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INTERNAL MOBILITY AND RISKY SEXUAL BEHAVIOUR IN GHANA

BY

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DECLARATION

I, AFUA AYEWA TENKORANG, declare that unless otherwise indicated in the text or references, this is the result of my original research undertaken under the supervision of Dr. Mumuni Abu at the Regional Institute for Population Studies of the University of Ghana, Legon, and that no part of it has been presented elsewhere for the award of another degree.

Supervisor of Dissertation ……	Candidate ……
Dr. Mumuni Abu	Afua Ayewa Tenkorang
……..	……..
Date	Date

DEDICATION

To my family, I love you to the max

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ABBREVIATIONS

HIV – Human immune virus

AIDS – Acquired Immune Deficiency Syndrome

DHS – Demographic and Health Survey

STIs – Sexually Transmitted Infections

STDs – Sexually Transmitted Diseases

GDHS – Ghana Demographic and Health Survey

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ABSTRACT

Though several studies have shown an association between mobility and risky sexual behaviour, these studies did not distinguish between mobile and migrant population. However, the tendency for a mobile person to engage in risky sexual behaviour differs from that of a migrant because of the frequency of movement and the short duration of stay of a mobile person. This study therefore examined the relationship between mobility and risky sexual behaviour in Ghana using the 2014 Ghana Demographic and Health Survey (GDHS). The 2014 GDHS is a national representative multistage sample survey with a sample of 12,831 households comprising 9,396 females and 4,388 males in their reproductive ages. Mobility in the study was measured by the number of nights an individual spent outside their usual place of residence. Risky sexual behaviour was measured using two different variables: 1) Number of sexual partners; 2) Paid-for sex. The analysis was in two sections. The first section had a sample of 9410 individuals consisting of males and females aged 15 to 49 years which was used to examine the relationship between mobility and number of sexual partners. In the second section, the relationship between mobility and paid-for sex was examined using a sample of 3015 males aged 15 to 59 years. The study employed univariate analysis to describe the socio-demographic characteristics and risky sexual behaviour of the sampled population and a bivariate analysis to examine the statistical relationship between the socio-demographic variables and risky sexual behaviour. Finally, binary logistic regression was used to examine the predictors of risky sexual behaviour. The results revealed that mobility is a significant predictor of number of sexual partners but not of paid-for sex. Drug use, region and religion were significant predictors of risky sexual behaviour. However, age and sex were also significant predictors of number of sexual partners but not paid-for sex. It is recommended that efforts made against drug use should be intensified in order to minimise risky sexual behaviours in Ghana.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Risky sexual behaviour is a major public health concern globally, because of its relationship with sexually transmitted diseases (Hansen, 2003). There have been various studies on risky sexual behaviour among different populations such as migrants, commercial sex workers, drug users, men who have sex with men among others (van den Hoek, et al., 2001: Hansen, 2003: Morojele, et al., 2006: Gondim et al., 2009). One critical population that much research attention has not been given to their sexual and reproductive health issues is the mobile population. This population has been treated as part of the migrant population in some studies but they are very different population and their sexual behaviour vary (Lydié et al., 2004: Mundandi et al., 2006).

Migration is the liberty to move across a geographical boundary with the intention to stay (Kok, 1999). The intention to stay and duration of stay have been identified as indicators of migration. Individuals who frequently move without the intention to change their usual place of residence are referred to as mobile people (Beine et al., 2013). Movement within a state or region has been declared internationally as a right (Guild & Groenendijk, 2009: Gilbert, 2014). People move for various reasons such as to improve on their standards of living, to have conjugal relations with their spouses, to trade among other factors (Huang, 2005).

Mobility can be international or internal and has increased tremendously in the last decade (Beine, et al., 2008). Individuals move internally or internationally for better job opportunities or for the future returns that they would gain from travelling (Rosenzweig, 2008). Globalization and industrialization have been associated with mobility of skilled

workers in search of better economic opportunities internationally or internally (Docquier & Rapoport, 2011). Apart from the individual perceived gains associated with mobility, both the place of origin and destination countries benefit from the human capital. The place of destination benefit from economic development derived from the skills an individual has and the place of origin benefits from the remittances sent home (Beine et al., 2013).

The movement of an individual can be voluntary or involuntary (Matthews, 2015: Hansen, 2003). People move voluntarily in pursuit of higher standards of living such as moving to places in high demand of workers or places with better employment opportunities as compared to that of their place of origin (Passel & Clark., 1998: Hansen, 2003). Involuntary movements on the other hand, happen when individuals believe that their lives may be in danger. Individuals fearing for their lives move to seek refuge or asylum at other regions or countries and wait until the conflict subsides before moving back to their place of origin. Both voluntary and involuntary movements have implications for both the place of origin and destination. Labour induced movements allow individuals to work to gain money for themselves and to send remittances home (UNHCR, 2014). These movements have implications for risky sexual behaviour of the mobile person.

As individuals move, they establish a lot of relationships including sexual ones. Jeeves & Jolly (2009) indicated that mobility is interconnected with the spread of diseases and that Sexually Transmitted Diseases cannot be ruled out. The HIV pandemic in the South African mines was associated with increased mobility (Jeeves & Jolly, 2009). The mobile stream facilitates the spread of venereal and endemic syphilis to new areas or communities, which were not previously exposed to these diseases (Jochelson et al., 1991). Other factors such as social networks facilitate risky sexual behaviour of mobile persons.

The mobile person has multi-local social networks that provide an opportunity for sexual networking. This sexual network is possible because the mobile individuals usually leave their spouses or regular sexual partners at their place of origin. Consequently, they tend to engage in sexual activities which may not be premeditated, therefore, making condom use difficult or impossible (Helleringer et al., 2009). This predisposes them to STIs such as syphilis or HIV/AIDS. This increases the number of people mobile individuals have sexual intercourse with without protecting themselves, thus increasing the Sexually Transmitted Disease burden of the society. The multi-local social network has been identified as the major contributor to the HIV pandemic in Sub-Saharan Africa (Helleringer et al., 2009). Mobile men engage the services of commercial sex workers such as those in informal trades like truck drivers among others (Anarfi, 1993).

It has been found in literature that some highly mobile women engage in commercial sex work (Global Network of Sex Work Projects , 2000). These commercial sex workers are very mobile because they want to avoid social stigma from their family or community members (Global Network of Sex Work Projects, 2000). Individuals that patronize the services of the commercial sex workers tend to prefer new clients every time. This is another factor resulting in the recurrent movements of the commercial sex workers, which places them and their clients at risk of STIs (Poudel et al., 2004).

Females have a high dependence on men due to economic disempowerment. This disempowerment restricts the kind of jobs they can acquire even when they are mobile. Some supplement their income (from trading) with transactional sex (IOM, 2003). Women who engage in this transactional sex do not have power to negotiate for safer sex by using condoms due to the socio-cultural context within which these practices take place (IOM, 2003). This transactional sex is not classified as sex work even though money may exchange

hands. This phenomenon is a common occurrence among female traders. Others trade sex for goods and services (Preston-Whyte, 1996; Coˆ te, et al., 2004).

Economic opportunities influence an individual's susceptibility to move. Males and females move for economic or social reasons, but the kind of employment opportunities available to women makes them more susceptible to engage in transactional sexual activity (Coˆ te, et al., 2004). When they engage in the transactional sexual activities, it increases their probability to become commercial sex workers (Hansen, 2003). Sex workers are mobile to avoid stigmatization and their clients are also mobile (Hansen, 2003). This sexual behaviour of this mobile population increases the spread of STIs/HIV. Therefore, if the HIV/AIDS prevalence can be brought to zero as desired by the Ghana's AIDS Commission, then this mobile population needs to be studied.

1.2 Statement of the Problem

The 2010 Population and Housing Census of Ghana indicates that more than half (52%) of Ghanaians live in the urban areas. The increasing level of urbanization in the country is correlated with the increase in human mobility (Beine et al., 2008). People move from rural to urban areas usually in search of economic opportunities among other factors. There has also been an increase in human mobility from resource poor communities to places where some natural resources have been discovered (Akwara et al., 2005; Ghana Statistical Service, 2014). A number of small-scale mining communities in Ghana have seen a significant increase in the growth of their populations as a result. Population growth due to mobility exposes individuals at the place of destination to diverse ways of life and risk taking behaviour.

Studies on mobility considered duration of stay and not the frequency of movements and its influence on risky behaviours (Mocetti & Porello, 2010). The frequency and consistency of movement may serve as a stimulus for an individual to have a semi-permanent residence at their place of destination. Mobile people take risk in every aspect of their lives including sexual risk. Studies have shown that mobile individuals are a bridge-population who spread HIV infection from high to low risk populations (Morris et al., 1996; Entz et al., 2000; Poudel et al., 2004).

Mobility was considered a preserve for men but in recent times, women have been involved as a result of development (Preston-Whyte, 1996). Poor working conditions and low income makes mobile women more prone to engage in transactional sex or sex work to support themselves. This in turn increases their number of sexual partners and increases their risk of acquiring STIs (Lurie et al., 1997).

Female itinerant traders who travel in search of commodities to sell are at risk of engaging in risky sexual behaviour. They interact with drivers and other traders on their journey creating a pool of individuals that they engage with, making them more susceptible to sexual relations of convenience. This situational convenience that happens on long journeys and the idea that it is just temporal or an accident creates a wider number of sexual partners of these women and it places their partners back home at risk (Lurie et al., 1997; Preston-Whyte, 1996). Out of 73% o women who are employed 51% of them engage in sales and services work (GDHS, 2014). This implies that a large proportion of these women who engage in service provision come into contact with diverse people and form social networks. When these social networks are formed and the relationship it built over time, it makes them more susceptible to engage in risky sexual behaviour.

Mobile individuals who do not move with their spouses engage in risky sexual behaviours at their place of destination and this makes their spouses at their place of origin susceptible to STIs/HIV risk. While the receiving communities are at risk of being influenced by the risk-taking behaviour of mobile persons, the sending communities suffer when spouses return home (Knodel & VanLandingham, 2003).

1.3 Research Questions

1. What is the association between mobility and paid-for sex among men?
2. What is the association between mobility and multiple sexual partners?
3. What factors are associated with risky sexual behaviour?

1.4 Rationale

The third Sustainable Development Goal (SDG) states that every country should ensure healthy lives and promote the well-being for all. The goal adapted by Ghana has a bold commitment to end the HIV/AIDS pandemic and the Ghana Aids Commission runs campaigns and programmes to this effect. The commission's report in 2012 indicates that there has been an improvement in combatting the spread of the disease. However, as people move from low prevalence to high prevalence communities they become susceptible to acquire or spread diseases across the areas they move.

