SEXUAL BEHAVIOR AMONG SECONDARY SCHOOL GOING
ADOLESCENT WOMEN IN ZAMBIA

THESIS

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Adolescent fertility is a problem that is urgent in developing countries due to rapid population growth rates. To gain a better understanding of adolescent fertility within developing countries a study was undertaken to examine adolescent sexual behavior among teens within a developing country, Zambia. A self-administered questionnaire was given to secondary school going teenage women in Zambia. The sample population consisted of 503 women between the ages of 12 and 19. The survey was analyzed using both regression and univariate analysis of the data. The findings revealed that a high percentage of the teens have initiated sexual activity; yet few (4.2%) have ever used modern contraceptive methods. Suggestions were made for family planning programs that would involve both parents and their children.
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CHAPTER I

INTRODUCTION

The purpose of this paper is to gain an understanding of sexual behavior among adolescents in Zambia. It is the intent of this research to investigate factors that may affect adolescent sexual behavior. Before addressing adolescent sexual behavior it is important to recognize current fertility rates and population rates within developing countries. These rates are in fact impacted by teenage childbearing. An exploration of these phenomena will reveal the scientific relevance of studying teenage sexual behavior.

Teenage childbearing is a problem that is encountered by both more developed countries and less developed countries (Trent, 1990). The areas of the world that experience the highest population growth rates tend to be those countries that are also afflicted with poverty. One of the factors that contributes to high population rates is teenage childbearing. In fact teenage births account for 10-15 percent of all births (Pillai, 1988). Women who begin bearing children at young ages are able to produce more children than those who postpone childbearing until later in their reproductive years.

According to Pillai (1988) the incidence of teenage
fertility in developing countries is very high. Africa is a
developing region that is characterized by a high population
growth rate in general. On average the population growth
rate in Africa is 3.0 percent, indicating that the
population size will double within 23 years if this rate
continues at such a pace (Stockwell & Groat, 1984). The
growth rate within Zambia is at 3.2 percent (United States
Department of State Bureau of Public Affairs, 1991). The
teen fertility rate in Zambia as of 1980 was 133 per 1000
(Central Statistical Office, 1985). For this reason Zambia
was chosen for this study in hopes to understand more fully
the sexual behaviors of the teenage population within a
developing country, as adolescents contribute significantly
to the population problems experienced by developing
countries today.

The consequences of teenage childbearing can be quite
severe both to the community and to the individual.
Accordingly, it is important to understand the dynamics of
sexual behavior as it is directly related to chances of
bearing children. As noted by Brooks-Gunn and Furstenberg
(1989), "all societies attempt to manage sexuality in order
to regulate fertility." Some countries however, are more
successful than others.

Many developing countries do not recognize high
fertility rates among the adolescent population as
problematic. One reason for this is that family size is
largely a result of social influence. Traditionally agrarian societies have placed high values on the number of children born. The more children born the more people available to work to produce more food and contribute to the well being of the family. Also populations with high mortality rates need high fertility rates to insure the survival of the population. Socially then, value is placed on the family unit and the number of children produced. This is quite different from the United States and other industrialized countries that place high values on individuality. In such cases where fewer family members are indicative of economic benefit and greater allowance of individuality. Many industrial populations also have relatively low mortality rates. In these cases the norm becomes a smaller family size and bearing fewer children.

Zambia is a country that normatively has larger family sizes. On average women in Zambia have 7 children (The World Factbook, 1990). This is indicative of a high value being placed on fertility among women. Using this scheme it is possible to see how culturally it might be more beneficial for women in developing countries of any age to be able to prove that they are fertile. A necessary step to take in order to become pregnant is to become sexually active. Before exploring sexual behavior among teens however, an explanation of the problem of teenage childbearing will be beneficial.
Much of the literature concerning the consequences of teenage childbearing comes from studies in the United States. This is a tremendous drawback to understanding the problem within developing countries. The diversity between developed and developing countries is extreme, however the lack of information from developing countries behooves us to use whatever information is available. The consequences of women reproducing at young ages can be serious. Women who begin childbearing at younger ages face higher chances of poverty, morbidity, and mortality (Trent, 1990; Berganaza, 1989). Chances of being raised in a single parent family are also greater for children born to adolescent mothers. According to Duncan and Hoffman (1990) children born to single parents face consequences of poorer health, troubled cognitive development and are likely to suffer the disadvantages of a childhood spent in poverty. Furthermore, other research suggests that adolescents raised in families with an absent father may be at risk for early pregnancy (Barnett, Papini, and Gbur 1991).

Often teenage mothers fail to receive prenatal care thus contributing to higher infant mortality rates as well as being more likely than non-teenage mothers to encounter health consequences such as anemia and a complicated delivery (Davis, 1989).

The untimely birth of a child can be quite burdensome to both society and to the mother (Davis, 1989). It hinders

Women who begin childbearing at younger ages face lower levels of educational attainment, lower levels of economic attainment, and tend to have higher levels of morbidity and mortality than women who begin childbearing later in life (Trent, 1990). Franklin (1988) notes that women who give birth as teenagers are more likely to raise their children in poverty, receive public assistance, and have family disruption later in life. In a study of children of teenage mothers, Furstenberg et al (1990) notes that, "daughters [of teenage mothers] have bleaker educational and financial prospects than their mothers had, and are less likely to ever have married" (p. 54).

While there are substantial cultural differences between the United States and other countries, adolescent pregnancy can be just as problematic in less developed countries. Moreover, developing countries are continually affected by modernization (Trent, 1990). Developing countries increasingly rely on education for income. Technological skills become more important, and consequently the education necessary for obtaining technological skills
also increases in importance. Thus, traditional means of family support become outmoded and adolescent fertility poses a greater problem. Education and earnings then become the means for the well being of the individual.

Teenage fertility can have economic, health and personal consequences that hinder both a teenage mothers life chances and her child's life chances.

There are several diverse and complex reasons for the increase in out-of-wedlock adolescent pregnancy and childbearing, including earlier sexual maturity and longer periods of time during which young people are together in school and in the labor force prior to marriage. In developing countries, rapid urbanization has helped to weaken traditional social control mechanisms that deter premarital sexuality. Cultural restrictions such as chaperonage and sexual segregation, for example may no longer be possible or practical (Stockwell et al., p.182, 1984).

Specifically then, attention should be given to the onset of early sexual behavior among teens, as there is a direct relationship between sexual intercourse and likelihood of becoming pregnant. Lundberg and Plotnick (1990) have identified a series of events that persons go through in the transition from virginity to premarital childbearing. This series of events includes the choices that a person may make which may be, "implicit or explicit, active or passive." The choices a young woman makes once sexual intercourse has been initiated are, "whether to initiate and continue sexual intercourse; whether to practice contraception and if so how diligently to use it; whether to carry a pregnancy to term
or abort it; whether to marry the father (if this is a viable option), place the child up for adoption, or raise the child as an unmarried mother" (Lundberg et. al, 1990).

One must be sexually active in order to become pregnant however, one may not become pregnant while sexually active. There may be a factor of using birth control or one or both partners may be infecund. The information regarding fertility among teens indicates that birth control and infecundity do not play great roles. While the teen may not always choose to become sexually active our focus will be concerned with teens attitudes of and involvement in sexual activity. Therefore, identifying those social factors that increase the chances of sexual involvement is of concern to this research. A description of the characteristics that portray the adolescent population is equally important.

In order to accomplish this task, a sample was drawn from secondary school going teenage women in Zambia. The term "teenager" will be defined as those young women between 12 and 19 years of age. Intensity of sexual activity will be defined as the reported frequency of engaging in kissing, fondling, intercourse, or a combination of any or all of the three. The data for this study was collected by Dr. Vijayan Pillai of the University of North Texas during the summer of 1990.

