

Timing of pregnancy and first birth and its impact on schooling in South Africa: The case of Black women in North West Province



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Thesis submitted in fulfillment of the requirement for the degree of

DOCTOR OF PHILOSOPHY IN POPULATION STUDIES

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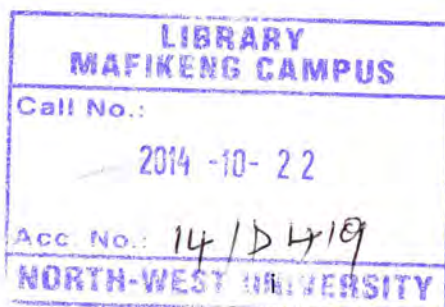
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At

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**TIMING OF FIRST BIRTH AND ITS IMPACT ON SCHOOLING IN SOUTH
AFRICA: THE CASE OF BLACK WOMEN IN NORTH WEST PROVINCE**

Submitted by

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For the degree of

**DOCTOR OF PHILOSOPHY
(POPULATION STUDIES)**

In the

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MAFIKENG CAMPUS
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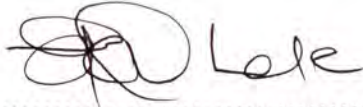
DEDICATION

I would like to dedicate this study to my late parents, Teko and Keneilwe Mhele who taught me to persist in live.

DECLARATION

I declare that the thesis for the Degree of Doctor of Philosophy in Population Studies at the North-West University (Mafikeng Campus) hereby submitted has not previously been submitted by me for a degree at this or any other university, that it is my own work in design and execution. Sources quoted have been duly acknowledged and indicated by means of a comprehensive list of references.

Karabo Ezekiel Mhele

Signature.......... Date 15/09/2014.....

ACRONYMS and ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
DBE	Department of Basic Education
*DHS	Demographic and Health Survey
GHS	General Household Survey
HIV	Human Immunodeficiency Virus
MDG	Millennium Development Goals
STATS-SA	Statistics South Africa
TFR	Total Fertility Rate
UN	United Nations
UNESCO	United Nations Education, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Abstract

Schooling is a powerful tool that imparts knowledge, attitudes, skills and aspirations required for achieving individual potentials. However, most women in South Africa do not achieve their full potential because of low school attainment, which has partly been attributed to learner pregnancy, school dropout and low school re-entry. The objectives of this study were therefore to estimate the magnitude of learner pregnancy, school dropout and school re-entry as key determinants of educational attainments and identify their predictors in the North West province of South Africa, where the magnitude of these phenomena and their predictors are not well known.

The study used cross-sectional data on 582 black women from Bojanala and Modiri-Molema districts. The inclusion criteria of the women were being black, enrolled in school at age 14 and not having experienced a pregnancy before age 14. A structured and pre-coded questionnaire was used to collect individual, school, household and neighbourhood level data from the women using face to face interviews by trained research assistants. Data analysis was done by use of univariate analysis, which described the individual, school, household and neighbourhood level profiles of the women; bivariate analysis which examined differentials and the association between school pregnancy, school dropout and school re-entry by the women's individual, school, household and neighbourhood level covariates and the Kaplan-Meier survival plots which estimated the mean ages and mean grades of learner pregnancy and school dropout respectively. At the multivariate level, the nested binary logistic regression model and the Cox proportional hazard models were used to identify the predictors of school pregnancy, school dropout and school re-entry.

The study found that 38% of the women experienced learner pregnancy. Learner pregnancy was significantly more likely if the had sexual debut at less than 18 years; were in a low grade at age 14, had attained less than grade 11; perceived that neighbourhood peers were not in school; and lived in rural areas at age 14. Conversely, learner pregnancy was lower if the women had no previous school dropout experience and had mothers who attained grade 8 or higher. The rate of school dropout was also high (53%). Women of birth order 4 or higher; had sexual debut at less than 18 years; experienced learner pregnancy; started schooling at 7 years or older; were in a low grade (grade 8) at age 14; had mothers who attained less than grade 11; and lived in rural neighbourhoods at age 14 were significantly more likely to have dropped out of school. Regarding school re-entry, only 28.1% of the women who previously dropped out of school returned to school, indicating that school re-entry rates were low despite having school re-entry policy in place. The low school re-entry rate was attributed to learner pregnancy and dropping out of school due to pregnancy related reasons; dropping out of school at ages 17-19 years; perceiving that neighbourhood peers were not in school; and residing in rural neighbourhoods at age 14. Conversely, school re-entry was found to be more likely if the women were in the youngest age group, had a dropout duration of less than 3 years, lived in both parent and extended families and lived in Bojanala at age 14.

The study concludes that learner pregnancy is prevalent in the North West province and is the most important contributor to high school dropout and low school re-entry of women. This is despite the availability of a policy that prioritizes the integration of previously pregnant and young mothers to school. The high rate of learner pregnancy and school dropout, and low school re-entry rates are influenced

by individual, school, household and community level factors. Reversing these situations require the integration of individual, school, household and community level initiatives to eradicate learner pregnancy, prevent school dropouts and encourage the school reintegration of the girl child in order to improve the educational attainment of women in North West province in particular and South Africa in general.

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Chapter One

General Introduction

1.1 Introduction

Education is a powerful tool that imparts knowledge, attitudes, aspirations and skills necessary to promote not only individual wellbeing, but also development at national level (World Education, 2012). Women in particular derive greater benefits from education and make more contribution to society because educated women contribute significantly to the attainment of the Millennium Development Goal (MDG) of Universal Primary Education and increasing the secondary education participation rate (UNESCO, UNICEF and Save the children, 2010).

Failure to promote women's education has wider ramifications on other MDGs including alleviation of extreme poverty and hunger (De-Muro and Burchi, 2007); reducing childhood mortality (Schultz 1993; Malhotra and Schuler, 2005); improving maternal health (United Nations, 2001); achieving gender equality and empowerment of women (Lazo, 1995; Dighe, 1995); and curbing the spread of HIV/AIDS and its impacts (UNESCO, 2010). However, despite the benefits of education, many women do not complete secondary education in many developing countries, especially in sub-Saharan Africa (UNESCO, 2000). There are many factors impeding school completion for women in sub-Saharan region including early childbearing, which has been identified as a key impediment to completing secondary education among women (Eloundou-Enyegue, 2004; Madhavan and Thomas, 2005; Ahmed and Meeker, 1999).

In spite of decreasing fertility rates in many countries, adolescent fertility has remained high in most sub-Saharan Africa countries (UN; 2008). South Africa,

where teenage fertility has remained high for many decades, especially among the Black population, is no exception in this respect (Swartz, 2003). Between 2000 and 2005, teenage fertility in South Africa was estimated at 66 per 1000 teenagers, a figure that is above the world average of 50 per 1000 teenagers (United Nations Population Divisions, 2000). Although teenage fertility is currently decreasing among different population groups in South Africa (Moultrie and McGrath, 2007), some studies have noted that the rate of decline is slow (Camlin et al. 2004). For example, data collected from the rural area in Kwa-Zulu Natal show that teenage fertility declined by less than 3 per cent over the 15 year period, from 85 to 83 births per 1000 teenagers between 1996 and 2002 (Moultrie and McGrath, 2007).

The high level of teenage fertility in South Africa occurs against the backdrop of an increasing level of school participation (Madhavan and Thomas, 2005). A previous study revealed that when both schooling and adolescent fertility are increasing, many women are likely to get pregnant while still enrolled in school (Mensch et al., 1998). However, the relationship between pregnancy and schooling has only been determined empirically in a few areas in South Africa and not take into consideration the sequencing of the two events of pregnancy and dropping out of school. This is because pregnancy may only affect schooling if it precedes school dropout. This study therefore sought to examine how timing of pregnancy among Black women affects high school completion in South Africa.

1.2 Study outline

This study has been organized in eight chapters. Chapter one presents an overview of the background to the study, the statement of the problem, main aims of the study and study objectives. Also presented in this chapter are the rationale for the study,

study objectives, research questions and hypotheses. In chapter two, the literature review focuses on the level of school pregnancy and school dropout and its predictors; the theoretical and conceptual frameworks are also presented in this chapter. Chapter three presents the methodology of the study focusing on the study setting, sample design, and data collection methods; ethical issues and the limitations of the study are also presented. In chapter four, the distribution of respondents by background characteristics and quality of data are discussed. Chapter five presents rates and predictors of pregnancy. Chapter six presents school dropout rates while chapter seven presents rates and predictors of school re-entry of women who previously dropped out of school and factors influencing school re-entry. Chapter eight presents the main findings, conclusions and recommendation of the study.

1.3 Background

Education is one of the critical factors that can bring changes to improve life outcomes because it affects most life events, especially for women because of its importance in the empowerment of women. An increase in female education has implications in the achievement of nearly all the MDGs as outlined in the previous section (Roudi-Fahimi and Moghadam, 2003; UNESCO, UNICEF, 2010; De-Muro and Burchi, 2007; Schultz 1993; Malhotra and Schuler, 2005; Lazo, 1995; Dighe, 1995).

The current pattern of socioeconomic problems in South Africa such as racially skewed income distribution and higher levels of poverty in the Black population is a result of differential educational attainment between the racial groups (van der Berg, 2007. Within racial groups, especially among Blacks, women are more affected by

low levels of education than men. For example, between 2001 and 2006, the unemployment rate was higher among women than men (Statistics in Brief, 2008); analysis of poverty pockets reveals that the majority of the poor in South Africa are women (National Population Unit, 2000); and compared to those with relatively better levels of education, individuals with less than tertiary education have suffered a decline in real incomes (Murnane 1994, quoted in Teachman et al., 1996). It can therefore be reasonably said that the problem of gender based socioeconomic inequalities is likely to persist if women's education does not improve relative to men's education.

Additionally, the numbers of learners entering school at later ages and grade repetitions have been higher among women in the Black community (Grant and Hallman, 2008; Schindler, 2008). Nearly 50% and 43.1% of learners enrolled in grade 11 and 12 in 2009 respectively were older than ages expected in those grades (Department of Basic Education, 2011). Given that the risk of pregnancy increases with women's age, many young women experience pregnancy while still enrolled in school (Rutenburg et al., 2001; Manzini, 2001), and the learner pregnancy rate in South Africa increased between 2004 and 2008 (Department of Education, 2009). As a result of the early age of pregnancy and childbearing, the Black population has experienced the highest levels of fertility since the 1970s (Udjo, 2005). Swartz (2001) observed that around 1960, Total Fertility Rate (TFR) for Blacks and Coloureds was well above six and Whites and Asians had TFR of less than four. The levels for all racial groups declined and by 1990, TFR of Blacks had decreased to 3.9, Coloureds and Asians alike decreased to 2.9 and that of Whites decreased to the replacement level of 2.1; TFR of Blacks declined further to 3.1 and that of

Coloureds, Asians and Whites decreased to 2.5 and 1.9 respectively by 1998; and the 2007 community survey suggest that the fertility rate for South Africa was 2.8 at national level, but racial differences were still evident, with TFR of 2.9 for Blacks, 2.5 for Coloureds and Whites and Asians had a TFR of less than 2.1 (Statistics South Africa, 2010).

Adolescent childbearing in South Africa somehow reflects the general pattern of childbearing in the country. Previous studies indicate that childbearing is relatively higher among Black adolescents than Whites and Asians (Zibanda and Zuberi, 2005). For example, in 2001 teenage fertility was 71 per 1000 for Blacks compared to only 14 per 1000 for Whites (Moultrie and McGrath, 2007). A higher fertility rate among Black teenagers is not a recent phenomenon. Dickson (2003) found that approximately 35% of Black women in all age groups had experienced pregnancy at ages below 20 years, implying that teenage fertility is somehow deep-rooted in the Black population. Preston-Whyte (1990), on the other hand, found that between 60% and 80% of women who went to deliver at government hospitals between 1970 and 1980 in Kwa-Mashu, a Black urban settlement in Durban, were unmarried young women, fifty per cent of whom were still in school. The problem of learner pregnancy is further aggravated by the fact that Black women in South Africa are often under pressure to prove their fertility to the prospective husbands (Kaufman 2001; Preston-Whyte, 1990). Consequently, both age at first sexual intercourse and childbearing start at relatively younger ages. As observed by Eloundou-Enyegue (2004), in situations where women's school participation is high, as it is in South Africa, high levels of pregnancy at younger ages is likely to negatively affect women's participation in education.

