each of the five wards selected for the study in Ibadan north LGA.

Stage 3: Household was systematical selected within the selected streets for study

Stage 3: 413 Eligible respondents were selected from household. Thus involved household to household sampling of respondent to identify eligible participant using following criterion:

(1). Young person age 10- 24 years who has ever used Internet

3.3.0 Instrument for Data Collection

Data collection was facilitated by using quantitative data collection method. A validated semi-structured questionnaire was used for the collection of quantitative data.

1. **Semi-Structured Questionnaire**: A semi-structured questionnaire which consisted of four sections, A-D, was used to collect data from the respondents. Section A focused on the socio-demographic characteristics of the respondents while section B contained questions on overall activity and practices related to Internet use generally. Section C focused on questions that probed into pornography exposure. Section D looked at online social adjustment among the respondents. (See Appendix III for the questionnaire).

3.3.1 Validity and Reliability

In order to ensure the reliability and validity of data collection, several steps were taken. These steps are discussed here.

3.3.1.1 Validity

The questionnaire were initially designed in English by the investigator and pre-tested by the investigator and other research assistants who were versed in both English and Yoruba for clarity among respondent with a view to ascertaining the accuracy of the tool.

The questionnaire was developed using pertinent variables teased out from the reviewed literature and the results of 35 pre-tested instruments in Ibadan North-West. Furthermore, review of the instrument and input of my Research Supervisor and other senior colleagues were used to enhance the face validity of the instrument.

3.3.1.2 Reliability

In order to determine the reliability of the instrument, the pre-tested copies of the questionnaire were cleaned, coded and entered into computer using SPSS package and, a Statistical Reliability Analysis was conducted to test the reliability of the questionnaire and to measure its internal consistency using the Alpha (Cronbach) model of reliability analysis. The value of the Alpha model of reliability analysis obtained showed a good degree of internal consistency (0.714).

3.4 Training of Research Assistants

Three research assistants were recruited and trained. The training focused on the objectives and importance of the study; the sampling processes; how to secure respondents' informed consent; a review of questions to ensure completeness and other general interviewing skills. The questionnaire was discussed in detail during the training and the research assistants became familiar with it by conducting role-plays with each other. The field assistants were involved in the pretest of the questionnaire, which created opportunity for them to learn how to collect the required data. It was an opportunity for them to practice how they would go about collecting the data, while the researcher watched to see how the exercise was being done and to make necessary correction(s).

3.5 Data Collection, Management and Analysis

3.5.1 Data Collection Process

3.5.1.1 Interviews

The quantitative data was collected using the pretested questionnaire. The questionnaires were interviewer-administered. The research assistants and the investigator went from house to house as outlined in the sampling procedure to conduct the interviews. After administering each questionnaire a quick on-the-spot check on the filled questionnaires was done and

immediately any vague response was clarified from the participants to avoid ambiguity and need to go back for clarification. The investigator supervised the research assistants by monitoring their movements, moving round the community to cross check and made sure that they actually visited the households that were selected. Unprompted supervisory visits were also paid to the research assistants while they were in the field. The investigator checked the questionnaires administered each day for data cleaning and problems noted were immediately resolved. The data collection process lasted for two weeks.

3.5.2 Data Management and Analysis

The questionnaires were collated and edited by the researcher with the help of research assistants. The questionnaires were checked for completeness and a serial number was given to each for easy identification and recall. A coding guide was developed after a careful review of the responses and the responses in the questionnaires were hand-coded by the researcher. A template was then designed on the Statistical Package for Social Sciences (SPSS) software for entering of the coded data. Each questionnaire response was entered into the computer using the SPSS software. Summary statistics such as means, median and standard deviations were used to summarize quantitative variables while frequencies and proportions were used for qualitative variables. Association between categorical variables was tested using the chi square test. Logistic regression analysis was done to identify significant predictors of two dependent variables: action taken on experiencing pornographic material and reported change in sexual behaviour. Level of significance was at 5%.

3.6 Limitation of Study

The study has a variety of limitations. First, the data from the study is cross-sectional so the issue of temporal changes among particular young person could not be reflected since this not a longitudinal study. Second, some youth respondents may not have disclosed their experiences, which could result in an undercounting of episodes. Third, the study relied solely on reported practices of the respondents. The correctness of which could be ascertained through efforts were made to ensure that respondents reported honest practices. Fourthly, birth certificate of respondents were not verified to ascertain authenticity of age claimed and, there were small

sample sizes for some subgroups of respondents, limiting the statistical power to identify changes in some instances.

Finally, the study covered only Internet accessing young persons in Ibadan North LGA. It may not be appropriate to generalize the finding to other LGA or States elsewhere due to stratified difference in location.

3.7 Ethical Considerations

The following steps were taken to ensure that this research was done in an ethically acceptable manner:

1. Ethical clearance was obtained from Ethical Commission in Ibadan.
2. Each participant was provided with information about the following: focus of the study, objectives of the study, study methodology, inconveniences that might be experienced by participants and the potential benefits of the study to society.
3. Participation in the study was made voluntary and informed verbal consent was sought and obtained from each participant.
4. The confidentiality of the participants' responses was assured. Towards this end each participant was requested not to mention his/her name or any identifier during the administration of the questionnaire.
5. Participants were informed that they were free to withdraw from the study if they so wish at any time without any sanctions.

CHAPTER FOUR

RESULTS

4.1 Socio-demographic information

The distribution of respondents' socio-demographic characteristics revealed that about two thirds were between 20 to 24 years, 29.8% were less than 20 years and 6% did not indicate their age. Respondents were more males (70.5%) than female (28.6%). The highest proportion of respondents had tertiary education (60.3%) followed by senior secondary (23.5%), junior secondary (1.2%) and primary (0.2%) (Figure 4.1). The proportion of out of school respondents was 13.1%. They were predominantly Yoruba (76.5%) followed by Ibos (18.4%), Hausa (2.4%) and others (1.5%). There were more Christians (83.8%) than Muslims (14.8%).

Concerning internet use, about half of respondents started using the internet between 15 -19 years, 26.6% at less than 15 years and 21.1% at 20 years and above. About a third (31.2%) had been using the Internet at home for four years or more compared to 31.7% who reported they never used the internet in school. Less than a tenth (9.0%) each had been using the Internet at home for less than 6 months and between 6 months and one year. A quarter (25.4%) had been using Internet at school for more than four years preceding the interview while 27.4% never used. At the cybercafé only 0.7% never used, however over half (54%) had been using it for 2-3 years (See Table 4.1).