Being aware of the personal consequences of childbearing at young ages is important. Equally important
is the impact teenage childbearing has on the population, especially considering that many developing countries faces severe problems with taking care of a population that has the potential of doubling within one generation. Therefore this study intends to gain better insight into the behavior that adolescents engage that leads to such problems.
CHAPTER II

LITERATURE REVIEW AND HYPOTHESES

Introduction

Teenage sexual behavior is an area widely ignored. This is due to the delicate nature of the issue. It is necessary to employ a theoretical perspective to understand the relevance of certain questions regarding this topic. This chapter explains how certain variables affect teenage sexual behavior. This chapter also presents a list of hypotheses as they coincide with the literature.

Theoretical Perspective

A classic study by Kingsly Davis and Judith Blake (1956), identified a number of factors which intervene between social structural factors and fertility (Cited in Weeks, 1989). These factors are called "intermediate variables".

These are the variables through which any social factors influencing the level of fertility must operate. Davis and Blake point out that there are actually three phases to fertility: intercourse, conception, and gestation (Weeks, p. 91, 1989).

Of interest to this study is the first of the three variables, "intercourse". Davis and Blake (1956) define six separate variables that can be identified with intercourse. These variables are as follows: "1) age of entry into sexual
union; 2) permanent celibacy: the proportion of women never entering sexual unions; 3) amount of reproductive period spent after or between unions..." and "4) voluntary abstinence; 5) involuntary abstinence.... 6) coital frequency..." (p. 212).

Davis and Blake were concerned with age of initiation into sexual "unions" because the younger a woman is in her reproductive life when she begins childbearing the greater number of children it is possible for her to have. Age is a central issue to the present study as it focuses on adolescent women. According to the model created by Davis and Blake this variable has a positive score because it has the potential of increasing fertility rates.

On the other hand, permanent celibacy has a negative effect on fertility and is categorized by a negative score. Likewise, amount of reproductive period spent after or between unions has a negative affect on the fertility rate. In either the case of permanent celibacy or reproductive periods spent without sexual unions pregnancy is not possible.

The last three variables are those that govern the exposure to intercourse once a union is established. Voluntary abstinence could be chosen for several social reasons. Davis and Blake identify four different reasons: post-partum, occasional, gestational, and menstrual. Religious involvement is also an example of social
constraints on sexual behavior. In addition to social factors that encourage people to choose abstinence, there is the factor of involuntary abstinence. This could result from impotence, illness, or temporary separation.

Finally, and another central concern of this research, is coital frequency. Davis and Blake did not give a detailed outline of this variable. Their reason was that the topic was "too private" and the research was to sparse and diverse. This paper is concerned with those variables that affect the intensity of sexual behavior among teenage women.

Specifically then, this research is concerned with the social factors that affect adolescent sexual behavior. The article by Davis and Blake (1956) has identified important variables concerning intercourse. Other research is useful in describing sexual behavior among teens.

A series of activities that teens engage in before the initiation of sexual intercourse have been identified. "Couples usually embrace and kiss first, move on to fondling and petting next, and subsequently engage in more intimate behaviors that include sexual intercourse [(McCabe and Collins, 1984) Cited in Miller and Moore, 1990, p. 1025]." According to Brooks-Gunn and Furstenberg (1989), "Most teens do not consciously plan to become sexually active, and they often do not foresee their first sexual experience" (p.251).

Age at first intercourse appears to be low for many
teens. According to a study of eighth grade students in Maryland, Alexander et. al (1989) found that 61 percent of males and 47 percent of females had already engaged in sexual intercourse. "Data from the 1988 National Survey of Family Growth indicate that by age 15, approximately one-quarter of females have had sex; by age 19 four out of five females have had sexual intercourse [(London, Masher, Pratt, and Williams, 1989; Pratt, 1990) cited in Miller and Moore, p.1026, 1990]." In a study of teens in Kenya by Ajayi et. al (1991) thirty-nine percent of the teens surveyed reported already having had intercourse. The mean age at first sex for the Kenyan teens was 13.6 years of age. In a similar study by Lema (1990) 23.8 percent of secondary school-going adolescent females in Nairobi, Kenya reported having already had sexual intercourse; most had first intercourse between the ages of 14-17 and 4.1% had experienced intercourse before the age of ten. Likewise a study of Nigerian adolescents by Nichols et. al (1986) revealed that 59.9 percent of secondary school going males and 38.4 percent of secondary school going females had reported already having had sexual intercourse.

Educational Aspirations

Teens with higher educational expectations tend to postpone sexual activities to later ages. The research has indicated that teens with high academic ability and educational aspirations are more likely to postpone sexual
intimacy to later ages (Rosenbaum and Kandel, 1990). Similar findings by Hofferth & Hayes (1987) indicate that teens who do not do well in school and who have low educational aspirations are more likely to engage in sexual intercourse than those doing better in school (cited in Brooks-Gunn et al., 1989). In a study of adolescents in Mexico City, Pick de Weiss et al. (1991) found that acceptance of sociocultural and parental norms and rules, school aspirations, perception of girlfriends' attitudes, and having talked with mother about sex all significantly postponed sexual intercourse.

For those teenagers in developing countries that have an opportunity to receive some level of higher education an unintended pregnancy can be quite traumatic. Education is viewed as a means to obtain higher socioeconomic aspirations. In many cases it will mean the end of a young woman's chances of obtaining a higher education. According to the United States Department of State Bureau of Public Affairs (1991) only grades 1-7 are compulsory for students in Zambia and less that 50% of the youth attend those grades. Once primary school is completed less than 20% of those students are admitted to secondary school. Having the opportunity to attend secondary school then is a monumental achievement. The students are aware of how important remaining in school is (Nichols et al., 1986).

In both more developed and less developed countries,
pregnancy often means termination from school either by expulsion or by necessity. Nichols et.al (1986) revealed that among Nigerian adolescents the fear of dismissal from school and consequently the loss of opportunity concerning socioeconomic mobility was strong enough to influence young women to seek illegal abortions. Thus, many young women experienced serious health consequences. Several even died due to improper medical treatment. The threat of loss of educational chances places a severe strain on adolescents in developing regions.

Academic ability and educational expectations are very important. Those teens that perceive themselves as capable students and those who have higher educational expectations tend to postpone sexual behavior. These studies suggest three related hypotheses.

H1) Net of other factors, it is expected that educational aspirations will be negatively related to intensity of sexual behavior.

H2) Net of other factors, it is expected that teens perception of their own academic ability will be negatively related to intensity of sexual behavior.

H3) Net of other factors, it is expected that higher scores in school will be negatively related to intensity of sexual behavior.

Education is also an important tool for the individual to use for purposes such as economic well being, and
consequently life chances. Educational ability is an important variable in regard to sexual behavior. However, the educational system itself can be viewed as a facet of modernization. Modernization plays an important role with regard to sexual behavior.

Modernization

An interesting study was undertaken by Worthman and Whiting (1987) of a tribe in Africa called the Kikuyu. The study was concerned with adolescent sexual behavior and premarital pregnancy rates within the community. Results demonstrated that the introduction of western ideology completely changed the normative mating patterns of the youth within this community. The land that the Kikuyu tribe lived on was valuable for purposes of industrialized expansion. Outside influence brought, among other things, Christian missionary education. Before colonization took place the Kikuyu people had a practice that regulated adolescent sexual behavior. This practice included a ritualistic behavior that allowed the young men and women to kiss and fondle but never have intercourse. Participants took this behavior seriously with the adolescent group sanctioning any violators. Due to lack of understanding of the practice of sexual socialization, the outside colonizers prohibited such "dating" practices. As a result, the social restrictions among the adolescents no longer constrained sexual behavior. The norms of mating behavior which defined
appropriate sexual activity no longer existed. Of course the Christian influence intended for no sexual contact to take place outside of marriage. However due to the lack of social control, sexual intercourse was engaged in at earlier ages (see Worthman and Whiting, 1987).