The reasons why women would give birth at younger ages are complex and cannot be explained by a single factor. Other studies have indicated that some young women fall pregnant as a way of keeping their young men from deserting them (Kaufman, 2001). In addition, early sexual activity increases the risk of unwanted early childbearing (Garenne et al., 2000; Department of Health, 2003), which is aggravated by non-use of contraceptives (Zwang and Garenne, 2008). The poor socio-economic conditions in the Black population, especially among women in the rural areas (National Population Unit Report, 2000), creates a disincentive for women to remain at school and postpone childbearing because of perceived lack of upward social mobility (Sibanda and Zuberi, 2005).

Education is fundamental to many life events and as a result the effect of teenage pregnancy on women's schooling warrants great attention. The findings from previous studies indicated that early childbearing is associated with high school dropout among women (Meekers and Ahmed 1999; Myhrman et al., 1995) which can lead to low employability. It is also associated with increased risk of HIV infection (Bumpass et al., 1978; Hofferth, 2001). Conversely, higher levels of education among women is associated with improved quality of life, which tends to find a way into national development through increased economic productivity, better health for women, children and higher child survival probabilities (World Bank report, 1996). Education is a critical means to gender equality and empowerment of women because it improves the social standing of women as it is likely to increase incomes and reduce the dependence of women on men. According to Marini (1984), lower education is likely to perpetuate lower social standing of women relative to men in every society. This is because women with no or little education are less likely to earn high income and more likely to be dependent on

men for survival. Previous studies have suggested that education of women does not only empower them socially and economically, but also improves the education of their children and other children residing in households headed by women (Chernichovsky, 1985; Townsend et al., 2002). Given that female headed households within the Black population has been increasing in South Africa due to higher levels of marital disruption and male out-migration (Kaufman 2000), disrupting women's education would mean that the well-being of children raised in these households is jeopardized.

Although research on teenage childbearing and schooling has come a long way there is no consensus on how the two are related because of the uncertainty pertaining to the extent, and direction of association between these events. While many are in agreement that birth at younger age leads to increased school dropout and low school attainment for women (Meekers and Ahmed, 1999), other studies have found no association or just a partial association between teenage pregnancy and school dropout and school attainment (Fergusson and Woodward 2000). Furthermore, other studies have argued that there is no evidence to suggest that teenage pregnancy leads to school dropout, but rather, dropping out of school predisposes young women to pregnancy at a young age (Mensch et al., 1999; Upchurch and McCarthy, 1990).

The paucity of knowledge on the strength and direction of the association between childbearing and educational attainment is grounded on how the events of pregnancy and school dropout are sequenced. The relative timing of pregnancy in relation to school dropout and school graduation is critical in determining whether pregnancy has any impact on schooling outcomes. For example, when school dropout comes directly after pregnancy, it is reasonable to believe that such pregnancy has directly

or indirectly, contributed to school dropout. However, when school dropout precedes pregnancy or birth, then this assumption can no longer hold. The order in which these events occur is important in determining the direction and association between these two events. Additionally, the circumstances in which the order in which pregnancy and school dropout follow each other does not necessarily imply any association between these variables.

Learner pregnancy and school dropout are influenced by individual, household, school and community level factors. Individual level factors include among other factors age, educational level, age at first sex, and contraceptive behaviour (Corijn, 1996; Grant and Hallman, 2006; Suh et al., 2007; Panday et al., 2009). On the other hand, household factors include socioeconomic backgrounds, single parenthood and lower educational attainment of mothers (Fergusson and Woodward, 2000; Hallman, 2004; Grant and Hallman, 2008). School level factors include school policy on pregnancy, school dropout and re-entry (Manzini, 2001; Kaufman 2000), school location (Goldschmidt and Wang, 1999), school population (Pittman and Haughwout, 1987) and school absenteeism by teachers and students among others (Kronick and Hargis, 1998). Community level factors that have been identified to contribute to school pregnancy and school dropout are community and intimate group sub-cultures (Sutherland, 1947), perceived and actual importance of education (Valdivieso and Nicolau, 1994; Lyod et al., 2009), sexual and gender based violence (Manzini, 2001), community norms and values regarding sexual behavior and reproduction (Marini, 1984; Upchurch and McCarthy, 1990).

The improving socioeconomic conditions among Blacks, higher levels of education and employment of women, a supportive school pregnancy policy for young

mothers suggest that the impact of pregnancy on school dropout should be lower than previously thought and graduation rates of women who previously dropped out of school due to pregnancy should be higher than previously thought.

However, the rate of school pregnancy in South African schools is high, leading to high school dropout rates and the reasons for these phenomena remain largely unknown; whether previously pregnant girls re-join school and factors influencing school re-entry and graduation of the girls who previously dropped out of school due to pregnancy are also not well articulated. This study therefore focused on three areas: first, to estimate the rate of learner pregnancy and identify individual, school, household and community level predictors influencing learner pregnancy among girls who were enrolled in school at age 14 and were never pregnant; secondly, to estimate the rate of school dropout and identify individual, school, household and community level predictors influencing school dropout among girls who were enrolled in school at age 14; and to estimate the rate of school re-entry and identify individual, school, household and community level predictors influencing school re-entry of girls who dropped out of school for any reason.

1.3 Problem Statement

Teenage childbearing in South Africa is high by world standards, with at least 35 percent of women becoming pregnant before the age of 20 among the different age groups (Swartz, 2003). Teenage fertility in South Africa occurs within the context of increasing levels of school participation for women (Madhavan and Thomas, 2005). In an environment where there is high school participation, the impact of teenage pregnancy on schooling is likely to be more adverse than in situation where school participation is relatively low. In addition, due to higher levels of grade

repetition and late entry into school, many adolescents in the Black community are in school well beyond the onset of puberty which starts in early teenage years of 12-14 for most women (Schindler 2008), and in the process, schooling end up competing with other life events including childbearing. This is expected to be more prevalent in patriarchal societies such as South Africa where there is a high cultural value for children and many young Black women are under pressure to prove their fertility to their prospective spouses (Preston-Whyte, 1990). It is therefore reasonable to expect school pregnancy and dropout to remain high in the near future (Dept. of Education, 2009) without effective interventions to curb these problems.

Education has been regarded as one of the most important tools of achieving MDG 3 which aims at achieving gender equality and empowerment of women. To this end a number of international treaties and declarations such as Forum for African Women Educationalist and Beijing Women's conference have addressed the education of girls and women, and denying education constitutes a violation of basic human rights. It is from these backgrounds that South Africa passed a new education policy which does not only emphasize non-discrimination based on sex, race and other forms of social groupings, but also on the pregnancy status of girls and women. South Africa has adopted continuation and re-entry policies, aimed at ensuring that girls who become pregnant while at school can continue their education. Continuation policies are those policies which allow uninterrupted schooling for girls who become pregnant at school while re-entry policies allow girls who might have dropped out of school due to pregnancy to return to school (Wamahiu, 1988 quoted from Chilisa, 2002). The act stipulated that a girl could be granted a special leave from school by the principal if she became pregnant and such leave should be based on medical grounds prescribed by a medical

professional; such learner should be allowed back into school after delivery. However, the application of the policy and whether or not girls who become pregnant at school continue schooling or re-join school and matriculate is not well known. There are indications that pregnant girls continue to be stigmatized against in school and as a result have low school attainment (Human Right Watch, 2010; South African Human Rights Commission, 2010).

There is no consensus on the effect of teenage pregnancy on school dropout and outcome (Hofferth 2001). While some studies indicate that teenage school pregnancy is detrimental to schooling (Meekers and Ahmed 1999) including those conducted in South Africa (Madhavan and Thomas 2005), other studies found that school pregnancy does not affect school dropout and schooling outcomes, and women who become pregnant while still schooling have similar chances of graduating as those who never became pregnant because the former could re-join school (Upchurch and McCarthy, 1990). Furthermore, findings from a study in Kenya suggest that the majority of young women who became pregnant do so after dropping out of school (Mensch et al. 2001), implying that most pregnancies do not affect schooling because these women would still not be in school even if they did not become pregnant (Department of Education, 2009). However, analysis of Demographic and Health Survey data in 20 sub-Saharan countries indicated that South Africa had the highest number of pregnancy related school dropouts (Lloyd and Mensch, 2006) and pregnancy is the main reason why women are dropping out of school in South Africa (Department of Health, 1998).

Although the above findings are helpful, they do not inform on the underlying causes of school pregnancy and school dropout. Additionally, although some

women return to school after dropping out of school due to pregnancy to complete their education (Kaufman et al., 2001), it is not known whether or not they graduate or matriculate. It is also not known whether or not there is a significant difference between women who drop out of school due to pregnancy related problems and those who never dropout of school. It is therefore important to understand firstly not only the magnitude of pregnancy related school dropout and school re-entry, but also the rate of re-entry of girls who previously dropped out of school due to pregnancy related causes. Additionally it is also important to understand the factors influencing school pregnancy, school dropout and school re-entry. This study therefore estimated the magnitude of school pregnancy, school dropout and school re-entry among girls who previously dropped out due to pregnancy-related causes; and identified the predictors of school pregnancy, dropout and school re-entry.

1.4 Research Question

The main research questions are:

- i. What is the rate of learner pregnancy and its timing, and what are the factors influencing learner pregnancy among black women in North West province;
- ii. What is the rate of school dropout and its timing, and what are the factors influencing school dropout among black women in North West province?;
and

- iii. Do girls who drop out of school before matriculation re-enter schooling?
What is the rate of school re-entry and what are the factors predicting school re-entry among black women in North West province?

1.5 The aims and objectives of the study

The aims of this study were to increase our understanding of the magnitude of learner pregnancy, school dropout and school re-entry as components of educational attainments and risk factors and predictors of learner pregnancy, school dropout and school re-entry in the North West province of South Africa where these phenomena and their predictors are unknown.

The specific objectives of the study are:

- i. To estimate the rate of learner pregnancy and its timing and identify the main predictors of learner pregnancy among black women in the North West province of South Africa;
- ii. To estimate the rate of school dropout and its timing and identify factors influencing school dropout among Black women in North West province of South Africa; and
- iii. To estimate the rate of school re-entry and identify the main predictors of school re-entry among black women in North West province.

1.6 Rationale for the Study

Dropping out of school has dire consequences on the individual and for society. At the individual level, dropping out of school affects nearly all life events while at the society level, school dropouts have been associated with many social problems. Addressing the causes of learner pregnancy and school dropout is therefore not only

important in securing the healthy adulthoods of teenagers, but also the social and economic well-being of society as a whole.

The education of women has serious ramifications for the attainment of all the Millennium Development Goals, which are important tenets in the socioeconomic productivity of women. In societies where women play a central role in the productive process of the family and society, as in South Africa, education of women impacts very strongly on the whole society. To increase the participation and education completion rates for women, the South African government adopted a new education policy in 1996 with greater emphases on access, retention and completion of education for girls and women. One of the important aspects of the policy is the retention of pregnant girls in school and school re-entry for girls who previously got pregnant and dropped out of school. The impact of this policy is expected to be greatest in rural areas where the phenomena of learner pregnancy and school dropout for girls are greatest.

Despite this policy, the North-West is one of the predominantly rural provinces in South Africa characterized by a relatively high proportion of poverty (Statistics South Africa, 2012) in the population, especially among women; a serious problem of school pregnancy; and a high rate of school dropout especially for girls. Understanding factors affecting school completion would be vital not only to policy makers, but also for educators working in rural communities, especially among Black South African communities, among whom the learner pregnancy and school dropout phenomena are common and school completion rates for women are low.