Risky sexual behaviour poses a threat to the reproductive health of an individual. Current policies on health and migration do not factor in internal mobility and its implication on sexual health behaviours. Mobility has influence on the measures that have been put in place to curtail the spread of STIs/HIV negatively. This is because mobile individuals are more difficult to reach to give education, condoms and post infection treatment on how they can

practice safer sex (Dodson & Crush, 2002). Therefore, studying mobile people and their sexual behaviour would help policy makers to target this population. This study seeks to examine the impact of internal mobility on the risk-taking sexual behaviour of individuals. This study will help to identify how mobility influences the spread of STIs/STDs. Again, knowing the socio demographic characteristics of mobile people who are likely to engage in risky sexual behaviour will help guide policy decision.

1.5 Objectives

The general objective of the study is to examine the association between internal mobility and risky sexual behaviour in Ghana. The specific objectives of the study are to;

i. examine the factors associated with mobility and paid sex among men

ii. examine the factors associated with mobility and multiple sexual partnerships

iii. examine the factors associated with risky sexual behaviour among men and women

iv. make recommendations for researchers and reproductive health policy makers.

1.6 Organisation of the Study

The study consists of five chapters. Chapter One comprises of background information, the statement of the problem, research questions, rationale and the objectives of the study. Chapter Two presents a review of literature and relevant research associated with the study, the conceptual framework and hypotheses. Chapter Three presents the methodology and procedures employed for the collection and analysis of data of this study. Chapter Four

contains the univariate, bivariate and binary logistic analysis. Chapter five offers a summary and discussion of the study findings, conclusions drawn from the results and their policy implications.

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 Introduction

Studies have shown varying degrees of the effects of internal mobility on risky sexual behaviour in different parts of the world by using different sources of data and methods. This section reviews studies on the theories of mobility, risky sexual behaviour and factors that influence risky sexual behaviour.

2.2 Theory on Mobility and Risky Sexual Behaviour

There are several theories that explain mobility. One of these is the push and pull theory (Hare, 1999). Individuals are attracted to a place for reasons such as economic or social, improved infrastructure, social amenities, employment opportunities and the desire to join a loved one. Individuals also move as a result of poor economic conditions or conflicts at place of origin.

2.3 Factors Associated with Risky Sexual Behaviour

There are several factors associated with risky sexual behaviour. Some of these factors are substance use, education, religion, condom usage and ethnicity. All these factors increase an individual's propensity to engage in risky sexual behaviour.

2.3.1 Substance Use and Risky Sexual Behaviour

Studies have shown that more males than females use alcohol, marijuana, cocaine and inhalants (Jackson et al., 2011). It has been shown that even though there are differences in the choice of substance use, the use of these substances are similar in both males and females. Substance use is said to be influenced by social networks (e.g. peer influence), migration, gender, age and homelessness. Studies have also shown that substance abuse is influenced by age (Jackson et al., 2011). Young adults (below 21 years) are more likely to engage in excessive drinking of alcoholic beverages as compared to the older adults (above 21) who are more likely to use heroine or inject drugs. Individuals who use substance are more likely to engage in risky sexual behaviours that place them at risk of STIs/HIV. Negligence among individuals on the use of condoms as well as the belief that it decreases pleasure may be due to substance use (Agadjanian, 2001; Awusabo-Asare et al., 2004)

However, substance use and risky sexual behaviour are all risk-taking behaviours. This makes the relationship between the two spurious because studies have shown that the two have a great influence on each other (Cooper & Orcutt, 1997; Leigh & Stall, 1993; Cooper, 2002). One school of thought believes drug use precedes the risky sexual behaviour (Akwara et al., 2005; Doku, 2012). That is when an individual uses the drugs it does not give them the will power to negotiate for safer sex. This is because the mind is blurred and because they are hyperactive, they engage in sexual activity without using condoms placing them at a greater risk. Others also have multiple sexual relations in their drug use stage and have no recollection of the activities that happen from the previous night in the morning.

Another school of thought postulates that an individual who has behavioural problems and survive on substance use would exchange sex for drugs (Kandel, 2002; Akwara et al., 2005; Doku, 2012). Socio-economic status of females is low, therefore, it is common for females to exchange sex for drugs. This is because they cannot afford the drugs they have a high desire

for so they engage in sexual relations with those who have the drugs. They cannot negotiate for safer sex because they do not have the bargaining power and they have to have multiple sexual relations with many individuals who have the drugs they desire.

2.3.2 Condom Usage and Risky Sexual Behaviour

Condom usage serves as an intervening factor that reduces an individual's risk in acquiring STIs. Most African countries have a patriarchal lineage that gives males authority in this society. This power is observed during sexual intercourse. Therefore, the man determines what happens during sexual activities and as such, women are unable to negotiate for safe sex (Kandel, 2002). When the man says no to condom usage the woman has to agree even though it may put her at risk of acquiring sexually transmitted disease. Consistent condom usage can prevent about four-fifths of the prevalent cases of the STIs widespread (Cote et al., 2004).

Sex workers' patronization has increased tremendously in urban centres and they are at the centre of STIs/HIV epidemic in Ghana (Hugo, 1993; Cote et al., 2004). Sex workers misreport the number of times they use condoms during sexual intercourse as compared to their clients. Men (boyfriends) who time after time frequent particular areas to have sexual intercourse with one specific sex worker have a high STIs/HIV prevalence rate. It was estimated that about 39% of men who frequent one particular sex worker are more prone not to use condoms during sexual intercourse and hence, the increase in the spread of STIs/HIV (Cote et al., 2004). The solidarity, or lack thereof, between sex workers in a given location must be important determinants of condom use. Their role in infecting sex workers might be important in areas of high condom use (Cote et al., 2004; Helleringer et al., 2009)

Condom usages with a spouse or concurrent sexual partner show distrust (Poudel et al., 2004; Helleringer et al., 2009). Either the man is having extra sexual relations and feels he may be at risk hence the condom use or the man believes his partner has not been faithful therefore

he needs to protect himself from any STI. This makes it almost impossible for partners who have engaged in sexual relations when they had travelled to protect their partners back at home from any STI. If their partners have other relations when their spouse or concurrent sexual partner was away they place their other sexual partners at risk too.

Individuals have the perception that condoms are used only when one needs to prevent pregnancy instead of using it to avoid STIs (Poudel et al., 2004; Helleringer et al., 2009). Therefore, instead of using condoms on a regular basis to prevent getting infected with any STI they only use it when they want to prevent pregnancy. There is a believe that using condom inhibits the ability to gain full sexual pleasure as compared to without using condoms (Cooper M, 2002).

2.3.3 Religion and Risky Sexual Behaviour

Religion has mediating factors that influence sexual behaviour (Gyimah et al., 2010). It plays a major role in the shaping of the norms of a group of people, and it does this through doctrinal teachings preached by their religious leaders (Hummer et al., 2004). In 2005, BBC News stipulated that religious leaders are the most trusted group of individuals. In Africa, every three out of four individuals put information obtained from religious leaders in high regard as compared to only a third worldwide.

Religion therefore is an important factor in sexual relations and reproductive health behaviour discourse (Kagimu et al., 1998; Takyi et al., 2003). Religious sects' views in how to practice less risky sexual behaviour is an integral part in promoting safer sex. In the African society where they are highly religious, it is believed that STIs are spiritual punishment for those who engage in sexual practices that go contrary to the norms of that society (Yamba, 1997;

Trinitapoli & Regnerus, 2006). Yet still there are significant differences in how the religious sects' believe in the spiritual or moral implications of sexual misconduct.

Sexual misconduct is prohibited in every religious setting. In the Islamic setting, they engage and believe in polygamous marriages, however, extramarital and premarital sexual relations are punishable as stated in the Holy Quran. In Zamfara, Nigeria in 2001, a 17-year old Muslim girl was lashed 180 for indulging in premarital sex (Adepegba, 2001). This serves as memory and indicator for individuals who belong to this religious sect to practice abstinence if not married and if married to be faithful so they do not engage in any risky sexual activities for fear of punishment or ridicule to one's self or family.

Traditionalists also place high esteem on virginity and sexual promiscuity is frowned upon (Awusabo-Asare et al., 2004). In some African societies if a girl loses her virginity before her puberty rites is performed, she is ostracised and ridiculed. Her family lose their respect in the community. This cautions females against premarital sexual relations and reduces the chance of them engaging in risky sexual behaviours. For the males, they are at liberty to marry as many wives they can cater for therefore engaging in extramarital affair becomes unnecessary even though others still engage in it (Awusabo-Asare et al., 2004).

In the Christian setting, some sects are more sexually liberated and they would resist cultural norms regulating sexual behaviours because they are well educated (Addai, 2000). This is because the different sects within that are more ideologically tolerant and have relaxed in enforcing the doctrinal beliefs (Agadjanian, 2001; Tenkorang et al., 2009). Some sects also are openly against the use of condoms and oppose sex education making their followers more likely to engage in risky sexual behaviour (World Bank, 1997). Some sects also believe that if you become a convert you are washed clean, you have no sin and you do not commit any sin (Chesnut, 1997; Maxwell, 1998; Tenkorang et al., 2009). This mind set which is a

misinterpretation of the Holy Bible allows individuals to engage in sexual behaviours that put them at risk because they think once they are saved they are always saved.

2.3.4 Education and Risky Sexual Behaviour

There are three different schools of thought on education as an important factor in determining a person's knowledge and susceptibility to risky sexual behaviour. There are conflicting findings where one school postulates that there is no link between a person's educational attainment and their susceptibility to risky sexual behaviour, while others postulate that there is either a negative or positive relationship (Meekers, 1994; UNAIDS/WHO, 2003; Zellner, 2003; Booysen, 2004; Dinkelman et al., 2008; Tenkorang & Fernando, 2008). It would seem logical that an educated person's exposure to knowledge would make them better equipped to make informed choices and not engage in risky sexual behaviour. In some instances, it may be true but in others, it is not. Educated individuals have resources that make them more desirable and sought-after. These men are more liberal, they reject traditional and religious teachings, and they are more open to new trends (Hargreaves & Boler, 2006; Tenkorang & Fernando, 2008). This makes some educated men more prone to engage in risky sexual behaviours by having multiple sexual partners.