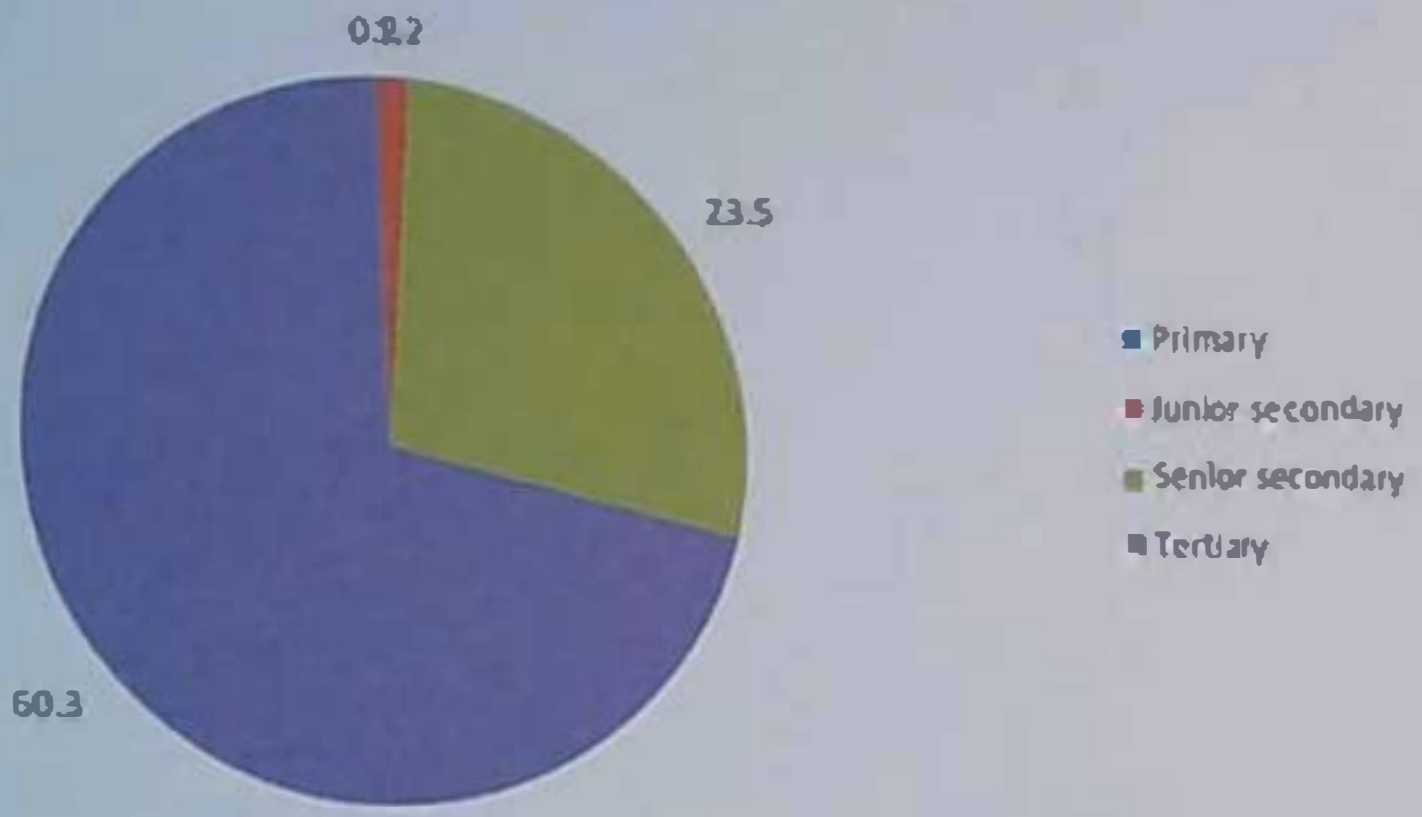


Figure 4.1: Percentage distribution of level of education of respondents

Table 4.1: Internet use among respondents

Variable	Frequency	%
Age at first Internet use		
Less than 15	110	26.6
15-19	203	49.2
20+	87	21.1
Non response/can't remember	13	3.1
Total	413	100
Duration of Internet use at home		
Less than 6 months	37	9.0
6months – 1 year	37	9.0
2-3 years	64	15.5
4 years or more	129	31.2
Never used at home	131	31.7
Non response/can't remember	15	3.6
Total	413	100
Duration of Internet use in school		
Less than 6 months	37	9.0
6 months – 1 year	66	16.0
2-3 years	62	15.0
More than 4 years	105	25.4
Never used at school	113	27.4
Non response/Can't remember	30	7.2
Total	413	100
Duration of Internet use at cybercafé		
Less than 6 months	37	9.0
6 months – 1 year	64	15.5
2-3 years	223	54.0
More than 4 years	46	11.1
Never used at cybercafé	3	0.7
Non response/Can't remember	40	9.7
Total	413	100

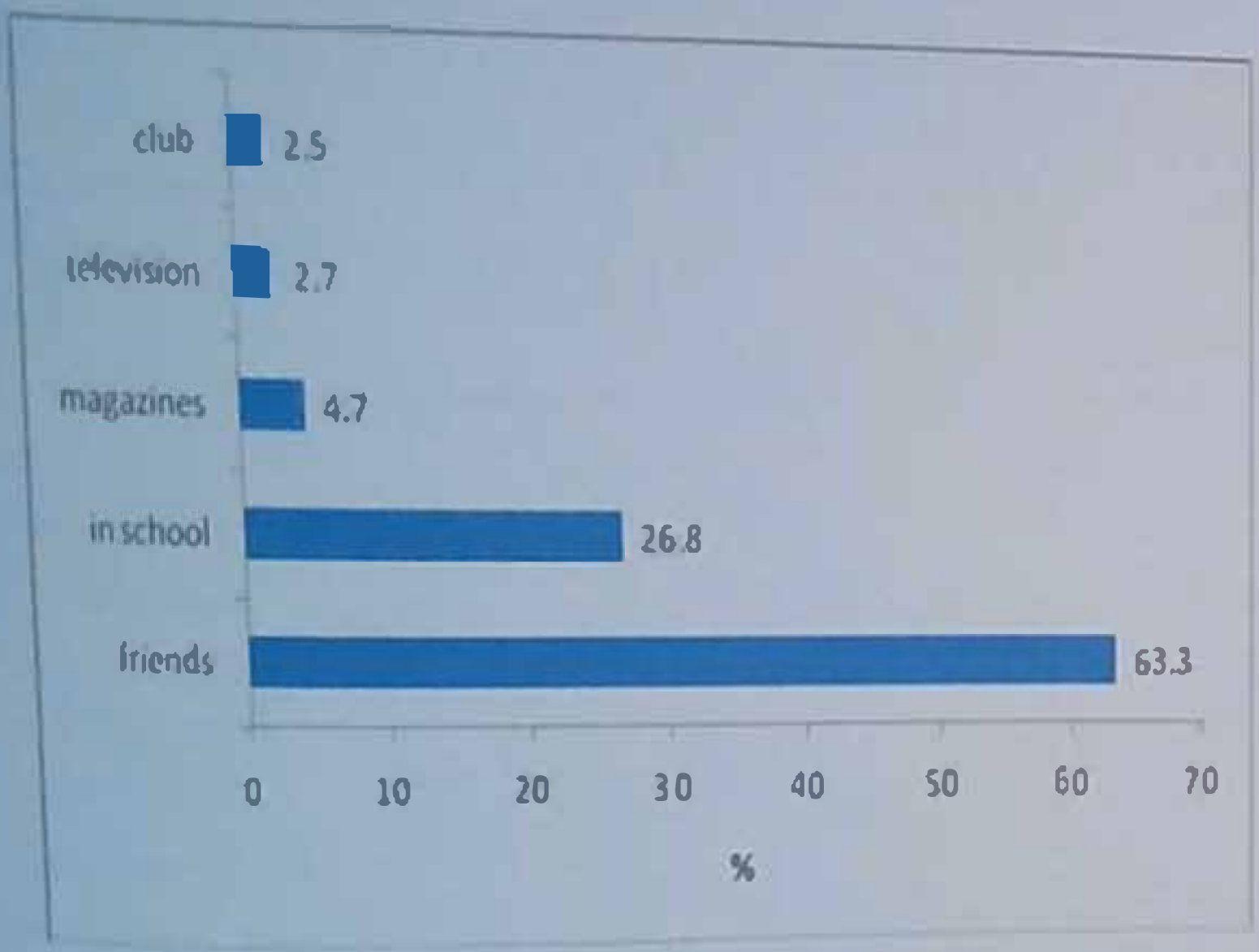


Figure 4.2: Respondents sources of information about the Internet

Table 4.2: Frequency and duration of Internet use by respondents

Variable	Frequency	%
Frequency of Internet use daily		
Once	259	62.7
2-3 times	71	17.2
More than three times	50	12.1
Non response	33	8.0
Total	413	100
Frequency of Internet use weekly		
Daily	122	29.5
5 times a week	41	9.5
2-3 times a week	103	24.9
Once a week	122	29.5
Non response	25	6.1
Total	413	100
Time spent at each visit		
30 minutes – 1 hour	219	53.0
2-3 hours	120	29.1
More than 3 hours	60	14.5
Non response	14	3.4
Total	413	100

The proportion of respondents who reported they needed assistance while browsing was 56.7%. The proportion reporting use once daily was 62.7% while 12.1% used more than three times daily. The proportion using the Internet everyday was 29.5%. During each visit, 33% spend about 30 minutes to 1 hour while 29.1% spend 2-3 hours (Table 4.2)

Activities Engaged on While On Internet

The activities respondents engaged in while on the net are shown in table 4.3. The most common activity is to send or read e mails (55%) followed by on line chatting (34.1%), research/homework (31%), information about current events (27.6%) and information about schooling abroad (24.9%). Music downloads were reported by 18.6%, job search (16.2%), playing online games (12.6%), seeking religious information (12.6%), online shopping (9.7%) and information on dieting (8.5%). Pornographic sites were reported by 8% and 3.6% sought information on health issues.