The adoption of the new education policy which emphasized the retention of pregnant girls in school provides that learner pregnancy is treated as a special need

and young mothers are allowed to re-enter school and complete their education. This policy should have resulted in not only lower learner pregnancy rates, but lower school dropout rates due to pregnancy. However, the effectiveness of the policy in lowering learner pregnancy and school dropout rates is not clearly known in many provinces in South Africa including the North West province. It is also not clear how school, individual, household and community factors impact the success of the policy. The statistics on learner pregnancy and school dropout due to pregnancy related causes suggests that the policy on retention of pregnant girls in school and re-entry of previously pregnant girls in school to complete their education has not performed as expected. This study therefore examined the magnitude of school pregnancy and its impact on school dropout and re-entry among Black teenage girls who were enrolled in school at age 14 and were never previously pregnant. This approach was considered to be appropriate in estimating the magnitude, identifying the most prevalent risk factors of learner pregnancy and its impact on school dropout in the North West province. The knowledge obtained could be used to strengthen the implementation of the new education policy which aims to keep pregnant girls at school and enables previously pregnant girls to re-enter schooling and complete their education.

Chapter Two

Literature review and theoretical Framework

2.1 Introduction

In this chapter literature on school dropout and learner pregnancy was reviewed to understand the patterns and risk factors associated with school pregnancy and their implications for school dropout and school attainment. The review also assessed the relevance of the literature reviewed to the learner pregnancy and school dropout situation in South Africa. Additionally, the chapter also presented two theories to explain the school pregnancy and dropout phenomena in South Africa. The two theoretical frameworks are the theory of social capital and social disorganization theory.

2.2 Level, trends, differentials and factors associated with adolescent fertility

Adolescent pregnancy and fertility, sometimes referred to as teenage pregnancy and fertility in this study, differ substantially between developed and developing regions. The 2010 Human Development report estimated global, developed countries under OECD (organization for economic co-operation) and non-OECD and least developed countries adolescent fertility rates at 53.7, 19.9, 11.2 and 104 per 1000 populations respectively. Among the developed countries, the United States of America with a rate of 35.9 has the highest adolescent fertility rate in the developed world, followed by the United Kingdom (24), France (6.9), Germany (7.7) and Japan (4.7). Conversely, in the developing countries, sub-Saharan Africa with a rate of 122 has the highest adolescent fertility rate followed by Latin America

and Caribbean (72). East Asia and the Pacific with only 18.1 have the lowest adolescent fertility rate in the developing world (United Nations, 2011).

Within Africa adolescent, fertility varies widely between the regions; while Middle Africa had the highest rate (148), Western Africa (111) and North Africa (25) in 2013, the Southern African countries varied from the highest of 84 (Swaziland) to the lowest of 52 (Botswana) while South Africa had rate of 59.2 (Population Reference Bureau, 2013). South Africa compares poorly with developed regions and other developing countries in East Asia and North Africa which have large schooling populations as South Africa in adolescent fertility, which could seriously affect the school completion rate in the country.

However, it is important to acknowledge that adolescent fertility has declined nearly everywhere in the world. The greatest declines have been experienced in the developed countries, especially in North America and Europe, followed by Latin America and Asia. Africa has experienced the lowest rate of decline in adolescent fertility so far, which explains the relatively more serious health and educational consequences associated with adolescent pregnancy and childbearing in this world region. These consequences are characterized by the high prevalence of HIV/AIDS and poor educational attainment among adolescent women in sub-Saharan Africa (Fox, 2010).

In South Africa evidence from the 1996 and 2001 census, as well as the 1998 and 2003 South African Demographic and Health Surveys (SADHS) suggests that adolescent fertility has declined from 78 births per 1000 women in 1996, to 76 and 65 in 1998 and 2001 respectively (Department of Health, 2007; Statistic South

Africa, 2002). Disaggregation of adolescent fertility by race and province in South Africa indicates wide differences. Differentials by race shows that Blacks have had the highest adolescent fertility rate which declined marginally from 86 per 1000 in 1996 to 71 per 1000 in 2001, followed by Coloureds whose adolescent fertility rates declined from 68 per 1000 in 1996 to 60 per 1000 in 2001, and Asians whose adolescent fertility rate declined by only 2 points from 24 in 1996 to 22 in 2001. Whites have had the lowest adolescent fertility rates which declined from 19 in 1996 to 14 in 2001 (Moultrie and McGrath, 2007).

Regarding provincial differences, the poorest provinces including Limpopo, Mpumalanga, Eastern Cape and Kwa-Zulu Natal had higher adolescent fertility rates (STATSSA, 2010). Furthermore, studies in other rural parts of South Africa suggest that although fertility has declined in almost all age groups, fertility declined, but only marginally among adolescents between 1990 and 2001 (Camlin et al., 2004). The high adolescent fertility has been attributed to early onset of sexual activity and high levels of premarital sexual activity, which has also been blamed for the high prevalence dropout from schooling for girls in South Africa (Marteleteo, 2008).

2.2.1 Levels and trends in learner pregnancy

School adolescent pregnancy and fertility which is the main focus of this study is a subset of the general adolescent fertility. Although fertility has been declining globally, nearly 11% of total global births occur to adolescents aged 15 to 19 years (Temin and Levine, 2009). Adolescent fertility has attracted great interest because of the potential health and social disadvantages associated with pregnancy at a young age and future of the young mothers and their children. Other problems

associated with adolescent pregnancy are the increased risk of sexually transmitted infections especially HIV/AIDS and pregnancy and child-birth complications including haemorrhage, fistula, depression and elevated risk of neonatal and infant mortality.

Adolescent fertility is also associated with greater socioeconomic impairments including interruption or cessation of education, and lower socioeconomic productivity and poverty in adulthood (Madhavan and Thomas, 2005; Zabin and Kiragu, 1998). Adolescent fertility also impedes the greater goal of attaining the MDGs on reduction of extreme poverty and hunger, achieving universal primary education, achieving gender equality and empowerment of women, improving maternal health, reducing childhood mortality and achieving environmental sustainability. Previous reports have established a strong link between adolescent fertility and achieving most MDGs in developing countries (UNFPA, 2007; WHO, 2008). Premarital childbearing in teenage years could also lead to social exclusion, alienation and single parenthood, thereby limiting girls' access to social capital and family and community support (Greene and Merrick, 2005).

There is wide variability in adolescent childbearing between world regions and countries. Of all the world regions, the phenomenon of adolescent fertility is highest in sub-Saharan Africa where more than 50% of women give birth before age 20 compared to only 2% in China (Temin and Levine, 2009; WHO, 2007). Although progress has been made in increasing the age at first birth setting the pace for the fertility transition in many countries in sub-Saharan Africa because of modernization since the 1980s (Caldwell 1976, Easterlin 1983), the relatively low

age at first birth in sub-Saharan Africa (Phipps and Sowers 2002; WHO 2008) continues and is exacerbated by young age at marriage which in some countries prevalent premarital sexual activity (WHO, 2007). One of the forces that were acclaimed for the increasing age at first birth in this world region was education (Gupta and Mahy, 2003). Lloyd, Kaufman and Hewett (2000) argued that the lower age at birth and resistance to fertility decline in countries where the prevalence of adolescent fertility was still common continues because of lack of widespread education. This argument is however inconsistent with experiences in some countries including South Africa where adolescent fertility is taking place in the context of widespread education.

Although knowledge of learner pregnancy in South Africa is far from exhaustive, a few studies have provided insights into the problem. A study conducted in the province of KwaZulu-Natal found that approximately 80 percent of adolescents, who were ever pregnant, were in school at the time of becoming pregnant (Manzini, 2001) and the Department of Education found that the pregnancy rate among learners increased from 51 in 2004 to 63 in 2008 and the learner pregnancies occurred mostly at grade 11 (Department of Education, 2009). Learner pregnancy rates were also found to be higher in the poorer provinces including Kwa-Zulu Natal, Limpopo and Eastern Cape (Department of Education 2011). It is therefore important to discuss the factors contributing to adolescent fertility in general and learner childbearing in particular.

2.2.2 Factors influencing adolescent fertility

Previous studies in developed and developing countries have grouped the factors contributing to adolescent fertility into four main groups including individual,

household, school, and community factors. In the following sub-sections the literature on each of the above sets of factors are discussed.

2.2.2.1 Individual factors

These are factors that increase the risk of adolescent childbearing and they include educational attainment of young women, age at sexual initiation, low contraceptive prevalence, alcohol, and drug use, among others. According to Corijn et al., (1996) the educational level of women at younger ages is vital in determining the risk of adolescent childbearing. Girls who had attained relatively lower school grades at age 14 were more likely to become pregnant in adolescence (Marteleto et al., 2008), and are also more likely to drop out of school (Grant and Hallman, 2006).

Contraceptive use is perhaps one of the most important determinants of fertility among sexually active adolescents. Adolescent childbearing has been largely attributed to non-use, inconsistent use and incorrect use of contraceptives by sexually active adolescents (Panday et al., 2009). Rutenberg et al., (2001) found that 61% of sexually active adolescents did not use any method of contraception during their last sexual intercourse and most of those who did not use any method of contraception were Black and were living with their parents (Ahmed and Meekers, 1999). This is because adolescent sexual activity is highly discouraged and young women are encouraged to abstain from sex (Macleod and Tracey, 2010), which indirectly blocks access to contraceptive commodities. Most adolescents are also unwilling to access family planning services because they do not want their parents or guardians to know that they are sexually active (Mfono, 1998). The lack of parent and adolescent discourse on sexual matters also increases their vulnerability to early childbearing because they are more likely to confide in their peers who are mostly

incompetent source of guidance and support (Rutenberg et al., 2001). In addition to the fear of disapproval by adults, adolescents also lack accurate information on pregnancy prevention (Mfono, 1998); are unlikely to discuss sexual matters with their partners for fear of losing the relationship; have older sexual partners; and have sex in exchange for gifts (Kaufman and Stavrou, 2002). This suggests that young and economically disadvantaged women are more likely to engage in unprotected sex thereby increasing their risk of becoming pregnant.

The likelihood of giving birth at a young age is to a great extent influenced by the age at which sexual activity commences. Women who start sexual activity at relatively younger ages are also likely to drop out from school. A number of previous studies elsewhere have found that early initiation of sexual activity is a recipe for adolescent pregnancy and childbearing (Mulder, 2003; Gyimah, 2003; Achiempong et al., 2003; Choe et al., 2004). A previous study in South Africa indicated that age at first sexual experience has declined (Rutenberg et al., 2001), suggesting that most girls attending secondary education were already sexually active and therefore at risk of getting pregnant.

2.2.2.2 Household factors

Household factors that may influence school pregnancy include educational attainment of mothers; both parent and girl child co-residence; and household structure and composition. The family as a primary socialization agent plays a critical role in shaping sexual behaviours of children and therefore the risk of pregnancy for girls. Households in which fathers are absent, headed by women and girls living with relatives are at an elevated risk of adolescent pregnancy which is

exacerbated by the breakdown of, lack of or inadequate socialization structures. Previous studies found that girls in households where the father is absent (mostly attributed to labour migrations) (Garenne et al., 2000); girls in single parent households especially those headed by women; and girls in the care of relatives are significantly at risk of adolescent pregnancy and childbearing (Hallman, 2004). Most of these girls are also more likely to have older sexual partners who often coerce them into unprotected sex leading to pregnancy (Kaufman and Stavrou, 2002).

Another important household factor in sexual behavior is the household size. Women who come from larger households are also likely to start family formation earlier compared to those coming from relatively smaller households (Materlele et al., 2008; Grant and Hallman, 2006), which could be attributed to lack of or inadequate individual attention and guidance for girl children. The lack of or inadequate resources faced by a large household also encourages early initiation of adult roles for girls thereby exposing them to early sexual activity and childbearing.