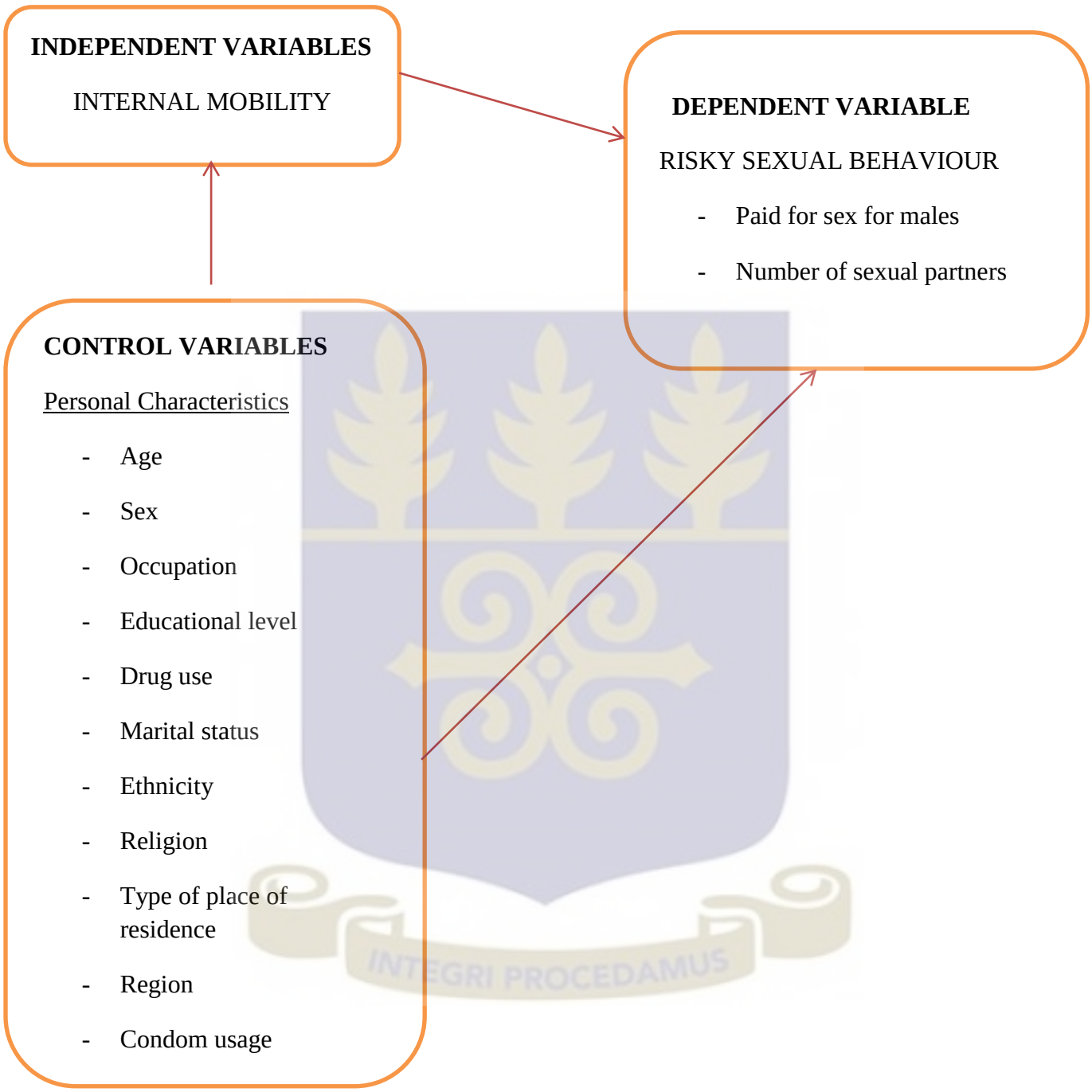
The studies that believe there is no link also postulated that it does not really matter an individual's educational level, their desire to have sexual relations take premise over their knowledge (Meekers, 1994; Akwara et al., 2005). This places them at a disadvantage even though they are educated and have more knowledge.

2.4 Conceptual Framework

Literature on migration and risky sexual behaviour shows that there is a relationship between mobility, some selected demographic and socioeconomic variables and risky sexual behaviour as shown in Figure 1.

The independent variable, internal mobility, as illustrated in the framework indicates a direct association with risky sexual behaviour. Studies have indicated the association of the age, sex, religion, occupation, condom usage, drug usage, type of place of residence, ethnicity, marital status, education and region with risky sexual behaviour (Brockerhoff & Biddlecom, 1998; Gyimah et al., 2010). The construction of this conceptual framework is guided by these studies but has been mostly modified (Brockerhoff & Biddlecom, 1998; Gyimah et al., 2010).

Figure 1: Conceptual Framework Showing the Relationship Between Internal Mobility And Risky Sexual Behaviour.



Source: Authors' construct, based on Brockerhoff & Biddlecom, (1998) and Gyimah et al., (2010).

Males are more mobile and more likely to engage in risky sexual behaviour than females. In recent times, the number of females moving for economic reason is also increasing. Age is an important demographic variable that predicts an individual's propensity to move. It is also an important determinant of risky sexual behaviour. Younger men and women are more likely to be mobile than their older counterparts. This makes young individuals more susceptible to risky sexual behaviour.

Educational level is negatively related to risky sexual behaviour. It is expected that highly educated persons would be less likely to engage in risky sexual behaviour as compared to individuals with no education. However, educated persons are more desired because they have the resources to provide for the number of sexual partners they want, as compared to the uneducated ones (Booysen 2004; Dinkelman et al 2008; Tenkorang & Fernando 2008).

Drug use is an important aspect for engaging in risky sexual behaviour. Individuals that use drugs are more likely to engage in risky sexual behaviour.

The use of condoms can reduce the chance of an individual being exposed to STIs and the individual's propensity to engage in risky sexual behaviour. Therefore, an individual that uses condom is less likely to be at risk compared to those that do not use condom.

Ethnic background may affect an individual's risky sexual behaviour. The role of religion as a determinant of changing risky sexual behaviour is difficult to disentangle from other underlying influences. Religious beliefs on sexuality and reproductive health behaviours influence an individual risky sexual behaviour.

An individual's marital status influences their risky sexual behaviour. Singles are more likely to engage in risky sexual behaviour than the married.

2.5 Hypotheses

Following from the related literature and the relationship in the conceptual framework (Figure 1) the following hypotheses are examined in the study:

1. Highly mobile men are more likely to pay for sex as compared to those who are non-mobile.

2. Highly mobile individuals are more likely to have multiple sexual partnerships than their non-mobile counterparts.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This section provides background information on the source and nature of the data used for the study, sample selection, categorization of variables and the methods of analysis used in the study.

3.2 Source of Data

The source of data for the study was the 2014 Ghana Demographic and Health Survey (GDHS). The 2014 GDHS with its large sample size, procedure and its breadth of information provides an opportunity to examine some of the contextual and behavioural correlates of HIV/STIs at a national level in Ghana. The data collected; sponsored by USAID (United States Agency for International Development) has information on migration, AIDS knowledge, sexual activity, family planning, STI knowledge and socioeconomic conditions from 9,396 women and 4,388 men of reproductive age.

Respondents were selected from the ten administrative regions in Ghana through a two-stage probability sampling technique. In the 2014 GDHS, 427 enumeration areas (EA) were first selected using cluster sampling technique (216 in urban areas and 211 in rural areas). A stratified probability sampling technique enabled 12,831 households to be selected from the chosen enumeration areas and all members of these households who met the selection criteria were interviewed (Ghana Statistical Service, 2014).

In addition, detailed information on socioeconomic backgrounds, housing characteristics, marriage, sexual activity, fertility preferences, infant and child mortality, maternal and child

health, nutritional status of women and children, awareness and behaviour regarding HIV/AIDS and other STIs were also collected. The 2014 GDHS collected information on domestic violence, adult health and lifestyle, women empowerment and demographic health outcomes, malaria and the use of mosquito nets. The 2014 GDHS is an improvement upon preceding surveys.

The information obtained from the survey is nationally representative. Therefore, it can be generalised to the entire population. The primary instrument used to collect the data from the field consists of women and men's questionnaires which provide the required data on both men and women and their sexual health behaviours.

3.3 Data Sample Design and Sample Selection

The women and men's questionnaire file is utilised in this study. The men's file was used to analyse the association between internal mobility and paid-for sex. The sample was weighted by the men sample weight to make the data representative. After weighting, males who have not had sexual intercourse in the last 12 months were removed from the data. Males who had a numeric value of zero for the total number of people they had sexual intercourse with in the last 12 months were taken out of the sample.

The sample size for the males in testing the association between internal mobility and paid-for sex was 3072. The variable 'paid-for sex' was derived from the question;

"In the last 12 months, did you pay anyone in exchange for having sexual intercourse?"

A 'yes' or 'no' response was given to this question. A male that responded yes involves himself in a risky sexual behaviour. The number of sexual partners also indicates risky sexual behaviour and was derived from this question;

"In total how many different people have you had sexual intercourse with in the last 12 months?"

The numeric answer given determines the individual's sexual partners and their risky sexual behaviour. The association between mobility and number of partners is tested by using the merged men and women file. The merged men and women data was used to test the association between internal mobility and multiple sexual partnerships. Individuals with no recent sexual activity in the past 12 months were removed from the sample. The sample size for the merged data was 9410.

Internal mobility was measured using the question;

"In the last 12 months, how many times have you been away from home for one or more nights?"

The answer to this question was numeric starting from zero to 90+ (as stated in the data). Response value of zero means the person was non-mobile; 1-5 times means the person was slightly mobile, 6-10 times means moderately mobile and those with response value of 11 or more times (up to 90+) were classified as highly mobile.

3.4. Measurements of the Variable in the Data

In the male data set, individuals within the age group of 15-59 years were used. However, in the merged data, males in age group 50-54 and 55-59 were taken out of the sample data for comparison reasons. The merged data consisted of both males and females in their reproductive ages (15-49 years).

Individuals who are currently married/living with partner was categorized as 'currently in union' while those who are separated, widowed and divorced were categorized as 'ever in union'. Individuals who have never been in a union were classified as 'never in union'. Occupation was classified using the DHS classifications of 'not working', 'professional/technical/managerial', 'agriculture self-employed', 'agriculture employee', 'clerical', 'services', 'sales', 'unskilled manual' and 'skilled manual' as shown in Table 1. Religious affiliation of respondents was categorized into Islam, Christians and 'Other' as indicated in Table 1. Drug use was operationalized as those who smoke tobacco, cigarettes and use snuff among others.

In the measurement of Ethnicity, 'Grussi', 'Guan' and 'Mande' was categorize into 'Other' because the actual count for each of them was small. The number of sexual partners ranged from 1 to 2+ because having more than one sexual partner is a form of risky sexual behaviour. Individuals who had not spent a night outside their homes were classified as non-mobile, those who had spent a number of 1-5 nights outside their homes were classified as slightly mobile as indicated in Table 1. Individuals who had spent a number of 6-10 nights outside their home was classified as moderately mobile and those who had spent 11 or more nights outside their home were classified as highly mobile persons as indicated in Table 1 (bearing in mind that 90+ times was the maximum number in the data set).

