

2015

Impact of Environmental and Individual Risk Factors on Pregnant and Parenting Teenagers

Lakeasha Thrasher
Walden University

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Walden University

College of Health Sciences

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Lakeasha Thrasher

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Walden University
2015

Abstract

Impact of Environmental and Individual Risk Factors
on Pregnant and Parenting Teenagers

by

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MPA, Albany State University, 2003

BS, Albany State University, 1999

Dissertation Submitted in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy
Public Health

Walden University

August 2015

Abstract

Teenage pregnancy is both a social and a public health problem in the United States, with approximately 750,000 young women between the ages of 15 and 19 becoming pregnant each year. In addition, teen pregnancy is more prevalent in the African American (15%) and Hispanic (14%) communities than it is in White communities (5%). The purpose of this study was to identify risk factors contributing to teen pregnancy among racially diverse teenagers 15 to 19 years of age living in the rural south. This study, guided by social cognitive theory, used a quantitative, cross-sectional research design to determine whether living environment, educational resources, and access to healthcare impact risk of teenage pregnancy. A quantitative survey assessed factors such as sex-related attitudes, parent/peer communication, living environment, and educational attainment. Two primary research questions and 8 related hypotheses were formulated for investigation. Using binary logistic regression, the data in this study revealed that an increase in positive environmental factors (household income and parental education) and an increase in positive personal factors (parental/peer communication, teen's academic achievement, and attitudes toward sex) decreased negative behaviors (risks of teen pregnancy). This study may promote positive social change by providing information on relevant social and educational factors to those responsible for the design of comprehensive pregnancy prevention programs that target at-risk teenagers. Provision of comprehensive social and health services to teenage parents and their children may help to reduce rates of first-time and repeat teenage pregnancies and thus prevent the negative social consequences of these pregnancies.

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Dedication

This dissertation is dedicated to my parents and my daughter, Kiara. My parents instilled in me at a very young age the importance of an education and a love for learning. My parents showed me that education was important and consistently encouraged me to learn more. Their encouragement and motivation gave me the strength to pursue all of my educational goals. My daughter is the reason my dissertation came to life. She was born when I was only 19 years old, which made me a teenage mother. Knowing that everything that I will have done from the day she was born until she becomes an adult will have a direct impact on her life gave me the motivation to complete this dissertation. Becoming a mother at such an early age and still managing to succeed in life has prompted me to help eliminate some of the health disparities associated with teenage pregnancy. I am grateful to my daughter for inspiring and motivating me to pursue this research and gain more knowledge of the issues related to teenage pregnancy. Together, my parents and my daughter have been integral in my success. Without their love and continued support, this would not have been possible.

Acknowledgments

First, I would like to thank my Heavenly Father for giving me the strength and endurance to complete this dissertation. For without Him, I am nothing, but with Him I can do ALL things.

Secondly, I would like to express my sincere appreciation to my chair, Dr. Mary Lou Gutierrez, and my committee member, Dr. Paige Wermuth. Without their expertise and guidance, I would not have been able to complete a well-written dissertation. There are so many important details that I know I would have missed had it not been for them. Thank you for your support, patience, and academic expertise. I am privileged and honored to have worked with both of you.

Lastly, I would like to thank my “Fabulous Four”: my mother, Patricia; my father, Willie Sr.; my daughter, Kiara; and my husband, Terry. My mother, for always loving and being there for me; my father, for his continued love and support; my daughter, for her everlasting strength and motivation; and my husband, for his unyielding sternness that kept me on track when I was having my breakdowns and felt like giving up. Without their continued love and support, realizing my goal of obtaining my doctorate would not have been possible. Their willingness to be there for me has made this journey a successful one, and I am forever thankful and love them.

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Chapter 1: Introduction to the Study

Introduction

Teenage pregnancy has long been a concern among communities, families, educators, policymakers, and researchers. However, the causes of teenage pregnancy and the influences of teenage pregnancy rates continue to be argued. There have been a number of efforts to combat teenage pregnancy and birth rates. Research indicates that these rates have diminished in the most recent decade; however, the United States persistently has the most astounding teen birthrates than any other developed countries (Barcelos, 2014).

Background of the Study

Discussion of teenage pregnancy is not uncommon in the public health sector. Teenage pregnancy is not just a problem that some adolescents encounter. The problem of teenage pregnancy affects many individuals in the adolescents' households, as well as those in the community, school system, and government as a whole (Dangal, 2004). Over 800,000 teenagers become pregnant each year (National Campaign to Prevent Teenage Pregnancy, 2011). There has been a recent drop in teenage pregnancy rates. However, the rate of teenage pregnancy in the United States is higher than in any other industrialized country (Guttmacher, 2012). Of these teenage pregnancies in the United States, over 80% are unplanned, and one-fourth end in abortions (Guttmacher, 2012).

Studies have shown that when compared to teenagers in Canada and Europe, teenagers in the United States are less likely to use contraception (Miller et al., 2006). In the United States, the future of teenage parents is widely regarded in negative terms. According to Kirby (2001), teenage parents are less likely to complete their education,

leading to limited education and employment opportunities, greater financial difficulties, long-term poverty, and unstable marriages. Kirby also associated teen parents with single motherhood. Additionally, children of teen mothers have been characterized as having many challenges, such as increased chances of developing behavioral, emotional, and school problems; less supportive and unstable home environments; poor health outcomes; limited cognitive development; and greater chances of becoming teen parents themselves (Kirby, 2001; Turner et al., 1997). Further, the children of teen mothers are more prone to low birth weight and are at more serious risk of experiencing abuse (Maynard, 1996; Wolfe & Perozek, 1997). According to Maynard (1996), sons of teenage mothers have a greater chance of going to prison and the daughters of the teen mothers have a greater chance of becoming teen mothers themselves. These negative outcomes are constantly being debated, and contrary to what is believed by the government and health officials, studies are showing that these negative outcomes may have been associated with the teen mother's disadvantages prior to becoming pregnant (SmithBattle, 2007).

Problem Statement

The pregnancy of a female before the age of 20 years is considered teen pregnancy. Teen pregnancy is thought to be a common health and well-being issue around the world. This issue affects families, health specialists, educational systems, governments, and teenagers themselves (Dangal, 2006). Teenage pregnancy has been a societal, instructional, and health concern for quite some time, both in the United States and around the world. Despite the fact that rates of teen pregnancy in the United States fell in the previous decade, these rates are presently increasing. As indicated by Ventura (2011), in 2009, nearly 410,000 adolescents in the United States conceived between the

ages of 15 and 19. This teen birth rate remains higher than that of any other developed country. The teenage conception rate dropped to 39.1 births every 1,000 females, the lowest rate in recorded history, and a 37% decline from 61.8% births every 1,000 females in 1991 (Ventura et al., 2011). As indicated by the National Campaign to Prevent Teenage Pregnancy (2011), more than 800,000 adolescents are affected by pregnancy each year.

In terms of the adolescent pregnancy rate, the U.S. ranks among the top in comparison to other countries (Centers for Disease Control and Prevention [CDC], 2013). The teenage conception rate has been continuously rising after a constant decrease during the years 1991-2005 (CDC, 2011). Adolescent pregnancy and birth pose challenges that cause both the child and the adolescent mother to endure troublesome impediments for the duration of their lives. The high rate of adolescent pregnancy can be connected with unfavorable consequences for both the mother and the child. The negative impacts and other social wellbeing issues incorporate, yet are not restricted to, those identified with the general prosperity of the child, wellbeing issues, education, single-parent households, out-of-wedlock births, and poverty (CDC, 2011). As indicated by CDC (2012), adolescent pregnancy represents more than \$11 billion every year in expenses to citizens. Adolescent pregnancy and conception add to secondary school dropout among teenage females. Furthermore, the offspring of teen mothers are more prone to accomplish less academically and have higher secondary school dropout rates; to have more health and wellbeing issues; to discontinue going to school; to become detained and involved in the criminal system; and to encounter unemployment during young adulthood (Hoffman,

2008). These issues identified with adolescent pregnancy cause other health and social wellbeing difficulties.

Social cognitive theorist Bandura (1996) proposed that knowledge alone does not bring about behavioral change, but self-efficacy and outcome expectancy are two important influences on self-regulation of specific behaviors. Teenage pregnancy continues to be a problem in the United States. Although there have been many programs implemented to combat teenage pregnancy, there is significant need for alternatives to modify behaviors and risk factors in order to address the teenage pregnancy epidemic in this country.

Purpose of the Study

This study examined the impact of environmental and individual risk factors associated with teenage pregnancy by exploring science-based approaches to teen pregnancy prevention. Risk factors include education, socioeconomic status, living condition, contraceptive use, access to healthcare, and so on. Data were gathered from teenagers of all races attending local high schools in Southwest Georgia, as identified by the Southwest Georgia Division of Adolescent Health and Youth Development and the Millennium Second Chance Educational Center, which collaborates with local adolescent health agencies and agencies that provide assistance to pregnant and parenting teenagers. The data were obtained via health reports and surveys.

In the arena of adolescent health, the premises and sorts of adolescent health studies might intensely affect the health expert's knowledge. The existence of social and ethnic differences between expert health professionals and health care staff members

related to the health care professionals' thoughts and the behavior of adolescents may have important ramifications for adolescent pregnancy and childrearing methodologies.

Nature of the Study

This quantitative cross-sectional study assessed teenagers aged 15 to 19 to identify both environmental and individual risk factors that impact teenage pregnancy. To assess these issues, only quantitative methods were used. This survey was separated into four sections: demographics, knowledge, attitudes, and parent/adolescent communication. These variables were evaluated by reviewing scores from four assessments: (a) Safer Choices, (b) the Mathtech Knowledge Test, (c) the Mathtech Attitude and Value Inventory, and (d) the Miller Attitudes Toward Abstinence (ATA) Scale and Parent/Adolescent Communication (PACM) Scale (Kirby, 1984; Miller, 1998). The objectives of this project were to (a) expand the literature on teenage pregnancy and sexual behavior, (b) assess the views of adolescent females in more rural areas on the influence of the community/environment on sexual behaviors, and (c) provide data to county public health officials and stakeholders in the community to help them improve the design of policies and the implementation of programs related to teenage pregnancy prevention for communities and schools.

Research Questions & Hypotheses

The following research questions and associated hypotheses were developed to address the problems associated with this study:

Research Question 1

Is there an association between a teenager's living environment and the risk of teenage pregnancy?

H_{1a}: Neighborhood poverty status of the teenager is a significant predictor of the risk of teenage pregnancy.

H_{01a}: Neighborhood poverty status of the teenager is not a significant predictor of the risk of teenage pregnancy.

H_{1b}: Household size of the teenager is a significant predictor of the risk of teenage pregnancy.

H_{01b}: Household size of the teenager is not a significant predictor of the risk of teenage pregnancy.

H_{1c}: Household income of the teenager is a significant predictor of the risk of teenage pregnancy.

H_{01c}: Household income of the teenager is not a significant predictor of the risk of teenage pregnancy.

H_{1d}: Parental or peer communication of the teenager is not a significant predictor of the risk of teenage pregnancy.

H_{01d}: Parental or peer communication of the teenager is not a significant predictor of the risk of teenage pregnancy.

Research Question 2

Is there an association between personal factors and the risk of teenage pregnancy?

H_{2a}: Parental education of the teen's parents is a significant predictor of the risk of teen pregnancy.

H_{02a}: Parental education of the teen's parents is not a significant predictor of the risk of teen pregnancy.

H_{2b}: Teen academic achievement is a significant predictor of the risk of teen pregnancy.

H_{02b}: Teen academic achievement is not a significant predictor of the risk of teen pregnancy.

H_{2c}: Teen knowledge of sexual health is a significant predictor of the risk of teen pregnancy.

H_{02c}: Teen knowledge of sexual health is not a significant predictor of the risk of teen pregnancy.

H_{2d}: Teen attitudes about sexual issues are a significant predictor of the risk of teen pregnancy.

H_{02d}: Teen attitudes about sexual issues are not a significant predictor of the risk of teen pregnancy.

Theoretical Base

The theoretical framework used in this study was social cognitive theory. Bandura (1977) stated that behavior is learned through a process by observing the environment. In Bandura's (1977) illustration of human behavior, personal factors, environmental factors, and behaviors all have a direct impact on each other. According to social cognitive theory, people learn not only from their own personal experiences, but also from the experiences of other individuals and the consequences associated with them. Quality of

health is both an individual and a societal matter. In order to diminish the rates of adolescent pregnancy, it is essential to address the variables that impact adolescents' perspectives on sex. Social cognitive theory can be valuable when applied to public health efforts to decrease adolescent pregnancy.

Definitions of Terms

Adolescents: Individuals between the ages of 10 and 19 years old.

Adolescent Health and Youth Development (AHYD): A health program designed specifically for youth whose purpose is to improve the skills and overall health of adolescents. This program provides population-based prevention and public health activities and programs designed to promote responsible, healthy lifestyle behaviors and abstinence (Georgia.gov, 2015).

Adolescent (teenage) pregnancy: The pregnancy of a female aged 13-19. Adolescent pregnancy numbers include live births, miscarriages, stillbirths, and abortions.

Birth: The process of having a baby.

Birth rate: The rate of live births to a given population; expressed as the number of live births per 1,000 of the population each year.

Conception: When an egg is fertilized by sperm.

Contraceptive: A medical instrument, device, or medication that is used to prevent pregnancy.

Pregnancy: When a female has a fetus or fetuses developing inside her uterus.

Repeat teenage pregnancy: When a female between the ages of 13 and 19 becomes pregnant more than once.

Assumptions

There are numerous studies that connect adolescent pregnancy with negative results, such as deficient education, low financial status, and poor childrearing abilities. This is not always the situation, however. Children in the United States experience childhood in diverse social classes. Research indicates that teenagers' living surroundings may dictate the results they experience, both wellbeing and non-wellbeing related (Cubbin et al., 2005). Middle and upper class children are taught that attaining their educational and vocational goals is vital and that having a child whose conception was not planned would adversely affect their academic and professional future. Subsequently, these children are more inclined to viably use some form of contraceptive or terminate a pregnancy (Cubbin et al., 2005).

Conversely, adolescents from lower class and underserved communities may experience lack of food, live in substandard housing, and receive education that is also substandard. These children sometimes consider parenthood to be an entryway to adulthood. They may feel that parenthood will advance their development and motivate them to further their academic endeavors in order to promote better parenting skills (Cubbin et al., 2005).

Limitations

The first limitation of this study was the lack of qualitative data. A survey questionnaire was used to collect information from the participants. The survey questionnaires focused on quantitative data. Another limitation of this study involved constraints of time and place. Because the survey targeted adolescents between the ages of 15 and 19, the areas and the time to conduct the survey were limited to where and

when potential participants would be available. Some sites had to be visited repeatedly to complete the surveys. Additionally, due to limited time, most of the surveys had to be distributed in groups. When surveys are distributed in the presence of groups, respondents may be influenced by others, which affect validity. Finally, because of the sensitive nature of some of the questions, some respondents might have provided false information due to fear of disclosing information that they did not want others to know. Therefore, accurate data might not have been provided.

Delimitations

The scope of this study was limited to the adolescent population aged 15 to 19. This age group is important because of the high incidence of teenage pregnancy. The participants were recruited from local public schools, adolescent and youth development centers, and teen centers.

Significance of the Study

The issues confronting teen pregnancy and parenting are widely understood. Adolescent parents have historically been known to be single mothers living in poverty; this difficult situation is often amplified with physical and/or sexual abuse and other health problems (U.S. DHHS, 2005). Pregnancy can interfere with an adolescent's educational attainment, as well as employment and occupation encounters (Maynard, 1996; Perper et al., 2010). The negative results attached to adolescent pregnancy, including long-lasting destitution and extensive dependence on government assistance can be lifelong for the mother and her children (U.S. DHHS, 2005). The daughters of adolescent mothers tend to become adolescent mothers themselves, with the negative results that accompany adolescent pregnancy, leading to a generational cycle of

destitution and detriment. Homelessness expands the dangers of negative outcomes for adolescent mothers. Teenagers with upsetting living circumstances may need to leave home once they are pregnant. Their homes may be inappropriate situations in which to raise their children because of congestion, perilous living conditions, aggressive behavior, or other extreme situations. Additionally, some teenagers are kicked out or forced to leave by their parents or caregivers because they became pregnant.

More comprehensive sex education programs, parenting programs, and residential group homes specifically for pregnant and parenting teenagers may be able to solve the challenges facing this population. These homes can offer a comprehensive array of services in order to meet the needs of pregnant and parenting teenagers. These include, but are not limited to, educational and job placement assistance, parenting and life skills development, and comprehensive health education. Additionally, these homes can provide a safe and secure living environment for adolescents and their children. In this way, they can help to reverse the negative outcomes associated with teen parents and their children.

Social Change Implications

This study's implications for positive social change relate to the potential impact of comprehensive pregnancy prevention programs that target adolescents and teenagers who are considered at risk based on environmental factors. The provision of comprehensive social and health services to teen parents and their children may help to reduce the rate of teenage pregnancy and repeat teenage pregnancy.

In planning or implementing comprehensive sex education programs and providing support for pregnant and parenting teens, the use of social cognitive theory is

appropriate. Social cognitive theory may be used to explain why people acquire and maintain certain behavioral patterns. Teenage pregnancy is considered a behavioral pattern. In order to avoid a certain behavior, such as teenage pregnancy, a teenager should be around more positive people in a positive environment that promotes healthy, positive behaviors. An understanding of the behaviors that contribute to teenage pregnancy helps in determining the most effective pregnancy prevention measures.

Summary and Transition

Teenage pregnancy is a continual issue in the United States and other industrialized nations. In its teenage pregnancy rate, the United States continually ranks the highest in comparison to other industrialized countries (CDC, 2013). Teenage pregnancy is not just an individual issue. There are numerous social and financial impacts of teen pregnancy. CDC (2013) indicated that adolescent pregnancy and birth cost U.S. citizens over \$11 billion year as a result of the various expenses connected with having a child.

Why does teenage pregnancy continue to be a problem in the United States? In this study, I aimed to address some of the major issues associated with teenage pregnancy and identify key strategies that will help in the effort to reduce the number of teenagers becoming pregnant and reduce the rate of repeat teenage pregnancies.

In Chapter 2, extensive literature is reviewed and discussed regarding major factors that have a high influence on teenage pregnancy. These factors include, but are not limited to, teenagers' attitudes regarding sex and pregnancy, the effectiveness of certain sex and/or abstinence education programs, the relationship between demographics

and teenage pregnancy, and major costs associated with pregnant and parenting teenagers.

Chapter 2: Literature Review

Overview

This study purposed to examine the impact of environmental and individual risk factors on teenage pregnancy. In exploring science-based approaches to teenage pregnancy prevention, this study focused primarily on African American and minority populations. African American teenage pregnancy rates are higher than those of any other ethnic group. According to Fiener, et al. (2006), Black women had a higher rate of unplanned pregnancy than any women of other ethnic group; this rate was more than double in comparison to that of Non-Hispanic White women. While teen birth rates decreased across all races during 2007-2011, non-Hispanic Black teen birth rates were more than double the rate for non-Hispanic White teens (CDC, 2013). See Figure 1.