2.2.2.3 Community factors

The social environment in which the individual lives has potential to influence fertility behavior. This is because the community or social structure shapes norms and values of the community which can significantly affect sexual behaviour (Teitler and Weiss (2000). A study by Rutenberg et al., (2002) found that adolescent girls in communities where school enrolment was high were more likely to view pregnancy in the near future as a problem compared to areas where the enrolment was relatively low. According to Teitler and Weiss (2000), the absence of certain social institutions and role models in a community create sub-cultures which

influences behaviors in that environment, suggesting that communities where adolescent childbearing is strongly disapproved will present fewer such cases.

2.3 School dropout

The effect of school dropout has serious negative impacts not only on the lives of those who drop out but on the society as a whole. At the individual level the negative effects of school dropout include unemployment and low incomes due to lack of skills (Grubb, 1997; Murnane, Willet, and Boudett, 1995); and low perception of self-worth and failure to adopt appropriate coping strategies because of stigma associated with dropping out of school and because of the loss of opportunities (Kaplan et al., 1996). Additionally, adoption of substance abuse especially alcohol and illicit drug use and criminal behaviour (Crum et al., 1992; Crum et al., 1998; Swaim et al., 1997; Mensch and Kandel, 1988) have been found to influence school dropout. At societal level, the negative effects of school dropout have been identified to include costs of maintaining correctional institutions as the majority of offenders in these institutions are school dropouts (Kaufman, et al., 2000); costs incurred in job training programs (Goldschmidt & Wang, 1999); and social grant support and assistance for destitute school dropouts and their children (Kaufman, et al., 2000).

2.3.1 Factors influencing school dropout

School dropout is a combination of several factors that can be divided into two broad factors. First there are background factors which act in a distant manner in that they are precursors to school dropout (Ampiah and Adu-Yeboah, 2009); and secondly, there are proximate factors which are the immediate causes of school dropout. Because of the interaction between these two sets of factors, school

dropout is a process and not an event (Hunt, 2008). Dropout from schooling has been associated with or influenced by three related set of factors including household and family, community and societal and school level factors.

2.3.1.1 Household level factors

Household level factors include socioeconomic status, parent-children co-residence, household structure and size, parental education and parental participation in educational activities of their children (Astone and McLanahan, 1991; Goldschmidt and Wang, 1999; Swanson and Schneider, 1999; Rumberger and Lawson, 1998). One of the household level factors that affect school dropout as a distal factor is socioeconomic status, usually poverty. A previous study found that students from poor households were disproportionately represented among school dropouts (Rumberger, 1987) and this was more common in rural areas than in urban areas (Lichter et al., 1993). This is because poverty does not only affect the demand for schooling through its effects on payment of school fees and other costs associated with schooling such as books, uniforms, food and nutrition, but also because of the high opportunity cost of schooling for children by increasing the pressure for children to work and supplement family/household income (Sabates et al., 2010).

Household poverty also increases vulnerability of marginalized groups, such as orphans, sickly children and girls to drop out of school (Leach et al., 2003; UNESCO, 2010). Previous studies elsewhere found that poverty rates among single-parent families (LeCompte and Dworkin, 1991) and dropouts are increasing in families on welfare and other forms of public assistance (Hahn and Danzberger, 1987; Orthner and Randolph (1999). Another study by Kaufman (2001) also found that children in low-income families are twice and five times as likely to drop out of

school as those in middle-income and high income families respectively. Additionally, the perceived benefits households attach to education in terms of employment and better income possibilities also affect the likelihood of school dropout. Previous studies have shown that low career and employment prospects greatly increase the likelihood of early drop out from school, with parents withdrawing children, especially girls from school in preference for work (Sabates et al., 2010).

Another important contributor to poor schooling outcomes is the family structure. Studies in developed countries suggest that the effect of family structure such as biological parent and children co-residence significantly affects emotional and behavioural problems in children, with those living with single parent or unmarried parents being more predisposed to emotional and behavioural problems. On the other hand, children living with both parents are more likely to be healthier, better cognitively developed and more involved in literacy activities early leading to better schooling outcomes (Institute for American Values, 2005). A previous study by Garneir and Stein (1998) found that mother-child relationship plays a significant role in reducing the risk of school dropout. This was attributed to the protective effects of the mother-child relationship, which contributes to social competence and school engagement; and the transmission and internalization of positive values.

South Africa has experienced significant transformation of family structures, characterized by rising family dissolution due to divorce; increasing levels of non-marital fertility and single parenthood, which has been attributed to increasing tolerance of premarital sexual activity and premarital childbearing (Palamuleni,

2011; Kamal, 2011); and the increasing proportion of child headed households (Kalule-Sabiti et al., 2007). Additionally, increasing age at marriage and decreasing marriage rates among Blacks appear to exacerbate premarital sex and childbearing in this population group (Kaufman, 2000; Bongaarts, 2006). These social aspects have led to the emergence of different family structures, especially the single headed households. In 1996, for example, close to 47% of the household heads among Black in South Africa were women (Zulu and Sibanda, 2005). The changes in family structure are likely to have a negative impact on schooling of children, which is consistent with findings in the United States of America which indicated that adolescents from single-parent families and unstable families were less likely to go to college than those with both parents and those who did not experience family instability (Cavanagh et al., 2006). Additionally, Crowder and Teachman (2004) found that frequent family changes to different neighbourhoods and single parenthood are also indicators of both premarital pregnancy and school dropout.

Parental education is another important aspect of human capital that can affect school dropout in particular and schooling outcomes in general. This is because parents' education provides children with the framework for developing their own skills and competencies as they are more likely to use their parents' success as models for assessing their own success (Becker, 1991). This is consistent with a later study which found that students whose parent(s) dropped out of school were more likely to drop out of school (Goldschmidt, 1997). Another study in South Africa also found that education of mothers has a greater impact on the school dropout risks of Black students than Whites, Asians and Coloureds suggesting that parental education and school dropout is somewhat race selective (Thomas, 1996).

The effect of the sex of head of household has also been found to have different implications for the schooling outcomes of boys and girls. A few studies have suggested that girls are more likely to stay in school when the head of the household is a female which was attributed to the expected social and economic security female headed households get from sending children to school. (Chernichovsky, 1985; Townsend et al., 2002). It is logical to assume that when it is in their power, women are more likely to send girls to school in expectation that they will take care of them when they can no longer afford to provide for themselves in old age (Lloyd and Gage-Brandon; 2003). However, gender inequalities prevailing in South Africa, especially among Blacks, where women have fewer resources at their disposal compared to men, could significantly affect their ability to maintain children at school. Investigating the effect of the gender of heads of household in determining the risk of school dropout in South Africa could greatly increase the wealth of knowledge in this area.

2.3.1.2 Community level factors

Community level factors that influence school dropout include substance abuse, race, sex, and peer pressure (Goldschmidt and Wang, 1999; Mensch and Kandel, 1988; Rumberger, 1983). Peer pressure has been identified as an important social factor influencing school dropout through behaviours including substance abuse and criminality. A study by Ellenbogen and Chamberland (1997) and Kronick and Hargis (1998) found that students with more friends were at a higher risk of dropping out of school which was associated with the differential association factor, which is the means through which criminal behaviour is learned as the normative behaviour of an intimate group (Sutherland, 1947). Associated with peer pressure is

substance use, especially alcohol use, which was found to be associated with school dropout (Williams and Wynder, 1993). Use of alcohol and drugs was suggested as one of the cover-ups to depression, anxiety, and inadequacy due to poor school performance (Crum et al., 1998).

Although ethnic (racial) differences in school dropout was not examined in this study, studies in the United States of America with similar racial characteristics as South Africa suggest that review of such literature is relevant for this study, where Black students were more likely to drop out of school than Whites, Asians and Coloureds, in that order. Experience of school dropout identified several reasons for racial differences. First some risk factors including single-parent households, poverty and low parental education (Jordan et al., 1996; Goldschmidt and Wang, 1999) and poor academic performance and grade repetition (Roderick, 1993) are associated with Blacks. Secondly, differences on the perceived and actual importance of education by different racial groups, for example some Hispanic families feel their female children do not need to complete high school to be good wives and mothers (Valdivieso and Nicolau, 1994); such families come from schools with weak academic backgrounds, are overcrowded and limited to the primary grades (Headden, 1997), and do not value high school education due to the high unemployment rates (Lloyd et al., 2009; Ogbu, 1990). Thirdly, language differences and proficiency especially in English was identified as a factor associated with ethnic differences in school dropout rates (Alexander et al., 1987); and fourthly, the need to provide care for family members and work to supplement family income could motivate poorer ethnic groups such as Blacks to drop out of school (Ekstrom et al., 1987; Jordan et al., 1996).

Sexual abuse and harassment has been identified as one of the factors that increase vulnerability of girls to school dropout. Studies have consistently shown that sexual abuse is widespread in South Africa and adolescents have had their own share of the abuse. A previous study in Kwa-Zulu Natal found that 10% of adolescents had their first sexual experience by coercion or rape (Manzini, 2001) and Rutenberg et al., (2001) reported that 29% of women had non-consensual sex. Although not much has been documented about the effect of sexual abuse on schooling outcomes, anecdotal evidence points to disturbing schooling consequences due to sexual abuse as some of the perpetrators are teachers and parents who adolescents look to for protection and support. It is possible that the emotional burdens associated with sexual abuse could cause victims to drop out of school.

The schooling burden of sexual abuse is expected to be greater in rural areas which are affected by inadequate resources and capacity to address the psychological and health burden of sexual abuse. Unplanned pregnancy, which is a common outcome of sexual abuse and violence, is a major cause of school dropout for girls. Although there is a large literature on the effect of childbearing on schooling, these have been very dynamic suggesting that the relationship is not linear (Hofferth, 2001). Until recently, becoming pregnant and or having a baby while enrolled at school marked the end of schooling for women, regardless of the grade and age at which pregnancy or childbearing occurred. This has now changed almost everywhere. However, even in the current setting there seems to be a lack of consensus on how childbearing and education are related (Marini, 1984; Upchurch and McCarthy, 1990).

Some studies (Anderson, 1993; Meekers and Ahmed, 1999) found that adolescent childbearing leads to a lower educational attainment, while other studies (Mensch et

al., 1999) have suggested that this is not necessarily a rule of thumb and the school environment plays a more significant role. These studies suggested that girls' perception of teachers and school policies are more to blame for higher school dropout rates and in the majority of cases, school dropout precedes pregnancy and childbearing among adolescents. However, in South Africa, some studies (Manzini, 2001; Grant and Hallman, 2006) have suggested that the majority of women dropout of school after becoming pregnant and pregnancy before or after dropout of school does not reduce the prospect of returning to school for those who wish to complete their education (Upchurch and McCarthy 1990).

In another study (Rutenberg et al., 2001) nearly 40% of adolescent respondents cited pregnancy or birth as the most important reason for dropping out of school. Another study (Lloyd and Mensch, 2006) involving 20 countries in Africa found that South Africa had by far the largest number of women who cited pregnancy as the main reasons for not being in school. The age at first sexual activity has been identified as one of the main factors contributing to teenage pregnancy (Suh et al., 2007). Girls who initiate sexual intercourse before the age of 15 are more likely to quit school than those who postpone sexual activity to a later age. Women who engage in sexual activity at younger age are also more likely to become pregnant compared to those who initiate sexual activity at a later age. This is because sex at an earlier age is less likely to involve contraception (Manzini 2001; Nfono, 1998).

2.3.1.3 School level factors

Among the school level factors that have been identified by previous studies are school environment, policies, curriculum, teacher quality, individual student academic performance, absenteeism and repetition of school grades (Allensworth,

2005; Goldschmidt and Wang, 1999; Pittman and Haughwout, 1987; and Roderick, 1994). Other school level factors that can aid school dropout are distance to schools, poor quality of education, inadequate facilities, and overcrowded classrooms, inappropriate language of instruction, teacher absenteeism and school safety for girls (Colclough, et al. 2000).