Table 4.3: Activities respondents engaged in while using the Internet

Activity engaged on Internet	Frequency	%
Send or read e mails	227	55.0
Online chatting/dating	141	34.1
Research/Home work	128	29.3
Obtain information about current events	114	27.6
Information about schooling abroad	103	24.9
Download music	77	18.6
Job search	67	16.2
Use peer to peer programs to download music, games and videos	62	15.0
Use webcams and digital cameras to take and send pictures	53	12.8
Play online game	52	12.6
Seek religious information	52	12.6
Online shopping	40	9.7
Information on body development/dieting	35	8.5
Visit sexual explicit/pornography sites	33	8.0
Reproductive health information	15	3.6

Multiple responses, total may not add up to 100%

Relationship between activities engaged while on the Internet and respondents' characteristics

Relationship between activities carried out when on the internet and respondents' characteristics are shown in Table 4.4. Result in the table indicated there were no significant associations for any of the variables gender and education. A higher percentage of males (8.9%) compared to females (5.1%) (p=0.189), also a higher percentage of those in school compared to those out of school (p=0=0.054) visited pornographic sites.

Age at first internet use was also not significant though those who had been using internet for longer periods were more likely to visit pornographic sites (p=0.084). Religion (p=0.296), highest educational level of parents or guardian (p=0.702) and frequency of internet use (p=0.284) were also not significant.

Table 4.4: Relationship between activities engaged in while on the Internet and respondents' characteristics

Variable	Visit pornography sites				
	Yes	No	Total	Chi square	P value
Age (years)					
<20	11(14.3)	66(85.7)	77	2.269	0.132
20+	20(8.4)	218(91.6)	238		
Sex					
Female	6(5.1)	112(94.9)	118	1.726	0.189
Male	26(8.9)	265(91.1)	291		
Ethnicity					
Yoruba	24(7.6)	292(92.4)	316	0.459	0.498
Others	9(9.8)	83(90.2)	92		
Education					
Secondary (in-school)	11(10.7)	92(89.3)	103	5.842	0.054
Tertiary	22(8.8)	227(91.2)	249		
Out of school (completed)	0(0.0)	54(100.0)	54		
Age at first Internet use(years)					
<15	11(10.0)	99(90.0)	110	4.950	0.084
15-19	19(9.4)	184(90.6)	203		
20+	2(2.3)	85(97.7)	87		
Religion					
Christianity	26(7.5)	320(92.5)	346	1.092	0.296
Islam	7(11.5)	54(88.5)	61		
Highest educational level of parents/guardian					
Primary	2(5.0)	38(95.0)	40	0.708	0.702
Secondary	7(7.4)	87(92.6)	94		
Tertiary	22(8.7)	230(91.3)	252		
Frequency of Internet use					
Daily	14(13.1)	93(86.9)	107	1.147	0.284
Less frequently	18(9.1)	179(90.9)	197		

Respondents visit to pornographic sites and their reaction

Table 4.5 shows the frequency and percentage distribution of young persons who had visited on pornographic sites and respondents reactions. Changes were observed in sexual behaviour by 31.1% following exposure to the pornographic sites while 19.3% reported they ever practiced scenes seen on the sites.

Daily users were about 1.7 times more likely to view pornographic sites stumbled across compared with other respondents (95% CI OR = 1.012 – 2.819). Gender was not significant.

Table 4.6, shows odds ratios and 95% confidence intervals for the relationship

Table 4.5: Frequency distribution of respondents' stumble on pornographic sites and their attitude

Variables	Frequency	%
Ever stumbled on pornography site		
Yes	270	72.2
No	104	27.8
Frequency of stumbling on pornographic site		
Regularly	55	20.4
Occasionally	215	79.6
Total	270	100
Reaction on stumbling on pornographic site		
Close immediately	104	38.5
Glance through and close	122	45.2
Minimize and view later	34	12.5
No response	10	3.7
Total	270	100
Person respondent shares experience on site with		
Friend (same sex)	88	32.6
Friend (opposite sex)	26	9.6
Parents/guardian	7	2.6
Nobody	149	55.2
Total	270	100

Table 4.6: Logistic regression analysis of action taken by respondent (view versus close immediately) when they visit pornographic site on variables

Variable	Odds ratio	95% CI OR	P value
Frequency of use			
Daily users versus non-daily users	1.689	1.012 – 2.819	0.045
Gender			
Male Vs female	0.572	0.319 – 1.026	0.061

Table 4.7: Frequency distribution of behaviour changes of respondents following first exposure to pornographic sites

Variables	Frequency	%
Practice what you saw from pornography		
Yes	60	19.5
No	248	80.5
Imitation of contents of pornographic sites/model		
Yes	37	11.7
No	280	88.3
***Practices engaged in following first exposure (n=60)**		
Smoking	5	8.3
Tattoo	11	18.3
Oral sex	29	48.3
Homosexuality	3	5.0
Group sex	1	1.6
Drug abuse	1	1.6
Multiple sexual partners	7	11.6
Rape	3	5.0

*Based on those who reported they practice what they see on pornography

Respondents reported behavioural change following first exposure to pornography was 19.5%. About forty-eight percent admitted ever practiced oral sex and 11.6% have had multiple sexual partners (Table 4.7)

Reported negative change in behaviour

Concerning change in behavior following exposure to sexually explicit sites, significant associations were found for gender (p<0.001), education (p=0.039) and frequency of Internet use (p=0.001). Males (34.9%) were more likely than females (10.8%), those in secondary schools (42.2%) and those out of school (31.6%) were more likely than those in tertiary institutions (25.5%) while frequent users (41.3%) were more likely than other subjects (23%) to experience a negative change in sexual behavior. There were no significant associations for age (p=0.791), ethnicity (p=0.787), age at first Internet use (p=0.738), religion (p=0.428) and parents' highest educational level (p=0.156). (Table 4.8)

Logistic regression of change in sexual behavior noticed on variables showed that daily users were twice more likely (95% CI OR = 1.168 – 3.497) and males were about 2.8 times more likely than females (95% CI OR =-1.245 – 6.465) to have a change in sexual behaviour (Table 4.9)

Table 4.8: Relationship between reported negative change in sexual behavior following exposure to pornography and respondents' characteristics