The result of modernization within the Kikuyu community was an increase in premarital pregnancy rates as well as pregnancy at younger ages. The normative means of regulation of sexual contact were disrupted in this case and the youth were exposed to situations that facilitated sexual intercourse at younger ages. The fourth and fifth hypotheses are related to this aspect of modernization. It is expected that as opportunity for involvement between genders increase sexual involvement will increase. This can be coupled with the introduction of new definitions of socially acceptable dating patterns.

One focus of this paper is the opportunity that the teens have for sexual contact. This opportunity includes two facets. The first opportunity results from the teen living away from home. Consequently, there would be greater opportunity to become involved without familial supervision or input. The second opportunity results from attending a co-educational school. In such a case there is greater opportunity for young men and women to interact.

Among many people in developing countries and among the Kikuyu in specific, the survival of the community is
beginning to depend on a "westernized" education for both men and women. Within the Kikuyu community the women are expected to obtain an education and job which will be used as an advantage in the marriage market. An untimely pregnancy, specifically a young woman with no husband, is not valued. It is evident, at least in this case, that modernization has changed the value system of the community and thus redefined teenage fertility as severely problematic. Consequently, pregnancy of teenage women is seen as onerous as it interferes with a young woman’s earning potential and severely curtails her life chances.

The emphasis of this section is the affect that modernization has on the teens lifestyle. Specifically, the teens begin to have greater opportunity to interact with other young men at earlier ages. This research is interested in the affect that male female interaction has on sexual behavior. Hypotheses 4 follows:

H4) Net of other factors, a positive relationship is expected between intensity of male-female interaction and intensity of sexual behavior.

The Peer Influence

The effect that modernization has had on developing countries is debatable. Trent (1990) argues that while modernization, "engenders important value changes" that encourage smaller family sizes and the need for fewer children, she also notes that modernization encourages
permissive attitudes. Stockwell et al. (1984) notes that, "Within those areas of developing countries where women are most exposed to modern ideas, preferences are also expressed for the smallest family sizes" (p. 147). However, modernization and/or urbanization can engender new value changes and create peer groups that facilitate sexual involvement at younger ages (see Trent, 1990; Worthman 1987).

Biological changes are associated with initiation into sexual activity. Puberty and hormonal factors are thought to influence sexual behavior either by influencing sexual arousal within the individual experiencing these changes or by socially indicating sexual capability. Perceived peer group behavior plays an important role in social factors regarding sexual behavior (Brooks-Gunn and Furstenberg, 1989; Miller and Moore, 1990). Controversy exists over the extent of the affect that hormonal changes have on sexual behavior among teens. However, greater evidence that social influences that accompany the age of puberty, have an impact on sexual behavior. These social influences are greatest among the peer group.

Research suggests that teens modify their behavior based upon what they perceive their peers behavior to be rather than what their peers behavior actually is [(Newcomer, Gilbert, and Udry, 1985) Cited in Miller and Moore, 1990]. The peer group may even be more influential
Adolescent sexual behavior is strongly influenced by cultural norms. Visually apparent changes in secondary sexual characteristics are signals to the individual and to others of the adolescent's sexual potential, but sociocultural factors determine how that potential will be expressed.... (Miller and Moore, 1990, p. 1029)

Biglan et al. (1990) note that peers seem to encourage adolescent sexual behavior, however the behavior may not be consistent with a teen's perception of their friends' behavior. The fifth hypothesis is:

H5) Net of other factors, there will be a positive relationship between peer influence and intensity of sexual behavior.

Religiosity

Studer and Thornton (1987) argue that "As the socialization agent traditionally held responsible for the prescription of values and standards of sexual behavior, the church is likely to play an important role in the choices of many young people regarding their sexual activity" (p. 117). In regard to teenage sexual behavior religion acts to discourage premarital sexual relations. According to Forste and Heaton (1988) " Teens with no religious affiliation consistently initiate first intercourse earlier than teens who belong to a religious group" (p. 258). Christianity, for example negatively sanctions sexual contact outside of marriage. However, research indicates that type of religion
is less important than attendance of religious services.

The importance of religion and frequency of attendance at religious services both have been found to be positively associated with age at first intercourse and negatively related to frequency of sexual activity (Zelnik, Kanter, and Ford, 1981). The extent to which the religious doctrine of any particular church is an influence on an adolescent's sexual behavior seems to be related to the individual's exposure and expressed commitment to the church as evidenced by both behavioral and attitudinal dimensions [cited in Studer and Thornton, 1987].

This study is interested in the role that religiosity plays on sexual behavior through family influences. Biglan et.al (1990) notes that adolescents sexual behavior are influenced by familial environment. One of the interests of this paper is to determine whether the parent's religious attendance is associated with the teens sexual behavior. Thus, hypothesis 6 follows:

H6) Net of other factors, increased religiosity of the teens parents will have a negative affect on intensity of the teens sexual behavior.

Mother-daughter Relation

As noted by Miller and Moore (1990) social institutions control sexual behavior in a number of ways. The institution of the family provides guidance in regard to normative sexual behavior and constrains sexual behavior through informal controls. Many researchers are concerned with the manner in which the family works to influence the
sexual behavior of teens. In specific attention is given to the manner in which parent-child relations affect teenagers sexual behavior (Miller et.al, 1986; Barnett et.al, 1991; Weinstein and Thornton, 1989; and Casper, 1990). Weinstein and Thornton (1989) found that children with close relations with their mothers were more likely to have attitudes and behavior consistent with that of their mother's own attitudes than children with distant relations." Further, they conclude that, "the mother-child relationship per se does not influence children's views or behavior but only acts to permit or hinder the extent to which parental values and standards of behavior are transmitted to children (Weinstein and Thornton, 1989)." Hypothesis 7 deals with this aspect of mother-child relations.

H7) Net of other factors, it is expected that there will be a negative relationship between teens perceptions of the quality of their relationship with their mother and their intensity of sexual behavior.

Mother-daughter Communication

Further research concerning parent-child communication by Newcomer and Udry (1985) found that parental attitude and communication did not affect teenager's sexual behavior or contraceptive use. Similar findings by Casper (1990) suggest that there is no relationship between familial interaction and teenage sexual activity. This is not to say that the family does not have a great impact on discussion
making among adolescents. According to Furstenberg et al. (1985) the lowest accounts of teen pregnancy are found among adolescents who receive sexual education both from the family and in the school. Pick de Weiss et al. (1991) found that among other variables, acceptance of parental norms and rules and having talked with mother about sex were related to not engaging in sexual intercourse. This leads to hypothesis 8.

H8) Net of other factors, it is expected that there will be a negative relationship between those teens who report their mother as being their most important source of sexual information and the teens intensity of sexual behavior.

Finally, the general quality of the family relationship is believed to have an effect on the sexual behavior of the teen. This research focuses primarily on the parents. Thus, hypothesis 9 is:

H9) Net of other factors, a negative relationship is expected between the quality of the parental relationship and intensity of sexual behavior. That is the higher the quality of the relationship between the parents and the teen the lesser the intensity of sexual behavior.

Adolescent Attitudes

The attitudes that teens hold about sexual behavior may not coincide with their sexual behaviors. According to Lema (1990) 77.8% of the secondary-school going girls did not
believe that school going girls should be engaged in sexual behavior. However it is uncertain if those respondents were sexually active or not. A study of Guatemalan youth by Berganza, Peyre, and Aguilar (1989) found that while 38% of the young women had reported already having had sexual intercourse, 85% believed that it was okay to engage in sexual intercourse if both partners were in love. Ajayi et.al (1991) found in a study of Kenyan teens that 32% of the females approved of sexual behavior yet 39% of all teen girls had already had sexual intercourse (about 76% of 16-19 year old women had already had sexual intercourse). Similarly in the study of Nigerian youth by Nichols et.al (1986) only 19-23% of adolescent females approved of premarital sex yet over nearly all reported being sexually experienced. From this literature it appears that sexual behavior and attitudes are not always consistent. This leads to hypothesis 10.