Table 1: Measurement of Study Variables

Variable	Measurements
Internal mobility	0 = Non-mobile 1 = Slightly mobile 2 = Moderately mobile 3 = Highly mobile
Paid for sex	0 = No 1 = Yes
Number of sexual partners	1 = 1 2 = 2+
Age	1 = 15-19 2 = 20-24 3 = 25-29 4 = 30-34 5 = 35-39 6 = 40-44 7 = 45-49
Sex	1 = Male 2 = Female
Occupation	0 = Not working 1 = Professional/technical/managerial 2 = Clerical 3 = Sales 4 = Agriculture self-employed 5 = Agriculture employee 6 = Services 7 = Skilled manual 8 = Unskilled manual
Education	0 = No education 1 = Primary 2 = Secondary 3 = Higher

Table 1: continued…

Drug use	0 = No 1 = Yes
Marital status	0 = Never in union 1 = Currently in union 2 = Ever in union
Ethnicity	1 = Akan 2 = Ga/Dangme 3 = Ewe 4 = Mole-Dagbani 5 = Other
Religion	1 = Christian 2 = Islam 3 = Other
Type of place of residence	1 = Rural 2 = Urban
Region	1 = Western 2 = Central 3 = Greater Accra 4 = Volta 5 = Eastern 6 = Ashanti 7 = Brong Ahafo 8 = Northern 9 = Upper East 10 = Upper West
Condom use	0 = Yes 1 = No

3.5. Method of Data Analysis

The statistical analysis software package IBM SPSS (Version 22) was used for both the descriptive and inferential analysis. Frequencies, cross-tabulations, regression outputs and results of trend analyses were displayed using tables and charts.

Univariate analyses were conducted to show the proportion of respondents with various characteristics as well as their mobility and risky sexual behaviour status. This analysis is descriptive, and is presented using frequencies and percentages in tabular and figurative form. Bivariate analyses using chi-square was carried out to examine differences between the demographic and socio-economic characteristics of the respondents and mobility as well as their risky sexual behaviour.

In the binary logistic regression three models were run; two for the number of sexual partners an individual has and one for paid-for sex. The first model showed the relationship between internal mobility and (1) paid-for sex, and (2) number of sexual partners. The second model indicated the relationship between mobility, controlling for the other independent variables, and the two main dependent variables.

3.6 Limitations of the Data

The data collected did not ask the individuals for the reasons and directions of their movement. This did not allow the study to investigate mobility of people because who have spouses at their places of destination, as well as the direction of mobility and an individual's intentions, which had implications for risk-taking sexual behaviour. This study looked at the number of times an individual move and their risky sexual behaviour.

Another limitation of the data was that females were not asked if they had received gifts or money in exchange for sex. This would have given a different dimension to the study in examining how gifts or money received influenced their risk-taking sexual behaviour. As a result of this, the study looked only at the number of times males move and its association with paid-for sex.

CHAPTER FOUR

ANALYSIS OF THE FACTORS ASSOCIATED WITH RISKY SEXUAL BEHAVIOUR IN GHANA

4.1 Introduction

The chapter presents the distribution of the various variables used in the study and the tests of association established between the independent variables and the dependent variable. The chapter is in two broad sections based on how the data was organised to address the dependent variables of the study. The first section examines the association between the independent variables and the number of sexual partners while the second section focuses on the association between the independent variables and paid sex.

4.2 Individual Characteristics and Number of Sexual Partners

In the merged data sample, individuals with two or more sexual partners constitute a little over seven per cent as indicated in Table 2. Having two or more sexual partners places an individual at risk because the sexual activities of their partners cannot be accounted for. The table also shows that non-mobile persons constitute 44% and females constitute 71.2%. In addition, individuals with secondary education constitute over half of the sample (57%) and those with higher education constitute nearly nine per cent of the sampled population.

Individuals who do not use drugs are 97.9% and those who use drugs constitute a little over two per cent of the entire sample. Individuals who are currently in union are over 70% and those who were formerly in union constitute less than 10% of the entire sample. Akan is the major ethnic group among the ethnic groups with over half (50.5%) of the sample and Ga/Dangme had the least proportion with eight per cent of the sample. Christians constitute

nearly 80% of the sample followed by Muslims who constitute 15% and those in the other religion consist of a little over six per cent of the sample.

Almost 53% of the sample lived in the urban centres as indicated in Table 2. Individuals who do not use condom during sexual activity constitute a little over 90% of the entire population (Table 2).

Table 2: Respondents' Socio-demographic Percentage Distribution and Number of Sexual Partners

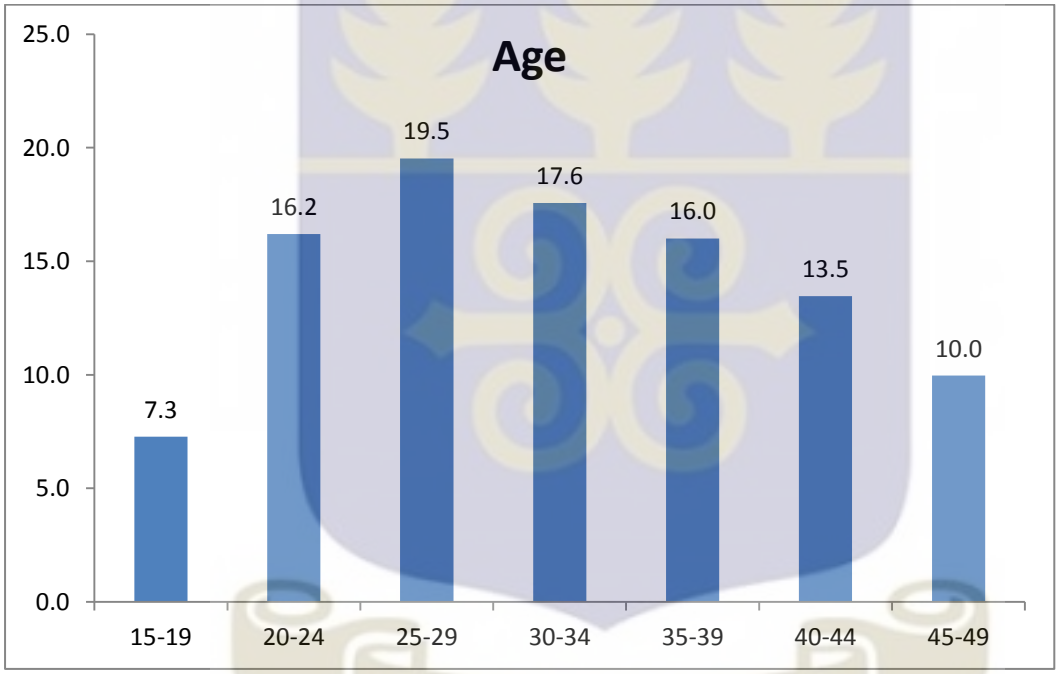
Variables	Percentages
Number of sexual partners	
1	92.9
2+	7.1
Mobility	
Non-mobile	44.0
Slightly mobile	42.9
Moderately mobile	7.1
Highly mobile	6.0
Sex	
Male	28.8
Female	71.2
Education	
No education	17.9
Primary	16.7
Secondary	57.0
Higher	8.4
Drug use	
Yes	2.1
No	97.9
Marital status	
Never in union	22.9
Currently in union	70.8
Formerly in union	6.4
Ethnicity	
Akan	50.5
Ga/Dangme	8.0
Ewe	13.9
Mole-Dagbani	13.8
Other	13.7
Religion	
Christian	78.6
Islam	15.0
Other	6.4
Type of place of residence	
Urban	52.9
Rural	47.1
Condom use	
No	90.2
Yes	9.8

Source: Computed from GDHS (2014) Data

4.2.2 Age Distribution of the Study Population

Figure 2 shows that individuals in the age group 25-29 constitute nearly one fifth of the sample (19.5%) and those in the age group 15-19 constitute about seven per cent of the sample. Those in age group 30-34 constitute nearly 18% and one tenth of the sample falls in the age group 45-49.

Figure 2: Percentage Distribution of the Age Groups of the Study Population



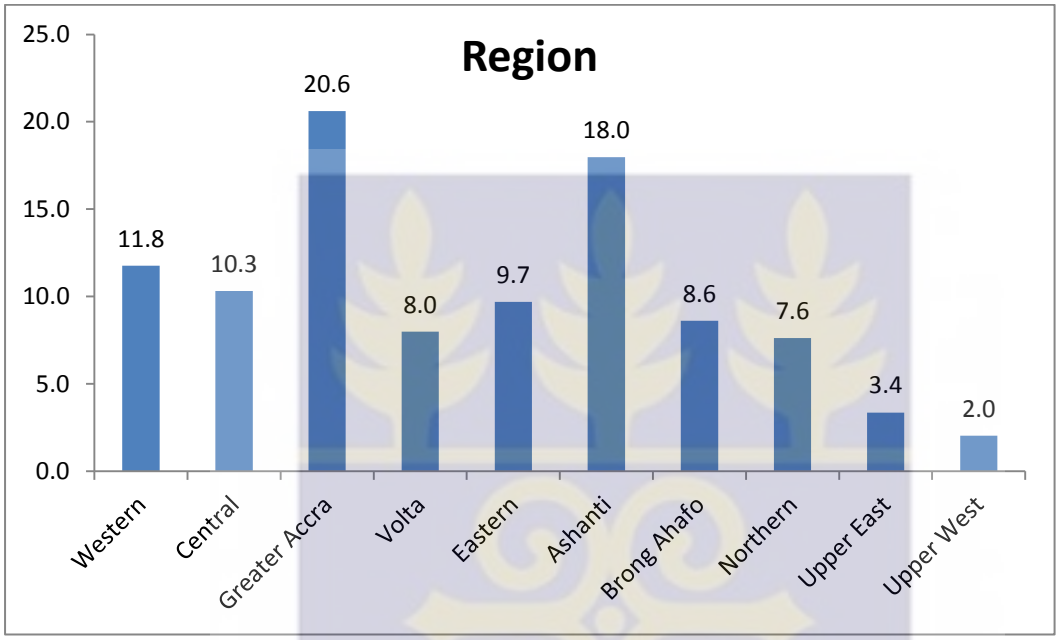
Source: Computed from GDHS (2014) Data

4.2.3 Region of Residence of the Study Population

Figure 3 shows that Greater Accra and Ashanti Regions have the highest proportion of the study population constituting about 21% and 18% respectively. This is because of the various

socio-economic opportunities available in these regions. Upper West Region has two per cent of the sample and it is the least populated region in Ghana.