Variable	Noticed any negative change in sexual behavior since exposure to pornography		Total	Chi square	P value
	Yes (%)	No (%)			
Age (years)					
<20	22(31.0)	49(69.0)	71	0.071	0.791
20+	66(29.3)	159(70.7)	225		
Gender					
Female	7(10.8)	58(89.2)	65	14.196	0.001
Male	81(34.9)	151(65.1)	232		
Ethnicity					
Yoruba	69(30.3)	159(69.7)	228	0.073	0.787
Others	20(28.6)	50(71.4)	70		
Education					
Secondary	27(42.2)	37(57.8)	64	6.467	0.039
Tertiary	50(25.5)	146(74.5)	196		
Out of school	12(31.6)	26(68.4)	38		
Age at first internet use (years)					
<15	23(29.5)	55(70.5)	78	0.606	0.738
15-19	42(28.0)	108(72.0)	150		
20+	21(33.3)	42(66.7)	63		
Religion					
Christianity	74(28.9)	182(71.1)	256	0.629	0.428
Islam	15(34.9)	28(65.1)	43		
Highest educational level of parents/guardian					
Primary	10(34.5)	19(65.5)	29	1.311	0.156
Secondary	25(39.7)	38(60.3)	63		
Tertiary	51(27.1)	137(72.9)	188		
Frequency of internet use					
Daily	43(41.3)	61(58.7)	104	10.164	0.001
Less frequent	42(23.0)	141(77.0)	183		

Table 4.9: Logistic regression analysis of reported change in sexual behavior on variables

Variable	Odds ratio	95% CI OR	P value
Frequency of use			
Daily users versus others	2.020	1.168	- 0.012
		3.497	
Gender			
Male vs female	2.837	1.245	- 0.013
		6.465	
Educational status			
Out of school versus secondary	0.558	0.233	- 0.190
Out of school versus tertiary	1.484	1.335	0.317
		0.685	-
		3.216	

Outcomes of pornographic exposure

Figure 4.3, shows the consequences of exposure to the sites. About 45% reported that it made them anxious to learn about sexuality, 23.3% have the tendency to practice what was seen while 31.7% felt the urge to have sex on exposure

The association between reported practice of contents of sexually explicit sites and respondents characteristics is shown in Table 4.10. Frequency of internet use was significantly associated with practice ($p=0.024$) with 26.7% of daily users compared with 15.5% of those who use the internet less frequently reporting ever practicing what they view on the internet. There were no significant associations for age ($p=0.357$), gender ($p=0.134$), ethnicity ($p=0.744$), education ($p=0.088$), age at first internet use ($p=0.297$), religion ($p=0.241$) and parents' educational status ($p=0.713$).

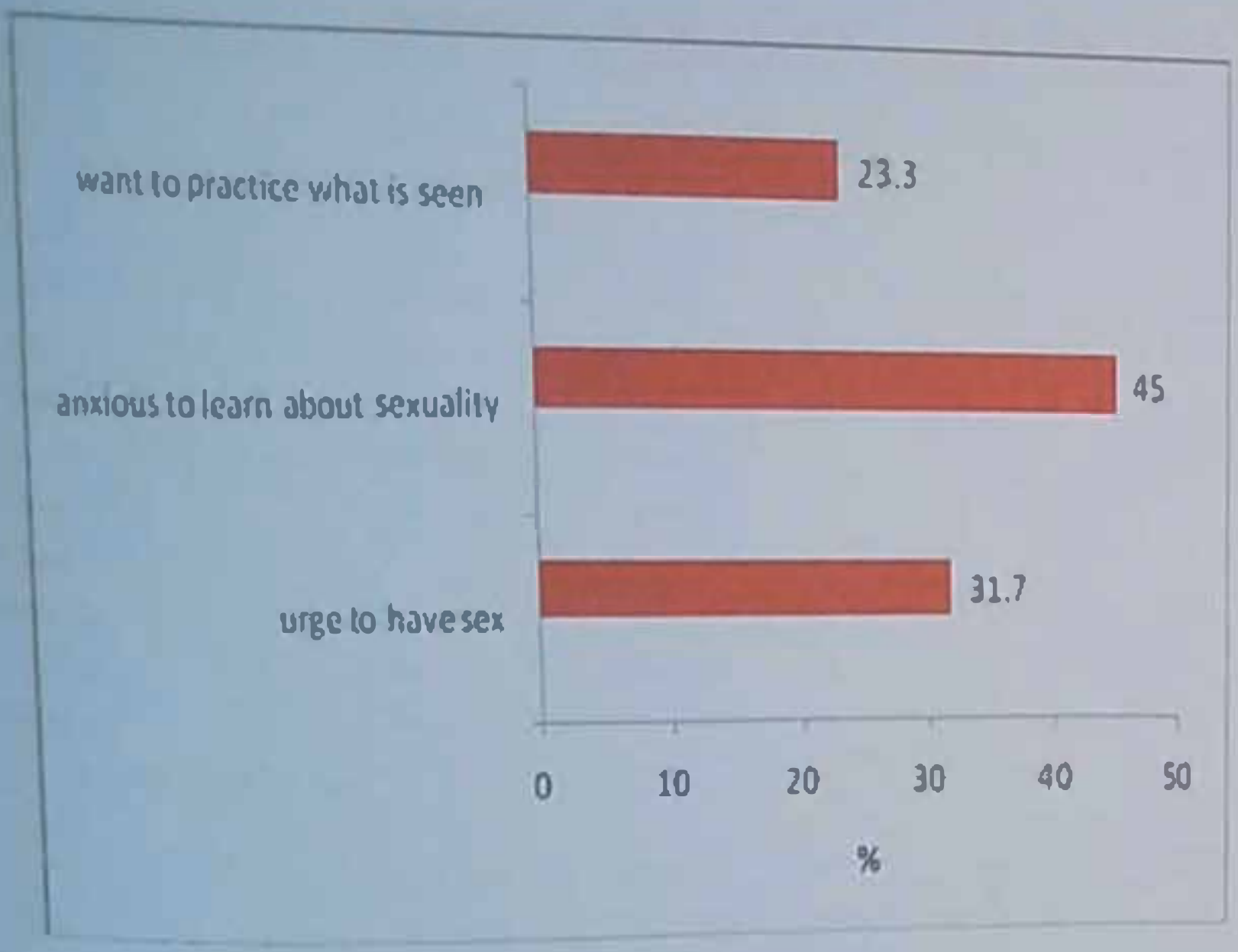


Figure 4.3: Outcome of respondents' exposure to pornographic sites

Table 4.10: Relationship between practice of contents of pornographic site and respondents' demographic characteristics

Variable	Practice contents of pornographic site				
	Yes (%)	No (%)	Total	Chi square	P value
Age (years)					
<20	11(15.5)	60(84.5)	71	0.850	0.357
20+	44(20.5)	171(79.5)	215		
Gender					
Female	8(12.9)	54(87.1)	62	2.241	0.134
Male	48(21.4)	176(78.6)	224		
Ethnicity					
Yoruba	42(19.1)	178(80.9)	220	0.106	0.744
Others	14(20.9)	53(79.1)	67		
Education					
Secondary	18(29.5)	43(70.5)	61	4.866	0.088
Tertiary	32(17.0)	156(83.0)	188		
Out of school	6(16.2)	31(83.8)	37		
Age at first internet use (years)					
<15	16(21.1)	60(78.9)	76	2.427	0.297
15-19	23(16.0)	121(84.0)	144		
20+	15(25.0)	45(75.0)	60		
Religion					
Christianity	44(18.0)	201(82.0)	245	1.376	0.241
Islam	11(25.6)	32(74.4)	43		
Highest educational level of parent/guardian					
Primary	4(14.8)	23(85.2)	27	0.675	0.713
Secondary	11(18.0)	50(82.0)	61		
Tertiary	38(20.9)	144(79.1)	182		
Frequency of internet use					
Daily	27(26.7)	74(73.3)	101	5.004	0.024
Less frequently	27(15.5)	147(84.5)	174		

Association between exposure to pornography and sexual practices

Exposure to pornography on the internet was cross-tabulated with selected sexual behavioural practices and the findings are shown in Table 4.11. There was a significant association between visiting pornographic site and having multiple sexual partners ($p = 0.023$). About 12% of those who had visited pornographic sites compared to 3.7% of those who had not visited such sites reported having multiple sexual partners. There were no significant associations between visiting pornographic sites and practice of oral sex or homosexuality ($p = 0.256$) and experiencing rape ($p = 0.720$).