H10) Net of other factors, it is expected that there will be a positive relationship between the degree of permissiveness that a teen reports toward sexual behavior and reported intensity of sexual behavior.

Control Variables

Finally, there are certain variables that are expected to bear some affect on sexual behavior regardless of other factors. These variables are the control variables. These are factors such as the parents age, the age of the teen,
the age of the teen's boyfriend if the teen has a boyfriend, and the socioeconomic status of the teen's family. The final two hypotheses follow:

H11) Net of other factors, a positive relationship is expected between the teen's age and the intensity of sexual behavior.

H12) Net of other factors, a positive relationship is expected between the age of the teen's boyfriend and intensity of sexual behavior.

H13) Net of other factors, a negative relationship is expected between the socioeconomic status of the family and intensity of sexual behavior.

Conclusion

An article by Davis and Blake (1956) set the theoretical basis for examining variables that influence teenage sexual behavior. The literature indicates that teens go through a series of stages in transition from virginity to sexually activity. Age at first intercourse seems to be low for teens in both more and less developed countries.

According to the review of the literature educational aspirations, perceived academic ability, reported scores in school, interaction between males and females, peer group influence, parents religiosity, and perception of mother-child relationship, mother-child sexual communication, parents relationship, attitudes regarding sexual behavior,
age of teens and their boyfriends, and socioeconomic status are hypothesized to be related to sexual behavior.

A positive relationship is expected between interaction between males and females, peer influence, teens age, teen's boyfriends age and permissiveness of attitudes regarding sexual behavior. A negative relationship is expected between educational aspirations, academic ability, parents religious attendance, perception of mother-daughter relationship, mother-child sexual communication and quality of parental relationship.
CHAPTER III

METHODOLOGY

This chapter will be composed of two parts. The first section of this chapter will be an explanation of the operationalization of the variables. The dependent variable will be discussed first followed by discussion of the operationalization of the independent variables. The second section of this chapter will explain the procedures used to gather data on the topic.

Operationalization of the Dependent Variable

The dependent variable is "intimacy of sexual behavior". The variable was measured using a question that allowed for a wide range of valuable information. The instructions for the question follows: "The occasions you were out with your boyfriend during the last two months, how often did he involve you in the following?" The question then gives a list of possible sexual behaviors. The behaviors were broken into the following categories: "kissing only", "fondling only", "intercourse only", "kissing and fondling", "fondling and intercourse", "kissing, fondling, and intercourse" or "none of the above". The respondents were then given a choice of responses. The responses are as follows: "very often", "often", "somewhat often", "rarely", and "very rarely". The respondents were
asked identify how often they were involved in each of the sexual behaviors. A scale was developed that gave a score of 5 for responses of "very often", 4 for responses of "often", 3 for a response of "somewhat often", 2 for a response of "rarely", 1 for a response of "very rarely", responses of none of the above were scored as zero and those that were not answered were coded as missing. The scores were then added together to create a variable of sexual intensity.

As was noted earlier in the methods section the nature of this question is very sensitive. In order to maintain the greatest amount of information a scale was used. However, there are a few limitations that should be noted. The statement does not consider that it is possible that the teen may not have been out in the last two months and if the teen had been it does not tell how many times in the last two months the teen had been out on a date. Another drawback that there was no allowance for the response "never". In order to maintain the greatest amount of information it was assumed that a missing score meant that the teen did not engage in that behavior. When no score was reported for any of the questions the question was reported as a missing case. An unavoidable limitation due to the nature of the question there is that there is no way to know how often is "often" to different respondents. Finally, a wide range of answers could qualify the same score.
However, this variable does enable an exploration into the extent to which the teens are interacting in sexual behavior; whether it is with great intensity or no intensity at all.

Operationalization of the Independent Variables

For testing purposes (to be discussed in the next chapter) the independent variables are separated here into categories. For organizational purposes the independent variables will be operationalized according to these categories.

Control Variables

Mothers age will be measured by using a question that asked what the age in years of the teens mother is. Any questions not answered will be coded as missing data.

Fathers age will be measured by using a question that asked what the age in years of the teens father is. Any questions not answered will be coded as missing data.

To determine the socioeconomic status of the family a question will be used that asked whether the teen believed their parents were "very rich", "rich", "neither rich nor poor", "poor" or "very poor". A score of 1 will be given to a response of "very rich", a score of 2 will be given to a response of "rich", a score of 3 will be given to a response of "neither rich nor poor", a score of 4 will be given to a response of "poor" and a score of 5 will be given to a response of "very poor". If a response was not given than
the question will be coded as missing data.

The teens age will be operationalized by using a question that asked how old the teen is. A recode statement will be used to change the coding from the year a respondent was born to number of years old. Any respondent that is not between the ages of 12 and 19 will be omitted from the analysis.

Parents religious participation was measured by a question that asked how often per week the teens mother attended church and how often per week a teens father attended church. The responses included: "3 to 4 times a week", "2 to 3 times a month", "once a week", "once a month" or "never". These statements were recoded such that "3 to 4 times a week" equaled 1, "once a week" equaled 2, "2 to 3 times a month" equaled 3, "once a month" equaled 4, "never" equaled 5 and no response was coded as missing data. If statements were used that added together the scores of both parents and divided by two. If there was only a response for mother or only a response for father then the score was not divided.

Male-female Interaction

It is believed that the type of school the respondent attends will have an effect on their sexual behavior. There were seven different schools that the respondents attended. However, type of school attended is not an interval level measure and therefore violates one of the assumptions of the
In order to use dummy variables new variables must be developed. In the case of this study, school is the variable that is of interest. Each school is considered a new variable. Instead of having one variable that includes all schools there will be a new variable for each school. The new variables will either have a score of one or zero. Each time the computer reads a questionnaire it assigns a value of one to the variable name that coincides with each school. Otherwise the variable is assigned a score of zero. One of the variables is then left out of the regression equation as the constant variable. When interpreting the data it must be remembered that the scores for the dummy variables are in comparison to the reference variable. The school in this study that was used as the reference group was Matero. Matero is an all girls non-boarding school. It is expected that this school allows the least opportunity for either male-female interaction.

Two other questions will be used for male-female interaction. One question asked how easy the respondent felt about mixing with boys. The second question asked how easy the respondent felt about making friends with boys. The responses for both questions ranged from "very easy"
to "not easy". A response of "very easy" will be scored as 1, a response of "easy" will be scored as 2, a response of "so-so" will be scored as 3 and a response of "not easy" will be scored as 4. For each question, failure to respond will be scored as missing data.

**Education**

Educational aspirations will be measured by using a question that asked what the highest level of education was that the respondent expected to receive. The responses included, "junior secondary", "senior secondary", "college diploma", "university", "high university", "none", or "other". No respondents chose "other" as their answer. The responses were recoded on a scale from lowest educational expectations to highest. The order is as follows: high university= 6, university= 5, college diploma= 4, senior secondary= 3, junior secondary= 2, none= 1, and other and missing responses were coded as 9 which was then designated as a missing value.

Perception of academic ability was measured by a series of questions that asked how well the student perceived her ability with regard to school work. Respondents were asked how true each of the following statements were: "I am good at school work", "I do school work quickly", "I remember easily", "I can understand what I read easily", and "I have little difficulty figuring out answers". The respondents could choose any of the following statement: "very true",
"true", "somewhat true", "untrue" or "definitely untrue". Any "very true" response was recoded as a score of five. Likewise, "true" was scored as 4, "somewhat true" was scored as a 3, "untrue" was scored as a 2, "definitely untrue" was scored as a 1 and those questions not answered were coded as missing data. An additive index was then compiled using a compute statement that added together all of the values of the responses given for these questions. The scale for these questions could range as high as 20 or as low as 5 depending on the response given for each question.

Reported academic scores was operationalized by using a question that asked how well the student performed on her last examination. The scores ranged from 1, being highest to 7 which indicated failure. If a response was not given it was coded as missing.