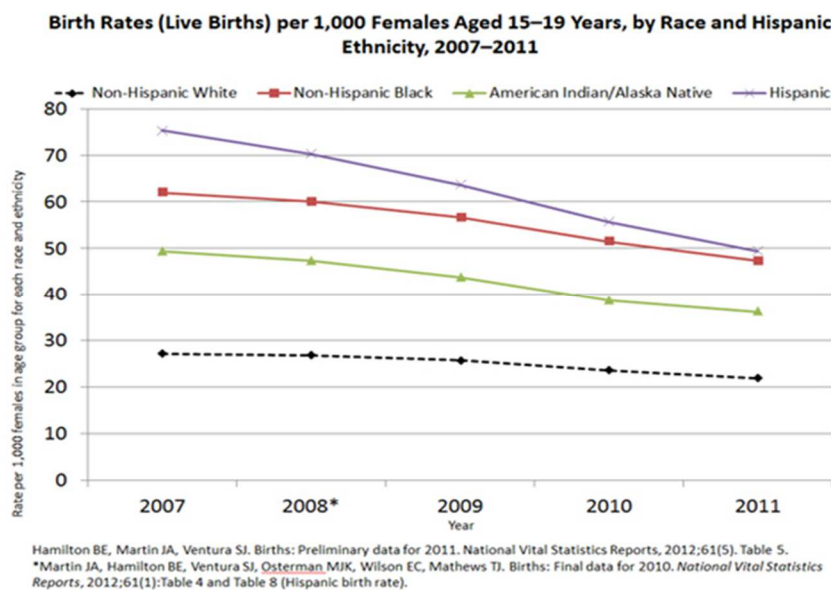


Figure 1. Birth rates (live births) per 1,000 females aged 15-19 years, by race and ethnicity, 2007-2011. From “Births: Preliminary Data 2011,” by B. E. Hamilton, J. A. Martin, & S. J. Ventura, 2012, *National Vital Statistics Reports*, 61(5).

Literature Search Strategy

Peer-reviewed professional journals, data from public health agencies, and books related to adolescent health and pregnancy were used in order to provide the information in the literature review. Databases used included Academic Search Premier, Guttmacher Institute, Pub Med, CINAHL Plus with full text, and Nursing and Allied Health Source. Keywords and phrases that were used as search terms were *teenage pregnancy*, *adolescent pregnancy*, *adolescent health*, *sex education*, *sexual activity*, *attitudes and sex*, *social economic condition*, *community and health*, *racial and ethnic differences*, *rural adolescent*, and *cycle of teenage pregnancy*. Relevant articles were then selected that provided sound scientific evidence and research on the topic. The data used in this review were analyzed based on the study's variables and were using in outlining the methods, results, limitations, and need for further research.

As previously mentioned, the teenage pregnancy rate fell in recent decades, reaching its lowest level in 1991 (Ventura, et al., 2011). However, teen pregnancy rates are currently on the rise. CDC (2011) reported that the teenage pregnancy is currently increasing after a decrease between the years 1991 and 2005. The pregnancy of a female before the age of 20 is known as teenage pregnancy. Teenage pregnancy has negative impacts on the pregnant teen, the community, and the society as a whole. It costs taxpayers over \$11 billion each year (CDC, 2012). The adverse consequences related to teenage pregnancy give rise to other social and public health challenges.

Teenage pregnancy is a public health and societal issue that is currently on the rise. Implementing successful teenage pregnancy prevention programs can be challenging. Although there are numerous pregnancy prevention programs currently

being implemented, the rate of teenage pregnancy, particularly in African American and minority communities, continues to be high. Many African American adolescents seem to have difficulty making the necessary changes in behavior in order to avoid unwanted and/or unplanned pregnancies. There could be several reasons for this behavior, such as lack of knowledge and access to adequate healthcare. The goal of this literature review was to explore current research about the effects of race, culture, socioeconomic factors, and attitudes and knowledge regarding adolescent health and sex on teenage pregnancy. This review also focuses on existing pregnancy prevention programs and their effectiveness.

Epidemiology of the Reproductive Systems and Conception

In order to prevent teenage pregnancy, it is important for teenagers to be knowledgeable about the human body, the reproductive system, and how pregnancy occurs. According to Hall et al., (2012), women in the United States, particularly the young and socially disadvantaged, lack reproductive health knowledge and are less likely to use reproductive health services than women in other developed countries. Ensuring that teenagers are knowledgeable about the human body and conception may be beneficial in preventing pregnancy and helping to reduce the rate of repeat teenage pregnancy. It is important that adolescents are knowledgeable of the reproductive organs so they can have better understanding of sexual health and how pregnancy occurs.

The female reproductive system and the male reproductive systems are different. The female reproductive system, depicted in Figure 2, produces the female egg cells (ova or oocytes) that are needed for fertilization and transports the eggs (ova) to the site of fertilization. The female reproductive system is composed of both external and internal

parts. The external parts enable sperm to enter the body and protect the internal parts from infection. The external parts of a female are as follows:

- *Labia majora*: The “large lips” that surround the opening of the vagina (WebMD, 2013).
- *Labia minora*: The “small lips” that surround the opening of the vagina (WebMD, 2013).
- *Urethra*: Tube that joins the lower section of the uterus to the outside of the body (WebMD, 2013).
- *Bartholins glands*: Glands beside the vagina that produce a mucous secretion (WebMD, 2013).
- *Clitoris*: A small protrusion in the middle of the labia minora; similar to the male penis in that it is sensitive and can become erect (WebMD, 2013).

The internal reproductive organs of a female are as follows:

- *Vagina*: The opening that joins the cervix to the outside of the body; also known as the *birth canal* (WebMD, 2013).
- *Cervix*: The bottom portion of the uterus that connects to the vagina (WebMD, 2013).
- *Uterus (womb)*: The pear-shaped, hollow organ where a developing fetus is housed; it is divided into the *cervix* and *corpus* (WebMD, 2013).
- *Corpus*: The main body of the uterus that expands to hold a developing baby (WebMD, 2013).
- *Ovaries*: Small, oval-shaped glands on both sides of the uterus that produce eggs and hormones (WebMD, 2013).

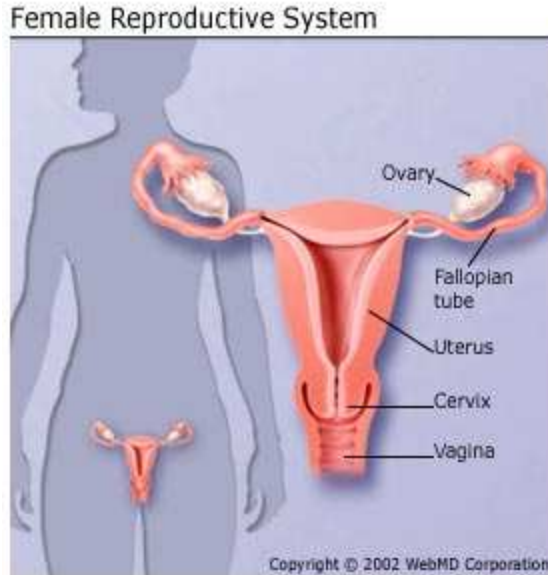


Figure 2. The female reproductive system. From “Female Reproductive System,” by WebMD, 2015, retrieved September 18, 2013, from <http://www.webmd.com/sex-relationships/guide/your-guide-female-reproductive-system>

The male reproductive system, depicted in Figure 3 also has several functions: It produces, maintains, and transports sperm. It releases sperm within the female reproductive tract during sexual intercourse, and it produces and secretes male sex hormones responsible for maintaining the male reproductive system. The external parts of the male reproductive system are as follows:

- *Penis*: The male organ used during sexual intercourse. It consists of the *root*, which attaches to the abdomen; the *body*, also known as the *shaft*; and the *glans*, which is the head of the penis. When the penis is erect, urine flow is prevented, allowing only semen to be ejaculated during an orgasm (WebMD, 2013).

- *Scrotum*: A pouch-like sac of skin located behind the penis that contains the testicles, nerves, and blood vessels. The scrotum regulates testicle temperature (WebMD, 2013).
- *Testicles (testes)*: Oval organs located inside of the scrotum that are responsible for producing the male hormone testosterone (WebMD, 2013).

The internal organs of the male reproductive system are as follows:

- *Epididymis*: Tube on the back of the testicle that transports and stores sperm produced by the testes.
- *Vas deferens*: Tube that transports mature sperm to the urethra (WebMD, 2013).
- *Ejaculatory duct*: Duct that is formed when the vas deferens and the seminal vesicles are fused together; once this duct is formed, they empty into the urethra (WebMD, 2013).
- *Urethra*: The tube that connects the urinary bladder to the genitals and carries the urine from the bladder to outside the body (WebMD, 2013).
- *Seminal vesicles*: Small tubular glands that resemble sac-like pouches, which aid in the movement of sperm (WebMD, 2013).
- *Prostate gland*: The male gland that is located in the bladder and provides additional fluid for ejaculation (WebMD, 2013).
- *Bulbourethral glands (Cowper's glands)*: Pea-sized structures that produce a fluid that is emptied in the urethra, functioning as lubrication and neutralizing acidity that may be present (WebMD, 2013).

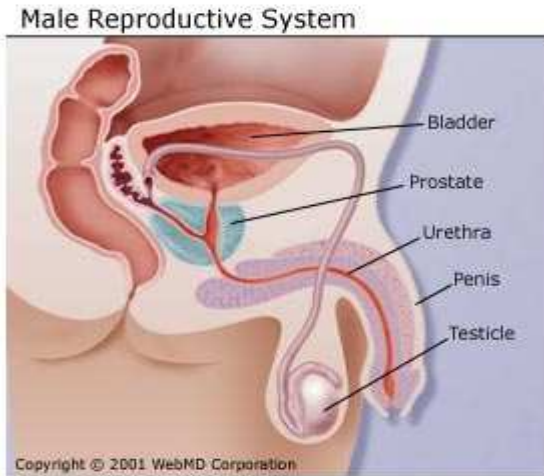


Figure 3. The male reproductive system. From “The Male Reproductive System,” by WebMD, 2015, retrieved September 18, 2013, from <http://www.webmd.com/sex-relationships/guide/male-reproductive-system>

Phases of the Menstrual Cycle

The average female of reproductive age experiences cycles of hormonal activity monthly. During these cycles, the woman’s body prepares for pregnancy. *Menstru* means “monthly.” *Menstruation* is the monthly shedding of the uterine lining (WebMD, 2013).

The Follicular Phase

The average menstrual cycle is about 28 days, and it occurs in three phases: follicular, ovulatory (ovulation), and luteal. The *follicular phase* begins on the first day of a woman’s menstruation, also known as a *period*. During this phase, the brain releases the follicle stimulating hormone (FSH) and the luteinizing hormone (LH), which travel in the blood to the ovaries. Additionally, the follicle stimulating hormone and the luteinizing hormone cause an increase in the production of estrogen. As estrogen hormone levels increase, the production of the follicle stimulating hormone is terminated. Therefore, the numbers of follicles that mature are limited. As the follicle phase continues, one follicle

in the ovary becomes dominant and continues to mature. All of the other follicles die, and the dominant follicle continues to produce estrogen (WebMD, 2013).

The Ovulatory Phase

The *ovulatory phase*, also known as *ovulation*, is the midpoint of the menstrual cycle and usually begins 14 days after the follicular phase has started. During the ovulatory phase, the dominant follicle releases an egg from the ovary. Once the egg is released, *fimbriae*, which are finger-like projections, push the egg into the tube. Also, during this phase, there is an increase in the amount of mucous produced by the cervix. If a woman has sexual intercourse during this time, the mucus nourishes sperm and assists in the movement toward the egg for fertilization (WebMD, 2013).

The Luteal Phase

The *luteal phase* of the menstrual cycle occurs after ovulation. During this phase, after the egg is released, the empty follicle develops into a *corpus luteum*. A corpus luteum is a structure that secretes progesterone, which is a hormone that prepares the uterus for a fertilized egg to implant. If the egg is not fertilized, it passes through the uterus lining, where it is broken down and the next menstrual period begins. However, if sexual intercourse has taken place and the male's sperm has fertilized the egg, conception has occurred (WebMD, 2013). The fertilized egg, also known the *embryo*, travels through the fallopian tube and implants in the uterus. The female is now pregnant. Proper and effective education on the reproductive organs and how pregnancy occurs is a very important element of programs to prevent teenage pregnancy.

Theoretical Foundation

In order to fully understand teenage pregnancy, exploration and analysis of environmental, social, and community-based factors are needed. For the purposes of elaborating on the background for and providing valid data to this quantitative study, this literature review contains information relevant to teenage pregnancy, including adolescent health statistics, social and economic factors related to adolescents, and interventions and programs designed to reduce the rate of teenage pregnancy. Social cognitive theory addresses the sociocultural determinants as well as the personal determinants of behaviors (Bandura, 1998). According to Bandura, an effective way to manage health promotion involves changing actions within social frameworks that have unfavorable impacts on health as opposed to changing the propensities of individuals. Additionally, social cognitive theory, illustrated in Figure 4 may be used to explain why people obtain and keep certain behavioral patterns. In order for individuals to avoid a certain behavior, such as teenage pregnancy, exposure to positive environments is needed. Positive environments produce healthier and more positive behaviors.

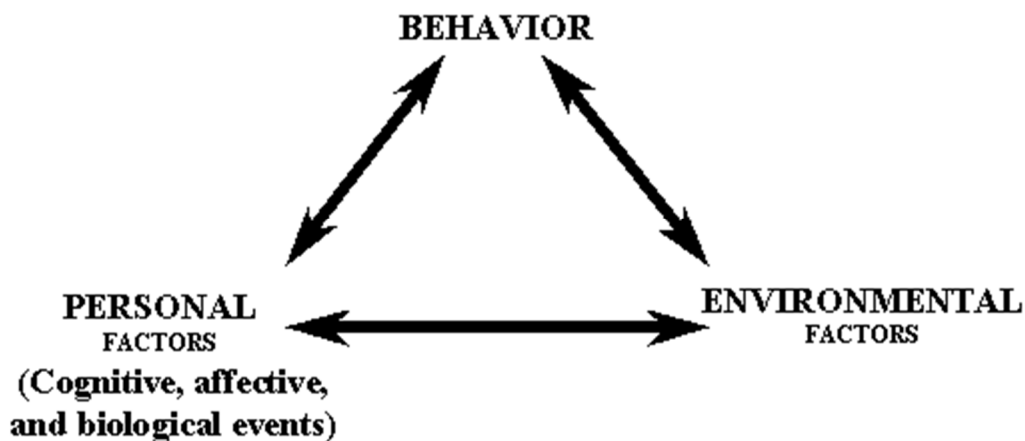


Figure 4. Diagrammed adaptation of social cognitive theory. This model of social cognitive theory represents behavior; personal factors in the form of cognitive, affective, and biological events; and external environmental factors. Adapted from *Health and Human Behavior* (pp. 50-51), by R. Kaplan, 1993, New York, NY: McGraw-Hill.

Public health officials continue to work to determine the conditions in which teenage pregnancies occur. Therefore, it is imperative to examine the factors that contribute to the incidence of teenage pregnancy. In consideration of social cognitive theory, certain factors are discussed. According to Bandura (1986), most human conduct and behaviors are acquired observationally; by watching others, one gains an understanding of how new practices are performed, and later, these thoughts are used as guidance for actions.

Social and Individual Factors

There are many factors that may serve to block positive lifestyle changes and behaviors. Socioeconomic status, education, attitude, culture, mental condition, and access to health care are all factors that affect the both the risk and the rate of teenage pregnancy. *Socioeconomic status* refers to a person's economic and social situation as it

relates to the individual's income, education, and occupation. Lower economic status and teenage pregnancy have carried negative connotations in U.S. society.

Previous research has shown that the characteristics of a community impacts adolescent sexual behaviors, pregnancy, and birth rates. According to Coyle et al., (2001), teenage pregnancy rates and childbearing have been found to be related to factors such as level of employment, community income, opportunities for the future, community stressors, and crime rate. Additionally, young individuals living in these communities, with limited economic resources, high unemployment rates, poor schools, and high crime rates, are usually less motivated to avoid risky sexual behaviors. These youth engage in risky sexual behaviors, such as unprotected sex, which increased the risk and the rate of teenage pregnancy and the spread of sexually transmitted diseases (STD's). However, other studies have found that adolescents who lived in higher quality neighborhoods in comparison to adolescents who lived in lower quality neighborhoods, commonly referred to as the ghetto or subsidized housing, were more likely to use contraception when engaging in sexual behaviors (Coyle et al.).

There are also studies that show that socioeconomic status does not have a direct influence on teenage pregnancy. In a study by Brener et al., (2000), that examined *The Association of Sexual Behaviors with Socioeconomic status, Family Structure, and Race/Ethnicity and U. S. Adolescents*, it was determined that lower socioeconomic status can be a risk factor associated with teenage pregnancy and sexually transmitted diseases. However, it is unclear about the impact of socioeconomic status on sexual behaviors. In this study, the authors used data from the Youth Risk behavior Survey (YRBS) and the National Health Interview Survey (NHIS) in order to explore the link between adolescent

sexual behaviors and family household demographics. The sexual behaviors that were examined were having ever had sexual intercourse, current sexual activity, the number of sexual partners, and contraceptive use. The family demographics used to measure socioeconomic status were family household income, parent education level, family structure, and race and ethnicity. The finding showed that there were no real significant effect on sexual behavior and socioeconomic status. Brener et al., implied that adolescents from all socioeconomic statuses are susceptible to teenage pregnancy and sexual transmitted diseases. There are other influences not mentioned in the study on sexual behavior, such as the media, portrayal of sexual behavior, sex education programs and access to healthcare. Therefore, in an effort to reduce teenage pregnancy and other adverse sexual behaviors, not only should health care be involved, there needs to be a collaboration with parents, communities, and schools.

Various studies have demonstrated a relationship between adolescent pregnancy and the negative social and financial consequences on the teen mother and her child. However, recent studies have found that it is unclear if there is a correlation between teenage pregnancy and socioeconomic status. Therefore, further in depth research is needed in order to determine the effect of socioeconomic status, if any on teenage pregnancy.

Social and Economic Consequences of Teenage and Unplanned Pregnancy

Studies have associated socioeconomic status and ethnic background with teenage pregnancy. There is also a variance in lower income neighborhoods. Teenagers in higher poverty stricken neighborhoods are least likely to complete high school and more likely to have a teenage pregnancy than teenagers in low-poverty neighborhoods (Harding,

2003). Russell et al., (2004) found that Hispanic national teenage birth rate is double that of Non-Hispanic whites. Additionally, Lander (1987) indicated that in African American communities, childbearing was sometimes viewed as a symbol of “womanhood” or “manhood.” However, Kaplan (1996) conducted a qualitative interview in the African American community and found that mothers of teen mothers felt their daughters’ motherhood caused a negative effect on their values and reputation in their communities.

Many teenage pregnancies are unplanned. When unplanned pregnancies occur, various social and economic factors are taken into account. For instance, teenagers experiencing unplanned pregnancy are less likely to receive the proper prenatal care, which in turn, increases the chances of their babies being born prematurely or with a low birth weight (Dusick et al., 2006). Dusick et al., indicated that babies born to teenage mothers are less likely to be breastfed. Research has shown that breastfeeding a baby is healthier, both cognitively and physically, than formula, (Dusick et al.).

Teenage pregnancy can often limit a teen’s educational background and employment experiences (Mollborn, 2007). There are so many negative outcomes associated with teenage pregnancy. These negative outcomes include lifelong poverty and public assistance, which usually follow the mothers’ and their children their entire lives. Research suggests that history usually repeats itself. The daughters of teenage mothers often become teenage mothers themselves, creating a generational cycle of disadvantages and impoverishment. Poverty is considered both a cause and a consequence of teenage pregnancy. If there is a reduction in the teenage pregnancy rate, then there should be a reduction in the poverty rate, especially the child poverty rate. Although, most teenage mothers come from disadvantaged and impoverished

backgrounds, prior to becoming pregnant, having a baby as a teenager only make matters worse.