Table 4.11: Association between exposure to pornography and sexual practices

Sexual behaviour	Visit pornographic sites		Total	Chi square	P value
	Yes (%)	No (%)			
Practice oral sex or homosexuality					
Yes	7(21.2)	53(13.9)	60(14.5)	1.201	0.256
No	26(78.8)	327(86.1)	353(85.5)		
Multiple sexual partner					
Yes	4(12.1)	14(3.7)	18(4.4)	5.185	0.023
No	29(87.9)	366(96.3)	395(95.6)		
Experienced rape (females only)					
Yes	1(3.0)	7(2.6)	8(2.7)	0.129	0.720
No	25(96.2)	258(97.4)	283(97.3)		

Activities related to on-line chatting

Table 4.12 shows the distribution of variables related to on-line chatting. The favourite chatting topic was relationships accounting for 51.9%). Seventy seven percent ever used instant message or online chatting. Twenty-eight percent had been chatting for about 2 years and 27.7% for 3 years or more. The most common partner was one in the same age range (39.3%). About 14.8% claimed they pretend to be someone else when dating on line while the single longest chatting time in the past one week was mostly 30 minutes to one hour (55.3%).

Table 4.12: Practices and duration of activities related to online chatting by respondent

Variable	Frequency	%
Ever used instant message or chatting		
Yes online	318	77.0
No	95	23.0
Period for which chatting has been going on		
Less than 1 month	47	14.8
1-6 months	80	25.2
1-2 years	89	28.0
3 years or more	80	27.7
No response	14	4.4
Relative age of partner		
Same age range	125	39.3
Younger	70	22.0
Older	64	20.1
Don't know	59	18.6
Sex of chatting partner		
Same sex	114	35.8
Opposite sex	154	48.4
Same sex or opposite sex	50	15.8
Pretend to be someone else when chatting on line	47	14.8
Yes	264	83.0
No	7	2.2
No response		
Single longest chatting time last one week		
30 mins – 1 hrs	176	55.3
1.1 – 3 hrs	72	22.6
More than 3 hours	42	13.2
No response	28	8.8

CHAPTER FIVE

DISCUSSION

5.1 Socio-demographic characteristics

The high number of internet use among males in the sample is expected as this could be a reflection of cultural norms in Africa setting that females are meant to do domestic works while males exercise much freedom in engaging in social activities or outing. Again this could also suggest the fact that males were more inclined to technology device than females, males being more daring than females in terms of exploration and adventure.

The high prevalence of early age internet users (at ages 15-19 years) in the survey suggested a gap in technological advancement when compared with the age of first Internet use in the western world. In contrast it could be suggested that at this age group adolescents are more inquisitive than other adolescents as such are free and have more time for leisure and hang out with peers that introduce and engage them to so many activities including internet surfing. It could also be that these age groups are at the peak of youthful exuberance when they want to explore, experiment new things, want to have identity, etc

Again, the study revealed that about half of the respondents needed assistance when browsing online which may contribute to the high percentage of first age of Internet use between the ages of 15–19years unlike in western world where the children and teen were exposed to new technology at early age <10 years and every child has access to Internet at home. The fact that more than many reported being assisted when browsing online suggested that young persons are more likely to go online with their peers and the implication is that Internet exposure experience will be kept to oneself and the tendency to practice what was viewed within clicks will be high just to maintain secrecy. This could also in turn lead to withdraw from family ties, low esteem and, vulnerability to risky behaviour.

High number of respondents assessing Internet at cyber café can be seen as normal or expected considering the level of poverty coupled with the unstable and unreliable power supply in the country. This could suggest why young persons prefer cyber café where they have alternative power supply. It could also be due to unaffordable cost of acquiring personal laptop and Internet facilities for use at home. High accessibility of Internet at cyber café could also be for social networking which agreed with one of the findings in this study that about two thirds of respondents' source of information about Internet were friends.

Prevalence of Internet use from study is relatively on the high side. Though the young people are trying to meet up with the trend but about half of respondents using Internet at least once daily is rather on the high side considering cost, time, accessibility and convenience. However, the limitation surrounding prevalence of use may suggest why about half of respondents spent between 30mins-1hr when the go online.

5.1.2 Internet activities

Considering the activities young people engaged in when online, it is rather disappointing that the least mentioned subject about which information is obtained is on reproductive health. This needs further investigation on where these young persons source information on reproductive health. This poor level of enthusiasm towards health issues could indicate that young people believe that their health and health related issues are basically their parents/guardians problem to think about. It could also be that health related sites were not teen friendly that is, less pictures and animation, too many use of medical terminology, choice of words not simple enough for easy understanding. This could also suggest why most of young people prefer to go online sending, reading mails and probably go online chatting where they may likely seek for online relationships, health and health related issues from strangers (Osakinle *et al*, 2009).

Again, this study revealed that younger teens visit pornography site more often that older teens. This supports available evidence from research that indicates that many children less than 16 years of age were exposed to pornography prior to widespread Internet availability (McKee, Albury and Lumley 2008; Internet Porn Statistics, 2003). Study by Cheryl (2007) also revealed that the average age of a child when first exposed to Internet pornography is 11 years old with the

largest consumers of pornography in America being the 12-to-17-year old group of eight to 16-year-olds has viewed pornography online, most while doing homework.

The fact that the highest proportion of the adolescents did not share experience they had on the internet with anybody does not portend well for these adolescents as this may predispose them to the practice of unhealthy sexual practices which may have otherwise been corrected if parents knew about them. The adolescents would rather share with friends of the same sex predisposing to wrong peer influence.

5.1.3. Factors effecting internet exposure

According to the study gender is one of the variables that affect pornography exposure. This is not different from existing research that suggested gender as intervening variable in moderating the effect of exposure to pornographic content (Donnerstein and Smith, 2001). This suggested why more male visits pornography sites that female (Luo and Wei, 2005). Males report attitudes more positive toward pornography from an early age than females (Carroll et al. 2008; Wallmyr and Welin 2006). In contrast, young females usually have very negative attitudes toward pornography at early age. Increasingly more positive attitudes emerge with age among young people (Chiemeke et el, 2007). By their mid-20s, males and females may report similarly positive attitudes (Carroll et al. 2008). This suggests that males may also differ from females in how they prefer to engage with pornographic media. Though media usage patterns change rapidly, males in many cultures are more likely than females to seek pornography on line, with females demonstrating greater attraction to regulated markets, e.g. video (Flood and Hamilton 2003; Wallmyr and Welin 2006).

The reason for a high rate of unintentional exposure to pornographic sites is not far-fetched. This high rate of unintentional exposure is not different in other parts of the world (Wolak *et al*, 2006). Firstly, Nigeria like every other developing country has little or no security measures against such sites. In Nigeria, there is no legal deterrent to put cyber operators and offenders in check. Nigeria has only a bill (NCWG, 2005) that is not being enforced. Again, low percentage of unintentional exposure to pornographic sites was not expected considering the fact that sex is not discussed openly in this part of Africa which the Internet is readily available to provide to these young people irrespective of its health implications. One actually expected relatively high

percentage of intentional exposure to pornographic sites. Again, these are young persons that are curious, inquisitive to know and experiment at all cost. Hence, having been exposed, teens demonstrate willingness to engage or to disengage based on their perceived capacities and desires (Livingstone & Bober 2003).

A significant proportion of those who stumble on the pornographic sites will glance through before closing the page while very few respondents will minimize and view later. The relative freedom to view the pornographic material suggests the poor restriction of these sites at the cybercafé.