One of the school factors that influence school dropout rates is the type and location of schools. Dropout rates are generally higher in rural, public and low social socioeconomic settings and where the general educational level of the members of the community is lower (Goldschmidt and Wang, 1999), which is consistent with the situation in Black South African society. This could be attributed to the relatively older age at school entry, high rate of grade repetitions, high student absenteeism, and a poorer schooling environment, which was also observed in another study in a different setting (Roderick, 1994). The study by Roderick (1994) found that dropout rates were higher in communities where the age at school entry was higher than recommended. Overage children at lower grades mainly due to late enrolment or grade repetition reduces the number of years children have in school because of the competition from other life events such as marriage and childbearing for girls, and work in order to contribute to household income (EPDC, 2009).

Another study by Pittman and Haughwout (1987) found that dropout rates were higher in large schools. This is possible because large schools are also more likely to have a poor school infrastructure characterized by overcrowding, high pupil-teacher ratio, low level of social interactions and higher absenteeism and poor academic performance, which are commonly associated with public schools, rural

schools and schools in poor socioeconomic settings. School attendance is another important predictor of dropping out of school. A study by Kronick and Hargis (1998) found that pupils who do not attend school regularly at elementary school are also more likely not to attend school at high school and eventually drop out. Another study by Bryk and Thum (1989) found that school absenteeism and dropping out of school was largely influenced by type of school and is mostly common in public schools; it also found that students from a low socioeconomic background with weak academic performance, higher levels of indiscipline among students and teacher related problems influenced absenteeism and dropout rate.

There are other characteristics associated with large schools, poor academic performance and high repetition rates which are most closely related to dropout rates (Kaplan and Luck, 1977). A previous study by Mann (1986) found that students who repeated grades were more likely to drop out, which was also consistent with three other previous studies which concluded that school grade repetition was the most important reason for school dropout (Shepard and Smith, 1989; Denson and Schumacker, 1996; Goldschmidt and Wang, 1999). Another cause of school dropout associated with repetition is low academic performance. Dropouts usually score in the bottom quintile (Cameron and Heckman, 1993). The failure to satisfy the minimum competency test is statistically significantly associated with increased likelihood of dropping out of school (Griffin and Heidorn, 1996).

2.4 School re-entry

Literature on school re-entry of women who previously dropped out of school other than due to pregnancy is generally rare. In South Africa, the majority of studies on school re-entry focused on women who dropped out of school due to pregnancy related reasons (Grant and Hallman, 2008; Manzini, 2001; Kaufman 2000). Many of these studies had revealed that relatively few school dropouts return to school after giving birth. A study in Kwa-Zulu Natal estimated that only about one third of girls who dropped out of school due to pregnancy re-entered school (Kaufman, 2000) while Grant and Hallman (2008) found that only 29 percent of the 14 to 19 year olds who were pregnant returned to school. In Zambia, which also has a liberal policy on learner pregnancy, the number of girls who re-entered school after pregnancy was also significantly lower than the number of those who dropped out of school for other reasons (Mwanza, 2011). This indicates that the policy environment, although necessary, is not sufficient to encourage young mothers to return to school.

Previous studies have identified a number of factors that impede school re-entry. These include individual, school, household and community level factors. Previous studies found that gender of school dropouts and reasons for dropping out of school are important factors influencing school re-entry. A study by Raymond (2008) found that women leave school for a variety of reasons including pregnancy, caring of babies, health problems and financial difficulties. In his study, Raymond observed that women who left schooling due to personal circumstances, including expecting or having a child, as opposed to working, had a relatively higher risk of returning to school later. Giving birth at relatively younger age is expected to increase school re-entry because most women who give birth at a young age had not

attained sufficient level of education at time of birth and parents are willing to support them to increase their educational attainment (Madhavan and Thomas, 2005 (Bradburn et al., 1995, Marteleto et al., 2006). Conversely, women who were relatively older at time of school dropout were less likely to return to school due to opportunity cost associated with work and marriage. A previous study (Preston-White, 1990) found that girls who come of age are generally under pressure to start their families; and women who get married after giving birth are less likely to return to school because they are expected to join their partner's family and may require them to relocate to a different area (Kaufman, 2001).

Among the school based factors, ill-treatment of young mothers by both teachers and students; the difficulties of handling both school work and raising a child simultaneously (Kaufman et al., 2001; Chigona and Chetty, 2007); age at school dropout; and the level of education attained at time of school dropout (Bradburn, 1995; Hunt, 2008) were identified as important factors influencing school re-entry. Grant and Hallman (2008) observed that dropouts who started school at above the normal school age were less likely to return to school later after dropout. A study in Canada found that dropouts who were in advanced grades at time of dropping out had a high relative-risk of returning to school compared to those who dropped out of school at a relatively lower school grades. This was because the cost of completing schooling is perceived to be relatively lower for those who dropout out of school at higher grades (Raymond, 2008). In addition, school re-entry is likely to be influenced by prior school performance (Grant and Hallman, 2008).

Household factors that have been found to impede school re-entry include material and emotional support to young women and young mothers. Assisting with care-

giving from family members and other relatives in child care has been identified as important predictors of school re-entry for young mothers (Keng, 2004; Meekers and Ahmed, 1999). This type of support was specifically crucial for younger mothers who were willing to return to school and did not have access to childcare services (Chigona and Chetty, 2007; Manzini, 2001; Kaufman 2000 et al). Other studies found that girls between the ages of 11 and 15 living in households with higher proportion of members from older generations had an increased probability of returning to school (Townsend et al, 2002). Other research findings have found that educational level of household members, especially parents, is generally associated with increased schooling for both male and female children (Townsend et al., 2002) and this factor would also influence school re-entry among school dropouts.

Among the community level factors, a previous study found that women who are residing in rural areas are less likely to return to school after school dropout because rural areas are relatively poor and schools are less accessible (Birdsall et al. 2005). Additionally, rural societies are generally conservative and strongly influenced by traditional norms and value systems. In this society learner pregnancy is strongly disapproved and school girls who get pregnant are regarded as spoiled children and bad examples to other girls and often prevented from returning to school (Chigona and Chetty, 2007).

2.5 Theoretical Perspectives

Many studies have used different theoretical perspective to explain the phenomenon of school dropout and its risk factors. One of the theories that have been used to explain school dropout phenomenon is the social capital theory (Coleman, 1988). The theory of social capital is relevant because of its ability to show the interaction between individual, household and community factors in explaining school dropout and low educational attainment (Furstenberg and Hughes, 1995). Another theory that has been identified as relevant in explaining school dropout and low re-entry is the theory of social disorganization (Djamba, 1997). The purpose of this section is to review these theories and show their relevance in explaining learner pregnancy, school dropout and school re-entry of girls in the North West province of South Africa.

2.4.1 Theory of Social Capital

Social capital theory, first developed by Loury (1980) is derived from human capital theory which was initially developed to explain variation in economic productivity that could not be accounted for by technological development and improvements in financial capital (Smith et al., 1992). Whereas human capital normally comprises individual talent and skills embedded in the individual, social capital consists of relations or interactions and networks among individuals. These relations become a resource that facilitates certain actions that have productive benefits for individuals involved. Social relations, therefore, form an important resource which can be used to make possible certain goals, such as improved educational attainment, which otherwise would not have been possible (Coleman, 1988).

Coleman (1988) argued that social capital exists in both family and community relations and these relations form an important resource for social action. Social capital includes multiple concepts, each of which produces desirable tangible benefits for people involved in the relationship. The most basic components of social capital are relationships and interactions among various people who are associated with one another. Social capital is a mechanism or channel for gaining information and knowledge that prescribes actions of individuals which are based on the perceived trustworthiness and reliability of the source of information.

Social capital in education can take one or more of the following forms of interaction namely child-school, parent-child, parent-school interactions, child-child and parent-parent interactions. Social capital also includes values and norms in which compliance with expected and accepted values is rewarded while non-compliance is disapproved and punished (Coleman, 1988). These different layers of interactions are expected to influence not only children's academic performance, but also their risks of dropout of school.

Coleman identified three forms of capital in the family that are critical for influencing educational outcomes of children residing in that family which are human capital, financial capital and social capital. Financial capital represents the amount of wealth, or material resources in the family that can be utilized to propel children to higher educational levels. On the other hand, human capital in the family is measured by number of years that parents have attained in school, which is a resource for children's cognitive development and is assumed to boost schooling and reduce dropout rate. However, the benefits of human capital depends on: firstly, the physical presence of parents in the family or household for children to access

their skills and knowledge; secondly, the extent to which parents interact with children on academic issues, in other words, the “time and effort” spent with the child on issues related to his or her education; and thirdly the number of siblings in the family which could affect the level of attention parents provide for each child, thus children from larger families may have less attention.

Outside the family, social capital can also be achieved through relationships existing in the community. It is determined by the extent to which parents know each other and work together to enforce desirable norms in their community. Norms form an important resource that can lead to desirable outcomes such as an increased educational level in that particular community. Consequently, the presence of effective norms in the society and compliance to them could lead to higher rewards, high performance in school and school retention. On the other hand, non-compliance to norms could lead to sanctions, again leading to higher rates of school retention.

In support of social capital theory, previous studies have shown that many Black school children in South Africa are affected by deficiency in social capital at nearly all levels including school, household and community levels (Budlender, 1988; Statistics South Africa, 2009; Kaufman, 2000; Schierhout, 2005). Two other previous studies argued that the risk of school dropout depends on the school system and family background (Tinto, 1975; Crowder and Teachman, 2004). The theoretical arguments presented above shed some light on the context in which school dropout is likely to happen, which have been discussed in section 2.3 of this chapter which dealt with school dropout and factors influencing school dropout.

2.4.2 Social Disorganization theory

Variation in the occurrence of sexual activity and adolescent pregnancy can be explained by the social disorganization theory. The theory refers to a diminishing authority of social institutions over behaviour of individuals in the community. Cherlin and Riley (1986) cited in Djamba, (1997) argued that sexual activity among younger women occurs because of breakdown of social norms due to lack of social control by elders over young people. A study by More and Chase-Lansdale (2001) confirmed that the odds of early sexual debut and pregnancy increased in single-parent households compared to living with both married parents.

Adding to these factors, Zwang and Garene (2007) argued that households with absent fathers are also likely to have a diminished parental authority and therefore, adolescents in those households are more likely to engage in sexual activity at relatively younger ages. On the other hand, Ellis et al., (2003) found that the effect of father's absence would differ with the length of time the father has been absent, with girls whose fathers have been absent for short time having lower risks of early sexual experience and pregnancy compared to girls whose fathers have been absent for a long time. Furthermore, a study by Billy et al., (1994) confirmed that staying with both parents at age 14 significantly decreased the odds of premarital sexual experience. Crowder and Teachman (2004) on the other hand, found that, although family structure was important for early pregnancy, the results were not as strong as indicated in other studies.

Djamba (1997) argued that, not only is the parents' level of education an important indicator for sexual activity at young ages, but also is the level of education attained by children. Supporting the assertion, Meekers (1994) argued that the education

among younger generation could weaken parental control because educated children normally rely on non- traditional sources such as books and their peers for information on sexuality, and this comes at the expense of older people's advice. A study in Botswana confirmed that young people were frowning upon parental advice on matters of sexuality, and in its place, preferring information obtained from school. In further support of this assertion, Marteleto et al., (2008) found that the odds of sexual debut was positively related to the number of grades completed, suggesting that, girls in higher grades were more likely to have engaged in sex, even after controlling for age.

On the other hand, Djamba (1997) found that pre-marital sexual activity decreased with an increase in adults' educational level. This was interpreted as implying that better educated parents are in a better position to provide children with information on sexual matters. Place of residence is also likely to have an impact on the level of sexuality among young people. Normally, traditional controls are less effective in urban areas because young people learn much more from books and other modern sources of information such as the media. This assertion is endorsed by another study which found that sexual at first age activity is lower among rural than urban young women in South Africa (McGrath et al., 2009). Other studies found that the size of the household is associated with an increase in the odds of pregnancy at younger ages among women (Marteleto 2006). This finding suggests that when there are more siblings in the households, parental authority will be "diluted" because parents cannot properly pay attention to each individual child. The increase in household size is therefore, assumed to diminish parental control. The relevance of the social disorganization theory in explaining the onset of sexual activity and

pregnancy among adolescents has been described in section 2.2 which dealt with the level and factors influencing adolescent fertility.