Peer Influence

The influence that teen's friends have was measured by using a question that asked how difficult it was for teens to say no to their friends. The statement read, "I usually find it difficult to say 'no' to my friends because I do not like to hurt their feelings. The responses were, "very true", "true", "somewhat true", and "not true". If a response was not given the question was coded as missing. The response "not true" was scored as 1, "somewhat true" was scored as a 2, "true" was scored as a 3 and "very true" was scored as a 4.
Familial Influence

To measure the teens perception of their relationship within the family, a question was used that asked how the teens would describe their relationship with their mothers. The responses included: "very friendly", "friendly", "unfriendly", or "very unfriendly". The responses were recoded as follows: "very friendly" equaled 1, "friendly" equaled 2, "unfriendly" equaled 3, "very unfriendly" equaled 4, failure to answer was coded as missing data.

Mother-child sexual communication was examined by using two questions. The first question asked how the mother provided the teen with information on sexual knowledge. The responses included: "provides when asked to", "does it on her own", or "does not provide". These responses were coded as follows: "does it on her own" equaled 1, "provides when asked to" equaled 2, and "does not provide" equaled 3. The second question asked how easy do you find it to discuss sexual matters with your mother. The responses included: "very easy" coded as 1, "easy" coded as 2, "somewhat easy" coded as 3, and "not easy" coded as 4. The two scores for either question were then added together and a new variable was created. Questions that were not answered were coded as missing data.

Another indicator of the family relationship will be measured by using a question that asked how the teen perceived the relationship between her parents. The
responses included: "they quarrel openly most of the time", "they quarrel openly sometimes", "they rarely quarrel openly", "they never quarrel openly", "divorced", or "separated". The responses will be coded such that "never quarreling openly" will be coded as 4, "quarreling rarely" will be coded as 3, "quarreling sometimes" will be coded as 2, and "quarreling openly most of the time" will be coded as 1. A question that measures the degree that the respondent accepts parents advice will be used. The respondents were asked to respond that they either "strongly agreed", "agreed", "neither agreed nor disagreed", "disagreed" or "strongly disagreed" with the following statement: "I have often gone against my parent/guardians advice". The responses will be coded as follows: "strongly agree" equals 1, "agree" equals 2, "neither agree nor disagree" equals 3, "disagree" equals 4, and "strongly disagree" equals 5. If a response was not given the question will be coded as missing data.

A question will be used to measure the teens perception of getting in trouble for behavior expected of females. As in the question above, the respondents were asked to respond that they either "strongly agreed", "agreed", "neither agreed nor disagreed", "disagreed" or "strongly disagreed" with the following statement: "I have at times been in trouble with my parents/guardians because of behavior expected of a girl". The responses will be coded as
follows: "strongly agree" equals 1, "agree" equals 2, "neither agree nor disagree" equals 3, "disagree" equals 4, and "strongly disagree" equals 5. If a response was not given the question will be coded as missing data.

Finally, a question will be used to determine the teens attitudes regarding sexual behavior. It is believed that the teens attitude is a function of their family environment. The question to be used asked how much the respondent either agreed or disagreed with the following statement: "sexual contact before marriage is not shameful". The responses will be coded such that "strongly agree" equals 1, "agree" equals 2, "neither agree nor disagree" equals 3, "disagree" equals 4, and "strongly disagree" equals 5. If a response was not given the question will be coded as missing data.

Methods of Gathering the Data

For the purpose of investigating teenage sexual behavior in Zambia a sampling strategy was devised that used as its population secondary school going girls in urban areas. A self-administered questionnaire was chosen as the data gathering method to be used. The study was designed originally with the intent of gathering information on a national level. However, there were two major constraints that influenced the sampling procedure. First, available financial resources limited the sample size to fewer schools than had originally been intended. These schools were
located in the Lusaka-central and Copperbelt provinces. These areas are best categorized as urban areas within Zambia, thus limiting the range of generalizability.

The second constraint concerned the unwillingness of schools to participate in the survey. It must be recognized that the topic is rather controversial in nature. Several of the schools in the Lusaka-central and Copperbelt provinces refused to participate in the study.

Letters were sent to all of the secondary schools in the two provinces that explained the intent of the survey. The all boys schools in these areas were excluded. The letters sought permission from each of the schools principals to conduct the survey within their school. Fifteen percent of all of the schools within these regions refused to participate.

A list was compiled of schools within the Lusaka-central and Copperbelt provinces who expressed willingness to participate in the survey. From this list seven schools were randomly selected. These schools included Mindolo, Ndeke, Matero, Naboye, Arakan, Nkana, and Chipembi.

There are important distinctions to be recognized between the different types of schools in Zambia. The schools can be divided into three categories: all girls school, all boys school, or co-educational. Each of the schools may then be classified as either a boarding school or a non-boarding school. As was previously stated the all
boys schools were excluded from consideration in this study. The schools in our sample are categorized as follows: Mindolo, Ndeke, Naboye, Arakan, and Nkana are co-educational, non-boarding schools, Matero is an all girls, non-boarding school and Chipembi is an all girls, boarding school. Mindolo, Ndeke, and Nkana are located in the Copperbelt province and Matero, Naboye, Arakan and Chipembi are located in the Lusaka-central province.

Finally, from each of the selected schools a register of enrolled female students within forms 3, 4, 5, 6, and 7 (equivalent of grades 8, 9, 10, 11, and 12 in the United States) was obtained. Approximately 20 percent of the students were randomly selected from each form. All students were guaranteed complete anonymity and confidentiality. If a student that was selected chose not to participate a new student was selected. The total sample size equaled 528 female secondary school going students. The respondents ranged in age from 13 to 21 with a mean age of 17.

Once the sample was identified, the questionnaire was administered. The questionnaire contained 64 questions and took about 45 minutes to complete. Groups of respondents were seated together in large rooms and the questionnaires were administered. A researcher was available at all times to answer questions when needed.

It should be noted that not all Zambian youth attend
secondary school. This survey is not intended to be generalized to the entire population of Zambian teens. Only those families with adequate resources are able to send their children to secondary school. Seven years of school are mandatory with an attendance rate of less than 50 percent. Less than 20 percent of those who graduate from primary school are admitted to secondary school (U.S. Department of State Bureau of Public Affairs, 1991). Also, the areas that the schools in this study are located in are typically urban areas. It should be noted that cultural differences could exist between those areas that are generally regarded as rural and those that are generally regarded as urban.

This data was collected by Dr. Vijayan Pillai at the University of North Texas, Summer 1990.
CHAPTER IV

ANALYSIS OF THE DATA

Knowing that teens are engaging in sexual activity at young ages and that large percentages of teens are sexually active, describing the population of Zambian teens with regard to sexual behavior is important. Also of importance is identifying those factors that affect sexual activity among adolescent women. The analysis of the data is intended to perform two tasks. First, a univariate analysis of the data will provide an overview of Zambian adolescents' extent of knowledge, attitudes, and practices regarding sexual behavior. The second objective is to test the hypotheses regarding sexual behavior among the sample population. After a descriptive analysis is performed a regression model will be used to test for statistical significance of the impact that various variables have on the intensity of sexual behavior.

Characteristics of the Study Population

The study population consisted of secondary school-going teens in Zambia. All of the respondents were all unmarried females. The teens were between the ages of 12 and 19. The total sample population for this study was 503.

Importance of Marriage and Having Children

When asked how important marriage is, 46.2% of the
respondents said it is "very important", 22.8% of the respondents said it is "important", 16.9% of the respondents said it is "somewhat important" and 14.2% of the respondents said that it is "not important".

Most teens believed that the best age to marry was after the age of twenty. Only two respondents indicated that the best age to marry is in the teens. A large number of the respondents (39.1%) believed that age 25 is the best age to marry. Only 21.1% of the respondents believed that the best age to marry is somewhere between 20 and 24; 33.3% of the respondents believed that the best age to marry is between 26 and 30; 5.7% of the respondents believed that the best age to marry is between the ages of 31 and 40; 4.4% of the respondents did not answer and 2 respondents (0.4%) reported that the best age to marry is whenever they finish their schooling.