5.1.4. Internet pornography exposure and its outcome

In this study there was a significant association between action taken on exposure to pornographic materials on the Internet for gender and frequency of Internet use. Females compared to males were more likely to react negatively to such exposure and more frequent users were more likely visit pornography sites intentionally. The gender difference in action taken on exposure to pornography has been reported by many authors (Adebayo *et al* 2006; Sanusi *et al* 2003; Prasertsawat and Pericjum, 2004).

Frequency of Internet use was significantly associated with practice of content of sexually explicit sites. And a significant association between visiting pornographic site and having multiple sexual partners. Researchers indicates that sexual behavior can be acquired through exposure to pornography and sexual models on the Internet through imitating and copying of such acts (Adebayo et el, 2006; Iryang, 2008; Omotunde et el 2008; Odeyemi et el 2009). Greater exposure translates to a greater intention to have sex, but pornography may be more influential than other media in shaping notions of women as sex objects (Peter & Valkenburg, 2007). This is not different from some studies conducted in other part of the world (Copper et al, 1999). Though there was no significant relationship between age, gender and educational status and practice of contents of pornography sites. However, study suggested that there is a tendency for older adolescents, males than females and respondents in secondary school than tertiary and out of school to practice content viewed in pornography sites (Omotunde *et al*, 2008).

The results of the logistic regression analysis revealed that daily users were more likely to view pornography site than other respondents and males more likely than females to experience change in sexual behaviour. This is consistent with previous studies that have found gender and Internet use to be predictive of sexual attitude and behavior orientation of young adults (Brown, *et al*, 2006).

5.1.5. On line chatting

In this study, more than half of respondents who ever had online chatting admitted discussing relationships with strangers met online. High percentage of young persons seeking online relationships agrees with the study by Henlein (2006) on Internet infidelity which is of the opinion that people are using the Internet more frequently to form friendships and romances and to initiate inordinate affairs. Low use of Internet by respondents to surf for current affairs could be that such issues were not stimulated in schools and at home$ so young people do not consider it worth spending their borrowed or saved money when online.

Finally, result from study showed that parents do not tend to communicate sexuality with younger people due to cultural practices or high level of poverty in the country where parents are more particularly concerned about day to day survival. Hence, the adolescent might rely on other source for information about sex. This study also looked at whom young person share their pornography exposure with. A major concern of internet pornography exposure is that more than half respondents share their pornography exposure experience with nobody. Only non significant number of respondents had ever discussed exposure experience with parents/guardians. This may undermine physical, emotional and psychological wellbeing (generate shame, guilt, anxiety, confusion, poor social bonds, and addictions). In addition, undermine relationships and foster sexual violence (Zillman 2000; Jensen and Okrina 2004).

This study has found a relatively high prevalence of Internet use with most respondents sending and receiving mails. Percentage of wanted pornography exposure was relatively low compared to unwanted pornography exposure. There was a high rate of unintentional exposure of pornography sites while gender and frequency of internet usage were significant predictors of change in sexual behaviour following exposure pornography sites.

IMPLICATIONS OF FINDINGS FOR HEALTH PROMOTION & EDUCATION

The Internet has an unlimited array of pornographic material that is changed and upgraded on a regular basis. Some of these Web sites may reinforce negative societal stereotypes around sexuality, particularly as it relates to casual sex (Lo and Wei, 2005).

Internet plays an important role in the sexual socialization of adolescents and has greater effects of such use on sexually permissive behavior. When users interact with the Internet as a sexual medium, the interactive features of pornographic materials enable them to seek, navigate, and download such materials for viewing. As such, use of the Internet porn becomes activated and has potential implications for adolescent sexual relationships, such as number of partners, rape myth, oral sex and substance use (Peter & Valkenburg, 2006). Given its expanding nature and accessibility, Internet may be at the forefront of healthy sexual education.

Hence, young people need education, skills training, self-esteem promoting experiences, and appropriate services related to sexuality, along with positive expectations and sound preparation for their future roles as partners in committed relationships and as parents. Providing young persons with a small amount of knowledge about media effects can improve young person's health regardless of whether sexually explicit media leads to risky behaviour (Brown, 2006).

Internet providers should have a working knowledge of helpful sex education media (including Web sites) to which they can guide users and their guardians. Hence, adults need continuing education to achieve sexual maturity and to learn to communicate effectively with adolescents to accept responsibility for their sexuality, as well as necessary sexual and reproductive health care services.

In addition, sexual explicit websites (SEW's) can serve an educational purpose and create an opportunity for adults to engage adolescents in discussions about sexual health and consumption of Internet material as Internet is a key part of young persons' lives. All sectors should be prepared to integrate it into their discussion to educate young people about sexual health, the potential risks of risky sexual behaviour and encourage responsible sexual behaviour.

RECOMMENDATION

Based on study findings, it is of great important for parents to be educated about the dangers of Internet pornography and how to protect their children has become very imperative especially in a country where the struggle for survival keeps parents at work while having little or no time to monitor what their children do with the Internet at home, in their schools and other Internet access points

In Nigeria, Cyber Cafés should be encouraged to partition their services to adult, youth and children sections in order to take advantage of technologies for content selection. While some computer terminals can be dedicated to access all forms of contents others for children/teenagers usage can be enabled to access contents that are purely healthy for children/teenagers' age group consumption. The responsibility of monitoring Internet contents being consumed by children and young people at home rests with parents and guardians. Content channeling/selection technologies and filters can be used as an aid to moderating contents viewed by children /teenagers at all Internet access points. In schools, students can be allocated user and password IDs. These passwords and IDs can then be configured and usable only on systems that have been conditioned using filters and content selection technology for web contents that are healthy for the consumption of children and teenagers

Adequate enlightenment is required to break information and communication gap that exist between parents and adolescence regarding the use of Internet and content of information. As the new technology continue to spread, it is logical to suggest that the major patrons of cyber café who are adolescent should be developed and enforced. This is because adolescents have good level of Internet access but not necessarily confidence and favourable perception regarding Internet as a source of health information

The National Assembly and Nigeria Cybercrime Working Group saddled with the responsibilities for combating cybercrime and working out policies for a safer cyber space should do more than passing bills and erecting warning posters but cyber laws should be imposed and implemented for combating internet pornography in Nigerian.

CONCLUSION

In conclusion, this study has shown that there is an association between frequent Internet use and risky sexual behaviour. It also showed that frequent exposure to pornography was a significant predictor of young persons' sexual behavior. The Internet is both a source of promise for our children and a source of concern. It offers such an enormous range of positive and educational experiences and materials. However, children online may be vulnerable to harm through exposure to sexually explicit materials, adult predators, and peddlers of hate. Therefore, if the full educational potential of the Internet is to be realized for teens, these concerns must be addressed.