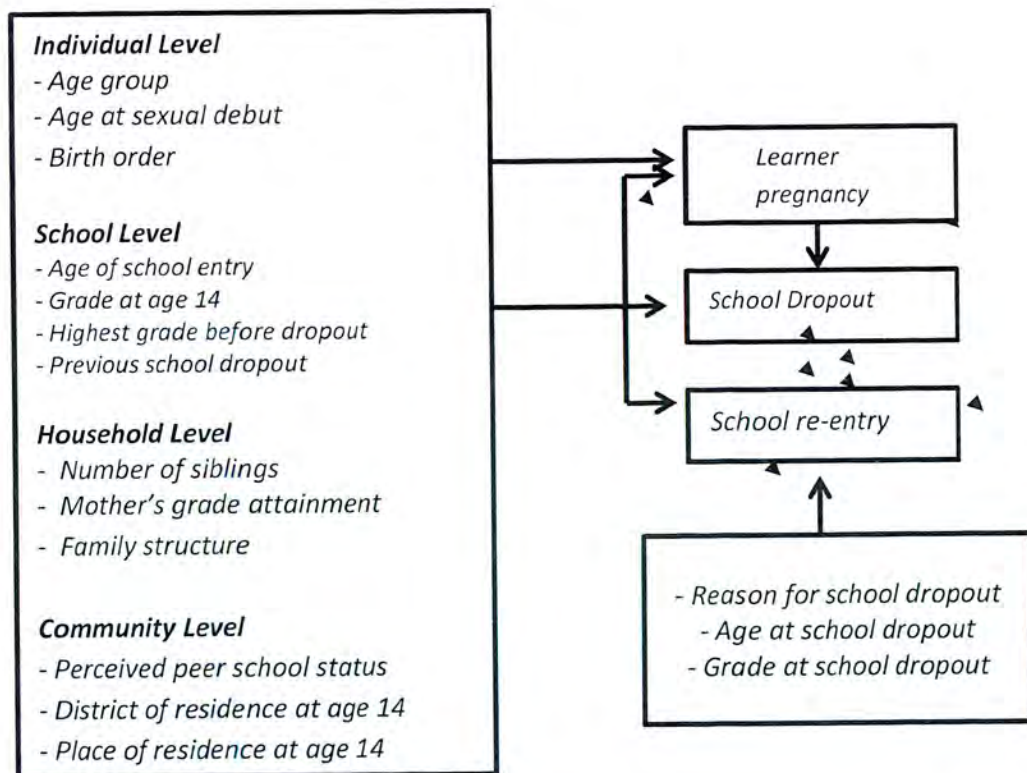
2.5 The conceptual framework

Drawing from the literature reviewed, the social capital and social disorganization theories, a conceptual model was proposed in Figure 2.1. The framework attempted to illustrate how the individual, school, household and community level factors of the women at age 14 influenced learner pregnancy, school dropout and school re-entry. Individual level factors that were conceptualized to influence learner pregnancy, school dropout and school re-entry included age group, age at sexual debut and birth order. Belonging to the youngest age group was expected to increase the rate of learner pregnancy and school dropout, but lower the rate of school re-entry; a young age at sexual debut of less than 18 years was expected to increase the rate and risk of learner pregnancy and school dropout, but reduce the rate of school re-entry; and belonging to higher birth orders was expected to reduce the rate of learner pregnancy and school dropout, but increase the rate of school re-entry. The higher rate of learner Pregnancy would occur because young people are less likely to use contraception due to lack of appropriate knowledge and access. They are also likely to drop out from school and experience challenges to re-joint schooling because of the societal disapproval of learner pregnancy which made them to drop out of school.

The school level factors identified and conceptualized to influence learner pregnancy, school dropout and school re-entry were age at school entry, grade at age 14, highest grade attained and previous school dropout experience. It was conceptualized that higher age at school entry and a higher grade at age 14 would

increase the rate of learner pregnancy and school dropout and reduce the rate of school re-entry because older age at these schooling stages competes with other life events such as the desire to work and the effect of physiological and emotional changes at adolescence leading to learner pregnancy and school dropout. Additionally, a lower grade attainment and previous school dropout experience was conceptualized to increase the likelihood of learner pregnancy and school dropout because women who attain low school grade and dropped out of school have inadequate skills and aspirations to postpone sexual activity leading to learner pregnancy and school dropout and in a low rate of school re-entry if the women had already dropped out of school.

Figure 2.1: Conceptual Framework



At the household level, the number of siblings, mothers' education and family structure were used as social capital and social disorganization variables to explain

the rate of learner pregnancy, school dropout and school re-entry. It was conceptualized that a breakdown of parental authority due a large number of siblings, poverty in the household associated with large number of siblings and low education of mothers and breakdown of parental authority and inadequate socialization of young women in single parent mother/father headed and extended families would result into a higher learner pregnancy rate, a higher school dropout rate and a low school re-entry rate.

At the community level, the perception of the extent of pregnancy and school participation among peers in the community where they lived is important for school pregnancy, school dropout and re-entry. Communities, which were perceived to have an increased level of adolescents out of school and a high pregnancy rate were expected to have higher levels of learner pregnancy and school dropout and a low likelihood of school re-entry. In this study therefore, perceived participation of neighbourhood peers and residing in a rural area were aspects of community level social capital or disorganization that were likely to influence learner pregnancy, school dropout and school re-entry. Additionally, low school participation and place of residence could lead to early age at sexual activity and pregnancy as societal norms are easily violated.

While dropping out of school might mean the end of education for some women, others would still return to school and matriculate. The decision on whether or not to return to school will be dependent on the reason for dropping out of school. Women who dropped out of school due to pregnancy-related reasons were expected to have a lower school re-entry rate because of the societal disapproval of the behaviour, the policy on school re-entry notwithstanding.

2.5 Hypotheses

In this study the following hypotheses were tested and results are reported in chapters 5, 6 and 7.

- i. Women who had sexual debut at less than 18 years were more likely to have experienced learner pregnancy compared to women who had sexual debut 18 years or older;
- ii. Learner dropout from school was significantly higher for women who were less than 18 years at sexual debut compared to those who were 18 years or older;
- iii. Learner dropped out was significantly higher among women who experienced learner pregnancy compared to women who did not experience learner pregnancy;
- iv. Learner dropout was significantly higher among women whose mothers attained less than grade 8 compared to women whose mothers attained grades 8 or higher;
- v. Learner dropout was significantly higher among women who were living in rural areas at age 14 compared to those living in urban areas at age 14.
- vi. Women who dropped out of school for pregnancy related reasons were less likely than those who dropped out of school for other reasons to have return to school
- vii. Women in both parent family who dropped out of school were more likely to return to school than those who live in other family systems.
- viii. Women who lived in rural areas at school dropout were significantly less likely to have returned to school after school dropout.

Chapter Three

Research Methodology

3.1 Introduction

The main objectives of this study were three. First to estimate the rate of learner pregnancy and identify factors influencing it; and secondly to estimate the rate of school dropout and identify factors influencing it among women who were enrolled in school at age 14. The third objective was to estimate the rate of school re-entry of women who dropped out of school for any reasons and identify factors influencing school re-entry. This chapter presents the methodology used in this study. These included the research setting which described the geographical, economic and demographic profiles of the study area and the research design which described the data collection methods. Also described in this chapter were the sample design which comprised of the sample size determination and the sampling technique; the data collection instrument and the measures collected including school pregnancy status, school dropout status and school re-entry status as dependent variables, and selected independent variables including individual, school, household and community level variables. Data quality assurance procedures including recruitment and training of research assistants, pre-testing of the data collection instrument, the administration and supervision of data collection, validation and reliability procedures and ethical procedures are also presented. Finally, the chapter discusses the data analyses procedures and limitations of the study.

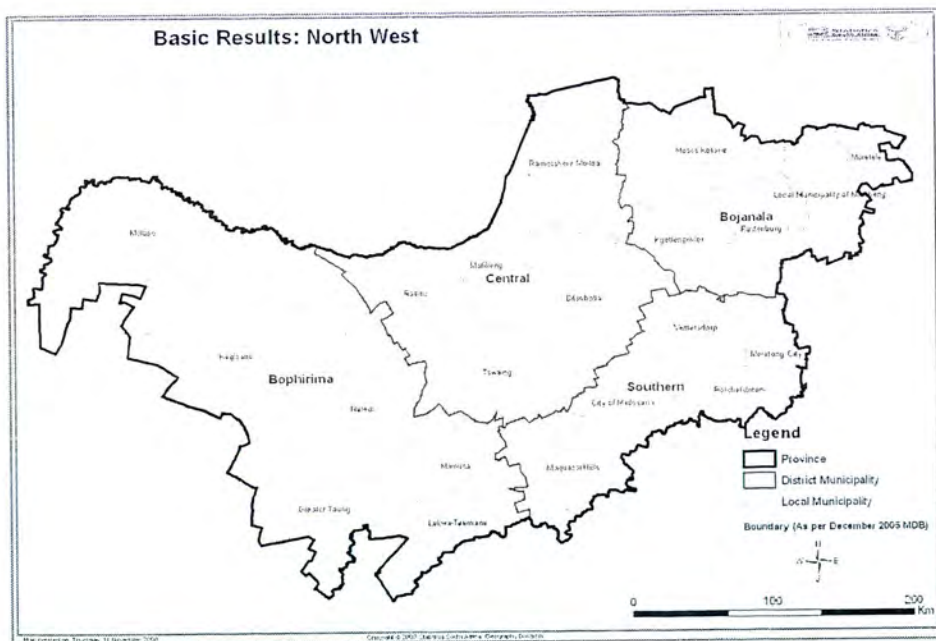
3.2 Research settings

This section describes the settings in which the study was conducted and these included the geographic location, the economic and demographic profiles. Geographically, the North-West province is situated in the northern part of South Africa, bordering Botswana to the north and is adjoining four other provinces including Gauteng and Limpopo in the east, Northern Cape in the west and Free State in the south. The province is 104,882 square kilometres and contributes 8.6% of the total land area of South Africa. It is currently divided into four districts including Bojanala, Bophirima, Modiri-Molema (formerly Central) and Southern. Bojanala and Southern districts are predominantly urban while Bophirima and Modiri-Molema districts are mostly rural. The greater part of the North West province, with the exception of the Southern district, was until 1994 under the jurisdiction of Bophuthatswana homeland administration, the year the apartheid political and socioeconomic system ended. The location of North West province is given in the inset in the map of South Africa presented in Figure 3.1 and the location of the four districts namely Bojanala and Modiri-Molema (formerly Central) Bophirima and Southern are presented in Figure 3.2.

Fig. 3.1: Inset of North West province in the map of South Africa



Fig 3.2: Map of North West province showing the different districts in the Province.



Economically, the province contributed 7.3% of the total gross domestic product (GDP) of South Africa in 2001 (State of the Environment Report, 2002). The economy of the province is driven mainly by the mining and agricultural sectors. Platinum mines in Rustenburg and Brits, both in Bojanala district, are some of the largest platinum producers in the world, and this district is the economic hub of the province. As a result the province is often referred to as *“The platinum Province”*.

Additionally, gold and uranium mines in Klerksdorp and Stilfontein, both of which are in the Southern district, make the province one of the biggest mining regions in South Africa. On the other hand, Vryburg situated in Bophirima district has one of the largest cattle production in South Africa. Crop production, especially maize and sunflowers, is also found in parts of Bophirima and Modiri-Molema districts. The economic potential of the province has made it one of the major destinations for migrant labour within the Southern Africa region. Because most of the population in the province is poor, the opportunities offered by the mining and agricultural sectors presents a serious challenge for the education sector because these sectors have the potential to attract young people who are expected to be in school.