When asked how important it is to have children, 54.5% of the respondents consider it "very important", 19.3% of the respondents consider it "important", 9.5% of the respondents consider it "somewhat important" and 16.7% of the respondents consider it "not important". The best number of children that the respondents thought they should have was four. Twenty-three percent of the respondents reported that they wanted between one and three children, 36.8% of the respondents reported that they wanted four children, 28.8% of the respondents reported that they wanted
to have between five and eight children and the remaining 1.6% responded that they wanted between eight and 16 children. There did not seem to be a great difference between the desire to have either a male or a female child. Over half of the respondents indicated that they would like two female children (50.1%) and over half reported that they would like two male children (56.9%). This could be explained by the fact that Zambia is a matrilineal society.

Table 1

<table>
<thead>
<tr>
<th>Question</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>How important is marriage?</td>
<td>45.9%</td>
<td>22.7%</td>
<td>16.5%</td>
<td>14.1%</td>
<td>0.8%</td>
</tr>
<tr>
<td>How important is it to have children?</td>
<td>53.9%</td>
<td>19.1%</td>
<td>9.3%</td>
<td>16.5%</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

A= very important  D= not important
B= important       E= missing
C= somewhat important

Influences on Sexual Values

Mother's seem to have a greater influence on teens sexual values than father's do. Most teens reported that their parents had the greatest influence on their sexual values when compared with other family relatives. Seventy-three percent of the respondents reported that their mother had either the greatest influence on their sexual values or the second greatest influence. Fathers influence was not as
pronounced; only 54% of the respondents listed their father as being most influential or second most influential.

It appears that the media has a great influence on teens' knowledge of male-female relationships. Thirty-four percent of the respondents said that the media very strongly influenced their knowledge, 30% said that the media strongly influenced their knowledge, 13% said that the media somewhat influenced their knowledge, 12% said that the media influenced their knowledge very little and only 11% said that the media had no influence on their knowledge of male-female relationships.

Sources of Information Concerning Sexual Behavior and Contraceptive Use

With regard to how the teens are provided with sexual knowledge most teens reported that their father did not provide information (61.5%), some reported that their father gave information on his own (23.4%) and the remainder said their father gave information only when asked (15.1%). The teens reported that their mother provided information on her own (52.2%) or when asked (24.0%), however 23.8% of the teens responded that their mother did not provide information on sexual knowledge.
Table 2A

Provision of Sexual Knowledge

<table>
<thead>
<tr>
<th>Question</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does your father provide you with sexual</td>
<td>12.5%</td>
<td>19.5%</td>
<td>51.1%</td>
<td>16.9%</td>
</tr>
<tr>
<td>knowledge?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How does your mother provide you with sexual</td>
<td>22.1%</td>
<td>47.9%</td>
<td>21.9%</td>
<td>8.2%</td>
</tr>
<tr>
<td>knowledge?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>How do outside relations provide you with sexual</td>
<td>40.0%</td>
<td>30.4%</td>
<td>19.9%</td>
<td>9.7%</td>
</tr>
<tr>
<td>knowledge?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A= provides when asked  C= does not provide  
B= provides on own    D= missing

Virtually all (91.1%) of the teens reported that it was not easy to talk to their fathers about sexual matters. Almost half of the teens (49.7%) reported that it was not easy to discuss sexual matters with their mother, 18.7% found it somewhat easy, 11.5% found it easy, and 20.2% reported that it was very easy.
Table 2B

Ease of Discussion of Sexual Matters

<table>
<thead>
<tr>
<th>Question</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>How easy is it to talk to your mother about sexual matters?</td>
<td>18.9%</td>
<td>10.7%</td>
<td>17.5%</td>
<td>46.5%</td>
<td>6.4%</td>
</tr>
<tr>
<td>How easy is it to talk to your father about sexual matters?</td>
<td>1.4%</td>
<td>1.6%</td>
<td>4.6%</td>
<td>77.5%</td>
<td>14.9%</td>
</tr>
</tbody>
</table>

A= very easy  D= not easy  
B= easy  E= missing  
C= somewhat easy

Very few (19.1%) of the respondents felt that their parents had informed them well about birth control methods and 62.4% reported that their parents did not inform them about birth control methods at all. Likewise over two-thirds of the respondents reported that their parents did not inform them as to where to get materials regarding sex education. A large percentage (77.0%) of the teens reported that their parents had informed them very well regarding the importance of avoiding sex in order to continue their education. The source most often cited by the teens as most important in regard to receiving information on sex was their parents.
Table 2C

Parental Involvement In Dissemination of
Sexual Information

<table>
<thead>
<tr>
<th>Question</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>How well did your parents inform you about birth control methods?</td>
<td>18.1%</td>
<td>6.2%</td>
<td>11.3%</td>
<td>59.0%</td>
<td>5.4%</td>
</tr>
<tr>
<td>How well did your parents inform you on where to find material on sex education?</td>
<td>9.9%</td>
<td>13.9%</td>
<td>10.5%</td>
<td>56.7%</td>
<td>8.9%</td>
</tr>
<tr>
<td>How well did your parents inform you about importance of avoiding sex for your education?</td>
<td>75.3%</td>
<td>9.5%</td>
<td>5.4%</td>
<td>7.6%</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

A= very well  
B= well  
C= little  
D= did not inform  
E= missing

Attitudes Toward Sexual Behavior

Over half of the teens reported that they strongly agreed that sex before marriage was not shameful. Twenty-four percent of the teens disagreed or strongly disagreed that sex before marriage was not shameful. With regard to their opinions of girls who participated in sexual behavior, 32% either disapproved or strongly disapproved of girls who kissed, 34% either disapproved or strongly disapproved of girls who held hands with a boy, 18% either disapproved or strongly disapproved of a girl who fondled, and only 15%
either disapproved or strongly disapproved of a girl who
lost their virginity. Surprisingly the sexual act that was
most approved of was losing virginity which 58% of the
respondents reported that they strongly approved of.

Sexual Behavior

Many of the teens responded that in the last two months
they had engaged in some form of sexual behavior. Sixty-two
percent of all respondents reported having kissed with a boy
in the last two months and 24% reported kissing very often
or often within the last two months. Fifty-eight percent of
all respondents reported that they had kissed and fondled in
the last two months with 31% reporting that they had kissed
and fondled very often or often. Further, 49% of all
respondents reported kissing, fondling, and intercourse at
some time during the last two months with 40% reporting
kissing, fondling and intercourse very often or often.
Table 3

Reported Sexual Involvement

Question: On the occasions that you were out with your boyfriend in the last two months, how often did he engage you in the following?

<table>
<thead>
<tr>
<th>Behavior</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kissing only</td>
<td>14.5%</td>
<td>9.1%</td>
<td>7.2%</td>
<td>13.3%</td>
<td>18.1%</td>
<td>37.8%</td>
</tr>
<tr>
<td>Fondling only</td>
<td>20.9%</td>
<td>12.1%</td>
<td>7.6%</td>
<td>11.1%</td>
<td>6.0%</td>
<td>42.4%</td>
</tr>
<tr>
<td>Intercourse only</td>
<td>33.8%</td>
<td>7.8%</td>
<td>5.2%</td>
<td>3.0%</td>
<td>1.8%</td>
<td>48.5%</td>
</tr>
<tr>
<td>Kissing and fondling</td>
<td>20.9%</td>
<td>10.1%</td>
<td>7.0%</td>
<td>9.9%</td>
<td>9.9%</td>
<td>42.2%</td>
</tr>
<tr>
<td>Fondling and intercourse</td>
<td>32.8%</td>
<td>7.6%</td>
<td>4.3%</td>
<td>2.6%</td>
<td>3.6%</td>
<td>48.7%</td>
</tr>
<tr>
<td>Kissing, fondling and intercourse</td>
<td>32.0%</td>
<td>7.6%</td>
<td>3.0%</td>
<td>1.8%</td>
<td>5.0%</td>
<td>50.7%</td>
</tr>
</tbody>
</table>

A= very often  
B= often  
C= somewhat often  
D= rarely  
E= very rarely  
F= missing  

Pregnancy and Contraceptive Use

Although 64.4% of the respondents reported that they had heard of modern birth control methods only 4.2% reported ever having used any of them. Seven young women reported ever having been pregnant yet only three reported having any children.