According to Kaye et al., (2006), almost one quarter of teenage mothers become welfare recipients within the first 3 years of their child's life. Due to the teen's mother inadequate education they are less qualified for suitable paying jobs. Less than half of teen mothers graduate from high school, (Perr et al., 2010). In addition, research shows that a small percentage of teenage mothers' complete college before the age of 30 in comparison to women who wait to have children later in life (Hoffman, 2006). This educational disparity adversely affects income level. Reducing or even preventing pregnancy can be both an effective and efficient way to help with impoverishment and improvement of the overall health and well-being of the child and the family.

Abuse and neglect is one of the higher ranking social problem that impact children born to teenage mothers. According to Hoffman , the risk of children suffering from abuse and neglect is twice as high from teen parents, than from mothers who delayed childbearing until later. Another social problem that children born to teenage mothers experience is that daughters of teenage mothers risks of becoming teenage mothers is triple that are three times more likely to become teen mothers in comparison to mothers who had a child at a later age. Additionally, sons of teenage mother's chances of going to prison are greater than sons of mothers who were older (Perozek et al., 1997).

The fact that children born to teenage mothers are more likely to be born at prematurely or a low birth weight gives rise to the development of other health problems later in life. Some of the most common health issues associated to teenage pregnancy are

infant mortality, illnesses related to the senses, severe respiratory diseases, and mental illness (Perozek, et al.).

The education attainment of a child is also associated teenage parenthood. According to Hoffman, children born to teen mothers are 50 percent more likely to have lower educational achievements and less likely to complete high school. Hoffman suggests that children of older parents perform better in school than children of teen parents. Because of the negative educational disparities associated with the children of teen parents, the children chances of obtaining a good paying job and not live in impoverished environment are unfavorable.

Preventing teen pregnancy is integral in the improvement of the lives of adolescents today, as well as, enhancing the future outlook of their children. Decreasing adolescent pregnancy is one of the most assured approaches to improving children well-being altogether. If more children were planned and born to parents who are financially, mentally, and emotionally capable of taking care of them, there would be a decrease in the negative disparities affecting children in the United States.

Education

Education is an integral part of promoting positive lifestyle changes in adolescents, especially teenage pregnancy. In order for teenage pregnancy to be effectively addressed and prevented, the teenager must first be aware of the pregnancy prevention programs. This awareness involves education. Education on adolescent sexual behaviors and teenage pregnancy prevention should not just come from the school; it involves a collaboration of the home, community, and other healthcare and local organizations.

Sex Education

Sex education should begin at an early and continue on, accordingly. However, it is important that sex education is medically and scientifically accurate and age appropriate. According to the CDC (2012), “6.2 % of adolescents nationwide report having sex before the age of 13, 43.8 % by the tenth grade, and 63.1 % by the twelfth grade.” Studies have shown that the most successful teenage pregnancy prevention programs were the ones that targeted younger adolescents who were not already sexually active (Kohler et al., 2008).

There have been many discrepancies about the type of sex education programs that should be implemented in school and other community organizations. Some parents have argued that comprehensive sex education programs encourage adolescents to go out and engage in sexual activity, whereas, other parents support comprehensive sex education programs. According to Kohler et al., comprehensive sex education programs have been successful in postponing the initiation of early sexual activity and decreasing the number of partners and the incidence of sexual activity among sexual active youth. However, these sex education programs have been shown to promote safer sex practices and encourage adolescents to postpone sexual activity until they are older.

There are many abstinence-only sex education programs that have been implemented in the United States. These programs encourage adolescents not to have sex until they are married. Kirby (2007) implied that most abstinence-only education programs have been proven to be ineffective because they “fail to delay the onset of intercourse and often provide information that is medically inaccurate and potentially

misleading.” Additionally, research has shown that more teens receive education on “how to say no to sex” than on contraceptive methods (Martinez, et al., 2010).

Parents’ View on Sex Education

Parents have also been found to favor comprehensive sex education over abstinence-only education. A 2006 study conducted in North Carolina (An abstinence only education state) found that 89 % of parents supported comprehensive sex education programs in schools (Ito et al., 2006). In 2011, a study in Harris County, Texas, which is the third most populated county in the United States, was conducted. This study revealed that most parents supported both comprehensive sex education and abstinence education (as long as it was medically accurate information) in middle school. However, contrary to what most parents support, three-fourths of Texas school districts currently implement abstinence-only education programs (Tortolero et al., 2011).

Mississippi has the highest rate of teenage pregnancy in the United States (CDC, 2012). This study revealed that Mississippi parents support comprehensive sex education in school. Most parents prefer abstinence-plus education (McKee, 2011). Also, parents believe that the level of sex education that their adolescents are receiving in school has drastically impacted the teenage pregnancy and the STD rates in the state of Mississippi.

Adolescents’ View on Sex Education

In addition to parents favoring comprehensive sex education programs being implemented in school, teenagers across the nation would like to receive more education on sexual behaviors, contraceptives, risks, and prevention. According to Kaiser Family Foundation (2003), one third of adolescents are unaware of the risks of having unprotected sex and the fact that having a STD increases the risk of contracting HIV.

Teenagers want to receive more comprehensive sex education information in school. Kaiser (2003) found that teenagers who received comprehensive sex education were more knowledgeable about sexually transmitted diseases compared to those teen who received abstinence-only sex education. Additionally, a vast majority of teenagers have never heard of emergency contraception, and many teenagers believe that birth control is protection against HIV/STD's (Kaiser, 2003).

Sex Education in Other Developed Countries

Although there has been a decline in teenage pregnancy, the United States still ranks the highest in comparison to other developed countries. According to Hamilton et al., (2009), approximately "400,000" teenage pregnancies occur between the ages of 15-19. On the other hand, there are several European countries that have low teenage birth rates. These countries contribute their success of maintaining low teenage pregnancy and birth rates to education. For instance, the Netherlands begin educating their children about sex in preschool and continue throughout all levels of school. As a result, the Netherlands have one of the lowest teen birth rates in the world. The United Nations (2011) reports that "5.3 per 1,000 females aged 15-19 become pregnant each year, and this rate is six and a half times lower than the United States." Also, the rate of abortions and HIV infection are three times lower than the United States (Ferguson et al., 2008).

Germany also has a lower teenage birthrate, abortion rate, and a lower prevalence of HIV infection rate than the United States (United Nations, 2011). Comprehensive sex education is implemented, and not only does it strive to prevent unwanted and unplanned pregnancy and the prevalence of HIV and STD's, but it also focuses on meeting the children's reading and developmental needs (United Nations). France has a mandated sex

education program that begins when the children are 13 years old. Parents are not allowed to withdraw the children from the program. As a result, France's birthrate and prevalence of STD's and HIV is also lower (United Nations).

Both parents and educators play a huge role in educating children about sexual health and behavior. It is the parent's responsibility to instill values, such as, social, religious, and cultural values in their children regarding sexual health and relationships. Whereas, it is the responsibility of the health educators and professionals should provide the children with the medically accurate, science-based information on sexual health, behaviors and consequences. However, both parents and educators should complement and support each other's efforts. Additionally, parents who oppose school-based sex education programs should not prevent other children from receiving sex education. There should be some type of research-based information that will guide health educators in determining to what extent, is the most appropriate form of sex education for the classroom setting.

Sex education in schools should be taught in a professional manner, and it should be respectful of other's values. It would be appropriate for health educators to explore the student's beliefs and values through dialogue and discussion, in a precise, yet respectful manner. Ultimately, the overall goal of sex education is to provide the knowledge, skills, training, and information that adolescents need in order to prevent unwanted and unplanned pregnancy, and the risk of being infected with an STD or HIV.

Teenagers' Attitudes toward Sex and Teenage Pregnancy

Teen attitudes toward sex and teen pregnancy play an integral part in the increased teen pregnancy rate. Recent data indicate that nearly that more than half of both

teen boys and girls agreed that it is ok for a female to have a child out of wedlock (CDC, 2010). Adolescents from different socioeconomic backgrounds attitude regarding sex, pregnancy, and contraception are different (Jewell et al., 2010). A study was conducted on 34 young women between the ages of 16-24. They were recruited from adolescent health clinics, general practices, and young mother's groups. Of the 34 females, 16 were already mothers or pregnant. Also, of the 34 participants 24 lived in socially "disadvantaged" circumstances (Jewell et al.)

The methods for data collection used in this study were in depth interviews and participant observations. The observations were of four different groups. The interviews were recorded, and then later transcribed. Additionally, descriptive notes were taken regarding the young women sexual relationships, emotional status, and social environment and circumstances. The study showed that young women from socially disadvantaged backgrounds considered the ideal age to start a family were between the ages of 17-25 years. However, women from more socially advantaged backgrounds wanted to wait until their 20's or 30's to start a family. They considered education, career, and personal development more important than starting a family early. Additionally, socially advantaged women were most likely to have an abortion during adolescence if they became pregnant. Whereas, socially disadvantaged women considered abortion, but were unable to go through with it. Other socially disadvantaged women hid their pregnancy in the early stages in order to avoid the option of abortion, primarily because of financial reasons and religious beliefs (Jewell, et al.).

Contraception use was based on how young women felt about their partner and relationship. Their emotional attachment was their reason for not using contraception and

taking sexual risks. For instance, if the women considered the relationship as long-term, they did not always use contraception. Also, both socially advantaged and disadvantaged women had unprotected sex. However, the socially advantaged women would use emergency contraception. Whereas, the socially disadvantaged young women would wait and see what happens, due to their lack of knowledge regarding contraception and access to healthcare (Jewell et al.).

The socially disadvantaged women stated that they became sexually active early because sex education was taught late, and there was not a thorough explanation of the contraception use and the emotional aspects of sex and pregnancy. However, because of prior sex education socially advantaged young women were knowledgeable about sexual health, had better access to the services, and they were more likely to obtain and use contraception (Jewell et al.)

Most teen pregnancies that occur with teens that are unmarried are unplanned (Bruckner et al., 2004). Current literature provides several reasons of why adolescent's attitudes toward pregnancy differ. However, more thought should be taken in whether pregnancy risk and contraceptive use are directed related to the teen's attitude. There has been a debate by teen advocates and researchers on whether attitudes should be addressed when implementing pregnancy prevention programs. Attitude is important for various reasons. Teen experts have presumed that pregnancy prevention methods are accessible to teenagers, but they do not fully utilize them because they do not consider the results of teenage pregnancy important.

Attitude towards teenage pregnancy is also important because attitudes are more modifiable than the social and economic situations where the attitudes were evolved

(Bruckner et al.). For instance, teenage pregnancy and initiation of sex are associated with poverty (Bruckner et al.). However, pregnancy prevention programs are not aimed to help eliminate poverty; they are more focused on shaping the attitudes towards pregnancy prevention. It is important to determine which attitudes need to be altered: teenage attitudes on pregnancy or contraception? Knowing the adolescents attitudes toward pregnancy will help determine their risk, if any, of becoming pregnant.

According to Bruckner et al., there is no correlation between sexually active teenager's attitudes toward pregnancy and their risk of pregnancy. Pregnancy attitudes are linked to contraceptive use. "Approximately 750,000 adolescents become pregnant each year in the United States" (Akers et al., 2010). Inconsistent contraceptive use is a factor that increases an adolescents' risk for unplanned pregnancies. However, there are factors and barriers that prevent the adolescent from using contraceptives. These barriers include access to health adolescent's thoughts of how their parents view contraceptive use (Akers et al.). There have been several studies that have documented positive relationships between parent-adolescent communication and contraceptive use. According to Akers et al., maternal communication with adolescents regarding contraceptive use increased the probability of the adolescent using contraceptives. Whereas, adolescents who's mothers did not communicate with them regarding contraceptive use were twice as less likely to use contraceptives (Akers et al.).

Akers et al., found that parent-adolescent communication is directly correlated with adolescent sexual behavior and encountering with sexual situations. Although Akers et al., indicated parent-adolescent communication can be associated with increased adolescent contraceptive use. There are limited studies that examine the parent-

adolescent communication process as it relates to contraception. It is important to examine this form of communication, specifically in the African American and minority communities due to the high pregnancy rates amongst them.

In a study that explored the black parents and adolescents perspectives on contraception and in family planning, focus groups were conducted between December 2007 and March 2008 in Pennsylvania. The focus groups explored family communication about sexual health topics. These sexual health topics included contraception, family planning, and abortions (Akers et al.). According to Akers et al., the sessions were analyzed using the constant comparison and grounded theory approach to content analysis. Akers et al., concluded that parent-adolescent communication interventions are needed. They can improve contraceptive knowledge and help parents understand the gender biases associated with the dissemination of sexual health information. Additionally, parent-adolescent communication enhances parent communication skills and the role the parents play in their adolescents' sexual development.

In the absence of formal pregnancy prevention educational programs, some teenagers are able to avoid pregnancy because they complied with decisions made by their parents or loved ones (Martin et al., 2001). This is important because it demonstrates the importance of how knowledge is supported through learned positive behaviors. Family, sibling, and peer influence on attitudes related to sex have been studied. According to Sieving et al., (2006), youth who have sexually experience peers are more likely to have their first sexual intercourse experience during adolescence. Adolescents are more likely to engage in sexual activities in order to acquire more friendships. On the other hand, adolescents whose friends postpone sexual involvement

are more likely to do the same (Carvajal et al., 1999). Data suggests that adolescent's perceptions of their peers have a significant influence on their attitude toward sex. Siblings also play an integral role in adolescent's attitude toward sex because of their close living situation and their frequent contact among each other (Kowal et al., 2004). Siblings often depend on each other to provide their views on various situations. In some instances, younger sibling's attitudes about sex are shaped by their older sibling's actions towards sex.

When designing pregnancy prevention programs for economically disadvantaged African American adolescent females, it is imperative that the program addresses the female's desire and attitude towards wanting to become pregnant. Davies et al., (2003) conducted a study on a sample size of 462 sexually active non-pregnant African American adolescents in order to examine the prevalence and correlates of wanting to become pregnant. Significant correlates with pregnancy desire were having a male partner who desired pregnancy or was older, having low self-esteem, limited family support, and barriers to the use of birth control. Considering these correlates when designing pregnancy prevention can be the difference in the increase or decrease in the teenage pregnancy. Therefore, it is important to remember that certain factors such as what is considered normal in the community, and adolescence interactions with peers, siblings, parents and loved ones all influence attitudes toward sex and becoming pregnant.

Contraceptive Use

Choosing a birth control method is a personal decision. Important things to consider when choosing a birth control method are the effectiveness of the method, the

safety, and how affordable is the method. A healthcare provider would be able to provide an individual with this information and assist with choosing the most appropriate birth control method. Contraception is an integral part of sexual health and wellbeing. CDC (2010) reports that “25 % of women who have sexual intercourse without using a form of birth control will become pregnant within one month and 85 % will become pregnant within one year.” There are many forms of birth control to consider when trying preventing teenage and unplanned pregnancy.

According to a survey administered by the CDC, more teenage girls are using the rhythm as a form of birth control. The rhythm method involves timing sex to avoid fertile days in order to prevent pregnancy. Despite their motivation to practice the rhythm method, more teens feel that it is acceptable for females to have a baby out-of-wedlock. Teenage use of birth control and their attitudes towards teenage pregnancy has remained consistent through 2002 (CDC). More recently, about 17 % of sexually active teen girls reported using the rhythm method, which is an 11% increase from 2002 (CDC). Also, Joyce Abma, a social scientist with the CDC indicated that the increase in the teenage girls might have been using another form of birth control, but the increase in the teenage pregnancy rate can be partly contributed to the use of the rhythm method failing to work. According to the CDC the withdrawal method is not technically a form of contraception (CDC). However, it is commonly used during sexual intercourse. Withdrawal requires the male to remove the penis from the vagina before ejaculation. This is an ineffective method because fluid which contains sperm is released before ejaculation. When this fluid is released, conception can occur.

There are times individuals can engage in sexual activity and emergency contraception is needed. Plan B, is an emergency contraception that can help prevent contraception by keeping the egg and sperm from joining (CDC). Plan B can be obtained over-the-counter if the female is 18 or older. However, females under 18 can obtain Plan B from a clinic or healthcare provider. This method must be used as soon as possible after unprotected sex has occurred as it is only effective up to 72 hours. It is recommended that it be used 24 to 48 hours after sex.

There are both male and female condoms. Condoms are good for preventing the transmission of some sexually transmitted diseases. They also aid in the prevention of pregnancy by preventing sperm from entering the vagina. Unlike the male condom, the female can be placed in the vagina up to 8 hours prior to engaging in sexual activity. While condoms are not difficult to use it may take a while to get used to them. According to CDC, female condoms are between 75 to 95% effective. It is important that male condom and the female condom are not used at the same time. The friction between the two condoms can damage the effectiveness of the contraceptive methods.

If an individual is looking for pregnancy prevention without the hormonal birth control methods, the contraceptive sponge might be most appropriate. Contraceptive sponges contain spermicide can be irritable to both partners. One possible side effect of the contraceptive sperm is Toxic Shock Syndrome (TSS). NIH (2012) indicated that TSS is caused by a toxin produced in bacteria, and it is a serious illness whose symptoms include fever, shock, and negative effects of several other body organs' functions. This sponge must be worn several hours after intercourse, which can provide a warm

environment for bacteria and cause toxic shock. Contraceptive sponges are around 90 % effective (CDC).

The Depo-Provera, sometimes referred to as “the shot,” is an injectable form of birth control that prevents pregnancy up to three months. This injection is administered by the health care provider in three month intervals in the arm or buttocks. This injection prevents the egg from being released during ovulation, which prevents pregnancy. Depo-Provera has a 99.7% effectiveness rate; the most effective form of birth control (CDC). However, the most common side effect is irregular menstrual cycles or the absence of a menstrual cycle altogether.

The diaphragm is a birth control method that is similar to the cervical cap. The diaphragm is dome-shaped, made of a thin rubber, which is filled with spermicide. It is made to fit over the cervix and the vagina muscles hold it in place. It can be placed in the vagina up to 2 hours prior to sexual intercourse. Pregnancy is prevented by the spermicide killing the sperm before it meets the egg. According to CDC, the diaphragm is between 85 to 95 % effective.

Oral contraception, also known as the birth control pill is the most frequently used method of birth control. According to CDC, the birth control pill is the most commonly form of birth control; over 80 % of women in the United States have taken birth control at some point in life. The hormones in the pill prevent ovulation. According to the Food and Drug Administration (2011), the birth control pill is more effective when the birth control pill is taken at the same time every day; whereas, the birth control pill is only 90-95 % effective when it is taken at different times or missed. Also, the effectiveness of the pill is lowered when taken in conjunction with other medications. In addition to

preventing pregnancy, the pill is also known to reduce menstrual cramps and cause lighter periods.

Another form of birth control that is given monthly is the *Nuva Ring*. It is inserted in the vagina for a month. During that month the hormones from the *Nuva Ring* are absorbed in the bloodstream. After three weeks, the *Nuva Ring* should be taken out and discarded. Some of the side effects of the *Nuva Ring* are weight gain, nausea, and breakthrough bleeding (CDC).

If a female is not capable of remembering to take the pill, does not like injections, and does not want to go through the hassle of inserting something in their vagina prior to intercourse, Ortho Evra, “the birth control patch,” might be a form of birth control to consider. Ortho Evra is a patch that is placed on the skin once a week for three weeks out of the month. If used properly, Ortho Evra is just as effective as the pill (CDC). Hormones from the patch enter the bloodstream through the skin. These hormones prevent ovulation from occurring. Some side effects associated with Ortho Evra are headaches and nausea. Severe side effects that can occur are heart attack and stroke. A thorough exam and family history should be assessed by a healthcare provider to determine if the patch is the safest and most appropriate birth control method.