Regarding the demographic profile, the population of the province was estimated at 3.5 million in 2010, with 50.7% of the population being female. The population is mainly Black (90.8%) and Whites contributed only 7% while Coloured and Asians contributed the remaining 2.2%. Although the dominant language spoken in the province is Setswana, English is commonly spoken, followed by Xhosa and Afrikaans (Stats SA, 2009). The population of the province is relatively young, with 31.3% of the population being under the age of 15 years in 2010, implying that a large proportion of the population belongs to the school-going age. Total Fertility Rate (TFR) of the province was estimated at 3.0, which, with the exception of Limpopo is higher than other provinces in South Africa (Stats SA, 2010).

3.3 Research Design

Most demographic and socioeconomic data are collected by use of cross-sectional research designs. However, one of the limitations of a cross-sectional design is its failure to collect information on life events that occur to a study sample on a

continuous basis. Cross-sectional research design not only fails to give information on the time of occurrence of events, but also changing explanatory variables, which may lead to wrong conclusions. The alternative to cross-sectional design are procedures of data collection which follows cohorts over a particular time and records the events as they occur over the study period and another method uses the longitudinal registration system in which all events of interest are reported over a particular period. The problem with these two methods is that they are expensive because data collection extends over a considerably long period of time. The third method, known as event history calendar method, utilizes cross-sectional survey to obtain retrospective information on the events of interest (Freedman, 1988). Allison (1984) proposed that this method can be used to overcome the limitation of the cross-sectional study design to collect data on changes in life trajectories such as pregnancy, childbearing and schooling.

The event history calendar research design is a technique which uses the face to face interview approach to collect retrospective events which could have happened to an individual in her lifetime and also the time when such events occurred. It has several advantages: Firstly, it collects continuous data which enables the reconstruction of events on a continuous basis; secondly, it gives information about past events and relates them to the present and future outcomes as well as predicting future changes (Blossfeld *et al.*, 2007) thus offering causal understanding of social processes; and thirdly, it allows dealing with two unique processes simultaneously namely censoring if the event did not occur, events if it occurred and accommodating the effects of time-varying covariates (Allison, 1984). Time-varying covariates are variables which are constantly changing such as education, income, age, residence and employment status, whose effect as predictor variables

on occurrence of events such as pregnancy and school dropout are constantly changing. The event history study design was preferred because it could collect time-varying and time-constant variables retrospectively and it is also relatively cheap.

Information in this study was solicited from respondents by asking retrospective questions concerning pregnancy and schooling histories. In particular, respondents were required to recall the time in which events of pregnancy, school dropouts, and school re-entry took place along with other individual, school, household and community level information. To overcome the problem of memory lapse, a life-history calendar method was used along with questions to assist the respondent to recall events and their timing. This technique can increase respondent's ability to recall retrospective events by relating them to the time of the events (Freedman et al., 1988). Events that are easily remembered, such as births, school dropout and graduation provided crucial reference points for recalling less significant events in the study such as birth order, number of siblings and mother's grade attainment. As Sibanda and Zuberi (2005) noted, responses on questions dealing with time of birth are more consistent because the date of such event is more likely to be remembered because of its significance in the lives of women. The birth roster in which all births are recorded at the beginning of the interview and checked against other individual, school, household and community level information is very useful in collecting retrospective data (Eloundou-Enegue, 2004) and was therefore used in this study. Respondents were also allowed to ask other members of the household, such as mothers or a sister to assist in remembering events and their timing where necessary.

3.4 Sample design

In this section the determination of the sample size and sampling techniques are presented. The main objective of sampling is to obtain a representative number of respondents from the main population which can be used to generalize the results of the study to the population of interest. The main target group for sampling were women in age group 22 to 40 years that were enrolled in school at age 14 and were never pregnant before this age. The rationale for choosing women in this age group is because by age 22, most women are no longer in school and therefore one can establish their schooling trajectories and factors influencing them. The women also comprised the unit of analyses.

3.4.1 Sample size

An appropriate sample size is a prerequisite for validity and representativeness of a sample to the population of interest. It is also important in determining the choice robustness of the sample for multivariate analyses (Israel, 1992). The sample size for this study was determined by using the Kish (1965) scientific method because the number of women, who got pregnant, dropped out of school and re-entered school were not known. The formulae used in determining the sample size is presented as:

$$n = \frac{Z^2 \alpha / 2 P(1-P)}{SE^2}$$
$$= \frac{1.96^2 (0.5)(1-0.5)}{0.04^2}$$

Where:

n is the required sample size; $z^2 \alpha / 2$ is the standard normal curve corresponding to the desired confidence level of 95% (1.96); P is the estimated proportion of women

aged 22 to 40 years who were in school at age 14 which was assumed to be 0.5 for maximum variability; SE is the permissible error or desired level of precision which was set at 4%.

$$\frac{1.96^2(0.5)(1 - 0.5)}{0.04^2}$$

$$\frac{0.9604}{0.04^2}$$

$$= 600.25$$

By use of the above formulae the total sample size was determined as 600 households. To avoid bias towards certain households, only one interview per household was conducted. In the event that there were more than one prospective respondent in a household, only one woman was randomly selected from that household. The choice of this sample size was based on its ability to get a statistically significant result to detect the smallest variations between the variables of interest, in other words, the ability to accurately predict relationships between variables under study. The statistical power of a sample to predict is determined by $1/\frac{1}{\sqrt{\text{sample size}}}$ which in this case is, $1/\sqrt{600}$ hence the standard error of a sample is 0.040 or 4%. This sample is within the established norm of using a sample sizes between 500 and 1200 in most surveys, depending on the resources available for the study.

3.4.2 Sampling technique

To ensure that the sample was representative, the districts were stratified into rural and urban strata in which case there were 2 rural and 2 urban districts. From each stratum, one district was selected by use of simple random sampling method. Consequently, Bojanala and Southern which are more urban, formed the first

stratum while Modiri-Molema and Bophirima which were mostly rural districts formed the second stratum. A random sampling of one district from each stratum was conducted, resulting in the selection of Bojanala and Modiri-Molema districts. After selection of the districts, municipalities from the selected districts were selected in the second stage. In Bojanala district, Rustenburg and Moses Kotane local municipalities were selected and Mafikeng and Ramotshere Moiloa municipal areas were selected from Modiri-Molema district.

Households were selected from the municipal areas in the third stage using the proportion to population size method. The 2007 Community Survey shows that there were a total of 911,120 households in North-West province. Of these 39.2% and 29.7% were in Bojanala and Southern districts respectively and 20% and 11.1% were in Modiri-Molema and Bophirima districts respectively. The distribution of the selected households shows that 66% were in Bojanala and 34% were in Modiri-Molema. The number of households selected from each region was informed by the relative contribution of each district to the total number of the households leading to the selection of 396 and 204 households from Bojanala and Modiri-Molema, districts respectively.

Households were selected using systematic random sampling method from the list of enumeration areas provided by Statistics South Africa. Within Rustenburg municipality, three enumeration areas were selected including Tlhabane, Boitekong and Chaneng, while in Moses Kotane municipality Mabeskraal and Mabalstad were randomly selected. More areas were selected in Rustenburg because of the high concentration of the population in this municipality. In Modiri-Molema, Montshioa and Magogoe were selected within Mafikeng municipality while Gopane and

Barakalalo were selected from Ramotshere Moiloa municipality. The lack of household lists in each EA posed a problem in the selection of households. To address this problem, each enumeration area was divided into 4 sections, and from each section an equal number of households were sampled. However, this was also affected by the lack of knowledge of the number of households in each EA and security concerns especially in informal settlements such as YizoYizo in Rustenburg, which posed the most serious challenge. Nevertheless the effect of not knowing the total number of households was low because households in each EA were assumed to be homogeneous in characteristics.

Within each household, woman aged 22 to 40 years of age who were in school at age 14 and had not experienced pregnancy at this stage were asked to participate in the study. However, only one woman per household was selected to avoid bias towards certain households. The choice of women aged 22 to 40 years was justified because they have all passed through teenage and the sample is therefore likely to include everybody who was at risk of learner pregnancy and school dropout. Age 22 is the cut-off point because by that age, all the women had passed through adolescence and most have experienced a pregnancy, dropped out of school before matriculation or matriculated.

3.5 Data collection instrument

This study used a semi-structured questionnaire to collect data on the dependent and independent variables of interest. The method of data collection used was the interview method in which trained research assistants visited households and probed for information and recoded responses using a face to face interview approach.

The questionnaire was divided into four sections which included socio-demographic, schooling, reproductive and sexual, and household and community level characteristics. The section on demographic issues collected information on respondent's age at last birth day and the current marital status. The section on schooling collected data on age of school entry, whether or not a respondent experienced learner pregnancy, age at school dropout, grade at school dropout and the highest grade attainment of the respondents. In addition, the respondent was asked to provide the year of school entry to ensure that the age of school entry was not misreported. Furthermore, this section included information on respondent's current school attendance status. The respondent was also asked to report any event of school dropout from the time she was 14 years of age and the dates of such events. In addition, the questionnaire explored the main reason for dropping out of school among respondents who had indicated that they ever dropped from school. Respondents those who cited pregnancy or birth as the main reason for dropping from school were asked to give the date in which such birth occurred. This was used to compare it with the dates of birth in the birth history and whether such dates correspond with the date of school dropout in cases where the respondent had cited birth or pregnancy as the reason for dropping out of school. Also, the questionnaire asked about history of school re-entry among those respondents who indicated that they have at some point dropped out from school, including the dates in which respondent returned to school.

The third section of the questionnaire collected data on reproductive and sexual experience of the women. In this section the number of children they have ever given birth to, the birth dates of each child and the survival status of each child were also probed. Additional data was also collected on miscarriages and the dates at

which they occurred. In section four questions were asked to collect retrospective data on the women at the time when they were 14 years of age and later. These included information regarding the school grade in which they enrolled for at age 14, the family structures/ living arrangements they were in at age 14, the heads of household at age 14 and their relationship with that person. Also probed was the level of education attained by the head of the household and that of the mothers; the number of siblings the respondent had and the individual's birth order as well the place of residence and district of residence. The perception regarding teenage pregnancy in the community in which the respondent was residing at a time she was a teenager and the respondents' perceptions regarding the schooling status of their peers was also probed. Also asked was the age at sexual debut.

3.6 Data collection operations and quality assurance

Data quality is vital if valid inferences, conclusions and recommendations are to be made out of a study. In this regard a number of data quality assurance measures were implemented during the data collection process including the following:

***i.* Recruitment and training of research assistants**

The majority of fieldworkers recruited in this study were formerly employed by Statistics South Africa (Stats-SA) for data collection on censuses and national surveys. The organization has a database for all part-time employees who had been used in the data collection in the previous surveys. The regional Statistics Office in Mmabatho was requested to provide names and contact details of potential enumerators in the different areas where data collection took place and these people were recruited and trained to collect data for this study. The recruited research assistants had

appropriate experience in data collection procedures and were also well acquainted with the areas and the people and the language used in the areas where data were collected.

ii. Pretesting of data collection questionnaires

Before data were collected, the data collection questionnaire was pre-tested using seventy (70) respondents around Mafikeng Municipality. The purpose of the pre-test was to assess the suitability of the questionnaire for data collection. In addition, it was meant to anticipate problems that might arise during the actual data collection. The feedback received in the pre-test was incorporated into the final questionnaire.

iii. Field data editing

Each district team was headed by a supervisor who in addition to administering the data collection process also edited all questionnaires before leaving each EA. During the editing, any inconsistencies in the data were corrected before questionnaires were sent for data entry.

iv. Data entry

Data entry was done by use of Epi-Data software, which, compared to other data entry programmes such as SPSS and STATA, has check and control abilities which greatly help to minimize errors during data entry. In addition, there was double data entry which was done by another independent team of data entrants. Data cleaning involving the identification and correction, where possible, of missing values and outliers in data; recode files using the original questionnaires was done.

v. Data processing

These include data editing, coding, entry and cleaning. Data were edited both in the field during data collection and also in the office before data entry by a team of data editors to identify and correct errors that may have occurred during data collection. Coding open ended questions was done by editors after compiling all responses to such questions and assigning codes.