Figure 3: Percentage Distribution of Study Population by Region

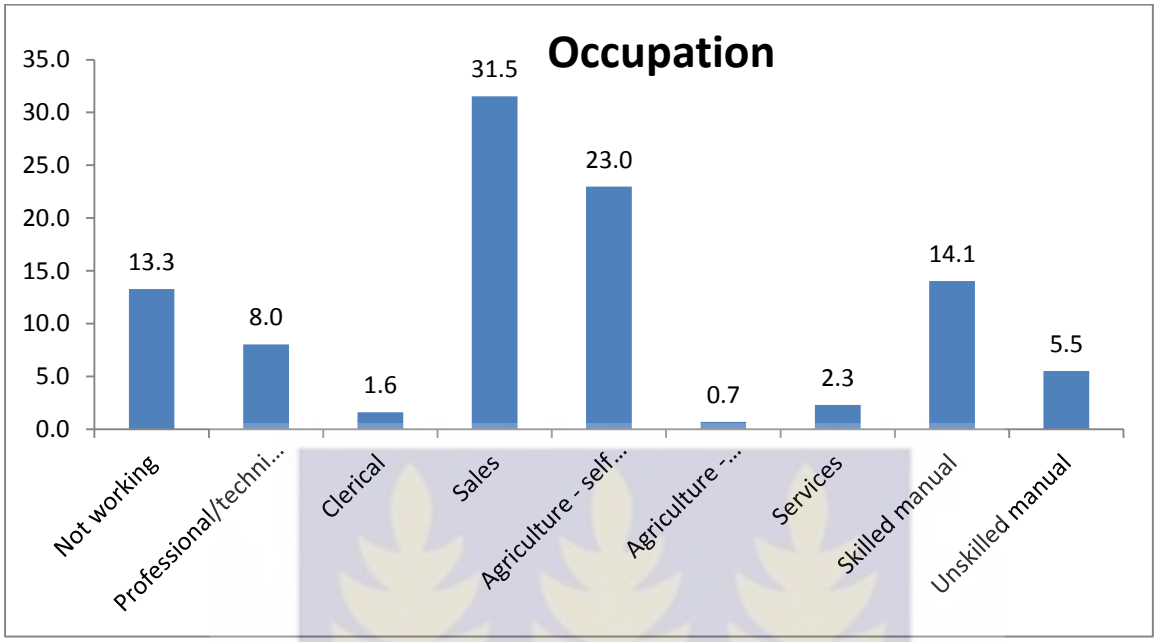


Source: Computed from GDHS (2014) Data

4.2.4 Types of Occupation of the Study Population

Figure 4 indicates that individuals in the sales business constitute over 30% of the sample while those who are employees in the agriculture sector constitute less than one per cent of the entire population. There is a large proportion of self-employed individuals in the agriculture sector (23%) and skilled manual work (14.1%). The clerical and service personnel consist of nearly two and a little over two per cent of the sample respectively.

Figure 4: Percentage Distribution of Respondents' Occupation



Source: Computed from GDHS (2014) Data

4.3 Bivariate Analysis of the Association between Mobility, Age, Sex and Number of Sexual Partners

Mobility is significantly associated with the number of sexual partners an individual has. Table 3 shows that highly mobile individuals have the greatest proportion with two or more sexual partners as compared to those who are non-mobile, slightly and moderately mobile. Studies indicate that mobility is associated with risk taking behaviours (Lydie et al., 2004). Table 3 also indicates that individuals in the age group 15-19 years have the greatest proportion with two or more sexual partners than any of the age groups. This is because they are more vibrant and prone to explore new avenues or take risk than those in the older ages (Morrison et al., 1996: Awusabo-Asare et al., 2004). Sex is significantly associated with the number of sexual partners an individual has. Males have the highest proportion with two or more sexual partners as compared to females. The difference is high because of socio-cultural

practices that permit men to have multiple sexual partners as a sign of strength and manhood (Gyimah et al., 2010).

Table 3: Bivariate Analysis of the Association between the Independent Variables and Individuals with 2+ Sexual Partners.

Variable	Number of sexual partners (%)	Total (n)
	2+	
Mobility		
Non-mobile	4.8	4141
Slightly Mobile	7.2	4033
Moderately mobile	13.6	671
Highly mobile	16.1	566
Total (n)	**7.1**	**9411**
χ2= 146.16	**df=3**	**p-value=0.0001**
Age		
15-19	9.5	684
20-24	7.9	1524
25-29	7.1	1838
30-34	6.5	1654
35-39	5.9	1506
40-44	7.7	1266
45-49	6.2	938
Total (n)	**7.1**	**9410**
χ2= 13.59	**df=6**	**p-value=0.3500**
Sex		
Male	20.2	2711
Female	1.8	6699
Total (n)	**7.1**	**9410**
χ2=996.21	**df=1**	**p-value=0.0001**
Occupation*		
Not working	4.1	1246
Professional/technical/managerial	12.5	754
Clerical	9.8	153
Sales	4.3	2958
Agriculture - self employed	6.7	2155
Agriculture - employee	14.1	64
Services	6.9	216
Skilled manual	8.7	1319
Unskilled manual	17.6	517
Total (n)	**7.1**	**9382**
χ2=183.80	**df=8**	**p-value=0.0001**

Table 3: continued….

Variable	Number of sexual partners (%)	Total (n)
	2+	
Education*		
No education	3.7	1683
Primary	5.9	1571
Secondary	8.1	5363
Higher	9.5	792
Total (n)	**7.1**	**9409**
χ2=48.18	**df=3**	**p-value=0.0001**
Drug use		
No	6.7	9213
Yes	25.4	197
Total (n)	**7.1**	**9410**
χ2=101.97	**df=1**	**p-value=0.0001**
Marital status		
Never in union	10.8	2152
Currently in union	5.7	6658
Formerly in union	9.7	600
Total (n)	**7.1**	**9410**
χ2=71.16	**df=2**	**p-value=0.0001**
Ethnicity*		
Akan	7.1	4751
Ga/Dangme	8.8	754
Ewe	7.9	1312
Mole-Dagbani	8.4	1300
Other	5.9	1292
Total (n)	**7.1**	**9409**
χ2=8.41	**df=4**	**p-value=0.0780**
Religion*		
Christian	6.7	7392
Islam	7.0	1411
Other	11.9	606
Total (n)	**7.1**	**9409**
χ2=22.75	**df=2**	**p-value=0.0001**
Type of place of residence*		
Urban	7.0	4976
Rural	7.2	4433
Total (n)	**7.1**	**9409**
χ2=0.05	**df=1**	**p-value=0.8250**

Table 3: continued…

Variable	Number of sexual partners (%)	Total (n)
	2+	
Region		
Western	9.4	1107
Central	10.0	972
Greater Accra	9.4	1941
Volta	6.5	752
Eastern	5.8	913
Ashanti	3.6	1691
Brong Ahafo	6.2	810
Northern	6.1	717
Upper East	5.1	316
Upper West	4.7	191
Total(n)	**7.1**	**9410**
$\chi 2$=76.91	**df=9**	**p-value=0.0001**
Condom use*		
No	6.5	8482
Yes	12.7	923
Total (n)	**7.1**	**9405**
$\chi 2$=48.43	**df=1**	**p-value=0.0001**

Total number of respondents: 9410 * Sum of frequencies < 9410 due to missing cases

Source: Computed from GDHS (2014) Data

Table 3 further shows that the type of occupation is significantly associated with risk taking sexual activities. If the occupation allows the individual to move around frequently, the person is more susceptible to risk taking behaviour (Anarfi, 1993). Individuals who are in the unskilled manual occupation have the highest proportion with two or more sexual partners followed by those in services and then by technical/managerial/professional positions. These individuals are more likely to move around due to the nature and demand of their jobs.

The Table further shows that there is a statistical association between education and the number of sexual partners. Individuals with higher education have the greatest proportion

with two or more sexual partners as compared to those with no education, primary or secondary education. This supports studies by Dinkelman et al. (2008) and Tenkorang & Fernando (2008) that education is associated with risk taking sexual behaviours. The of use drugs is significantly associated with the number of sexual partners. Those who use drugs have the highest proportion of individuals with two or more sexual partners as compared to those who do not use drugs.

In addition, there was a significant association between marital status and number of sexual partners. Individuals who have never been in union have the greatest proportion with two or sexual partners as compared to those who are formerly or currently in union. Ethnicity is not significantly associated with the number of sexual partners an individual has. Ga/Dangme's have the highest proportion of persons with two or more sexual partners as compared to those in the remaining ethnic groups as indicated in Table 3.

Religion was significantly associated with number of sexual partners. Christians have the least proportion of individuals with two or more sexual partners as compared to Islamic and other religions. The type of place of residence of an individual is not significantly associated with the number of sexual partners an individual has. Individuals living in the rural areas have the greatest proportion with more than two sexual partners. This supports the study by Gyimah et al. (2010) which indicates that a greater proportion of Muslims and rural residents are more likely to have multiple sexual partners due to polygamous marriages.

It is indicated in the Table that the region an individual lives in is significantly associated with the number of sexual partners the person has. Individuals living in the Central Region constitute the greatest proportion of about one tenth of the sample with two or more sexual partners as compared to the other regions. Condom usage is significantly associated with the number of sexual partners an individual has. Those who use condoms have the greatest

proportion with nearly 30% having two or more sexual partners as compared to those who do not use condoms.

4.4 Socio-demographic Characteristics of Males and Paid-for Sex

Table 4 indicates that individuals who paid-for sex constitute almost three per cent of the entire male sample. Non-mobile persons constitute a greater proportion of over 40% of the sample and moderately mobile persons constitute the least proportion of the sample. Individuals with secondary education constitute nearly two-thirds of the sample and those with no education constitute a little less than 13% of the sample. Those who are currently in union constitute a little over 70% and those who were formerly in union constitute less than 10% of the sample. Individuals who use drugs constitute less than one tenth of the sample.