Choosing a birth control method can be both confusing and overwhelming. It may be tempting to have sex without using any method of birth control. However, the consequences may cause serious problems. The more knowledge teenagers have about birth control, the more they become more responsible for their actions by protecting themselves from sexually transmitted diseases and preventing unwanted and unplanned teenage pregnancy.

Evidence-Based Practices That Focus on Teenage Pregnancy Prevention

According to Schaalma et al., (2003), health promotion should be evidenced based, subject to evaluation, needs driven, and ecological in perspective. Therefore, it is important to decipher how this can be achieved in school-based sex education. In order to promote effective health and sex education that include healthier behaviors more effective sex education strategies must be delivered. Formal educational settings that focus on theory and evidence-based social and behavior skills that are related to sexual behaviors promotes safer sex practices in the adolescent communities. However, most of these skills are not taught in the classroom due to policy and cultural constraints. When faced with these challenges, it is important for the health promoters to target the legislators and communities in order to implement more effective sexual health programs.

The area of public health has begun to focus more on preventive measures and strategies related to prevalent public health issues such as teenage pregnancy. Some of these preventive methods include campaigns and different sexual health programs both in schools and the community. As stated earlier, the United States is highest ranking in both teenage pregnancy and sexually transmitted diseases. Therefore, the federal government has provided states with federal grants to fund abstinence-only sex education programs for over 10 years. However, these programs have proven to be ineffective based on the current data of both the transmission rate of STD's and pregnancy rate among the teenagers in the United States. According to Stranger-Hall et al., (2011), abstinence-only education is ineffective in preventing teenage pregnancy, and may be the contributing factor to the high teen pregnancy rates in the United States.

Although it has been shown to be ineffective, abstinence-only education is the preferred form of sex education because depicts the morals and values of families and communities (Stranger-Hall et al.). In a study entitled “Abstinence –Only Education and Teen Pregnancy Rates: Why We Need Comprehensive Sex Education in the U.S.,” an assessment of the effectiveness of abstinence-only education in reducing teen pregnancy was done. In this study, the analysis showed that white teens, which were primarily in richer states, had lower teen pregnancy rates. These richer states emphasized abstinence-only less. However, in the poorer states, abstinence- only education was emphasized more because of higher degrees of religious beliefs. Therefore, the abortion rate was lower, but the teen pregnancy rate was higher.

According to Hall et al., the national data shows that the degree of abstinence education and the teen pregnancy birth rate are directly correlated. The more abstinence –only education is stressed, the higher the teen pregnancy rate. On the other hand, teen pregnancy and birth rates were lower in the states that focused more on comprehensive sex education, which included both abstinence and safer sex practices. These studies suggest that comprehensive sex education programs, which include sexuality, abstinence, pregnancy and STD prevention methods works best in the reduction of the teen pregnancy rate (Stranger-Hall et al.)

Comprehensive Sex Education (CSE) teaches about abstinence plus evidenced-based and age-appropriate contraceptive use. It also addresses interpersonal and relational skills to help them effectively survive as an overall healthy young adult. (Advocates for Youth, 2012). Advocates for CSE question the effectiveness of abstinence-only education. Additionally, some health educators argue that abstinence-

only programs primary focus is on virginity. Therefore, abstinence-only education does not promote healthier habits with sexually experienced adolescents. According to Santelli et al., 2006, with almost 50% of U S teens reporting being sexually active, there is an increased concern and need for CSE in order to promote their health and the well-being.

Borawski (2005) suggests that knowledge alone may not sustain a behavior change and prevent pregnancy, but is an important factor in improvements of adolescents sexual risk behavior. Therefore, most interventions targeting adolescent sexual behavior will address sexual behaviors, contraceptive use, and initial intercourse. It is obvious that a large number of adolescents fail to use protection during their sexual encounters. This risky behavior can be seen by the high rates in pregnancy and HIV/STD infection. According to the American Psychological Association (2005), comprehensive sex education does help in the prevention of teenage pregnancy and sexual health related issues (Bartlett et al., 2007, p. 16).

Living Conditions Associated With Teenage and Unplanned Pregnancy

Teenage pregnancy can be difficult when a young woman's living conditions are good. However, it becomes even more challenging when a young woman is in the care of the states, living in foster care. According to Boonstra (2011, p. 8) approximately 160,000 adolescents either live in foster care or with members of the family other than their parents primarily because of neglect or abuse. Data suggests that adolescent females who are part of the foster care system are twice as likely to become pregnant, and experience a repeat teenage pregnancy before the age of 19 (Boonstra, 2011, p.8).

There are many welfare programs that offer programs and resources that focus on pregnant and parenting teenagers needs in foster care. However, there are very few

programs that target pregnancy prevention for adolescents in the foster care system. This can be due to the lack of awareness of teens living in foster care high risk of becoming pregnant. Adolescents who live in foster care have been known to have a high risk of both physical and emotional problems. Recently, more mental and physical health professionals have begun to pay more attention to the sexual and reproductive health of adolescents in the foster care system. There is no known national data available. However, there have been regional outcome studies that have shown that childbearing and the sexually transmitted infections (STI) rates among the adolescents in the foster care system being high (Boonstra, 2011, p. 9).

The Midwest Evaluation of the Adult Functioning of Former Foster Youth study was conducted by the Chapin Hall Center for Children at the University of Chicago. This study evaluated the relationship between youth in the foster care system and their risk of pregnancy, childbearing, and STI's. This was a longitudinal study done on over 700 young adults in Iowa, Wisconsin, and Illinois. The results showed that 33% of females in foster care had become pregnant by age 17 or 18, in comparison to 14% of their peers not associated with the foster care system. Additionally, by the age of 19, 46% of repeat pregnancies occurred, whereas in the general population, there was a 34% repeat pregnancy rate (Dworsky et al., 2010, p.1352).

Few studies explore reasons why there is such an increase in the rates of teenage pregnancy and STI transmission among youth in the foster care system, in comparison to other youth. However, there has been evidence to show that youth in foster care have sex earlier than other youth (Boonstra, 2011, p. 9). A study published in the September 2009 Children and Youth Services Review examined the sexual behaviors of approximately

900 youth in the welfare system. Some of the youth had a history of being in the foster care system, while others resided with their parents. Data were used from the National Survey on Child and Adolescent Well-Being. The results showed that almost 20% of the youth in the foster care system had consensual sex before the age of 13, whereas, only 8% of 9th-12th graders not associated with the foster care system had consensual sex (James et al., 2009, p.994).

Research also suggests that youth in the foster care system are not as motivated to delay childbearing as youth in the general population (Boonstra, 2011, p. 10). A focus group study, conducted by the National Campaign to Prevent Teenage and Unplanned Pregnancy and the Uhlich Children's Advantage Network (UCAN), explored the relationship of youth in the foster care system and their view on pregnancy and childbearing. This focus group study consisted of 120 foster youth. The study showed that the foster youth felt that having a child was a gateway to replace that void felt by not having a family to show them love (Love et al., 2005, p.13). Data also suggests that teenagers who are connected to their parents and consider their parents to be loving, kind, and concerned are more likely to use precautionary methods to delay sexual activity and avoid pregnancy, than youth in foster care (Boonstra, 2011, p. 10).

Instability can also be associated with the inability to reach foster care youth with pregnancy prevention programs. The care that the foster youth receive is often displaced because of the turnover rate of the caseworkers, frequent changes, temporary living arrangements, and the inconsistencies between other agencies (Allen, 2008, p. 2). Foster care is supposed to be a temporary living arrangement or safety net until the children and youth are reunited with their parents or found a permanent home. However, some youth

stay in foster care for an extended period of time. Approximately 400,000 children and youth who receive foster care services remain in foster care. Over half of these children remain in foster care for a year or more, and little over 20% remain in foster for more than 3 years. Unfortunately, approximately 11% remain in foster care until they become adults; leaving without a stable, permanent family (Children's Bureau, 2010b).

In 1980, the Adoption Assistance and Child Welfare Act was passed by Congress. This Act provides federal funding to states for the maintenance of the care for the children in foster care. These costs were primarily for the foster children necessities; to include items such as food, clothing, housing, and other administrative fees. According to Scarcell et al., (2006), in order to protect children from neglect and abuse the local government spends approximate \$23 billion annually in foster care. Additionally, children in foster care automatically meet the eligibility requirements for Medicaid. Medicaid is the state government health insurance for those individuals living in poverty and the underserved. Medicaid covers a host of health care services including pregnancy prevention methods, such as contraceptives and STI testing and treatment. In some states, foster care youth are covered by Medicaid until the age of 21. With the new health care reform, starting in 2014, the Medicaid coverage for former foster youth will be extended until the age of 26.

The federal health legislation has recognized that there is a continual need for older foster youth to receive assistance in making a transition from foster care to independent living. Therefore, in 1999 the John H. Chafee Foster Care Independence Program was enacted (Boonstra, 2011, p. 10). This program offers a variety of social services, such as job training and placement, and money management skills.

Additionally, in 2008, The Fostering Connection to Success and Increasing Adoptions Act was passed. This act was an expansion of the support provided by the federal government, which allows states to use federal funds for adoption, legal guardianship, and foster care up to the age of 21. This act may also assist with foster youth delaying pregnancy and childbearing by providing information and resources related to healthy decision making and sexual health (Boonstra, 2011, p. 10). The Fostering Connections Act requires that the child welfare agencies in conjunction with other state health and Medicaid agencies develop a plan of care for ongoing health care services specifically foster care youth. This plan must include a summary of health screenings, including age appropriate sexual health screenings (Boonstra, 2011, p. 10).

The Government's Role in Reducing Teenage Pregnancy

According to Santelli et al., (2010), teen pregnancy is associated adverse social and health outcomes. In comparison to women who delay childbearing until later, teen mothers are more likely to drop out of school, face unemployment, live in poverty and on welfare, and experience a repeat pregnancy. Also, if they marry because of pregnancy, their likelihood of divorce is greater. Additionally, teen mothers are more likely to experience infant mortality or premature births. These children of teen mothers are less likely to do as well socially and health wise, than the children of older mothers (Santelli, et al., p.74).

In an effort to prevent the negative and long-term effects associated teenage and unplanned pregnancy and births, the federal government has been proactive in implementing laws for this national problem. The government has always attempted to play a role in reducing the rate of teenage pregnancy in the United States. Preventing

teenage pregnancy is of high importance among policy makers and the public because of the high social, economic, and health costs for teenagers and their family (Solomon-Fears, 2013). According to the National Campaign to Prevent Teen and Unplanned Pregnancy (2011), local, state, and federal taxpayers in the United States spend approximately \$11 billion each year on the costs associated with teen pregnancy. Over the past thirty years, there have been different federal government strategies that focused on reducing teenage pregnancy:

1981-1996: The Adolescent Family Life (AFL) and the Title XX of the Public Health Service Act were created in 1981 and they provided funding for issues related to adolescent sexuality, pregnancy, and parenting. In 1981, The Adolescent Family Life (AFL) program was enacted as Title XX of the Public Health Service Act. This program was administered by the Department of Health and Human Services Office of Adolescent Pregnancy Programs. This program focused primarily on two parts: care and prevention. The care part provided comprehensive education, health, and social services. These services included life skills, vocational training and planning, decision making skills, and effective communication skills. These services were directly implemented through the Office of Adolescent Pregnancy, as well as, through partnerships with universities, schools, public health organizations, and other community agencies. This program targeted both of the parenting teens, their child, and the family members in order to improve the effects of early childbearing for teens, their children, and their families. The services consisted of overall health and wellness, which included pre and post-natal care, nutrition education, and job training services.

1996-2009: The Welfare reform Act of 1996 provided funding for abstinence-only approach to reducing and preventing teenage pregnancy.

2009-Present: The government provided funding and established two programs: 1) Teen Pregnancy Prevention (TPP), and 2) The Personal Responsibility Education Program (PREP). These two programs focus on evidence-based pregnancy prevention initiatives. The prevention part of the AFL program was primarily from 1998 through 2009. Prevention programs focused on developing, testing, and evaluating pregnancy prevention programs designed to postpone sexual activity and encourage abstinence. The prevention program was used exclusively for abstinence-only programs and they targeted adolescents between the age of 9 through 14 in public schools, at-risk communities, and families. Funding was available for this program through 2009. However, funding for the AFL program has ceased.

The TPP was provided \$110 million funding for fiscal year 2010, and \$105 million in funding for 2011, 2012, and 2013. The PREP was provided \$75 million in funding for five years, 2010-2014. Additionally, the Affordable Care Act has implemented exchanges (health insurance markets) which have been required in all states since 2014. These exchanges aim to help in the reduction of teenage pregnancy by providing teen pregnancy prevention and parenting resources.

Although the United States continuously ranks the highest in the rate of teen pregnancy in comparison to any other developed country, the government continues to play an integral role in reducing teen pregnancy. With the vast knowledge of research on effective interventions targeting the reduction of teenage pregnancy and the implementation of the current pregnancy prevention programs, there should be a decrease

in teenage pregnancies in the United States. According to the Guttmacher Policy Review (Winter 2010), in December 2009 the United States sex education policy changed. President Obama signed a \$114.5 million teen pregnancy prevention initiative into law. This initiative replaced the abstinence-only programs, which were determined to be unsuccessful in the prevention of teenage pregnancy. With the abstinence-only programs, contraceptives were prohibited from being discussed and they focused primarily on abstinence until marriage. However, with the implementation of the pregnancy prevention initiative in 2009, the pregnancy prevention programs are required to be age appropriate and medically accurate. Additionally, they will include more comprehensive approaches that promote abstinence and contraceptive use for teens having sex.

The FDA was ordered by a federal judge to lift the age restrictions on the “morning-after” pill in April 2013. However, the approval did not come until several weeks later. This approval made the morning after pill available to anyone, at any age. Research has shown that access to contraceptives, including the morning-after pill, is capable of help in the reduction of unwanted and unplanned pregnancies in the United States. The “morning-after” pill is an emergency contraceptive that can prevent pregnancy from occurring up to five days after unprotected sexual intercourse. However, this decision was appealed by the Obama administration (Guttmacher, 2013). The federal judge that made the decision to lift the age restrictions felt that by making the pill available to anyone will help lower the abortion rate and the rate of Teenage Pregnancy in the United States. Additionally, it would help eliminate some of the emotional, physical, and financial burdens associated with unwanted and/or unplanned pregnancies.

There is no research that reports the safety and efficacy of the morning-after pill based on age. As with any medication, there can be some adverse effects when taking the morning-after pill. These side effects include: irregular periods, nausea, breast tenderness, dizziness, and headaches (Trussell et al., 2013). According to Trussell et al., there have not been any deaths or serious complications linked to the morning-after emergency contraception. The U.S. Medical Eligibility Criteria for Contraceptive Use (US MEC) stated that women with a history of ectopic pregnancy and health issues related the major organs and who are breastfeeding may use the morning-after pill. They also reported the low dosage of hormones and the limited hormone exposure can be safe for women who would normally be advised against using oral and hormonal contraceptives. However, there is no data available on the effects of women who frequently use emergency contraceptives over a long period of time.

Others argue that making the morning –after pill available to anyone would only encourage sex at a younger age. However, research has shown that readily available contraception and accurate education on proper use of the contraception helps teenagers less likely to become pregnant before they want to. Additionally, studies have shown that a good number of teenagers become sexually active before the age of 15 and approximately 25% will not use any form of birth control during the first sexual intercourse experience. However, there is no evidence that shows teenagers access to contraception increases the likelihood of them engaging in sexual activity (Trussell et al., 2013).

Summary and Transition

The literature is explicit in the explanation of a variety of factors associated with the relationship of teenage pregnancy and the environmental factors. Contraceptives, teenager's attitudes toward sex, and social and economic factors all contribute to the incidence of teenage pregnancy. However, these factors are inconclusive and further analysis and needed. Additionally, the environments impact on health behavior should be thoroughly evaluated since an individuals' place of residence has a direct impact on their behaviors and health-related decisions.

The Social Cognitive Theory provides a framework for understanding personal beliefs, environmental factors, and social influences on teenage pregnancy. This theory allows one to better understand these behavior patterns associated with teenage pregnancy and identify methods to reduce the incidence of teenage pregnancy. Chapter 3 outlines the quantitative method analysis used to assess factors that influence teenage pregnancy. A survey was used to examine sexual health, knowledge, and attitudes on sex, and examine the external factors on the individual. These evaluations helped to determine whether environmental factors impact teenage pregnancy.

Chapter 3: Research Method

Introduction

This study examined the impact of environmental and individual risk factors for teenage pregnancy by exploring science-based approaches to teen pregnancy prevention. These risk factors include unsafe sexual practices, contraceptive use, multiple sex partners, lack of school attendance and low school performance, school dropout, low family income, and single-family household (Tsai & Wong, 2003). Data were gathered from teenagers of all races attending local high schools, identified by local adolescent health agencies and agencies that provide assistance to pregnant and parenting teenagers via health reports and surveys. In this chapter, I outline the research design used in this study and provide a detailed account of the data collection and analysis process.

Research Design and Approach

This quantitative cross-sectional study was conducted to explore science-based approaches to teenage pregnancy prevention. A quantitative research approach was chosen for this study because it involved structured strategies to quantify human conduct and the use of organized instruments for gathering information from respondents (Brink, 2006). According to Creswell (2003), a quantitative design provides a sample of a population in order to numerically describe the population's attitudes, patterns and/or opinions. Surveys provide an inexpensive, quick, efficient, and accurate means to evaluate information about a population. Additionally, when surveys are used in research, the data obtained are the most current data involving the issue at hand. In this study, I attempted to obtain information from both non pregnant and pregnant and parenting teenagers and to identify certain behaviors and risk factors that contribute to

teenage pregnancy in South Georgia. The survey research questions concerned the relationship between teenage pregnancy and education, sexual knowledge and attitudes, socioeconomic status, living conditions, contraceptive use, access to healthcare, and parent's age at first pregnancy. The independent variables were education, sexual knowledge and attitudes, socioeconomic status, and living conditions; the dependent variable was teenage pregnancy. A survey method was chosen because it was cost effective and made data collection relatively easy (Creswell, 2009). This research design was appropriate for obtaining relevant information, as well as identifying and describing risk factors that contribute to teenage pregnancy in South Georgia.

Setting and Sample

Setting

The study took place in Albany (Dougherty County), Georgia. Dougherty County is located in Southwest Georgia and borders seven rural counties. It has a population of 77,431 (U.S. Census Bureau, 2012) contained within 335 square miles. More than 67% of the population is African American (U.S. Census Bureau, 2012). The county reports that almost 45% of the population receives some form of public assistance, with a high average unemployment rate of 11.4% compared to the national unemployment rate of 7.9% (Georgia County Guide, 2013).

The population targeted for this study was female adolescents aged 15 to 19 currently residing within a 50-mile radius of Albany, Georgia. *Adolescents* refers to youth aged 10 to 19 (WHO, 2013); however, adolescents aged 10 to 13 were excluded from this study. Most sex education classes are not taught until seventh grade. Therefore, the context of the survey might not have been easily understood by adolescents younger than

13. Additionally, the largest rate of teenage pregnancy is found among those adolescents aged 15 to 19 (WHO, 2013).

The study took place in Southwest Georgia at the Millennium Second Chance Education Center and the Adolescent Health and Youth Development Program. The Millennium Second Chance Education Center provides education and training to at-risk youth between the ages of 16 and 21 who did not get a chance to graduate from high school. This education center provides vocational-readiness training and workshops on a variety of occupations. The Millennium Second Chance Education Center also helps to mold youth into adults by providing job readiness, life skills, health and wellness, parenting skills, and a host of other resources related to the youths' individual needs. Currently, these centers are located in three cities in Southwest Georgia: Sylvester, Pelham, and Camilla. The Adolescent Health and Youth Development (AHYD) program's goal is to improve the overall health and well-being of adolescents in Georgia (Georgia.gov, 2013). AHYD provides service to adolescents aged 10 to 19. It was initially implemented to promote the pregnancy prevention initiative, but this program now supports proven, effective strategies that promote community awareness about adolescent health and the issues that adolescents are bombarded with, such as bullying, suicide, violence, and abuse of alcohol and other drugs. Additionally, adolescents are given access to services such as tutoring and counseling, as well as positive youth development organizations (Georgia.gov, 2013).