Test of the Hypotheses

Before the regression analysis could be run a test had
to be performed on the variable that was created as a scale to insure that the question was a reliable measure of perception of academic ability. According to Babie (1989) a scale can be used as a composite measure of variables. It is imperative that the scale be tested to insure that the questions are measuring the same element. A factor analysis was performed for this purpose. The results of the factor analysis revealed that only four of the five questions that had been specified for the scale could be used. The scale was then modified to include only the questions "I am good at school work", "I do school work quickly", "I remember easily", and "I can understand what I read easily".

When performing multiple regression there are several specifications that must be met to insure the validity of the results. These specifications are known as the assumptions of multiple regression (Loether and McTavish, 1988). One of these assumptions is that any independent variable is not a function of any other independent variable. If an independent is a function of another independent variable than the equation is said to have multicollinearity. To insure that none of the variables were highly correlated with each other a correlation matrix was used. The correlation matrix revealed no multicollinearity.

Two other assumptions of regression analysis need to be addressed. The error term must be normally distributed and have a mean of zero. A histogram and a probability plot
were used and it was determined that these assumptions were not violated.

Finally, the variance of the error term must be constant. If the variance of the error term is not constant than the regression model will be affected by heteroskedasticity. A standardized scatterplot revealed that the regression model did not violate this assumption.

The final regression model was developed by entering each group of variables into separate regression models. Once these regression equations were executed the results were examined to determine which variables would be used in the final model. Any variable that had a significance value of .600 or greater was dropped from the equation. A second run of each model was run and again variables were eliminated if they were not significant at the .300 level or greater.

Finally the following variables were retained for a regression model: father's age, mother's age, parent's socioeconomic status, boyfriend's age, ability to make friends, ability to mix with boys, peer influence, type of school (Chipembi, Ndeke, Arakan, and Naboye), parent's quarreling, taking parent's advice, getting in trouble with parents, attitudes toward sexual behavior, perception of academic ability, and score on last test.

The variables were then entered into the regression model in blocks. The first block included the constant
variables. Mother's age (mothage), father's age (fathage), parent's socioeconomic status (parrich), and boyfriends age (boyage) were used as control variables. These variables explained 22% of the variance in the dependent variable (see Table 4).

Table 4

Control variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>parrich</td>
<td>-.0390</td>
<td>.4332</td>
</tr>
<tr>
<td>fathage</td>
<td>.0548</td>
<td>.4671</td>
</tr>
<tr>
<td>boyage</td>
<td>-.4617</td>
<td>.0000</td>
</tr>
<tr>
<td>mothage</td>
<td>-.0859</td>
<td>.2579</td>
</tr>
</tbody>
</table>

Adjusted R Square .22

The second block of variables that were entered into the regression equation were the male-female interaction variables. These variables included peer influence (nohurt), ability to make friends (mfri), ability to mix with boys (bmix), and type of school (Chipembi, Ndeke, Arakan, and Naboye). The combination of the male-female interaction variables and the control variables explained 29% of the variance in the dependent variable (see Table 5).
Table 5

Control Variables With Male-female Interaction Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>parrich</td>
<td>-.0287</td>
<td>.5501</td>
</tr>
<tr>
<td>fathage</td>
<td>.0869</td>
<td>.2390</td>
</tr>
<tr>
<td>boyage</td>
<td>-.4202</td>
<td>.0000</td>
</tr>
<tr>
<td>mothage</td>
<td>-.0448</td>
<td>.5406</td>
</tr>
<tr>
<td>chip</td>
<td>-.1400</td>
<td>.0064</td>
</tr>
<tr>
<td>nohurt</td>
<td>-.1163</td>
<td>.0171</td>
</tr>
<tr>
<td>Ndeke</td>
<td>-.1414</td>
<td>.0070</td>
</tr>
<tr>
<td>mfri</td>
<td>-.1374</td>
<td>.0120</td>
</tr>
<tr>
<td>Arakan</td>
<td>-.1518</td>
<td>.0045</td>
</tr>
<tr>
<td>Naboye</td>
<td>-.2310</td>
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<tr>
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</table>

Adjusted R Square .29

The third block of variables that were entered were the family variables. These variables included attitudes toward sexual behavior (shame), parent's quarreling (quarrel), taking parents advice (advice), and getting in trouble for behavior expected of a girl (trouble). When these variables were entered into the regression equation 33% of the variance in the dependent variable was explained (see Table 6).
Table 6

Control Variables, Male-female Interaction Variables and Familial Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Significant T</th>
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<tbody>
<tr>
<td>parrich</td>
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<td>nohurt</td>
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<tr>
<td>Ndeke</td>
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<td>.0038</td>
</tr>
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<tr>
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</table>

Adjusted R Square .36

Finally, the last block of variables were entered into the regression equation. These variables were the education variables and included the score made on the last test (division) and perception of academic ability (academ). With these variables entered into the equation 37% of the variance in the dependent variable was explained (Table 7).
Table 7

Control Variables, Male-female Interaction Variables, Familial Variables, and Education Variables

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</table>

Adjusted R Square .37

The analysis of the data did not support the following hypotheses: H1) It is expected that educational aspirations will be negatively related to intensity of sexual behavior; H2) It is expected that teens perception of their own academic ability will be negatively related to intensity of sexual behavior; H3) It is expected that higher scores in school will be negatively related to intensity of sexual behavior; H4) A positive relationship is expected between intensity of male-female interaction and intensity of sexual behavior; H6) Religiosity of the teens parents will have a
negative affect on intensity of the teens sexual behavior; H7) It is expected that there will be a negative relationship between teens perceptions of the quality of their relationship with their mothers and their intensity of sexual behavior; H8) It is expected that there will be a negative relationship between those teens who report their mother as being their most important source of sexual information and the teens intensity of sexual behavior; H9) A negative relationship is expected between the quality of the parental relationship and intensity of sexual behavior. That is the higher the quality of the relationship between the parents and the teen the lesser the intensity of sexual behavior; H11) A positive relationship is expected between the teens age and the intensity of sexual behavior; H13) A negative relationship is expected between the socioeconomic status of the family and intensity of sexual behavior.

Many of the variables in the above regression were not significant. To choose the regression model that is most parsimonious a stepwise regression of the above variables was performed. The stepwise command allows the computer to include in the regression model only those variables that are significant at the .05 level or better. The final model explained 30% of the variance in the dependent variable and included the following variables: boyfriend's age (boyage), taking parent's advice (advice), one of the schools (Naboye), attitudes toward sexual behavior (shame), peer
influence (nohurt), and getting in trouble for behavior expected of a girl (trouble). All of these variables were negatively related to intensity of sexual behavior. Table 8 provides the results of the stepwise regression analysis.