Table 4: The Percentage Distribution of Males' Socio-demographic Characteristics and Paid-for sex in the Study

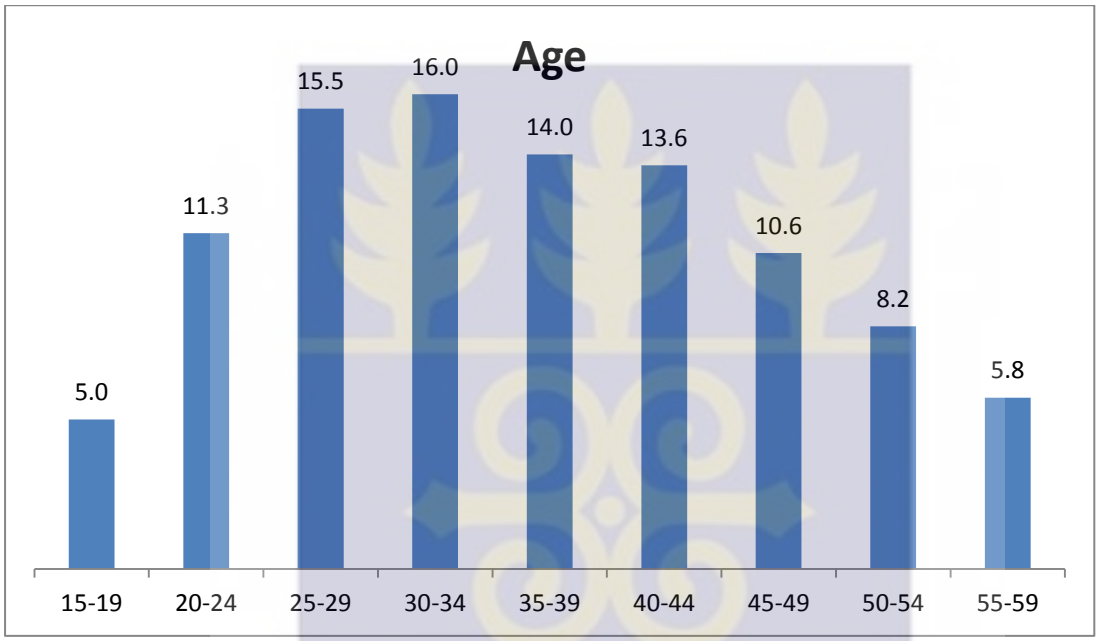
Variable	Percentage
Paid for sex	
No	97.1
Yes	2.9
Mobility	
Non-mobile	40.5
slightly mobile	37.7
moderately mobile	10.5
highly mobile	11.4
Education	
No education	12.3
Primary	12.7
Secondary	62.0
Higher	13.0
Marital status	
Never in union	24.6
Currently in union	70.1
Formerly in union	5.3
Drug use	
Yes	7.1
No	92.9
Type of place of residence	
Urban	52.3
Rural	47.7
Condom use	
No	84.6
Yes	15.4

Source: Computed from GDHS (2014) Data

4.4.2 Age Distribution of the Male Sample

Figure 5 indicates that individuals in the age group 30-34 constitute the greatest that is 16% of the sample and those in the age group 15-19 constitute less than five per cent of the sample.

Figure 5: Percentage Distribution of Males by Age Groups

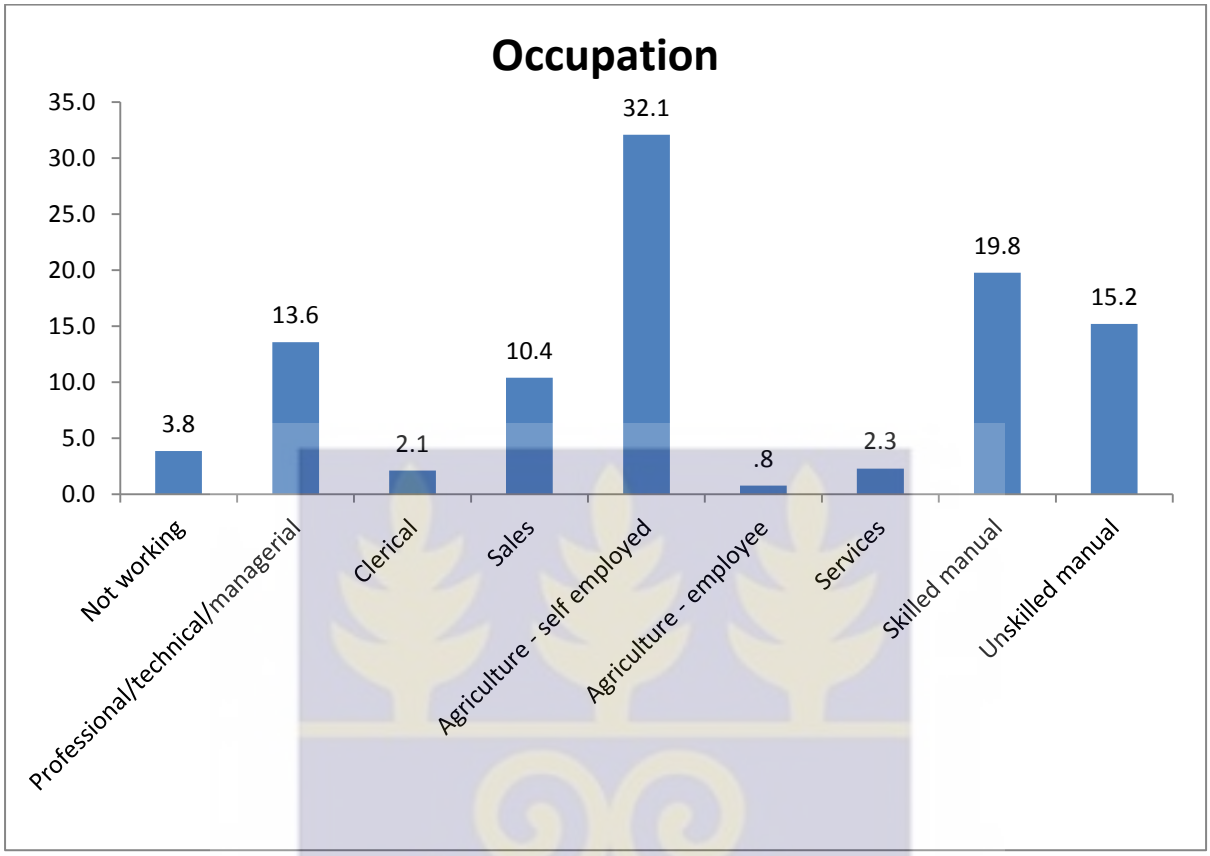


Source: Computed from GDHS (2014) Data

4.4.3 Types of Occupation in the Study Population

Figure 6 indicates that males in the agriculture sector who are self-employed constitute the highest proportion of over 30% of the sample and those who are agriculture employees constitute nearly one per cent of the sample.

Figure 6: Percentage Distribution of Respondents' Occupation

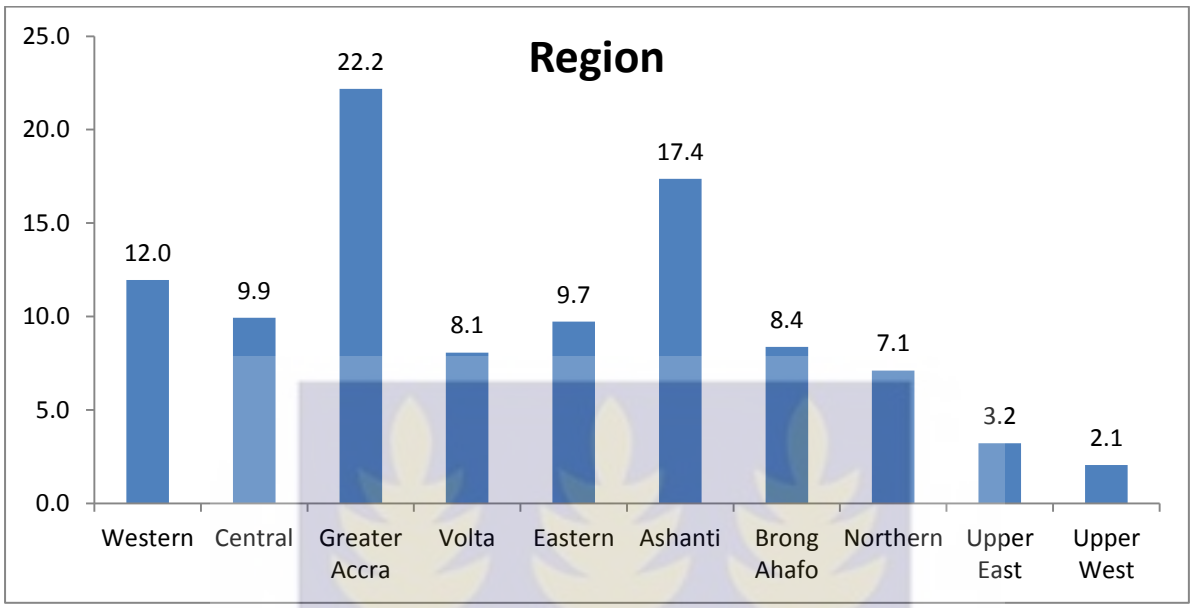


Source: Computed from GDHS (2014) Data

4.4.4 Type of Region of Residence

Figure 7 indicates that males in the Greater Accra Region constitute the highest proportion of the males in the sample (22.2%) and those in the Upper West Region constitute almost two per cent of the sample.

Figure 7: Percentage Distribution of Respondents' Region



Source: Computed from GDHS (2014) Data

4.5 Bivariate Analysis to Test the Association between Mobility, Age, Occupation and Paid for Sex.

Table 5 indicates that mobility is not significantly associated with paying for sex or not paying for sex. Moderately mobile persons constitute a higher proportion of those who pay for sex. Individuals who are in the age group 35-39 have the higher proportion with nearly 4% of the sample and those with the least proportion are those in the age group 50-54 years. There is a decrease in the ages 50-54 for those who pay for sex and it rises again at age 55-59. The Table shows that individuals who are employees in the agriculture sector and those into services have no persons paying for sex. Those in the unskilled manual occupation have the highest proportion of persons who paid for sex.