I used a simple convenience sample of female adolescents between the ages of 15 and 19 who resided in South Georgia and were not married. Participants were selected using convenience sampling. A homogeneous sample of adolescents was selected for this

research and excluded adolescents younger than 14 and older than 19 years of age and adolescents not residing in Georgia.

According to the Georgia Campaign for Adolescent Power and Potential (GCAPP, 2013), Georgia has the 17th highest teen birth rate in the nation. The Georgia Online Analytical Statistical Information System (OASIS, 2013) has reported that the teen birth rate in 2009 was 47.5 per 1,000 for girls ages 15 to 19 and that over 16,000 births in that age group occurred that year. Of these births, 26.2% were repeat births (OASIS, 2013).

Sample

Although both organizations were able to provide the approximate number of adolescents to whom they provided services each year, they were unable to provide a breakdown of the adolescents' demographic and personal information. Because of HIPAA guidelines and breach of confidentiality concerns, neither the Millennium Second Chance Education Center nor Adolescent Health and Youth Development offered information such as telephone numbers nor email addresses to outside individuals such as researchers. Therefore, this survey was administered through convenience sampling.

Sample Size and Power Calculation

The sample was drawn from the total population of adolescents who participated in the Millennium Second Chance Education Center and Youth Development programs, which was estimated at about 400 students. A good sample size provides representation of the population being studied. According to Berlowitz (2012), in descriptive studies sample size is based on margin of error, *E*, in confidence intervals. *Confidence intervals* are the range of expected data variations. These intervals can be constructed to provide

greater or lesser levels of confidence. However, 95% is the most common choice. As an approximation for 95% confidence, the value of 2 was used. A good estimate of the confidence interval is given by 1 divided by the square root of N . N represents the number of participants or the sample size (Niles, 2006).

Using the Raosoft online sample size calculator (Raosoft, 2004), the sample size of this study was determined. The population size was 400, the margin size used was 5, and the confidence level needed was 95%, with a response distribution of 50%, which yielded a sample size of 197 participants. The independent variables were education, knowledge and attitude, socioeconomic status, living conditions, access to healthcare, and parent's age at first pregnancy. The dependent variable was teenage pregnancy.

Survey Instrument and Materials

Because social cognitive theory may be applied in efforts to change behaviors, it was a good fit with the goal of determining factors that impact certain behaviors. Social behavior can be influenced by a number of factors. Understanding what impacts a particular behavior is the central concern of social cognitive theory. The different factors that influenced behavior were addressed in a quantitative survey.

The quantitative material consisted of a survey that I developed by adapting items from four separate questionnaires developed by Kirby (1984) and Miller (1998): (a) Safer Choices, (b) the Mathtech Knowledge Test, (c) the Mathtech Attitude and Value Inventory, and (d) Miller, Attitudes Toward Abstinence (ATA) Scale and Parent/Adolescent Communication (PACM) Scale. The goal of this quantitative data collection phase was to assess interpersonal and environmental risk factors that impact teenage pregnancy. This survey was separated into four sections: demographics,

knowledge, attitudes, and parent/adolescent communication. Scores for each of these assessments were evaluated to determine the status of the risk factors in relationship to teenage pregnancy. Several factors can influence sexual behavior: attitudes, knowledge, living environment, and personal relationships. All of these factors were addressed.

Demographic Variables

The first section of this survey collected information on demographic variables that were important for stratification of data in the analysis phase (Table 1). These variables included age, race, and family structure. Other variables included parent's educational level, student's grade point average, age of first vaginal intercourse, number of sexual partners, contraceptive use, and pregnancy status. Previous studies assessed these variables (Akers et al., 2010; Finer & Henshaw, 2006; Harding, 2003; Kegler et al., 2001).

Table 1

Demographic and Personal Variables Assessed in the Survey Instrument

Variable	Type of measure
Age	Reports actual age in years
Grade	Reports actual grade
Race	6 nominal
Ethnicity	Yes or no
Zip code	Reports actual zip code
Family/mother	6 nominal
Mother's education	4 ordinal
Family/father	6 nominal
Father's education	4 ordinal
Sex education class	Yes or No
Number in household	Reports actual number
Average household annual income	4 ordinal
Pregnancy status	3 nominal
Grade point average	5 nominal

Mathtech Knowledge Test

Using items from the Mathtech Knowledge Test (MKT; Kirby, 1984), the second section of the survey assessed sexual health knowledge. The MKT is a 34-item multiple-choice test. It includes questions that address adolescent physical development, adolescent relationships, adolescent sexual activity, adolescent pregnancy, adolescent marriage, the probability of pregnancy, birth control, and sexually transmitted disease (Kirby, 1984, para. 3). The MKT questionnaires purposed to measure the most important knowledge areas, attitudes, values, skills, and behaviors that either facilitate a positive and fulfilling sexuality or reduce unintended pregnancy among adolescents, and to measure important possible outcomes of sexuality education programs (Kirby, 1984, para. 1). The knowledge assessment for this study focused on the following content areas: adolescent sexual activity, adolescent pregnancy, probability of pregnancy, and birth control. I extracted 13 questions assessing these content areas from the original MKT. Table 2 shows the number of questions per content area for this section.

Table 2

Content Area Questions Included From Mathtech Knowledge Test

MKT content area	Number of questions
Adolescent sexual activity	4
Adolescent pregnancy	2
Probability of pregnancy	2

In order to test reliability, Kirby (1984) administered the test to 58 adolescents in a test-retest 2-week span. Kirby (1984) reported that the test-retest reliability coefficient was 0.89. Kirby found that older students and students with higher grade point averages

received higher scores. Experts who selected both domain and content domain determined content validity.

Attitudes related to sex were evaluated in the third section. Items from the Mathtech Attitude and Value Inventory (MAVI) were used (Kirby, 1984). The MAVI contains 14 scales consisting of five 5-point Likert items (Kirby, 1984). The scales are identified in Table 2. The MAVI questionnaire was developed by generating 5 to 10 items for each psychological outcome that was considered important, reviewing and making changes to items in consultation with small groups that consisted of adolescents and adults, arranging for examination of the scale for clarity by two expert psychologists, and testing the questionnaire with 200 adolescents (Kirby, 1984).

The four scales chosen from the MAVI for the survey instrument that was used in this study were the following: clarity of personal values, attitudes towards sexuality in life, attitudes towards the importance of birth control, and attitudes towards premarital intercourse. I chose these scales because they were relevant to the review of literature as it relates to adolescents' attitudes concerning sex and pregnancy. Attitude towards teenage pregnancy is also important because it is more feasible to adjust attitudes than it is to adjust the social and economic conditions in which attitudes develop (Bruckner et al., 2004).

Using items from the Parent/Adolescent Communication Scale, the fourth section of the survey assessed communication among adolescents and their parents and peers. The Parent/Adolescent Communication Scale was developed as a grant-funded intervention (Sales et al., 2008). The domains relevant to sexual communication were based on the current literature review. These domains included pregnancy, STDs,

HIV/AIDS, condom use, and general information about sex. The study was pilot tested on 15 African American adolescent females 14 to 18 years of age and was validated by the sample. Concurrent validity was assessed by correlating frequency of sexual communication with parents (Sales, et al.).

Operational Measures

Table 3 illustrates the items in the survey and the operational measures described as dependent, independent, and control variables. The two dependent variables consisted of living environment and education. The living environment consisted of geographic location, derived from specific zip code, number of people in the household and household annual income. Education variables consisted of parent's highest level of education, student's grade point average (GPA), and sex education. Pregnancy status was the key construct. The categories for pregnancy status were currently pregnant, currently parenting, currently not pregnant, and never been pregnant. These responses represented the adolescent's current pregnancy status. Table 3 includes the type of variables, response categories, and survey questions.

Table 3

Description of Operational Measures for Living Environment and Education

Variables	Survey question	Response category	Type of variable and value
RQ 1 Living environment/ geographic	5. What is the zip code where you live?	Actual zip code	Zip code Nominal/control variable 1 item
RQ 1 Living environment/ number in the household	11. How many people live in your household, including yourself?	Actual number	Number in household Continuous/ control 1 item
RQ 1 Living environment/ household annual income	12. What is your annual household income? Less than \$25,000 \$25,001-\$50,000 \$50,001-\$75,000 Greater than \$75,000	1 = Less than \$25,000 2 = \$25,001-\$50,000 3 = \$50,001-\$75,000 4 = Greater than \$75,000 5 = I don't know (recode 5 to 1)	Household income Ordinal, 5 items
RQ 2 Education/parent's level of education	7. and/or 9. What is your mother's/father's highest level of education	1 = 8 th grade or less 2 = Some high school 3 = Finished high school 4 = Some college 5 = Finished college	Parent's education level Ordinal 5 items
RQ 2 Education/sex education	10. Have you ever taken a sex education class? Never 1-2 classes 3-4 classes 5 or more classes	1 = Never 2 = 1-2 classes 3 = 3-4 classes 4 = 5 or more classes	Sex education Ordinal 4 items
Pregnancy	13. Are you currently (Please select all that apply): Pregnant Parenting Not pregnant Never been pregnant	1 = Currently pregnant 2 = Currently parenting 3 = Currently not pregnant 4 = Never been pregnant	Pregnancy Ordinal 4 items
Age	1. How old are you?	Actual number	Age Continuous/control 1 item
Race	2. What is your race? Latino Black/African American White Asian or Pacific Islander American Indian or Native American Other	1 = Latino 2 = Black/African American 3 = White 4 = Asian or Pacific Islander 5 = American Indian or 6 = Native American 7 = Other	Race Nominal/control variable 7 items

Validity and Reliability of the Instrument

The Mathtech Knowledge Test and the Mathtech Attitude and Value Inventory were originally designed in 1990. The original version provided information about demographics, attitudes, knowledge, and behaviors related to sexuality. The demographic section collected information on socioeconomic status, area of residency, school information, etc. (Davis et al, 2010). The other sections provided information on attitudes towards sexuality, such as sexual orientation, abortions, premarital sex, etc. The knowledge section was constructed to provide information on how much an individual know about sex education, pregnancy, contraception, etc. Lastly, the behavior inventory was constructed to examine particular sexual behaviors.

In order to test the reliability of this survey instrument, test-retest reliability was determined. This reliability was determined by administering the questionnaire twice to the same participants, 2 weeks apart (Davis et al.). According to Davis et al., evidence of validity of this questionnaire was obtained using correlational analyses with items from the scale and selected behavior items. Based on the analyses, all of the correlations were significant at the .01 level (Davis et al.).

Data Collection and Statistical Analyses

Data was collected from the surveys, and in order to calculate the percentages, frequencies, and correlation coefficients, data was analyzed using Statistical Product and Service Solutions (SPSS).

Research Question 1. Is there an association between a teenager's living environment and the risk of teenage pregnancy?

H_{1a}: Neighborhood poverty status of the teenager is a significant predictor of the risk teenage pregnancy.

H_{01a}: Neighborhood poverty status of the teenager is not a significant predictor of the risk of teenage pregnancy.

H_{1b}: Household size of the teenager is a significant predictor of the risk of teenage pregnancy.

H_{01b}: Household size of the teenager is not a significant predictor of the risk of teenage pregnancy.

H_{1c}: Household income of the teenager is a significant predictor of the risk of teenage pregnancy.

H_{01c}: Household income of the teenager is not a significant predictor of the risk of teenage pregnancy.

Statistical Plan: Independent Variable=living environment (poverty, size of household, household income); Dependent Variable=pregnancy status; Statistical Test: Logistic Regression; Control variable: Age and Race/Ethnicity.

H_{1d}: Parental or peer communication of the teenager is not a significant predictor of the risk of teenage pregnancy.

H_{01d}: Parental or peer communication of the teenager is not a significant predictor of the risk of teenage pregnancy.

Statistical Plan: Independent Variable=parent/peer communication scale; Dependent Variable=pregnancy status; Statistical Test: Logistic Regression; Control Variable: Age and Race.

Research Question 2. Is there an association between personal factors and the risk of teenage pregnancy?

H_{2a}: Parental education of the teen's parents is a significant predictor of the risk of teen pregnancy.

H_{02a}: Parental education of the teen's parents is not a significant predictor of the risk of teen pregnancy.

H_{2b}: Teen academic achievement is a significant predictor of the risk of teen pregnancy.

H_{02b}: Teen academic achievement is not a significant predictor of the risk of teen pregnancy.

Statistical Plan: Independent Variable=education (parent's level of education and teen's GPA); Dependent Variable= pregnancy status; Statistical Test: Logistic Regression; Control Variable: Age and Race.

H_{2c}: Teen knowledge of sexual health is a significant predictor of the risk of teen pregnancy.

H_{02c}: Teen knowledge of sexual health is not a significant predictor of the risk of teen pregnancy.

Statistical Plan: Independent Variable=knowledge of sexual health scale; Dependent Variable=pregnancy status; Statistical Test: Logistic Regression; Control Variable: Age and Race.

H_{2d}: Teen attitudes about sexual issues are a significant predictor of the risk of teen pregnancy.

H_{02d}: Teen attitudes about sexual issues are not a significant predictor of the risk of teen pregnancy.

Statistical Plan: Independent Variable=Attitudes about sexual issues scale; Dependent Variable=pregnancy status; Statistical Test: Logistic Regression; Control variables: Age and Race.

Logistic Regression Analysis

Logistic regression is a predictive analysis and is used to measure the relationship between the dependent variable and one or more independent variables, (Tonidandel, et al., 2011). According to Tonidandel, et al., logistic regression is used when the variables are binary. In this study logistic regression was used to calculate the odds of how living environment and education (independent variables) affect teenage sexual behaviors and pregnancy. Bivariate logistic analyses will be conducted to determine the likelihood of pregnancy associated with a young woman's family socioeconomic status, in relationship to her geographic location, number in the household, and household annual income. Multivariate logistic regression will be conducted to determine the odds of pregnancy associated with education; parent's highest level of education, student's GPA, and the number of times the student has taken a sex education class. The logistic regression equation is: $Z = b_0 + b_1x_1 + b_2x_2 + \dots + b_kx_k$. Z is the odds of the dependent variable (frequency of teenage pregnancy and adverse sexual behaviors), b_0 is the constant, x is the independent variable (living environment and education) or covariates, k is the number of independent variables, and b is the logic coefficient or slope (Tonidandel et al.). All equations will be controlled for age, race, and ethnicity because they are all strongly associated with teenage pregnancy.

Threats to External Validity

This study was conducted in South Georgia at the Millennium Second Chance Education Center and the Adolescent Health and Youth Development organization. However, this was not a threat to internal validity as the study is designed only for the students who participate in these programs. This study was generalized to all of the organizations because all of the students are from a specific population and are females.

Threats to Internal Validity

In order to prevent some participants from misinterpreting the instructions on how to complete the survey, the researcher read the directions to the participants in the study twice, and ensured that they have a clear understanding of how to interpret and complete the survey. The time the survey was administered was not a threat. However, the more focused and less tired the student participant was, the better the survey was interpreted and effectively answered.

Protection of Human Participants

Prior to administering the survey, I provided both center with a thorough presentation of my proposal and the purpose of my study. A human participant's clearance was obtained prior to administering the survey. The Millennium Second Chance Education Center coordinator granted permission to distribute the survey. Written permission was required from parents/guardians because minors were used as participants in the study. A permission form was developed and the perspective respondents were given a week to return the signed permission form. After collecting the permission forms, a date the survey will be given was established. After thoroughly explaining the survey, and answering all questions, the survey was distributed to the subjects. The survey took

approximately 20-30 minutes to complete. Subjects were directed to turn survey face down once completed, and the investigator collected surveys, accordingly.

Dissemination of Findings

The majority of teenagers are from disadvantaged backgrounds. Therefore, teenage pregnancy and childbirth created additional challenges that cause them to struggle with difficult obstacles throughout their life. Also, the high teen pregnancy rates can be directly correlated with the negative effects of both the mother and child. The adverse effects and other social health issues include, but are not limited to, poverty and income, overall well-being of the child, health issues, education, single family households, unmarried teen births, and child welfare.

The goal of health professionals and policy makers should be to reduce the high rates on teenage pregnancy. The results of this study will be shared with the organizations, health departments, students, stakeholders, and local policy makers. This information can be used to help with the implementation of the “science-based, medically accurate” teen pregnancy prevention programs, as well as the targeted populations. An understanding of teenage pregnancy, risks that impact teenage pregnancy, and those teenagers at risk will help those who strive to eliminate this public health issue, promote and prevent teenage pregnancy.

Summary and Transition

My decision to implement the Social Cognitive Theory derived from many studies that have effectively argued how cognitive and emotional aspects and aspects of a person’s behavior affect behavior change. According to Bandura, (1997), the social cognitive theory explains what prompts individuals to behave in a specific manner

continuously. The concepts of the Social Cognitive Theory provide ways for new behavior, research, and ideas for other theoretical concepts to provide new views and understandings. According to Kirby et al., (1999), The Safer Choices intervention, the MKT Scales, and the MAVI scales are derived from the Social Cognitive Theory (Bandura, 1986), Social Influences Models, and models of school change. This intervention focused on school-wide change, influences of the school environment, and the influences on student behavior. Additionally, the Social Cognitive Theory believes that behavior is determined by the culmination of influences of personal, environmental and behavioral interactions. Having a clearer understanding of how teenagers think, learn, and respond to their environment will help to identify and develop programs that are successful in reducing teenage pregnancy.

Chapter 4: Results

Introduction

The purpose of this study was to examine the relationships between (a) environmental and (b) personal factors on the dependent variable of teenage pregnancy. Environmental factors included the following: median household income by zip code as a surrogate variable for neighborhood poverty status, household size, household income, and parental and/or peer communication. Personal factors included parental education, teen academic achievement, knowledge of sexual health, and attitudes about sexual issues such as premarital sex, birth control, and sexually transmitted diseases. Data were gathered from teenagers of all races attending local high schools in Southwest Georgia, identified by the Southwest Georgia Division of Adolescent Health and Youth Development and the Millennium Second Chance Education Center, which collaborates with local adolescent health agencies and agencies that provide assistance to pregnant and parenting teenagers. The data were obtained via health reports and surveys.

Teenage pregnancy has an adverse ripple effect in society. For example, teen mothers tend to be poor, and most are single parents who rely on public assistance (U.S. DHHS, 2005). Other negative outcomes of teenage pregnancy include homelessness, lack of education, and interrupted employment experiences, which perpetuate intergenerational poverty. By identifying the factors associated with teen pregnancy, effective interventions can be implemented.

The survey used for the study was separated into four sections: demographics, knowledge, parent/adolescent communication, and attitudes. The demographic questions were developed by me. I selected questions adapted from four separate questionnaires

developed by Kirby (1984) and Miller (1998), respectively: (a) Safer Choices (b) the Mathtech Knowledge Test, (c) the Mathtech Attitude and Value Inventory, and (d) Miller, Attitudes toward Abstinence (ATA) Scale and Parent/Adolescent Communication (PACM) Scale. Data were analyzed with SPSS for Windows.

Chapter 4 is organized into a discussion of the sample demographics, reliability analysis, descriptive statistics, research questions and hypothesis testing, and conclusions. The following subsection provides a discussion of the sample demographics.