Table 8

**Stepwise Analysis**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Significant T</th>
<th>Adjusted r Sq.</th>
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<tbody>
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<td>nohurt</td>
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<tr>
<td>trouble</td>
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<td>.30</td>
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</table>

Final adjusted r square= .30

The analysis of the data did support the following three hypotheses: H5) There will be a positive relationship between peer influence and intensity of sexual behavior; H10) It is expected that there will be a positive relationship between the degree of permissiveness that a teen reports toward sexual behavior and reported intensity of sexual behavior; H12) Net of other factors, a positive relationship is expected between the age of the teens boyfriend and intensity of sexual behavior. The variables in the analysis and the implications of these variables will be discussed in the following chapter.
CHAPTER V

DISCUSSION AND CONCLUSION

It appears that the variable that is most influential on a teen's sexual intensity is the age of the boy that the respondent is involved with. Strangely enough, while a positive relationship was expected from this variable a negative relationship was revealed. It appears that as the age of the boy in the relationship declined the greater the intensity of sexual activity. The hypothesis (H12), that was developed to address this issue expected a positive relationship between the intensity of sexual behavior and age of the boyfriend. While a relationship was established the function of age was different than what was expected.

It is possible that the younger males have been socialized differently. While modernization touches all possible aspects of life, it is possible that a different set of values are beginning to take root. This explanation is made from speculation, however it is hoped that this might be further examined in another study.

The degree of permissiveness that a teen reported did not coincide with reported sexual behaviors. The hypothesis that addressed this issue (H10), predicted that as the permissiveness of attitude that a teen reported increased the intensity of sexual behavior that they reported would
also increase. However, a negative relationship was revealed between the intensity of sexual behavior and permissiveness of attitude. Those teens that were less permissive reported greater levels of intensity of sexual behavior while those teens with greater permissiveness of attitudes reported less intensity of sexual behavior.

This finding is not as surprising as with H12. It is not as surprising that people report the values that they have been taught yet behave in another manner. Again, this subject is rather delicate. While people may demonstrate less tolerance to others behavior, it is somehow different when it is a personal matter.

The final hypothesis (H5), to be addressed concentrates on the affect that the influence of peers has on a teen's intensity of sexual behavior. It was expected that the teens who reported it hard to say no to friends would also report higher levels of sexual intensity. Once again the opposite was the case. Those teens that reported less difficulty saying no to friends because they wanted people to like them also reported higher levels of intensity of sexual behavior.

It was expected that those teens who had difficulty saying no to friends would have the same kind of problems saying no to sexual advances and therefore report higher intensity of sexual behavior. This assumption may be wrong. This would be an interesting issue if dealt with from a
sociological examination of emotion. The emotional ties between friends are different from those between romantic partners. This relationship would be interesting to examine in greater detail.

Implications of Univariate Analysis

Possibly most revealing in this study is the univariate analysis of the data. It appears that the respondents felt that there is a greater importance for having children than getting married. While roughly 46% of the respondents believed that getting married was very important, 55% believed that having children was very important. This issue is complicated by the fact that over 77% of the respondents believed that the best number of children to have is 4 or more. Furthermore, only two of the respondents reported that the best age to marry would be after they finish their education.

Very few teens reported that their father provided information on sexual knowledge without having to be asked (15.1%). Only half (52.2%) of the respondents reported that their mother provided sexual information without being asked and 23.8% reported that their mother did not provide such information. At the same time almost all (91%) of the respondents reported that it was not easy to talk with their fathers about sexual matters and half (50%) felt that it was not easy to talk to their mothers about sexual matters. If a culture is oriented toward having children yet the youth
are not informed inside the home about sexual knowledge it seems that there will be disparity between understanding sexual contact and the ramifications of such action. This could be a reason that the population in such countries continue to grow at high rates. At any rate the youth in such countries need to be informed. As noted by Pillai (1988) most programs regarding sexual knowledge are geared toward the adult age groups.

Almost half (49%) of the respondents reported that they had sexual intercourse in the two months prior to the survey. However, 62% of the respondents reported that their parents had not informed them at all about contraceptive use. Further, only 4.2% of the respondents reported ever having used modern birth control methods. Again, it should be noted that this study demonstrates the need for sexual education programs targeted at the adolescent population.

Further Research

The research design used here was developed in a manner that would allow the collection of the most possible information. As noted earlier in the study the delicate nature of this topic does not allow for much flexibility in gathering data. It is the opinion of this researcher that further study of the topic would be helpful in developing programs to deal with issues of population and teenage fertility. For the purpose of further study it may be useful to concentrate on specific topics or areas. This
design allowed for a wide range of information however, much
detail was lost.

A second consideration is that this study was given to
students within secondary school. There are bound to be
difference between those who are able to continue their
education and those who are not. As is true in the United
States education and socioeconomic status play a significant
role in adolescent child-bearing. Those students who
responded to this study are not representative of the
adolescent population at large. It is likely that they have
more resources in one manner or another than the average
adolescent in Zambia. This study, or one like it would be
useful if targeted at other groups of adolescents within
Zambia.

Conclusion

Finally, there is evidence that this issue should be
addressed and not ignored. A large number of the teens in
this study have been sexually active to some extent.
However, many of the respondents felt well informed about
sexual knowledge and virtually none had knowledge regarding
contraceptive use. At the same time population rates in
developing countries pose serious problems.

The role the family is expected to play involves
passing on values and information that work to regulate the
sexual behavior of the family members. According to the
findings of this research it appears that the teens are not
receiving information regarding sexual behavior from the family unit. It is important to recognize that the teens are in fact sexually active and need to be prepared for the ramifications of sexual behavior. If the family is to maintain its role in guiding values it is important to include the whole family in an educational process. A family planning program could include counseling for parents and their children. Such a program could prepare parents to communicate with their children and pass on accurate information. Likewise the program should include the youth in a manner in which they might become more comfortable in asking parents questions about their own sexuality.

For an individual young woman the consequences of having children before becoming physically and emotionally mature can be unhealthy. The social, emotional and physical problems associated with women becoming pregnant without preparation can work to undermine the well-being of women both on a personal and large scale level. Further research in this area is imperative.
APPENDIX
APPENDIX

List of Hypotheses and variables used to test them:

H1) Net of other factors, it is expected that educational aspirations will be negatively related to intensity of sexual behavior.
   Variable Name: Qualexp

H2) Net of other factors, it is expected that teens perception of their own academic ability will be negatively related to intensity of sexual behavior.
   Variable Name: Academ

H3) Net of other factors, it is expected that higher scores in school will be negatively related to intensity of sexual behavior.
   Variable Name: Division

H4) Net of other factors, a positive relationship is expected between intensity of male-female interaction and intensity of sexual behavior.
   Variable Names: Bmix, Mfri

H5) Net of other factors, there will be a positive relationship between peer influence and intensity of sexual behavior.
   Variable Name: Nohurt

H6) Net of other factors, increased religiosity of the teens parents will have a negative affect on intensity of the teens sexual behavior.
Variable Names: Religion

H7) Net of other factors, it is expected that there will be a negative relationship between teens perceptions of the quality of their relationship with their mother and their intensity of sexual behavior.

Variable Name: Mrel

H8) Net of other factors, it is expected that there will be a negative relationship between those teens who report their mother as being their most important source of sexual information and the teens intensity of sexual behavior.

Variable Name: Minfo

H9) Net of other factors, a negative relationship is expected between the quality of the parental relationship and intensity of sexual behavior. That is the higher the quality of the relationship between the parents and the teen the lesser the intensity of sexual behavior.

Variable Name: Quarrel

H10) Net of other factors, it is expected that there will be a positive relationship between the degree of permissiveness that a teen reports toward sexual behavior and reported intensity of sexual behavior.

Variable Name: Shame

H11) Net of other factors, a positive relationship is expected between the teens' age and the intensity of sexual behavior.
Variable Name: Byear

H12) Net of other factors, a positive relationship is expected between the age of the teens' boyfriend and intensity of sexual behavior.

Variable Name: Boyage

H13) Net of other factors, a negative relationship is expected between the socioeconomic status of the family and intensity of sexual behavior.

Variable Name: Parrich
Table 9

Comparison of Expected Relationship and Actual Findings:

Dependent Variable = intensity of sexual behavior

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<tr>
<th>Hypothesis and variable</th>
<th>Expected Relationship</th>
<th>Findings</th>
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<tr>
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</tr>
<tr>
<td>H3: division</td>
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</tr>
<tr>
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