Table 5: Bivariate Analysis to Test the Association between the Independent Variables and Paid-for Sex

Variable	Paid-for sex (%)	Total (n)
	Yes	
Mobility		
Non-mobile	2.8	1275
Slightly Mobile	2.7	1187
Moderately mobile	4.2	330
Highly mobile	3.1	358
Total (n)	**3.0**	**3150**
$\chi 2$= 2.28	**df=3**	**p-value=0.5160**
Age*		
15-19	2.5	159
20-24	3.7	356
25-29	3.5	488
30-34	2.6	504
35-39	3.6	439
40-44	2.8	428
45-49	3.9	335
50=54	0.4	257
55-59	1.1	182
Total (n)	**2.9**	**3148**
$\chi 2$= 11.48	**df=8**	**p-value=0.1760**
Occupation*		
Not working	2.5	120
Professional/technical/managerial	2.6	425
Clerical	3.0	66
Sales	2.8	325
Agriculture - self employed	3.2	1006
Agriculture - employee	0.0	24
Services	0.0	72
Skilled manual	2.4	620
Unskilled manual	4.2	476
Total (n)	**2.9**	**3134**
$\chi 2$=6.67	**df=8**	**p-value=0.5730**

Table 5: continued…

Variable	Paid-for sex (%)	Total (n)
	Yes	
Education*		
No education	1.8	386
Primary	2.8	400
Secondary	3.5	1953
Higher	1.5	410
Total (n)	**2.9**	**3149**
χ2=6.95	**df=3**	**p-value=0.0740**
Drug use		
No	2.7	2926
Yes	6.7	224
Total (n)	**3.0**	**3150**
χ2=11.80	**df=1**	**p-value=0.0010**
Marital status		
Never in union	3.5	776
Currently in union	2.4	2208
Formerly in union	7.2	166
Total (n)	**3.0**	**3150**
χ2=13.33	**df=2**	**p-value=0.0010**
Ethnicity*		
Akan	3.6	1545
Ga/Dangme	2.3	298
Ewe	3.6	449
Mole-Dagbani	1.9	430
Other	1.6	428
Total (n)	**3.0**	**3150**
χ2=7.33	**df=4**	**p-value=0.1190**
Religion*		
Christian	2.6	2280
Islam	1.7	535
Other	7.2	334
Total (n)	**2.9**	**3149**
χ2=25.21	**df=2**	**p-value=0.0001**
Type of place of residence*		
Urban	2.9	1647
Rural	3.0	1503
Total (n)	**3.0**	**3150**
χ2=0.02	**df=1**	**p-value=0.8950**

Table 5: continued…

Variable	Paid-for sex (%)	Total (n)
	Yes	
Region		
Western	5.6	376
Central	5.1	313
Greater Accra	2.9	699
Volta	2.0	254
Eastern	2.9	306
Ashanti	2.9	546
Brong Ahafo	0.4	264
Northern	0.9	224
Upper East	1.0	101
Upper West	1.5	65
Total(n)	**2.9**	**3148**
$\chi 2$=26.55	**df=9**	**p-value=0.0020**
Condom use*		
No	2.6	2664
Yes	4.5	485
Total (n)	**2.9**	**3149**
$\chi 2$=5.27	**df=1**	**p-value=0.0220**

Total number of respondents: 3150 * Sum of frequencies < 3150 due to missing cases

Source: Computed from GDHS (2014) Data

Table 5 indicates that education is not significantly associated with paid-for sex. Those who have secondary education have the greatest proportion of individuals that paid-for sex and those with higher education have a lesser proportion of individuals who pay for sex. Drug use is significantly associated with paid-for sex. Those who use drugs have the greatest proportion of paid-for sex. The Table further shows that an individual's marital status is significantly associated with paid for sex. Those who are formerly in union have the greatest

proportion who paid for sex and those who are currently in union have the least proportion of individuals who paid for sex. The Table indicates that ethnicity has no significant association with paid-for sex. Akans have a higher proportion of individuals who paid for sex and those in the other ethnicity have the least proportion who paid for sex.

It is indicated in the Table that religion is significantly associated with paid for sex. Muslims have the least proportion (1.7%) of individuals who paid for sex as compared to Christians (2.6%) and other religion (7.2%). The Table further shows that type of place of residence is not significantly associated with paid for sex. Individuals living in rural areas (3%) have the greatest proportion of those who paid for sex.

In the Table region is significantly associated with paid for sex. Brong-Ahafo region has the least proportion of paid for sex and Western region has the greatest proportion of individuals who paid for sex. The Table shows that condom usage is significantly associated with paid for sex. Those who use condoms have the greatest proportion of those who paid-for sex.

4.6 Factors Associated with Risky Sexual Behaviour

4.6.1 Binary Logistic Regression Analyses of the Relationship between Mobility and Number of Sexual Partners

Two models were run at this level. The first model examined the relationship between mobility and number of sexual partners without controlling for any other factors. The first model chi-square was significant, indicating that the model fits the data. The model in Table 6 shows that nearly three per cent of the variations in the number of sexual partners an individual has is explained by mobility. Mobility is significantly associated with number of sexual partners an individual has. There is a positive relationship between mobility and risky

sexual behaviour. Highly mobile individuals are 3.705 times as likely as those who are non-mobile to have multiple sexual partners. Slightly and moderately mobile persons are 1.536 and 3.111 times as likely as non-mobile persons to have two or more sexual partners.

Table 6: Binary Logistic Analyses between Mobility and Number of Sexual Partners

	NUMBER OF SEXUAL PARTNERS	
Indicator	OR 95% CI	P-value
Mobility		
Nonmobile(ref)	1.00	
Slightly Mobile	1.536[1.276,1.854]	<0.001
Moderately mobile	3.111[2.388,4.052]	<0.001
Highly mobile	3.705[2.832,4.849]	<0.001
Constant	-2.995	
Correct % prediction	92.94	
Nagelkerke R	0.031	
Model chi-square(df)=118.7527(3)	sig<0.001	

Source: Computed from GDHS (2014) Data

In the second model, where the individual characteristics were controlled for, mobility is still significantly associated with the number of sexual partners an individual has as indicated in Table 7. The model's chi-square was also significant indicating the model fit the data. The model shows that 28% of the variables in the number of sexual partners an individual has is explained by mobility and the individual's characteristics. Mobility and the number of sexual partners an individual has is positively associated. Age is significantly and negatively associated with the number of sexual partners an individual has. Individuals within the age

group 20-24, 25-29, 30-34, 35-39, 40-44 and 45-49 are 0.73, 0.58, 0.49, 0.43, 0.57, 0.37 times as likely as those in the age group 15-19 to have two or more sexual partners.

Table 7: Binary Logistic Analyses between Mobility, Socio-demographic Characteristics and Number of Sexual Partners

	NUMBER OF SEXUAL PARTNERS (2+)	
Indicator	Odds Ratio at 95% CI	P-value
Mobility		
Non-mobile(ref)	1.00	
Slightly Mobile	1.62[1.32,1.98]	0.0001
Moderately mobile	2.40[1.79,3.22]	0.0001
Highly mobile	2.64[1.94'3.59]	0.0001
Age		
15-19(*ref)*	1.00	
20-24	0.73[0.50,1.05]	0.0870
25-29	0.58[0.39,0.86]	0.0060
30-34	0.49[0.32,0.75]	0.0010
35-39	0.43[0.27,0.68]	0.0001
40-44	0.57[0.37,0.90]	0.0150
45-49	0.37[0.23,0.60]	0.0001
Sex		
Males(ref)	1.00	
Females	0.07[0.06,0.09]	0.0001
Occupation		
Not working(ref)	1.00	
Professional/technical/managerial	1.49[0.95,2.33]	0.0820
Clerical	1.35[0.67,2.73]	0.4030
Sales	1.22[0.83,1.79]	0.3060
Agriculture - self employed	0.86[0.56,1.30]	0.4650
Agriculture - employee	1.83[0.76,4.42]	0.1810
Services	0.98[0.50,1.90]	0.9410
Skilled manual	1.01[0.68,1.51]	0.9580
Unskilled manual	1.06[0.69,1.62]	0.8070
Educational level		
No Education(ref)	1.00	
Primary	1.05[0.72,1.55]	0.7910
Secondary	1.19[0.84,1.68]	0.3330
Higher	0.81[0.50,1.31]	0.3950

Table 7: continued…

	NUMBER OF SEXUAL PARTNERS (2+)	
Indicator	Odds Ratio at 95% CI	P-value
Drug use		
Yes(ref)	1.00	
No	0.53[0.37,0.78]	0.0010
Marital status		
Single(ref)	1.00	
Currently in union	0.74[0.56,0.97]	0.0270
Formerly in union	1.54[1.044,2.28]	0.0300
Ethnicity		
Akan(*ref)*	1.00	
Ga/Dangme	1.23[0.88,1.73]	0.2240
Ewe	1.19[0.87,1.64]	0.2770
Mole-Dagbani	1.21[0.84,1.76]	0.3100
Other	0.91[0.65,1.28]	0.5980
Religion		
Christian(ref)	1.00	
Islam	1.07[0.78,1.45]	0.6870
Other	1.48[1.08,2.02]	0.0140
Type of place of Residence		
Urban(ref)	1.00	
Rural	1.14[0.93,1.41]	0.2140
Region		
Western(ref)	1.00	
Central	1.29[0.93,1.79]	0.1290
Greater Accra	1.07[0.78,1.48]	0.6640
Volta	0.67[0.42,1.07]	0.0900
Eastern	0.53[0.36,0.79]	0.0010
Ashanti	0.38[0.27,0.55]	0.0001
Brong Ahafo	0.74[0.50,1.09]	0.1260
Northern	0.86[0.54,1.38]	0.5370
Upper East	0.71[0.38,1.33]	0.2820
Upper West	0.54[0.25,1.17]	0.1170
Condom use		
No (ref)	1.00	
Yes	0.88[0.68,1.14]	0.3420
Constant	-0.519	
Correct % prediction	92.94	
Nagelkerke R^2	0.280	
Model chi-square(df)	1113.71(41)	sig =0.0001

Source: Computed from GDHS (2014) Data

Table 7 indicates that the sex of an individual is significantly and negatively associated with the number of sexual partners an individual has. Females are 0.073 times as likely as males to have two or more sexual partners. Occupation is not significantly associated with the number of sexual partners an individual has although some studies indicated that an individual's occupation is associated with the number of sexual partners (Anarfi, 1993: Paz Soldan et al., 2007). Although, in the bivariate analysis occupation was significantly associated with the number of sexual partners that an individual has, in the model it was not. This may be due to other variables that have association with the number of sexual partners an individual has.

Education is not significantly associated with the number of sexual partners an individual has. This supports the findings of Akwara et al. (2005) that an individuals' education has no influence on the number of sexual partners. This further implies that an individual's education has no influence on the number of sexual partners. The Table further shows that drug use is significantly and negatively associated with the number of sexual partners an individual has. Individuals who use drug were 0.533 times as likely as those who do not use drugs to have multiple sexual partners. In the Table, an individual's marital status is significantly associated with the number of sexual partners. Those who are currently and formerly in union are 0.736 and 1.542 times respectively as likely as those who have never been in union to have two or more sexual partners.

It is indicated in the Table that ethnicity is not significantly associated with the number of sexual partners an individual has. Religion is positively and significantly associated with the number of sexual partners an individual has. Muslim's and those in the other religion are 1.065 and 1.479 times as likely as Christians to have multiple sexual partners respectively. This confirms the study by Agadjanian (2001) and Takyi & Addai (2003) that individuals in Islamic and the other religion have polygamous marriages therefore, they would have

multiple sexual partners that place them at risk. Type of place of residence is not significantly associated with the number of sexual partners an individuals has.

Region is significantly associated with the number of sexual partners an individual has. Only Central and Greater Accra regions are 1.289 and 1.074 times as likely as those in Western region to have multiple sexual partners. The other remaining regions are less likely to have multiple sexual partners as compared to those in the Western Region. There was no significant association between condom usage and the number of sexual partners an individual has.

In summary, the model indicates that, controlling for all of the other individual characteristics, mobility is significantly associated with the number of sexual partners an individual has. This confirms the hypothesis that states that highly mobile individuals are more likely to have two or more sexual partners as compared to those who are non-mobile.