Sample Demographics

Data were obtained on 212 teens aged 15-19 ($M = 16.73$, $SD = 1.25$) in high school. All four high school grades were represented by the sample, as presented in Table 4.

Table 4

What Grade Are You in?

Grade	<i>n</i>	%	Cumulative %
9th	33	15.6	15.6
10th	62	29.2	44.8
11th	51	24.1	68.9
12th	66	31.1	100.0
Total	212	100.0	

Approximately two-thirds of the teens (67%, $n = 142$) were African Americans; 18.9% ($n = 40$) were White; and 4.7% ($n = 10$) were Latino. A complete listing of the racial groups represented appears in Table 5.

Table 5

What Is Your Race?

Race of teens	<i>n</i>	%
Latino	10	4.7
Black/African American	142	67.0
White	40	18.9
Asian or Pacific Islander	1	.5
American Indian or Native American	7	3.3
AA/White	9	4.2
AA/Latino	2	.9
AA/Asian or Pacific Islander	1	.5
Total	212	100.0

Regarding ethnicity, 6.1% ($n = 13$) were of Hispanic origin, and 93.9% ($n = 199$) were not. Teens resided in 14 different zip codes in Southwest Georgia. Based on the zip codes represented, median household income by zip code was subsequently extracted online from the American Community Survey conducted by the U.S. Census Bureau (2009), which was used as a surrogate variable for neighborhood poverty status in the current study. The median household income by zip code ranged from \$15,504 to \$61,026 ($M = \$34,635.63$, $SD = \$8,523.03$). See Table 6.

Table 6

Zip Code Where Teens Live and Median Household Income in Zip Code

Zip code	<i>n</i>	%	Median household income by zip code
31010	10	4.7	\$24,337
31015	79	37.3	\$34,879
31068	1	0.5	\$34,758
31092	4	1.9	\$28,540
31701	14	6.6	\$20,872
31705	19	9.0	\$27,112
31707	17	8.0	\$34,654
31709	25	11.8	\$37,056
31714	2	0.9	\$25,725
31721	12	5.7	\$61,026
31763	2	0.9	\$58,235
31790	6	2.8	\$40,759
31791	20	9.4	\$35,594
31902	1	0.5	\$15,504
Total	212	100.0	

Note. Zip code 31902 is a post office zip code. No information was available for this type of zip code. However, zip code 31902 is contained within zip code 31901, which was used for the median household income for that zip code.

Approximately 29% ($n = 62$) of teens lived with both of their biological parents; 12.7% ($n = 27$) lived with their biological mother and stepfather; and 39.6% ($n = 84$) lived with their biological mother. Table 7 provides a cross-tabulation of the parent or parental figure with whom the teens resided.

Table 7

Parent or Parental Figure With Whom Teen Resides

		Do you live with your?						Total	
		Biological Father	Stepfather	Foster Father	Grandfather	Adoptive Father	None of these		
Do you live with your?	Biological Mother	Count	62	27	0	2	0	84	175
		% of Total	29.2%	12.7%	.0%	.9%	.0%	39.6%	82.5%
	Stepmother	Count	7	3	0	0	0	0	10
		% of Total	3.3%	1.4%	.0%	.0%	.0%	.0%	4.7%
	Foster Mother	Count	0	0	7	0	0	2	9
		% of Total	.0%	.0%	3.3%	.0%	.0%	.9%	4.2%
	Grandmother	Count	1	0	0	1	0	4	6
		% of Total	.5%	.0%	.0%	.5%	.0%	1.9%	2.8%
	Adoptive Mother	Count	1	0	0	4	3	2	10
		% of Total	.5%	.0%	.0%	1.9%	1.4%	.9%	4.7%
	None of these	Count	1	0	0	0	0	0	1
		% of Total	.5%	.0%	.0%	.0%	.0%	.0%	.5%
	Biological Mother/Grandmother	Count	0	0	0	1	0	0	1
		% of Total	.0%	.0%	.0%	.5%	.0%	.0%	.5%
Total		Count	72	30	7	8	3	92	212
		% of Total	34.0%	14.2%	3.3%	3.8%	1.4%	43.4%	100.0%

Regarding the educational attainment of the biological mother, 29.4% ($n = 62$) indicated that their mothers had finished high school; 10% ($n = 21$) indicated that their mothers had completed some college; and 14.2% ($n = 30$) indicated that their mothers had finished college, whereas 5.7% ($n = 12$) indicated that their mothers had less than a high school education and 23.7% ($n = 50$) indicated that their mothers had attended high school but had not graduated. Regarding stepmothers, 0.9% ($n = 2$) indicated that their stepmothers had less than a high school education; 1.4% ($n = 3$) indicated that their stepmothers had attended some high school but had not graduated; 1.9% ($n = 4$) indicated that their stepmothers had finished high school; and 0.5% ($n = 1$) indicated that their stepmothers had attended some college but had not graduated.

Relative to foster mothers, 4.3% ($n = 9$) indicated that their foster mothers had finished high school. Nearly 3% ($n = 6$) of teens lived with their grandmothers, and the educational attainment of these grandmothers was equally distributed among the following categories: less than a high school education (0.9%, $n = 2$), some high school (0.9%, $n = 2$), and finished high school (0.9%, $n = 2$).

Regarding adoptive mothers, 0.5% ($n = 1$) indicated that their adoptive mothers had less than a high school education; 3.3% ($n = 7$) indicated that their adoptive mothers had attended some high school but had not graduated; 0.5% ($n = 1$) indicated that their adoptive mothers had finished high school; and 0.5% ($n = 1$) indicated that their adoptive mothers had finished college. Table 8 provides data on the educational attainment of the mother or female parenting figure.

Table 8

Educational Attainment of Mother or Female Parental Figure

		What is her highest level of education?					Total	
		8th grade or less	Some high school	Finished high school	Some College	Finished College		
Do you live with your?	Biological Mother	Count	12	50	62	21	30	175
		% of Total	5.7%	23.7%	29.4%	10.0%	14.2%	82.9%
	Stepmother	Count	2	3	4	1	0	10
		% of Total	.9%	1.4%	1.9%	.5%	.0%	4.7%
	Foster Mother	Count	0	0	9	0	0	9
		% of Total	.0%	.0%	4.3%	.0%	.0%	4.3%
	Grandmother	Count	2	2	2	0	0	6
		% of Total	.9%	.9%	.9%	.0%	.0%	2.8%
	Adoptive Mother	Count	1	7	1	0	1	10
		% of Total	.5%	3.3%	.5%	.0%	.5%	4.7%
	Biological Mother/Grandmoth	Count	0	0	1	0	0	1
		% of Total	.0%	.0%	.5%	.0%	.0%	.5%
	Total	Count	17	62	79	22	31	211
		% of Total	8.1%	29.4%	37.4%	10.4%	14.7%	100.0%

Regarding the educational attainment of the biological father, 11.8% ($n = 25$) indicated that their fathers had finished high school; 1.4% ($n = 3$) indicated that their fathers had attended some college; and 9% ($n = 19$) indicated that their fathers had finished college, whereas 2.8% ($n = 6$) indicated that their fathers had less than a high school education and 8% ($n = 17$) indicated that their fathers had attended high school but had not graduated. Regarding stepfathers, 0.9% ($n = 2$) indicated that their stepfathers had less than a high school education; 4.2% ($n = 9$) indicated that their stepfathers had attended some high school but had not graduated; 4.2% ($n = 9$) indicated that their stepfathers had finished high school; 1.9% ($n = 4$) indicated that their stepfathers had attended college but had not graduated; and 2.8% ($n = 6$) indicated that their stepfathers had graduated from college.

Relative to foster fathers, 2.8% ($n = 6$) indicated that their foster fathers had finished high school. Nearly 4% ($n = 8$) of teens lived with their grandfathers, and the educational attainment of these grandfathers was approximately equally distributed among the following categories: less than a high school education (0.9%, $n = 2$) and some high school but did not graduate (1.4%, $n = 3$).

Regarding adoptive fathers, 0.9% ($n = 2$) indicated that their adoptive fathers had some school but did not graduate, and 0.5% ($n = 1$) indicated that their foster fathers had finished high school. Table 9 provides data on the educational attainment of the father or male parenting figure.

Table 9

Educational Attainment of Father or Male Parental Figure

		What is his highest level of education?						Total	
		8th grade or less	Some high school	Finished high school	Some College	Finished College	None of these		
Do you live with you?	Biological Father	Count	6	17	25	3	19	2	72
		% of Total	2.8%	8.0%	11.8%	1.4%	9.0%	.9%	34.0%
	Stepfather	Count	2	9	9	4	6	0	30
		% of Total	.9%	4.2%	4.2%	1.9%	2.8%	.0%	14.2%
	Foster Father	Count	0	0	6	0	0	1	7
		% of Total	.0%	.0%	2.8%	.0%	.0%	.5%	3.3%
	Grandfather	Count	2	3	0	0	0	3	8
		% of Total	.9%	1.4%	.0%	.0%	.0%	1.4%	3.8%
	Adoptive Father	Count	0	2	1	0	0	0	3
		% of Total	.0%	.9%	.5%	.0%	.0%	.0%	1.4%
	None of these	Count	0	0	0	0	0	92	92
		% of Total	.0%	.0%	.0%	.0%	.0%	43.4%	43.4%
Total	Count	10	31	41	7	25	98	212	
	% of Total	4.7%	14.6%	19.3%	3.3%	11.8%	46.2%	100.0%	

Seventy-five percent ($n = 159$) of teens had taken a sex education class, whereas 25% ($n = 53$) had not. Teens had one to eight people living in their households ($M = 4.31$, $SD = 1.44$) including themselves. Approximately half (50.9%, $n = 108$) of the teens did

not know their household incomes; 22.2% ($n = 47$) had incomes of less than \$25,000; and 11.8% ($n = 25$) had annual household incomes of \$25,001 to \$50,000. Annual household income is presented in Table 10.

Table 10

What Is Your Annual Household Income?

Household income	<i>n</i>	%	Cumulative %
less than \$25,000	47	22.2	22.2
\$25,001-\$50,000	25	11.8	34.0
\$50,001-\$75,000	11	5.2	39.2
greater than \$75,000	21	9.9	49.1
Unknown	108	50.9	100.0
Total	212	100.0	

Approximately 62.3% ($n = 132$) of teens had never been pregnant; 14.6% ($n = 31$) were pregnant; 13.2% ($n = 28$) were parenting; and 9.9% ($n = 21$) were not pregnant. See Figure 4.

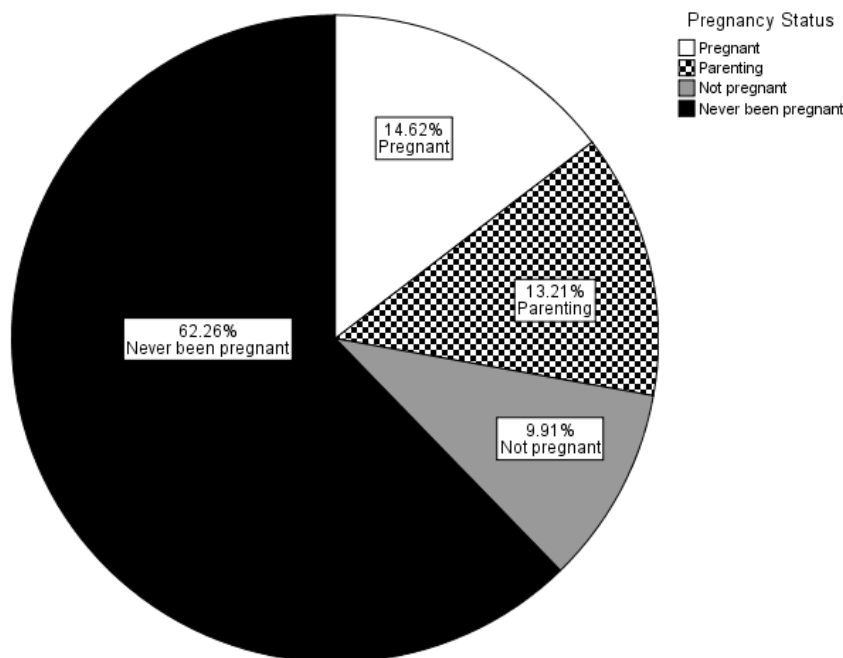


Figure 4. Pregnancy status.

One (0.5%) teen's current grade point average (GPA) was 1.0 or lower; 13.2% ($n = 28$) had GPAs of 1.1 to 2.0; and 38.2% ($n = 81$) reported GPAs of 2.1 to 3.0. Data on current GPA are presented in Table 11.

Table 11

What Is Your Current Grade Point Average?

GPA	n	%	Cumulative %
1.0 or lower	1	0.5	0.5
1.1-2.0	28	13.2	13.7
2.1-3.0	81	38.2	51.9
3.1-4.0	85	40.1	92.0
4.1 or higher	17	8.0	100.0
Total	212	100.0	

Reliability Analysis

Instrument reliability was investigated with Cronbach's alpha. The internal consistency of the variables of interest ranged from .687 for Sex Related Attitudes to .803 for Parent/Peer Communication. The minimum accepted reliability is .70 (Brace, Kemp, & Snelgar, 2009). An inter-item analysis was conducted on items that measured sex related attitudes and it was determined that reliability increased to .752 if item#12 (*It is all right for two people to have sex before marriage if they are in love.*) was excluded. Reliability coefficients are presented in Table 12.

Table 12

Reliability Coefficients

Variable	<i>N</i> of Items	Cronbach's alpha
Knowledge of Sexual Health	14	.757
Sex Related Attitudes	20	.687
Sex Related Attitudes (#12 deleted)	19	.752
Parent/Peer Communication	13	.803

Descriptive Statistics

For Knowledge of Sexual Health, scores were computed by determining the percentage correct. Scores ranged from 42.86 to 100% ($M = 91.48$, $SD = 12.76$). With a mean of 91.48%, overall scores were considered to be excellent for teen knowledge of sexual health. For Parent/Peer Communication, scores were computed by calculating the mean. Likert items ranged from strongly disagree to strongly agree. Scores ranged from

2.42 to 4.85 ($M = 3.72$, $SD = 0.61$). The mean value of 3.72 represents moderate agreement, between neutral (3) and agree (4), which means that teens were in moderate agreement that they could communicate with their parents and peers about sex. For Sex Related Attitudes, scores ranged from 2.26 to 4.32 ($M = 3.46$, $SD = 0.48$). The mean value of 3.46 represents moderate agreement, between neutral (3) and agree (4), which means that teens had moderately positive attitudes about sexual issues.

Research Question 1

Is there an association between a teenager's living environment and the risk of teenage pregnancy? Research question one was investigated with binary logistic regression. The independent variables were neighborhood poverty status, household size, household income, and parental or peer communication, which represented living environment. Median household income by zip code was a surrogate variable for neighborhood poverty status. The dependent variable was pregnancy status, which was dichotomized (not pregnant or never pregnant, pregnant or parenting). Prior to the analyses, the residuals were analyzed. The difference between the observed and the predicted model of the dependent variable is a residual. Standardized residuals that were greater than three standard deviations were excluded. After three iterations, an acceptable logistic regression model was generated. After excluding the outlying residuals, a total of 192 cases were analyzed and the full model significantly predicted pregnancy status, $\chi^2(6, N = 192) = 70.96, p < .001$. The model accounted for 48.2% (Nagelkerke R^2) of the variance in pregnancy status. Overall, 81.8% of predictions were accurate. Based on the analyses, only annual household income, parental or peer communication, and age reliably predicted pregnancy status. The values of the

coefficients revealed that an increase in annual income by one unit was associated with a decrease in the odds of pregnancy by a factor of 0.39, $p < .001$. Similarly, an increase in parent or peer communication by one unit was associated with a decrease in the odds of pregnancy by a factor of 0.37, $p = .02$. Age also reliably predicted pregnancy status. An increase of one year in age was associated with an increase in the odds of pregnancy by a factor of 1.59, $p = .01$.

Neighborhood poverty status was not a significant predictor of pregnancy status, $p = .148$. Household size was not a significant predictor of pregnancy status, $p = .987$. Race was not a significant predictor of pregnancy status, $p = .734$. Regression coefficients are presented in Table 13.

Table 13

Regression Coefficients for Teenage Living Environment and Teen Pregnancy

Variable	B	S.E.	Wald	df	<i>p</i>	Exp(B)
Neighborhood Poverty Status	-.041	.028	2.09	1	.148	.960
Household Size	.002	.158	.000	1	.987	1.00
Annual Household Income	-.939	.177	28.05	1	.000	.391
Parent/Peer Communication	-.991	.427	5.39	1	.020	.371
Age	.466	.180	6.71	1	.010	1.59
Race	-.192	.564	.116	1	.734	.825
Constant	-1.68	3.34	.252	1	.616	.187

Note. Dependent variable = pregnancy status: 1 = Pregnant or parenting, 0 = Not pregnant or never been pregnant; Race: 1 = Black or African American, 0 = non-Black or non-African American.

Hypothesis 1a

H_{1a} stated that controlling for race and age, neighborhood poverty status of the teenager is a significant predictor of teenage pregnancy. Neighborhood poverty status was not a significant predictor of pregnancy status, $p = .148$. Therefore, the null hypothesis was not rejected.

Hypothesis 1b

H_{1b} stated that controlling for race and age, household size of the teenager is a significant predictor of teenage pregnancy. Household size was not a significant predictor of pregnancy status, $p = .987$. Therefore, the null hypothesis was not rejected.

Hypothesis 1c

H_{1c} stated that controlling for race and age, household income of the teenager is a significant predictor of teenage pregnancy. The values of the coefficients revealed that an increase in annual income by one unit was associated with a decrease in the odds of pregnancy by a factor of 0.39, $p < .001$. Therefore, the null hypothesis was rejected.

Hypothesis 1d

H_{1d} stated that controlling for race and age, parental or peer communication of the teenager is not a significant predictor of teenage pregnancy. An increase in parent or peer communication by one unit was associated with a decrease in the odds of pregnancy by a factor of 0.37, $p = .02$. Therefore, the null hypothesis was rejected.

Research Question 2

Is there an association between personal factors and the risk of teenage pregnancy? Research question two was investigated with a second binary logistic regression model. The independent variables were parental education, teen academic

achievement, knowledge of sexual health, and teen attitudes about sexual issues which represented personal factors. The dependent variable was pregnancy status. After three iterations, an acceptable logistic regression model was generated. After excluding the outlying residuals, a total of 192 cases were analyzed and the full model significantly predicted pregnancy status, $\chi^2(7, N = 192) = 88.88, p < .001$. The model accounted for 57.8% (Nagelkerke R^2) of the variance in pregnancy status. Overall, 84.4% of predictions were accurate. Based on the analyses, the mother's education, teen academic achievement, teen attitudes about sexual issues, age, and race predicted pregnancy status. The values of the coefficients revealed that an increase in the mother's education by one unit was associated with an increase in the odds of pregnancy by a factor of 3.04, $p < .001$. Conversely, an increase in academic achievement as defined by GPA, by one unit was associated with a decrease in the odds of pregnancy by a factor of 0.13, $p < .001$. An increase in the positive attitudes toward sexual issues by one unit was associated with a decrease in the odds of pregnancy by a factor of 0.02, $p < .001$. Age also reliably predicted pregnancy status. An increase of one year in age was associated with an increase in the odds of pregnancy by a factor of 3.07, $p < .001$. Race reliably predicted pregnancy status. Black or African American teens had reduced odds of being pregnant or parenting in this sample by a factor of 0.23.

The father's education was not a significant predictor of pregnancy status, $p = .105$.

Knowledge of sexual health was not a significant predictor of pregnancy status, $p = .059$.

Regression coefficients are presented in Table 14.