Finally, this study has its limitation because a self-administered questionnaire was used to collect information from respondents and this method may influence the veracity of answers given by the respondents. This limitation could have been overcome by creating log in servers where young people use the Internet, however this is highly unethical. In addition, birth certificate was not verified to ascertain claimed age

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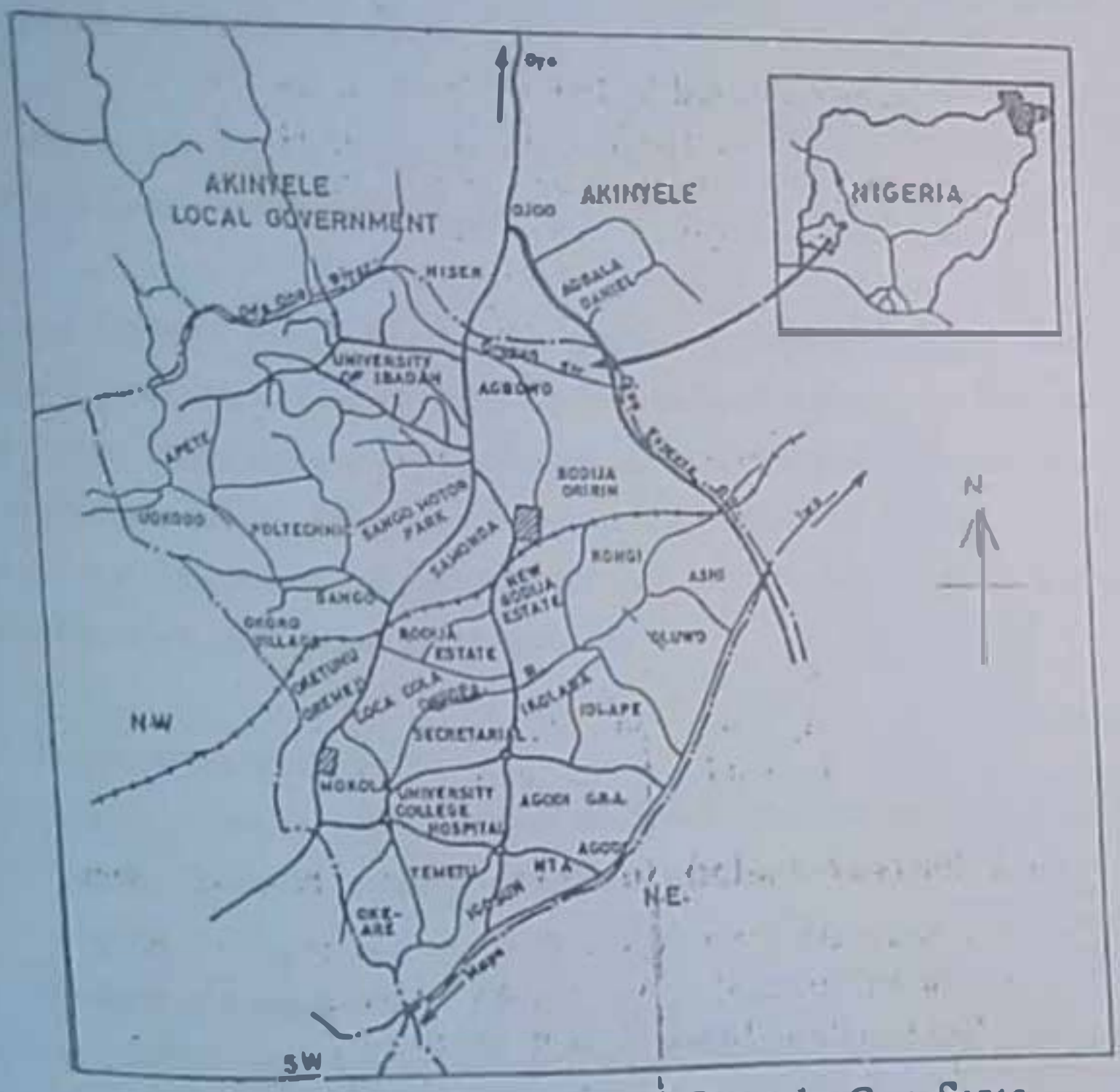
APPENDIX I

Sketch map of Ibadan North Local Government Area showing the major communities and neighborhoods



Ibadan North Local Govt. in Oyo State

APPENDIX II

INFLUENCE OF INTERNET ON THE SEXUAL BEHAVIOUR OF ADOLESCENTS IN IBADAN NORTH LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA

Consent form for Survey Respondents

Name of Principal Investigator: Ogbu Ifeyinwa Arinze

Name of Organization: University of Ibadan

My name is **Ifeyinwa Arinze** and I am a graduate student of the Department of Health Promotion & Education, College of Medicine, University of Ibadan. I am part of a team doing a research study on the influence of internet on adolescent sexual behaviour in Ibadan North Local Government area of Oyo State. Based on the findings of the study, we also plan to design and test intervention programmes that will enable policy makers initiate program targeting adolescents, parents and cyber operators.

1. **Purpose of the research:**

We are planning to carry out a study to know the activities adolescents engaged on when the go online, Internet pornography exposure and its influence on their sexual behaviour.

2. **Duration of the research:**

The duration of this research, which you are being requested to participate in, is 1 month.

3. **Procedures:**

We invite you to take part in this research project and participate in the questionnaire. If you accept, you will be asked to participate in the filling of the questionnaire which will be given to you. If you do not wish to answer any of the questions posed in the questionnaire, you may say so and can move on to the next question. No one else but the researcher alone will be present. The information recorded is considered confidential, and no one else except Ms Ifeyinwa Arinze and her colleagues will have access to the information documented during the research.

APPENDIX II

INFLUENCE OF INTERNET ON THE SEXUAL BEHAVIOUR OF ADOLESCENTS IN IBADAN NORTH LOCAL GOVERNMENT AREA, OYO STATE, NIGERIA

Consent form for Survey Respondents

Name of Principal Investigator: Ogbu Ifeyinwa Arinze

Name of Organization: University of Ibadan

My name is **Ifeyinwa Arinze**and I am a graduate student of the Department of Health Promotion & Education, College of Medicine, University of Ibadan. I am part of a team doing a research study on the influence of internet on adolescent sexual behaviour in Ibadan North Local Government area of Oyo State. Based on the findings of the study, we also plan to design and test intervention programmes that will enable policy makers initiate program targeting adolescents, parents and cyber operators.

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We will record your answers to these questions on this questionnaire. This is done so that we can remember everything that you have told us. Although it is important for the research that you answer all questions, if you do not wish to answer any of the questions included in the survey, you may ask to move on to the next question. Filling the questionnaire will last for approximately 25 minutes.

4. Risks and Discomforts:

There is a slight risk that you any feel uncomfortable talking about some of the topics However, we do not wish this to happen, and you may refuse to answer any question or not take part in a portion of the interview: if you feel the question(s) makes you uncomfortable

5. Benefits:

There will be no direct benefit to you but the information obtained from this study will help to provide suggestions that will enable the researcher develop appropriate programme for adolescents on Internet safety

6. Benefits:

You will not be provided with any incentives to take part in the research.

7. Confidentiality:

We have taken the following steps to ensure that you are safe and that the information you provide is confidential.

1. Filling of questionnaire will take place in a privately
2. The information that we collect from this research project will be kept confidential
3. Information collected from you will be stored in a file that will not have your name on it, but a number assigned to it instead
4. The questionnaire containing the interview will be stored for the duration of 2 years after which it would be destroyed
5. You may talk to the leader of the research team in case you have any concern or question

5. **Alternative to participation:**

You do not have to take part in this research if you do not wish to do so. Even if you do not wish to answer these questions you may still benefit from the study. You may stop participating in the interview at any time that you wish, and there will be no negative consequences for you in any way.

APPENDIX III

RESEARCH QUESTIONNAIRE

Influence of Internet on the sexual behaviour of Adolescents in Ibadan North L.G.A, Oyo State

Dear Respondent

My name is Ifeyinwa Arinze Ogbu, a student of the Department of Health Promotion and Education, Faculty of Public Health, College of Medicine, University of Ibadan. I am conducting a study on internet use among online adolescent.

I wish to inform you that there is no right or wrong answer to the questions. Please, be informed that participation is voluntary. Your identity, responses and opinions will be kept confidential and no name is required in filling the questionnaire. Please try as much as possible to give honest responses to the questions. You are free to ask questions as the interview progresses. Your honest response is required to assist in this study.

Thank you.

Instruction: Please tick (x) the appropriate place as applicable to you and endeavour to answer all the questions as honest as possible. Thank you for your participation.