4.6.2 Binary Logistic Regression Analyses of the Relationship between Mobility, Socio-demographic Characteristics of the Study Population and Paid-for Sex

This model's chi-square is significant, indicating that the model fits the data. The model indicates that 21.4% of the variation in paid-for sex is explained by mobility and the individual's characteristics. Age, occupation, education, marital status, condom use, ethnicity and type of place of residence are not significant predictors of paid-for sex. Table 8 indicates that religion is a significant predictor of paid-for sex. Muslims are 0.976 as likely as Christians to pay for sex while other religions are 2.503 times as likely as Christians to pay for sex. The type of place of residence has no statistical significance with paid-for sex.

Table 8: Binary Logistic Regression Analyses between Mobility, Socio-demographic Characteristics and Paid-for Sex

	PAID-FOR SEX	
Indicator	Odds Ratio at 95% CI	P-value
	Yes	
Mobility		
Non-mobile(ref)	1.00	
Slightly Mobile	0.78[0.45,1.33)	0.3530
Moderately mobile	1.04[0.51,2.11]	0.9120
Highly mobile	0.74[0.34,1.59]	0.4370
Age		
15-19(*ref)*	1.00	
20-24	1.60[0.48,5.36]	0.4470
25-29	1.74[0.51,6.15]	0.3660
30-34	1.31[0.35,4.98]	0.6920
35-39	2.33[0.40,9.00]	0.2220
40-44	1.44[0.36,5.68]	0.6060
45-49	1.79[0.43,7.35]	0.4220
50-54	0.19[0.02,1.70]	0.1380
55-59	0.57[0.09,3.70]	0.5520
Occupation		
Not working(ref)	1.00	
Professional/technical/managerial	1.19[0.30,4.78]	0.0820
Clerical	1.15[0.15,8.88]	0.4030
Sales	0.84[0.21,3.32]	0.3060
Agriculture - self employed	1.78[0.47,6.78]	0.4650
Agriculture - employee	0.00[0.00]	0.1810
Services	0.00[0.00]	0.9410
Skilled manual	0.82[0.22,3.13]	0.9580
Unskilled manual	1.46[0.39,5.42]	0.8070
Educational level		
No Education(ref)	1.00	
Primary	1.24[0.43,3.57]	0.6940
Secondary	1.50[0.57,3.90]	0.4110
Higher	0.69[0.18,2.67]	0.5860
Drug use		
Yes(ref)	1.00	
No	0.47[0.23,0.97]	0.0410
Marital status		
Single(ref)	1.00	
Currently in union	0.71[0.34,1.49]	0.3610
Formerly in union	1.31[0.50,3.44]	0.5900

Table 8: continued…

PAID-SEX (Yes)		
Indicator	Odds Ratio at 95% CI	P-value
Ethnicity		
Akan(*ref)*	1.00	
Ga/Dangme	0.84[0.33,2.15]	0.7200
Ewe	1.66[0.78,3.53]	0.1860
Mole-Dagbani	1.02[0.36,2.87]	0.9770
Other	0.69[0.26.1.86]	0.4640
Religion		
Christian(ref)	1.00	
Islam	0.98[0.40,2.38]	0.9580
Other	2.50[1.39,4.49]	0.0020
Type of place of Residence		
Urban(ref)	1.00	
Rural	1.14[0.93,1.41]	0.2140
Region		
Western(ref)	1.00	
Central	0.81[0.38,1.71]	0.5780
Greater Accra	0.63[0.29,1.41]	0.2640
Volta	0.29[0.09,0.98]	0.0460
Eastern	0.70[0.29,1.67]	0.4180
Ashanti	1.07[0.51,2.23]	0.8590
Brong Ahafo	0.05[0.00,0.74]	0.0300
Northern	0.19[0.04,0.97]	0.0460
Upper East	0.26[0.04,1.80]	0.1710
Upper West	0.22[0.01,3.69]	0.2890
Condom use		
No (ref)	1.00	
Yes	1.41[0.76,2.61]	0.2810
Constant	-3.641	
Correct % prediction	97.24	
Nagelkerke R	0.214	
Model chi-square(df)	160.66(43)	sig =0.0001
Model(df)	12.58(8)	

Source: Computed from GDHS (2014) Data

In summary, mobility was not a predictor of paid-for sex. Other individual characteristics like religion, drug use and region are significant predictors of paid-for sex. Therefore, the hypothesis that a highly mobile person is more likely to pay for sex is rejected.

CHAPTER FIVE

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

5.1 Summary of the Main Findings

In this study, the main objective was to examine the association between mobility and risky sexual behaviour in Ghana. The study used data from the Ghana Demographic and Health Survey (2014). Both the men and women files were used. Risky sexual behaviour was categorised into two: number of sexual partners and paid-for sex. To examine the association between mobility and paid-for sex, the men's file was used. In addition, the men and women files were merged together to examine the association between mobility and risky sexual behaviour in Ghana. Univariate, bivariate and binary logistic regression analyses were used on two levels involving the two dimensions of risky sexual behaviour.

In the univariate analysis of the number of sexual partners an individual has, a little over seven per cent of the sample had two or more sexual partners. Non-mobile individuals constitute nearly 45% of the sample and highly mobile individuals were found to be less than one tenth of the sample. The second section of the univariate analysis that was focused on paid sex indicated that nearly three per cent of males paid for sex. Highly mobile people constitute nearly 11% of the sample and over 40% of the sample were non-mobile.

At the bivariate level, the relationship between mobility and number of sexual partners was tested for significance using the chi-square test at 0.5% significance level. The relationship between individuals' socio-demographic characteristics was also tested. There was a significant relationship between mobility and number of sexual partners. Highly mobile persons had the highest proportion (16.1%) with two or more sexual partners and non-mobile person (4.8%) had the least proportion with two or more sexual partners. Age, sex,

occupation, education, drug use, marital status, religion, region and type of place of residence were all significantly associated with number of sexual partners. In the second section, mobility was not associated with paid-for sex. However, drug use, marital status, religion, region and condom use were significantly associated with paid-for sex.

At the final stage of analysis, three separate models were developed. Two models were used to test the relationship between mobility, individuals socio-demographic characteristics and number of sexual partners. The first model analysed the effect of mobility on number of sexual partners while the second model analysed the net effect of all the independent variables and number of sexual partners. The third model tested the effect of all the independent variables and paid-for sex.

Results from the first model showed that mobility is a predictor of the number of sexual partners an individual has. In the second model, controlling for individuals' socio-demographic characteristics, mobility was still a significant predictor of an individual's number of sexual partners. The hypothesis that highly mobile persons are more likely to have multiple sexual partners was accepted. Age, sex, drug use, marital status, religion and region are all significant predictors of number of sexual partners an individual has.

In the third model, mobility was found not to be a significant predictor of paid-for sex. Drug use, region and religion were found to be significant predictors of paid-for sex. The hypothesis that highly mobile persons are more likely to pay for sex was rejected.

5.2 Recommendations

The findings of this study have implications for both research and policy making. The study shows that religion and drug use are significant predictors of risky sexual behaviour in

Ghana. Therefore, it is recommended that efforts made against drug use would be intensified in order to minimize risky sexual behaviour in Ghana. The Narcotic Control Board should make policies that can reach individuals that use drugs and educate them on the effects associated with the use of drugs on their health and on their sexual behaviour. With education and interventions, the risk associated with drug use may reduce and individual's would be able to leave a healthier life.

In addition, religious sects should incorporate relevant religiosity principles to aid individuals so they do not engage in risky sexual behaviours. Religious leaders in the various sects in the country should educate their members on the risk in engaging in sexual behaviours that can put their members' health at risk. Counselling services can be provided for individuals' who needs it to aim them lead a more chaste life.

It was evident from the study that highly mobile persons were more likely to have two or more sexual partners. Mobile person's sexual behaviour can place them at risk, therefore, it is imperative on policy makers to study the mobile population and incorporate programmes or interventions to reach them on how to practice innocuous sexual behaviour.

5.3 Conclusion

Risky sexual behaviour is a public health concern internationally because it is associated with the spread of sexually transmitted diseases. Studies have shown that disease outbreaks are associated with mobile population. Mobility is often characterised by economic opportunities that pull or push individuals to or out of a region. As individuals move, they move with their characteristics include sexual characteristics, so this study sought to know the relationship between mobility and risky sexual behaviour.

Mobility was found to be associated with number of sexual partners but not paid-for sex. Even though there is no association between mobility and paid for sex, the social networks formed in the localities the mobile people move to create the opportunity for them to engage in risky sexual behaviour without paying for sex. In this case the mobile person may not necessarily engage the services of commercial sex workers but would have social networks that they have sexual relations with and offer money as a gift and not payment for the sexual acts they engaged in.

Religion, region and drug use were found to be significant predictors of risky sexual behaviour. Eastern Region over the years has been characterised with the highest prevalence of HIV but from the study, they are less likely to have two or more sexual partners as compared to Western Region. This may be due to the oil find in Western Region, which has increased the number of individuals moving into that area to seek economic opportunities or because AIDS/HIV related interventions received over the years in the Eastern Region has aid in increasing the number of individuals who practice safe sex. This confirms the study by Doku (2012) that economic opportunities influence an individual's mobility and their susceptibility to engage in risky sexual behaviour and education influence people's attitudes and believe practices.

Religion as a significant predictor of risky behaviour confirms the study by Gyimah et al.(2010) which indicated that an individual's religion has a positive influence on their susceptibility to engage in risky sexual behaviour. Drug use is a significant predictor of risky sexual behaviour, both drug use and sexual behaviour are all risk-taking behaviours. This confirms the studies by Cooper (2005) and Doku (2012).

Age, sex and marital status were significant predictors of number of sexual partners and not paid-for sex. Studies by Zellner (2003), Booysen (2004) and Dinkleman et al. (2008)

indicated that there is an association between education and risky sexual behaviour. However, in this study, education had no link with risky sexual behaviour which supports Meekers (1994) and Akwara et al. (2005) findings. The individuals perceived health belief can explain their behaviour or their need for sexual gratification surpasses their knowledge for safer sex.

The study had some limitations that need to be acknowledged. First of all population-based surveys on sexual behaviour, self-reports and of sensitive questions bearing on sexuality, including sexual behaviour could be biased through under or over reporting (Zaba et al., 2004). Second, since the respondents were asked about the nights they spent outside their homes only, it was impossible to explore the reason for moving and duration of stay among the mobile individuals. Given these limitations, a more comprehensive dataset with several variables on various dimensions of mobility and sexual behaviours supplemented by qualitative interviews could go a long way to clarify the links between reasons for moving, duration of moving and risky sexual behaviour in Ghana.

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