Table 14

Regression Coefficients for Teenage Personal Factors and Teen Pregnancy

Variable	B	S.E.	Wald	df	<i>p</i>	Exp(B)
Mother's educational attainment	1.11	.300	13.77	1	.000	3.04
Father's educational attainment	-.246	.152	2.62	1	.105	.782
GPA	-2.04	.431	22.43	1	.000	.130
Knowledge of Sexual Health	.065	.035	3.56	1	.059	1.07
Sex Related Attitudes	-3.74	.823	20.58	1	.000	.024
Age	1.12	.253	19.67	1	.000	3.07
Race	-1.46	.594	6.04	1	.014	.233
Constant	-9.16	5.01	3.34	1	.067	.000

Note. Dependent variable = pregnancy status: 1 = Pregnant or parenting, 0 = Not pregnant or never been pregnant; Race: 1 = Black or African American, 0 = non-Black or non-African American.

Hypothesis 2a

H_{2a} stated that controlling for race and age, parental education of the teen's parents is a significant predictor of teen pregnancy. The values of the coefficients revealed that an increase in the mother's education by one unit was associated with an increase in the odds of pregnancy by a factor of 3.04, $p < .001$. Therefore, the null hypothesis was rejected.

Hypothesis 2b

H_{2b} stated that controlling for race and age, teen academic achievement is a significant predictor of teen pregnancy. An increase in academic achievement (as defined by GPA) by one unit was associated with a decrease in the odds of pregnancy by a factor of 0.13, $p < .001$. Therefore, the null hypothesis was rejected.

Hypothesis 2c

H_{2c} stated that controlling for race and age, teen knowledge of sexual health is a significant predictor of teen pregnancy. Knowledge of sexual health was not a significant predictor of pregnancy status, $p = .059$. Therefore, the null hypothesis was not rejected.

Hypothesis 2d

H_{2d} stated that controlling for race and age, teen attitudes about sexual issues is a significant predictor of teen pregnancy. An increase in the positive attitudes toward sexual issues by one unit was associated with a decrease in the odds of pregnancy by a factor of 0.02, $p < .001$. Therefore, the null hypothesis was rejected. A summary of the hypotheses tested and their outcomes is presented in Table 15.

Table 15

Summary of Hypotheses and Outcomes

Hypothesis	Significance	Supported or Not Supported
H _{1a} : Neighborhood poverty status of the teenager is a significant predictor of the risk of teenage pregnancy.	$p = .148$	Not Supported
H _{1b} : Household size of the teenager is a significant predictor of the risk of teenage pregnancy.	$p = .987$	Not Supported
H _{1c} : Household income of the teenager is a significant predictor of the risk of teenage pregnancy.	$p < .001$	Supported
H _{1d} : Parental or peer communication of the teenager is not a significant predictor of the risk of teenage pregnancy.	$p = .02$	Supported
H _{2a} : Parental education of the teen's parents is a significant predictor of the risk of teen pregnancy.	$p < .001$	Supported
H _{2b} : Teen academic achievement is a significant predictor of the risk of teen pregnancy.	$p < .001$	Supported
H _{2c} : Teen knowledge of sexual health is a significant predictor of the risk of teen pregnancy.	$p = .059$	Not Supported
H _{2d} : Teen attitudes about sexual issues are a significant predictor of the risk of teen pregnancy.	$p < .001$	Supported

Conclusion

Two primary research questions and eight related were formulated for investigation. Five alternative hypotheses were supported and three were not supported. Among the hypotheses that were supported, it was determined that household income was significantly and negatively related to pregnancy status. As household income increased, the odds of teen pregnancy decreased. As parental or peer communication increased, the odds of teen pregnancy decreased. Parental education was a significant predictor of teen pregnancy. For this sample of teens, it was found that an increase in the mother's education resulted in a decrease in the odds of pregnancy. An increase in teen academic achievement (as measured by GPA) resulted in a decrease in the odds of pregnancy. An increase in positive attitudes toward sex among teens was associated with a decreased in the odds of pregnancy.

Three hypotheses were not supported. Neighborhood poverty status (as measured by the median household income of the zip code) was not associated with teen pregnancy. Household size of the teenager was not a significant predictor of teen pregnancy. Teen knowledge of sexual health was not a significant predictor of teen pregnancy. Implications of these results will be discussed in Chapter Five.

Chapter 5: Summary, Recommendations, and Conclusion

Summary

The purpose of this study was to examine the impact of environmental and individual risk factors on the risk of teen pregnancy. The quantitative data were collected in a survey of 212 adolescent females from two sites in Southwest Georgia: Southwest Georgia Division of Adolescent Health and Youth Development and the Millennium Second Chance Educational Center. Both of these organizations provided services to adolescents between the ages of 10 and 19. However, this survey included only females participating in either one of these programs between the ages of 15 and 19.

I made every effort to secure the proper number of participants and minimize the chance of error. The sample size ($n = 212$) observed was larger than the calculated requirement of 197 participants (based on the estimated population of participants of 400). In order to determine the appropriateness of the observed sample size, I used the Raosoft online sample size calculator (Raosoft, 2004). The increased participation was due to the site coordinator's willingness to promote participation of the survey by allowing me to visit the site as frequently as required, as well as the large number of parents providing consent for their adolescent to participate in the study.

Analyses of the data revealed that there was no significant relationship between neighborhood poverty status and household size of the teenager and the risk of teen pregnancy. Therefore, Hypothesis 1a and Hypothesis 1b were rejected. Neighborhood poverty status and household size were not significant predictors of the risk of teen pregnancy. However, in reference to Hypotheses 1c and 1d, household income and parental/peer communication of the teenager were predictors of the risk of teen

pregnancy. Data analyses showed that as household income increased, the odds of teen pregnancy decreased. Also, as parental/peer communication increased, the odds of teen pregnancy decreased.

Based on the data, Hypothesis 2c was rejected, as teen knowledge of sexual health was not a significant predictor of the risk of teen pregnancy or parenthood. However, in reference to Hypothesis 2a, concerning parental education of the teen's parents; Hypothesis 2b, concerning the teen's academic achievement; and Hypothesis 2d, concerning the teen's attitudes about sexual issues, all of the variables were significant predictors of the risk of teen pregnancy. Therefore, these hypotheses were not rejected. For parental education, an increase in teen's parental education resulted in a decrease in the risk of teen pregnancy. Also, an increase in teen academic achievement decreased the risk of teen pregnancy. Additionally, an increase in positive attitudes toward sex was associated with a decrease in the risk of teen pregnancy.

Demographic Trends

Demographic trends are important because trends in teen pregnancy may be directly affected by both social and economic factors. According to CDC (2014), African Americans and Hispanics made up 57% of teen births in the United States, with an African American teen pregnancy rate of 47.3 per 1,000 of females between the age of 10 and 19 years old and a Hispanic teen pregnancy rate of 49.6 per 1,000. Additionally, the American Indian/Native American teen pregnancy rate was 36.1 per 1,000, the Non-Hispanic White teen pregnancy rate was 21.7 per 1,000, and the Asian/Pacific Islander teen pregnancy rate was 10.2 per 1,000.

Georgia is ranked 17th in the United States in teen pregnancy. In 1995, Georgia had the highest teen pregnancy rate in the nation (GCAPP, 2014). Teen pregnancy is a problem in Georgia that should be addressed without placing emphasis on race. However, knowing the racial demographics and the incidence of teenage pregnancy is essential in helping in the reduction of the risks associated with teenage pregnancy.

Race and ethnicity. One of the most obvious trends noted in this study was that out of the 212 participants, 67% ($n = 142$) were African American. Among participants, 18.9% ($n = 40$) were White, 4.2% ($n = 9$) were biracial (African American and White), 3.3% ($n = 7$) were American Indian or Native American, 0.9% ($n = 2$) were biracial (African American and Pacific Islander), 0.5% ($n = 1$) was Asian or Pacific Islander, and another 0.5% ($n = 1$) was bi-racial African American and Pacific Islander. Regarding ethnicity, 6.1% ($n = 13$) were of Hispanic origin and 93.9% ($n = 199$) were not.

Age and grade. The 212 participants in this study were females between the ages of 15 and 19. The median age for the participants was 16.73. Of the 212 participants, 40 were age 15, 63 were age 16, 42 were age 17, 50 were age 18, and 17 were age 19. Additionally, 33 of the participants were in the ninth grade, 62 were in 10th grade, 51 were in 11th grade, and 66 were in 12th grade. All four grades and all ages between 15 and 19 were represented in this study.

Zip code. One of the questions asked on the survey was “What is your zip code?” The 212 participant responses generated 14 different zip codes: 31010, 31015, 31068, 31092, 31701, 31705, 31707, 31709, 31714, 31721, 31763, 31790, 31791, and 31902. The different zip codes were from seven different counties in South Georgia: Crisp, Dougherty, Dooly, Lee, Muscogee, Turner, and Worth.

Household income. The median household income was based on the participants' zip codes represented in the study. The median household income data were retrieved online from the American Community Survey, conducted by the U.S. Census Bureau, (2009), which was used as a variable for neighborhood poverty status in this study. The median household income by zip code ranged from \$15,504 to \$61,026 annually.

Parental/peer communication. According to a survey from the National Campaign to Prevent Teen and Unplanned Pregnancy (2012), teens indicate that their parents are influential in their decisions about sex. Eighty-seven percent of these teens stated that it would be easier to postpone sexual involvement and avoid teen pregnancy if they could be more honest and open with their parents when communicating about sexual health among teens (National Campaign to Prevent Teen and Unplanned Pregnancy, 2012). This study revealed that an increase in parent/peer communication decreased the risk of teen pregnancy. Conversely, lack of parent/peer communication pertaining to sex and pregnancy increased the teen's risk of pregnancy.

Parental education. A teenager's parent's education is important. Research shows that parents are highly influential in their children's education, views on life, and attitudes towards sex. The education level of a parent's achievement is directly correlated to a child's academic and behavioral achievements. Research has shown that a mother's educational level plays a huge role in a child's intellectual development (National Center for Children in Poverty, 2007). Additionally, a study showed that lower educational levels contributed to lower household incomes and more behavioral problems in children (National Center for Children in Poverty). The research in this study showed that parental education affects a teenager's risk of pregnancy. Additionally, as shown by

previous studies, an increase in a mother's education decreased a teenager's risk of pregnancy (National Center for Children in Poverty). However, the teenager's father's education was not a significant predictor of teenage pregnancy.

Knowledge. The results of this study revealed no significant difference in the risk of sexual health knowledge and the risk of teenage pregnancy. Data analysis revealed a low probability score, $p = .059$. Knowledge of sexual health scores were determined based on the percentage correct. Scores ranged from 42.86% to 100% ($M = 91.48$, $SD = 12.76$). The scores were determined to be excellent, with a mean score of 91.48. There were no significant differences in responses among all groups, regardless of age, race, grade level, living environment, or the teenager's pregnancy status. This study finding is consistent with current research, in that there is no significant relationship between sexual health knowledge and teen pregnancy. According to Carter and Spear (2002), adolescent's knowledge regarding pregnancy prevention is modest, which might be an indication that some teen females are at risk of unintentional pregnancy. The quantitative data in this study showed that only 25% ($n = 53$) of the participants had never taken a sex education class. Therefore, it was not expected for the knowledge scores to be low and the risk of teen pregnancy to be high.

Attitudes. Four attitude domains were assessed in this study: clarity of personal sexual values, attitude toward sexuality in life, attitude toward the importance of birth control, and attitude toward premarital intercourse. Only one domain, attitude toward premarital intercourse, had a lower score across age groups, racial categories, and pregnancy statuses. It is difficult to determine whether the lower score indicates a level of assurance regarding premarital sex. According to Masters et al. (2008), attitudes can

be predictors of future behaviors. Teen attitudes toward sex are situational; influential situations may involve their parents, family members, other loved ones, and peers. However, it is more feasible to change a teenager's attitudes than to alter the social and economic conditions from which the attitudes were derived. Previous research showed that normal beliefs and attitudes may predetermine the teenager's sexual intentions (Fisher et al., 1995). When there is an understanding of the teenager's attitude toward sex, more effective pregnancy prevention initiatives and programs can be developed.

There were no significant differences in Domain 1 (clarity of personal sexual values) and Domain 2 (attitude toward sexuality in life). The average scores for these two domains indicated a neutral response. This could imply that the participants were uncertain about their positive or negative influences of clarity of personal sexual values and their attitude toward sexuality in life. However, Domain 3 (the importance of birth control) had a high average score. This could imply that teenagers would take precautions to prevent pregnancy prior to getting involved in sexual activity. This may be true for some of the teenagers in Southwest Georgia. However, this may not be true for other teenagers.

It is often seen in the literature that knowledge and educational efforts are important when trying to change negative health behaviors (Glanz & Rimer, 2005). It is important to educate this study's population concerning the negative behaviors associated with the risk of teen pregnancy. Future initiatives and programs are needed to identify the most effective method to target the factors that are risks for teen pregnancy. Understanding these factors associated with the risk of teen pregnancy is essential in implementing strategies to combat teen pregnancy.

Conclusion and Social Change Implications

The impacts of teenage pregnancy and childbearing pose many negative consequences for teen parents, their children, and society. In numerous studies, researchers have examined pregnancy during adolescence and have shown that teenagers who become parents are less likely to graduate from high school, more likely to receive government assistance, and more likely to live in poverty. Also, teen parents are more likely to have children with poorer educational, behavioral, and health outcomes in comparison to older parents (Office of Adolescent Health, 2015). Teenage pregnancy is considered a revolving cycle. There have been many attempts to control teenage pregnancy. Many of these attempts have proven to be effective, as evidenced by the recent decline in teenage pregnancy. However, U.S. teen birth rates still remain higher than those of any other country.

Researchers, health educators, and community stakeholders have been exploring various strategies to manage the problem of teenage pregnancy and the contributing factors. Many initiatives have had the aim of reducing teenage pregnancy. These initiatives may sometimes cause a socioeconomic strain on smaller communities such as the ones in Southwest Georgia in which I did my research. The purpose of this discussion is to expound on the issues that contribute to the risk of teen pregnancy and explore current programs aimed at promoting safer sex in order to reduce teen pregnancy and parenting and save taxpayers money.

The data from this study revealed that 25% of the participants ($n = 53$) had never taken a sex education course. Although this number is somewhat low, it is alarming

because most school curricula include some form of sexual health education class between the sixth and the eighth grade. The participants in this study were ninth through 12 th graders. Sexual health education and knowledge are essential in order for adolescents to remain healthy and avoid negative behaviors associated with sexual health. Southwest Georgia has implemented sex education in the public schools. However, parental consent must be attained prior to any student taking a sex education class. Georgia does not mandate an abstinence-only sex education curriculum, and sex education in Georgia schools has been required since 1988 (Sex Education in Georgia Schools, 2009). The State of Georgia does not have a standardized curriculum. However, many schools in Georgia have received funding and presented abstinence-only sex education using *Choosing the Best*, an abstinence-centered curriculum. Although each district is allowed to choose its own sex education curriculum, there needs to be a standardized, comprehensive sex education program throughout the state of Georgia.

Abstinence-only education is a start when it comes to educating youth. The goal of abstinence-only education is to create an environment for teenagers to wait until marriage before engaging in sexual activity. Abstinence has been proven to be effective in preventing pregnancy and STDs only if it is practiced consistently and correctly; that is, there must be “no form of sexual contact.” Teens who say they are “abstinent” have a high STD infection rate (Malone & Rodriguez, 2011). This is due primarily to teenagers engaging in sexual activity other than sexual intercourse (penis to vagina).

Research has shown that comprehensive sex education programs are more effective in promoting positive sexual health behaviors. Comprehensive sex education includes teaching abstinence, in addition to presenting information on reproductive

development, anatomy, puberty, contraception, reproductive choice, and the lesbian, gay, bisexual, and transgender community (Malone & Rodriguez, 2011). Additionally, comprehensive sex education programs are required to be “science-based and medically accurate, (Guttmacher, 2010).”

There continues to be a debate on whether abstinence-only or comprehensive sex education should be taught in schools. Most parents and policymakers favor abstinence-only approaches. Proponents of this tactic feel that it promotes abstinence and they want their youth to remain abstinent until marriage. However, adolescents who have taken a comprehensive sex education program are more likely to delay the initiation of sexual activity.

A second social change implication is that there needs to be more collaboration and partnerships in efforts to provide community-based pregnancy prevention programs specifically for adolescents. Southwest Georgia health officials and stakeholders must determine the best course of action to combat teen pregnancy and to address social and economic factors associated with adolescent health. One means of addressing the issue of teenage pregnancy involves collaboration and partnerships. Partnerships and collaboration have been strategically used for promoting health and the delivery of social services (Edwards et al., 1998). The two organizations participating in this study represent partnerships that can potentially impact the Southwest Georgia community in efforts to reduce the risk of teen pregnancy.

Community partnerships are needed in order to support the sustainability of teen pregnancy prevention efforts by empowering community members and groups to take action to facilitate change (CDC, 2013). When there are collaborations and partnerships

throughout the community, there are more resources, information can be disseminated more easily, support becomes widespread, and there is more collective cooperation across both the private and public sectors in the community. Additionally, in collaborations, partners may represent many sectors, such as clinical, social, and faith-based organizations. Partnerships help to establish linkages between teen pregnancy prevention programs and at-risk youth from targeted communities.

The final social change implication concerns the reimplementation of health centers specifically for adolescents. Currently, there is not any teen health center in Southwest Georgia or the surrounding areas. As evidenced by this study's research, when teenagers are exposed to positive personal and environmental factors, positive behaviors are produced. With the development of comprehensive teen health centers, adolescents will not only be exposed to pregnancy prevention programs and resources on other sexual health issues, but also have the opportunity to address other adolescent health and wellness topics, such as academics, self-esteem, bullying, social media, depression, and other issues teenagers are bombarded with on a daily basis.

Most teenagers are not comfortable with going to regular health clinics and discussing sexual topics in fear of judgment and shame. A teen health center offers a reassuring environment where adolescents can come to receive clinical services and discuss any issues they may be encountering without fear of being judged and demeaned. In the past, teen health centers were located in Southwest Georgia. These centers provided services to adolescents between the ages of 10 and 19 at no cost. These services consisted of health education, nutrition, pregnancy facts and prevention, abstinence counseling, birth control, STD testing and treatment, and HIV counseling and testing.

These teen health centers also had a youth advisory board and parent advisory committee. These two groups were represented both the parents and the youth who were part of the Teen Health Center and were concerned with adolescents making positive changes in the community. The development of these two groups helped to create positive peer and parental communication, which, in turn, reduced negative behaviors. These teen centers were funded by the Georgia Division of Public Health. Unfortunately, funding was lost, and the teen health centers were closed. Currently, local health departments provide clinical services to teenagers, and Adolescent Health and Youth Development Coordinators provide educational, counseling, and enrichment programs to adolescents in a designated area.

The reestablishment of Teen Health Centers in the Southwest Georgia Community would be essential. These health centers would not only aid in the prevention of teenage pregnancy, but they will provide a positive environment for teenagers to go and discuss adolescent health issues and concerns. Parents also have an opportunity to be heard. This creates consistency and mutual understanding between the parents and the youth, promotes positive effective communication. Lastly, the implementation of Teen Health Centers supports the President's teen pregnancy initiative, which is to reduce teenage pregnancy and address teen pregnancy and birth rates by integrating services, programs and strategies through community wide initiatives (CDC, 2013).