SECTION (A) (Demographic characteristics)

1. Age (at last birthday) .....
2. Gender: (1). Female ☐ (2). Male ☐
3. Ethnicity: (1). Hausa ☐ (2). Igbo ☐ (3). Yoruba ☐
   (4). Others specify .....
4. Educational Attainment: (1). Primary ☐ (2). JSS ☐ (3). SSS ☐
   (4). Tertiary ☐ (5). Out of school ☐
5. Religion: (1). Christianity ☐ (2). Islam ☐ (3). Other specify .....
6. Parents/guardian highest level of education? (1). Primary ☐ (2). Secondary ☐
   (3). Tertiary ☐

SECTION B (Overall activity and Practice)

7 Age at first Internet use? ----------

8 How did you know about internet? (a). Friends ☐ (b). In School ☐ (c). Magazine ☐

(d) Television ☐ (e). Club ☐

9a How long have you be using internet at home?

(a) Less than 6 months ☐ (b). 6 months - 1year ☐ (c) 2 - 3years ☐

(d). More than 3years ☐ (e). Never use at home ☐

9b at School?

(a). Less than 6 months ☐ (b). 6 months – 1year ☐ C. 2 - 3 years ☐

(d). More than 4 years ☐ (e). Never use at school ☐

9c at Cyber cafe

(a). Less than 6 months ☐ (b). 6 months – 1year ☐ (c) 2 - 3years ☐

(d). More than 4 years (e). Never use at cyber café

10 Were you being assisted when browsing/online?

(1). Yes ☐ (2). No ☐

(If Yes answer question 11, if No go to 12)

11 Why were you being assisted? ----------

12 How long do you spend on internet at each visit?

(1) 30 mins - 1 hour ☐ (2) 2 - 3 hours ☐ (3). More than 3 hours ☐

13 How often do you use internet daily? (1). Once ☐ (2). Twice- thrice ☐

(3) More than 4 times ☐

14 How frequent do you go on internet? (1). Daily ☐ (2). Once a week ☐

(3) 2-3times in a week ☐ (4). 5times in a week ☐

15 Tick activity(s) you engage on when you go to the Internet

a - Play online game ☐

b - Info about current events ☐

c - Online shopping ☐

d - Health info ☐

e - Info on reproductive health ☐

f - Info on body development/dieting ☐

g- Send or read mail ☐

h- info about prospective school to attend ☐

i- Visit sexual explicit/pornography site ☐

j- Research/ home work ☐

k - Download music ☐

l - Seek religious info ☐

m - Online chatting ☐

n - Sharing of photos ☐

o - Job search ☐

p - Others specify ----------

16. Do you think that internet provides all the information you need?

(1). Yes ☐ (2). No ☐

SECTION C (pornography exposure)

17. Have you ever stumble into pornography site without going to the website?

(1). Yes ☐ (2). No ☐

18. How frequent do you come across pornographic pictures when online without visiting the website? (1). Regularly ☐ (2). Occasionally ☐ (3) Never Seen ☐

19. What's your reaction each time you stumble into pornography/explicit sexual material when online? (1) Close immediately ☐ (2). Glance through & close ☐

(3). Minimize and view later ☐

20. Each time you stumble into pornography site or visit pornography website, who do you discussion your experience and materials seen with?

a. Friend (same sex) ☐

b. Friend (opposite sex) ☐

c. Parent/guardian ☐

d. Nobody ☐

21. Do you at anytime reflect on the pornographic pictures seen when you were online?

(1) Yes ☐ (2) No ☐

22 Since after exposure o the pornographic pictures pumped into or pornography website visits, have you observed any changes in your sexual behavior/ perception?

(1) Yes ☐ (2). No ☐ (if Yes go to? 24, if No go to? 25)

23 What changes have you been observing in your sexual behaviour?

(a). Urge to have sex each time you come across explicit sexual materials ☐

(b). Anxious to learn more about sexuality ☐

C. Want to practice most of the things seen in the explicit sexual materials with partner(s) ☐

24. Have you at anytime practice what you saw from pornography site or any other adult site.

(1). Yes ☐ (2). No ☐

25 Which of this practice(s) have you engaged in since your first exposure online?

a. Smoking/Drugs ☐

b. Tattoo ☐

c. Oral Sex ☐

d. Homosexual ☐

e. Group sex ☐

f. Drug abuse ☐

g. Multiple Sex Partners ☐

h. Rape ☐

26. Was the practice designed to imitate someone/ role model?

(1). Yes ☐ (2). No ☐ (if Yes go to? 27, if No go to? 28)

27. How do you get to know about this person/model?

1. Internet ☐

2. Magazine ☐

3. Club ☐

4. Friends ☐

Others Specify.....

SECTION D (SOCIAL ADJUSTMENT)

28. Have you ever used instant message or online chatting on the internet?

(1). Yes ☐ (2). No. ☐ (If No, thanks for participation on this study)

29. Who initiated the chatting? ----------

30. How did you get to know your chatting partner?

(1). Internet ☐ (2). A Friend ☐ (3). Magazine ☐ (4). Others Specify- ---

31. For how long have you been chatting online? (1). Less than 1 month ☐

(2) 1- 6months ☐ (3). 1- 2years ☐ (4). More than 2 year ☐

32. What is the relative age of partner? (1). Same age range ☐ (2). Younger age ☐

(3). Older ☐ (4). Don't know ☐

33. What is the sex of your online chatting partner(s) (1). Same Sex ☐ (2). Oppnsite Sex ☐

34. Who do you pretend to be when you go online chatting?

(1). Someone older ☐ (2). Younger ☐ (3). Another gender ☐

(4). Real self ☐

35. Why do you pretend when you are online? ----------

---

36. What is your single longest chatting interaction in the last 1 week?

(1). 30mins – 1hr ☐ (2). 1hr 30mins – 3hrs ☐ (3). More than 3 hours ☐

37. What is your single longest chatting interaction in the last 1 month?

(1). 30mins – 1hr ☐ (2). 1hr 30mins – 3hrs ☐ (3). More than 3 hours ☐

38. What is the favourite chatting topic when you are online with your partner?

(a). Top Stars around the world ☐

(b). Relationship ☐

(c). Sex and gender ☐

(d). Fashion & Style ☐

(e). Diets & Fitness ☐

(f). Drugs ☐

Others specify ----------

Thank you.

SECTION D (SOCIAL ADJUSTMENT)

28. Have you ever used instant message or online chatting on the internet?

(1). Yes ☐ (2). No. ☐ (If No, thanks for participation on this study)

29. Who initiated the chatting? ----------

30. How did you get to know your chatting partner?

(1). Internet ☐ (2). A Friend ☐ (3). Magazine ☐ (4). Others Specify ----

31. For how long have you been chatting online? (1). Less than 1 month ☐

(2) 1 - 6months ☐ (3). 1 - 2years ☐ (4). More than 2 year ☐

32. What is the relative age of partner? (1). Same age range ☐ (2). Younger age ☐

(3). Older ☐ (4). Don't know ☐

33. What is the sex of your online chatting partner(s) (1). Same Sex ☐ (2). Opposite Sex ☐

34. Who do you pretend to be when you go online chatting?

(1). Someone older ☐ (2). Younger ☐ (3). Another gender ☐

(4). Real self ☐

35. Why do you pretend when you are online? ----------

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36. What is your single longest chatting interaction in the last 1 week?

(1). 30mins – 1hr ☐ (2). 1hr 30mins – 3hrs ☐ (3). More than 3 hours ☐

37. What is your single longest chatting interaction in the last 1 month?

(1). 30mins – 1hr ☐ (2). 1hr 30mins – 3hrs ☐ (3). More than 3 hours ☐

38. What is the favourite chatting topic when you are online with your partner?

(a). Top Stars around the world ☐

(b). Relationship ☐

(c). Sex and gender ☐

(d). Fashion & Style ☐

(e). Diets & Fitness ☐

(f). Drugs ☐

(Others specify ----------

Thank you.