Recommendations

No simple solution can resolve the issue of teenage pregnancy. Through this study, it can be concluded that societal, personal, and environmental influences continue

to serve as factors related to the risk of teenage pregnancy and parenting. Peer and parental influences were significant in the risk of teen pregnancy. The assessment of sexual health knowledge and attitudes revealed that there is a need for comprehensive sex education curriculum in Southwest Georgia. Although, there might not be a curriculum that addresses both attitudes and knowledge, modifications to the curriculum can be made in order effective target the adolescent in the Southwest Georgia community. The assessment of a curriculum should involve a collaboration of officials in Southwest Georgia who have an active interest in adolescent sexual health, choosing the best curriculum for the community. The officials should consider choosing a curriculum that may already be implemented by a similar community. Implementing the most appropriate curriculum should involve both a pre and post evaluation for the curriculum's effectiveness.

This study explored the impact of personal and environmental risk factors on pregnant and parenting teenagers. More research is necessary in order to address adolescent pregnancy in Southwest Georgia and similar communities and explain the possible effects on intentions and behaviors. Behaviors and teen pregnancy intentions were not thoroughly addressed in this study, although they are very important facets of adolescent sexuality. Kirby (2007) indicated that risk behavior is a pertinent factor when exploring the incidence of teenage pregnancy. An evaluation of these risk behaviors will provide a better understanding of the Southwest Georgia adolescent population.

Conclusion

As evidenced by Badura's social cognitive theory, behaviors are learned through environmental and personal factors; positive factors produce positive behaviors. This

study showed that an increase in positive environmental factors (household income and parental education) and an increase in positive personal factors (parental/peer communication, teen's academic achievement, and attitudes toward sex) decreased negative behaviors (risks of teenage pregnancy). The participants in this study confirmed the perceived belief that a teen's attitude toward sex affects rather or not the teen will engage in negative sexual behaviors. Also, the study revealed that the lack of comprehensive sex education limited participant's knowledge on sexual health.

Teenage pregnancy is considered a public health issue. Public health officials rely on scientific methods and theory to address public health issues. Therefore, implementing a "scientific and medically accurate" sex education curriculum would be more effective in educating teenagers on adolescent sexual health. Although Bandura introduced the social cognitive theory some 29 years ago, and society is constantly changing, his theory remains applicable. The possibilities to tackle the risks of teenage pregnancy are inevitable, and these possibilities serve as a stimulant for social change.

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Appendix A: Study Questionnaire

Section A: Demographics

Please read each question carefully and answer them to the best of your knowledge. The study is very important; therefore, your answers are also very important. Please do not skip any questions.

For multiple choice questions, please put an X by the answer that you select.

1. How old are you? _____
2. What grade are you in? _____
3. What is your race?
 - _____ a) Latino
 - _____ b) Black/African American
 - _____ c) White
 - _____ d) Asian or Pacific Islander
 - _____ e) American Indian or Native American
 - _____ f) Other
4. Are you of Hispanic origin?
 - _____ a) Yes
 - _____ b) No
5. What is the zip code where you live? _____
6. Do you live with your? (Please select all that apply)
 - _____ a) Biological Mother
 - _____ b) Stepmother
 - _____ c) Foster Mother
 - _____ d) Grandmother
 - _____ e) Adoptive Mother
 - _____ f) None of the above (Skip Question 7)
7. What is her highest level of education?
 - _____ a) 8th grade or less
 - _____ b) Some high school
 - _____ b) Finished high school
 - _____ c) Some College
 - _____ d) Finished College
8. Do you live with your (Please Select all that apply):
 - _____ a) Biological Father
 - _____ b) Stepfather
 - _____ c) Foster Father
 - _____ d) Grandfather
 - _____ e) Adoptive Father
 - _____ f) None of these (Skip to Question

9. What is his highest level of education?
- a) 8th grade or less
 - b) Some high school
 - b) Finished high school
 - c) Some College
 - d) Finished College
10. Have you ever taken a sex education class?
- a) Never
 - b) 1-2 classes
 - c) 3-4 classes
 - d) 5 or more classes
11. How many people live in your household, including yourself? _____
12. What is your annual household income?
- a) less than \$25,000
 - b) \$25,001-\$50,000
 - c) \$50,001-\$75,000
 - d) greater than \$75,000
13. Are you currently (Please select all that apply):
- a) Pregnant
 - b) Parenting
 - c) Pregnant in the past
 - d) Never pregnant
14. What is your current Grade Point Average (GPA)? If you are not sure, please guess.
- a) 1.0 or lower
 - b) 1.1-2.0
 - c) 2.1-3.0
 - d) 3.1-4.0
 - e) 4.1 or higher

Section B: Knowledge

Directions: Please read each question carefully and select the answer you believe is correct. There is only one correct answer. Please put an X beside your answer choice for each question.

15. By the time teenagers graduate from high school in the United States:
- a) only a few have had sex
 - b) about half have had sex
 - c) about 80% have had sex
16. It is harmful for a woman to have sexual intercourse when she is:
- a) pregnant
 - b) on her period
 - c) has a cold
 - d) has a sexual partner with syphilis
 - e) none of the above
17. Some contraceptives (birth control methods):
- a) can be obtained with a doctor's prescription
 - b) are available at family planning clinics
 - c) can be bought over the counter at drug stores
 - d) can be obtained by people under 18 without their parent's permission
 - e) all of the above
18. If 10 couples have sexual intercourse regularly without using any kind of birth control, the number of couples who become pregnant by the end of the year is about:
- a) one
 - b) three
 - c) six
 - d) nine
 - e) none of the above
19. People having sexual intercourse can best prevent getting a sexually transmitted infection/sexually transmitted disease (STI or STD) by using:
- a) condoms (rubbers)
 - b) contraceptive foam
 - c) the pill
 - d) withdrawal (pulling out)
20. If a couple has sexual intercourse and uses no birth control, the woman might get pregnant:
- a) anytime during the month
 - b) only one week before her period begins
 - c) only during her period
 - d) only one week after her period begins
 - e) only two weeks after her period begins

21. The method of birth control that is least effective is:
- a) a condom
 - b) a diaphragm
 - c) withdrawal (pulling out)
 - d) the pill
 - e) abstinence (not having sex at all)
22. It is possible for a woman to become pregnant:
- a) the first time she has sex
 - b) if she has sex while on her period
 - c) if she has sex standing up
 - d) if sperm get near the opening of the vagina even though the man's penis does not enter the body
 - e) all of the above
23. It is impossible to cure:
- a) syphilis
 - b) gonorrhea
 - c) herpes virus 2
 - d) vaginitis
24. Teenagers who choose to have sexual intercourse may possible:
- a) have to deal with a pregnancy
 - b) feel guilty
 - c) become more close to their sexual partner
 - d) become less close to their sexual partner
 - e) all of the above
25. As they enter puberty, teenagers become more interested in sexual activity because:
- a) their sex hormones are changing
 - b) the media (TV, movies, magazines, music) push sex for teenagers
 - c) some of their friends have sex and expect them to have sex also
 - d) all of the above
26. To use a condom the correct way, a person must:
- a) leave some space at the tip for the guy's fluid
 - b) use a new one every time sexual intercourse occurs
 - c) hold it on the penis while pulling it out of the vagina
 - d) all of the above
27. The proportion of American girls who become pregnant before turning 20 is:
- a) 1 out of 3
 - b) 1 out of 11
 - c) 1 out of 43
 - d) 1 out of 90
28. Treatment for sexually transmitted infections (STI) is best if:
- a) both partners are treated at the same time
 - b) only the partner with symptoms sees a doctor

- _____ c) the person takes the medicine only until the symptom disappears
- _____ d) the partners continue having sex

Section C: Attitudes

The questions below are not a test of how much you know. The study is more interested in what you believe about some important issues. Please rate each statement by marking the appropriate box of how much you agree or disagree with the statement. There is no right or wrong answer.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I'm confused about my personal sexual values and beliefs					
2. Sexual relationships create more problems than they're worth					
3. Two people having sex should use some form of birth control if they aren't ready for a child					
4. Unmarried people should not have sex (sexual intercourse)					
5. I'm confused about what I should and should not do sexually					
6. Sexual relationships make life too difficult					
7. Birth control is not very important					
8. People should not have sex before marriage					
9. I have trouble knowing what my beliefs and values are about my personal sexual behavior					

Section C: Attitudes continued

	Strongly Agree	Agree	Neutral	Disagree	Strongly Agree
10. A sexual relationship is one of the best things a person can have.					
11. More people should be aware of the importance of birth control.					
12. It is all right for two people to have sex before marriage if they are in love.					
13. I have my own set of rules to guide my sexual behavior (sex life).					
14. Sexual relationships only bring trouble to people.					
15. Birth control is not as important as some people say.					
16. People should only have sex if they are married.					
17. I know for sure what is right and wrong sexually for me.					
18. Sexual relationships provide an important and fulfilling part of life.					
19. If two people have sex and aren't ready to have a child, it is very important they use some form of birth control.					
20. Teens who have been dating the same person for a long time should be willing to					

go along and have sexual intercourse if their partner wants to.					
21. The risk of AIDS and other sexually transmitted diseases is reason enough for teenagers to avoid sexual intercourse before they are married.					
22. Having sexual intercourse is something only married couples should do.					
23. Even if I am physically mature, that doesn't mean I'm ready to have sex.					
24. I think it is OK for kids my age to have sex.					
25. People who do not want to have sexual intercourse should have the right to say "NO."					

Section D: Parent/Peer Communication

	Strongly Agree	Agree	Neutral	Disagree	Strongly Agree
1. I can go to my mother/father when I have concerns or questions about sex.					
2. If I talk openly with my mother/father about sex, he/she will think I might be interested in experimenting with sex.					
3. I really don't want to talk to my mother/father about sex.					
4. I feel when my mother/father talks to me about sex he/she understands me and cares about my feelings.					
5. When my mother/father talks to me about sex he/she understands me and cares about my feelings.					
6. My sexual values and beliefs agree with those of my parent (s).					
7. If I had sex and I told my friends that I did not use condoms, they would be angry and disappointed.					
8. My friends talk a lot about "safe" sex.					
9. My friends and I encourage each other before dates to practice "safe" sex.					

10. If a friend knew that I had sex on a date, he/she wouldn't care if I used a condom or not.					
11. When I think that one of my friends might have sex on a date, I ask them if they have a condom.					
12. If a friend knew that I might have sex on a date, he/she would ask me if I were carrying a condom.					
13. If I thought that one of my friends had sex on a date, I would ask them if they used a condom.					

Appendix B: Assent Form

Assent Form (Aged 13-17)

Hello, my name is Lakeasha Thrasher and I am doing a project to learn about teenage pregnancy. I am inviting you to join my project. I picked you for this project because you are a female aged 15 to 19 and you reside in area with high teenage pregnancy rates. An adult will read this form with you. You can ask any questions you have before you decide if you want to participate in this project.

WHO I AM:

I am a student at Walden University. I am working on my doctoral degree. I am a former public health educator for a Teen Center who provided health education to adolescents aged 10 to 19 , for several years. My goal now is learn more about adolescent health and factors that contribute to unplanned or unwanted pregnancies in students your age so that I can provide better alternatives to combat this issue.

ABOUT THE PROJECT:

If you agree to join the project, you will be asked to:

- Complete a survey; this survey will take anywhere from 20 to 30 minutes
- Return the survey to the study administrator

IT'S YOUR CHOICE:

You don't have to join this project if you don't want to. You won't get into trouble with _____ (Insert Site Name) if you say no. If you decide now that you want to join the project, you can still change your mind later just by telling me. If you want to skip some parts of the project, just let me know.

RISKS AND BENEFITS:

It's possible that being in this project might make you feel uncomfortable at times because you will be asked questions about sex health, activities, behaviors, and pregnancy. Some examples of questions on the survey include, but not limited to: Have you ever had vaginal intercourse? What are some contraceptive (birth control methods)? And, what happens if a couple has sexual intercourse regularly without using any form of birth control? Some of these questions may make you feel embarrassed. However, this project might help others by helping me and others interested in keeping you healthy, provide better programs for you and others your age.

PRIVACY:

Everything you tell me during this project will be kept private. That means that no one else will know your name or what answers you gave. The only time I have to tell someone is if I learn about something that could hurt you or someone else.

COMPENSATION:

Upon completion of the survey, you will be given a gift bag.

ASKING QUESTIONS:

You can ask me any questions you want now. If you think of a question later, you or your parents can reach me at [REDACTED] or [REDACTED]. My professor, Dr. Mary Lou Gutierrez, can be reached at [REDACTED]. If you have or your parents would like to ask my university a question, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is [REDACTED]. Walden University's approval number for this study is **09-03-14-0044864** and it expires on **September 2, 2015**.

I will give you a copy of this form.

Statement of Consent:

By checking this box, I state that I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the study. To protect your privacy, your name and signature are not requested. Instead, your return of the survey can show that you agree to participate.

Date of Consent _____

Researcher's Signature _____

Appendix C: Informed Consent

Informed Consent (Aged 18 & Over)

Hello, my name is Lakeasha Thrasher and I am doing a project to learn about teenage pregnancy. I am inviting you to join my project. I picked you for this project because you are a female aged 15 to 19 and you reside in area with high teenage pregnancy rates. You can ask any questions you have before you decide if you want to participate in this project.

Background Information:

I am a student at Walden University. I am working on my doctoral degree. I am a former public health educator for a Teen Center who provided health education to adolescents aged 10 to 19, for several years. My goal now is to learn more about adolescent health and factors that contribute to unplanned or unwanted pregnancies in students your age so that I can provide better alternatives to combat this issue.

Procedures:

If you agree to be in this study, you will be asked to:

- Complete a survey; this survey will take anywhere from 20 to 30 minutes
- Return the survey to the study administrator

Volunteer Nature of Study:

You don't have to join this project if you don't want to. You won't get into trouble with _____ (Insert Site Name) if you say no. If you decide now that you want to join the project, you can still change your mind later just by telling me. If you want to skip some parts of the project, just let me know.

It's possible that being in this project might make you feel uncomfortable at times because you will be asked questions about sex and pregnancy. However, this project might help others by helping me and others interested in keeping you healthy, to provide better programs for you and others your age.

Risks and Benefits of Being in the Study:

The risks of participating in this study are minimal. You will be asked to answer questions relating to sex, sexual behaviors, activities, and pregnancy in teenage populations. Some examples of questions on the survey include, but not limited to: Have you ever had vaginal intercourse? What are some contraceptive (birth control methods)? And, what happens if a couple has sexual intercourse regularly without using any form of birth control? Some of these questions may make you feel embarrassed. However, this project might help others by helping me and others interested in keeping you healthy, to provide better programs for you and others your age.

Confidentiality:

Everything you tell me during this project will be kept private. That means that no one else will know your name or what answers you gave. The only time I have to tell someone is if I learn about something that could hurt you or someone else.

Compensation:

Upon completion of the survey, you will receive a gift bag.

Contacts and Questions:

The researcher's name is Lakeasha Thrasher. The researcher's faculty advisor is Dr. Mary Lou Gutierrez. You may ask any questions you have now, or if you have any questions later, you may contact the researcher via phone at [REDACTED] or [REDACTED]. The student's advisor may be reached via email at [REDACTED]. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is [REDACTED]. Walden University's approval number for this study is 09-03-14-0044864 and it expires on September 2, 2015.

The researcher will give you a copy of this form to keep.

Statement of Consent:

By checking this box, I state that I have read the above information. I have received answers to any questions I have at this time. I am 18 years of age or older, and I consent to participate in the study. To protect your privacy, your name and signature are not requested. Instead, your return of the survey can show that you agree to participate.

Date of Consent _____

Researcher's Signature _____

Appendix D:

Parental Consent Form (Minors Aged 17 & Under)

Dear Parent/Guardian:

My name is Lakeasha Thrasher and I am a public health student with Walden University. I am completing my doctoral degree and I am asking your help with my final project. I will be conducting research at several community sites in Dougherty County and I would like to include your student, along with several other students to participate in this research project on teenage pregnancy. I picked your child for this project because she is between the age of 15 to 19 and you live in area with high teenage pregnancy rates. Your child will not miss any class time in order to participate in this study.

Background Information:

The purpose of this study is to learn more about adolescent health and factors that contribute to unplanned or unwanted pregnancies in students your child's age so that I can provide better alternatives to combat this issue.

Procedures:

If you agree to allow your student to participate in this study, they will be asked to:

- Complete a survey; this will take about 20-30 minutes
- Return the survey to the study administrator

Voluntary Nature of the Study:

Your student's participation in this study is voluntary. Your child does not have to join this project if they don't want to or you don't want them to. Your child will not get into trouble with _____ (Insert Site Name) if you say no. If you decide now that your child can join the project, you or she can still change their mind later just by telling me. If your child wants to skip some parts of the project, just let me know.

It's possible that being in this project might make your child feel uncomfortable at times because she will be asked questions about sexual behaviors and pregnancy. However, this project might help others by helping me and others interested in keeping your child healthy by providing better programs for you and others her age.

Risks and Benefits of Being in the Study:

It's possible that being in this project might make your child feel uncomfortable at times because she will be asked questions about sexual activity, behaviors and pregnancy. Some examples of questions on the survey include, but not limited to: Have you ever had vaginal intercourse? What are some contraceptive (birth control methods)? And, what happens if a couple has sexual intercourse regularly without using any form of birth control? Some of these questions may make your child feel embarrassed. However, this project might help others by helping me and others interested in keeping your child healthy, provide better programs for your child and others her age.

Confidentiality:

Everything your child tells me during this project will be kept private. That means that no one else will know her name or what answers she gave. I will not ask for your child's name on this survey. The only time I have to tell someone is if I learn about something that could hurt your child or someone else.

Compensation:

Upon completion of the survey, your child will be given a gift bag. Please note that even if your child decides not to complete the study, they are still can be in the drawing.

Asking Questions:

You can ask me any questions at any time. I can be reached at [REDACTED] or [REDACTED]. My professor Dr. Mary Lou Gutierrez can be reached via email at [REDACTED]. If you would like to ask my university a question, you can call Dr. Leilani Endicott. Her phone number is [REDACTED]. Walden University's approval number for this study is 09-03-14-0044864 and it expires on September 2, 2015.

How to Use This Form:

If you agree to allow your child to participate, please sign your name in the space provided below and place in the marked envelope.

Your consideration is greatly appreciated. Again, your child's opinions and input in this project is of great value to me!

Sincerely,

Lakeasha S. Thrasher, Researcher

By signing below, I GIVE permission for my child to participate in this study.

Printed Name of Participant (student) _____ Date _____

Parent's Signature _____ Date _____

Researcher's Signature _____ Date _____

Appendix E:

Consent to Use Survey Instrument

Lakeasha,

You are welcome to use whatever instruments we developed so long ago. I am so pleased to hear that you are working on your dissertation, and I wish you all the best.

Brent

From: Lakeasha Thrasher <[REDACTED]>

Date: Thursday, January 30, 2014 4:23 PM

To: Brent Miller <[REDACTED]>, "[REDACTED]" <[REDACTED]>

Subject: Permission to use Survey Tool

Dear Dr. Brent C. Miller,

Hello, my name is Lakeasha Thrasher and I am conducting my doctoral dissertation research at Walden University to learn more about the environmental and individual risk factors on pregnant and parenting teenagers.

I am requesting permission to use the "Attitudes Towards Abstinence (ATA)" and the "Parent/Adolescent Communication (PACM)" surveys that were published in the American Journal of Preventive Medicine (1998), vol. 15 in the article entitled "Development and Testing of an HIV-Risk Screening Instrument for Use in Health Care Setting."

If you have any questions, please feel free to contact me by phone at [REDACTED] or via email at [REDACTED] or [REDACTED].

I look forward to hearing from you in the near future.

Thank you in advance for your help and consideration.

Lakeasha Thrasher, MPA

Walden University Public Health Doctorate Student

Appendix F:

Permission to Use WebMd Illustrations

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