VI. Validity and reliability issues

Validity and reliability issues were taken into account when designing measuring instruments and during interviews. Firstly, an extensive study of the literature helped with the problem of refining better instruments for data collection. From the literature, those items that have already been validated by other researchers were used. Furthermore, the questionnaire used was reviewed by a team of experts with prior experience in population studies and educational research for appropriateness of the instrument. Questionnaires were also translated into the local language of the study area (Setswana) for easy understanding by respondents.

3.7 Ethical consideration

Ethical approval was sought and received from the Higher Degrees Committee of the Faculty of Human and Social Sciences of North West University, Mafikeng Campus. Permission to collect data from the respective study areas was sought and obtained from the respective chiefs and district managers. Study subjects were also briefed on the objectives and processes of the study before informed consent was sought and received from each respondent. Study subjects were also assured of the confidentiality of their identity and data that were collected and were informed that

the data collected will be used only for study purposes. After briefing, each respondent was informed of their right to participate or withdraw from the study at any stage if they so wished with no consequences.

3.8 Measures

Data were collected on dependent and independent variables. The dependent variables were a measure of the outcome variables while the independent variables were the predictor variables. These are described in the section below.

3.8.1 Dependent variables

The study examined three dependent variables. The first was learner pregnancy status which was defined as a situation in which girls become pregnant while enrolled in school from age 14 or did not become pregnant while enrolled at school. The second dependent variable was school dropout status which was defined as leaving school for extended periods in which re-entry required waiting until a new academic year or repeating the grade at leaving school or leaving schooling for good for any reason including pregnancy. The third dependent variable was school re-entry which was defined as a situation in which girls who had previously dropped out of school, later re-joined schooling and matriculated at grade 12.

3.8.2 Independent variables

The independent variables were divided into four main categories. The first were individual level variables which included current age which was collected as a continuous data; birth order; age at first sexual intercourse which was categorized as less than 18 years and 18 years or older; pregnancy status was categorized as ever-pregnant and never-pregnant while still enrolled at school. The second list of independent variables were school level variables including age at school entry

categorized as less than 7, 7 and 8 years or older; grade at age 14 was categorized as less than grade 8, grade 8 and grades 9 or higher; age at school dropout was categorized as less than 17, 17-19 and 20 years or older; reasons for dropping out of school was categorized as academic, financial and pregnancy related; grade at dropout of school was categorized as less than grade 8, grades 8-10 and grades 11 or higher; and the highest grade attained was categorized as less than grade 8, grade 8-10 and grades 11 or higher. The third category of variables were household level variables including number of siblings at age 14 categorized as none, "1", "2", "3" and "4" or more; family structure at age 14 or later categorized as both parent family, single parent mother-headed family, single parent father-headed family and extended family; and level of education of mothers' grade attainment categorized as less than grade 8, grades 8-10 and grades 11 or higher to measure the competencies of mothers by the three stages of education namely primary, secondary and high school. Community/neighbourhood level variables collected were perceptions regarding the schooling status of neighbourhood peers, place of residence categorized as rural and urban and district of residence categorized as Bojanala and Modiri-Molema districts.

3.9 Method of analysis

Research in social science is progressively interested in patterns of change or transition that occur over time (Freedman et al., 1988). The timing and sequencing of life events are now explicitly incorporated into many research designs (Upchurch and McCarthy, 1990; Marini 1984). This improvement in statistical method has brought about potent estimation of causal interrelationships in life events (Allison, 1984). This study used the Pearson's chi-square statistics and logistic regression to

estimate the rate and identify the predictors of school pregnancy and school re-entry.

3.9.1 Pearson's Chi-square Statistic

The Pearson's chi-square statistic was used to determine the association between school pregnancy, school dropout and re-entry and individual, school, household and community/neighbourhood level variables. This method was used to achieve four main outcomes. The first is examine the association between the dependent and independent variables; secondly, to show the direction of the relationship; thirdly to identify the significance of the relationship between variables; and fourthly to evaluate the strength of the relationship between the variables (Palazzolo, 2010). In conducting these analyses, each individual, school, household and community/neighbourhood level variable was statistically analyzed by cross-tabulating it with the school pregnancy status which was the dependent variable. Bivariate analysis of the response variable and each predictor variable allowed a clear indication of the pattern of school pregnancy and re-entry under varying individual, school, household and community/neighbourhood level variables.

The Pearson's Chi-square test was used to assess the relationship between the individual, school, household and community/neighbourhood level variables of respondents with school pregnancy and re-entry status. Pearson Chi-square test was chosen due to the categorical nature of the independent and dependent variables. The equation used for the Pearson's Chi-square test is shown below.

$$\chi^2 = \sum_{i=1}^i \frac{(O_{ij} - E_{ij})^2}{E_{ij}}$$

Associations were determined at a confidence interval of 95% and a significance level of 5%. All variables which produced a p value of less than 0.05 in the chi-square test were deemed to have a significant relationship with individual, school, household and community/neighbourhood level variables. The further the p value is from 0.05 the stronger the relationship between the predictor and the response variables.

3.9.2 Logistic regression

Binary logistic regression was used to investigate variables which presented a statistically significant relationship between school pregnancy, school dropout and re-entry and individual, school, household and community/neighbourhood level covariates at the bivariate level. These are variables which had a $p < 0.05$. The method was chosen because the outcome variables, experience of school pregnancy and dropout were binary in nature and if each occurred, they were coded "1", and coded "0" if the event did not occur. The binary nature of the variable conformed to the requirement for using the binary logistic regression model irrespective of whether the predictor variables were continuous, binary or categorical in nature (Hilbe, 2009; Cook *et al.*, 2000). The model is also appropriate for this study because the model does not make any assumptions about the distribution of the predictor variables. Logistic regression is simply an extension of the bivariate analysis in a sense that more than two variables can be analysed simultaneously (Menard, 2002; Hosmer and Lemeshow, 2000).

In fitting the logistic regression model four models one for each of the sets of independent variables (individual, school, household and community/neighbourhood level variables) was first implemented before a fifth

model using only variables that were significant predictors in the earlier models were implemented. In this study, the nested binary logistic regression was used to identify a combination of variables which better predict becoming pregnant at school. The fit of the model was examined using the model 'goodness of fit'. The limited difference between the expected and observed values was a sign of goodness of fit.

The odds ratios (O.R) were used to interpret results. Odds ratio is statistically defined as the probability of a case divided by the probability of a non-case (Dayton, 1992). The case of becoming pregnant at school is expressed in terms of Odds Ratios. Odds ratios were chosen because they are much easier to understand when dealing with a categorical response outcome. Odds ratio of 1 signifies no difference in becoming pregnant at school and odds ratios of greater than "1" means that the likelihood of becoming pregnant at school was higher than the likelihood of not becoming pregnant at school, which was the reference category. The logistic regression equation used in testing the model is shown below:

$$y = \alpha + \beta_1 X_{1i} + \beta_2 X_{2i} + \dots + \beta_n X_{ni} + \varepsilon_i$$

3.9.3 Survival analysis

To estimate the timing of school dropout, using the grade at school dropout as the time variable, the study used the survival analysis method comprising mainly of the Kaplan-Meier survival plots and the Cox proportional Hazard Model. The main interest in the study is to examine survival times before the occurrence of school pregnancy and dropout. Survival analysis is defined as "a collection of statistical procedures for data analysis for which the outcome variable of interest is time until an event occurs" (Gail et al., 2005). The method has been used in other fields such

as medical science to model time to occurrence of a particular event such as death (Allison; 2004). In these analyses, the survival times to school pregnancy and dropout were estimated using the Kaplan-Meier method, which estimated the number of school grades passed by respondents before dropping out of school. It was also applied in the analysis of pregnancy or birth where the time before the event was estimated from the time the respondent was 14 years of age.

3.9.3.1 Kaplan-Meier survival plots

At the bivariate level, the Kaplan Meier survival function was used to estimate the probability of becoming pregnant at school and/or dropping out of school at a given time (t). In addition, it was used to estimate differentials in becoming pregnant at school and or dropping out of school for women with different school, individual, household and community/neighbourhood level characteristics. Dropping out of school has been used here to illustrate the application of the Kaplan-Meier method. The Kaplan-Meier estimator takes the form:

$$s(t_i) = \prod_{j=1}^i \left(1 - \frac{d_j}{n_j}\right)$$

where $S(t_i)$ is the estimated survival probability for any particular one of the t time periods; n_i is the number of subjects at risk at the beginning of time period t_i ; and d_i is the number of subjects who fail during time period t_i . At the bivariate level, the log rank chi-square test was used to statistically compare survival curves between the groups. The two survival curves were compared statistically by testing the null hypothesis that there was no difference regarding survival among two groups. The log rank test (Q) takes the form:

$$\frac{(o_1 - E_1)^2}{E_1} + \frac{(o_2 - E_2)^2}{E_2}$$

Where the o_1 and o_2 are the total numbers of observed events in groups 1 and 2, respectively, and E_1 and E_2 the total numbers of expected events.

3.9.4 Cox proportional hazard model

Before the Cox proportional hazard model was developed, survival analyses at multivariate level were done mainly by use of logistic regression. However, the logistic regression method can only indicate whether or not an event has occurred during the period of study. Such dichotomization of the dependent variable amounts to wastage of information because it ignores variation that might have occurred at different periods (Allison, 1984). On the other hand, survival analysis not only indicates whether the event has occurred or not, but it also provides information on whether the risk of such event has changed over time. In other words, one can identify particular periods in which the event is at a higher risk of occurring than other periods (Singer and Willet, 1991). In addition, the problems of censoring occur in cases where the event of interest did not occur during the period of observation. For example, some study respondents were still in school at the time when data was collected and therefore their risk of dropout of school was unknown. Additionally, survival analysis can deal with variables whose values change with time, or time-varying variables and the risk of experiencing the event is dependent on time given that the individual is exposed to the risk. This measure of risk is called the hazard rate.

The hazard rate is the probability that an individual will experience an event at any time given that the individual is at risk of experiencing that event. The hazard rate is the unobserved rate at which the event occurs and it controls both the occurrence of the event as well as its timing. The hazard rate therefore is central in the analysis of event history data because of its ability to predict not only the occurrence of the event, but also the time necessary for the event to occur. In cases where the hazard rate does not differ with time, a hazard rate of 2.5 for example, would mean that 2.5 events are expected to occur for every unit of time interval used in the study, depending on the measure of time such as a year, age or grades. One important aspect of the hazard rate is that it determines the shape of the survival function which is denoted as $S(t)$ and defined as the probability that an individual will survive beyond certain time period (t). Survival function will be low at the times when the hazard function is increasing implying that the risk of experiencing an event is higher and therefore, few individuals would survive past time (t). The hazard rate, at any point in the survival period, is influenced by the explanatory variables in the model. In other words, the hazard, denoted as $P(t)$, is a linear function of the explanatory variables with logit transformation:

$$\log(P(t)/(1 - P(t)) = a + b_1 x_1 + b_2 x_2(t))$$

The coefficients give the change in the logit, or the log odds, for each one unit increase in covariates x_1 and x_2 respectively.

Survival Analysis can be divided into non-parametric model such as the Cox regression model and the parametric models. In this analysis, the Cox proportional

hazard model was used in the analysis of time to drop out of school which is expressed as:

$$\log T(t) = \beta_0 + \beta_1 x_{i1} + \dots + \beta_k x_{ik} + \dots o\varepsilon_i$$

The Cox proportional hazard model was used in this study because it accommodates time-varying variables in the analyses of school dropout and is not based on any assumptions regarding the shape of the underlying survival distribution. Hence it tends to be more general when compared to the other parametric models. It is assumed in this model that the hazard rate depends on the values of the covariates and it does not attach any specific assumption pertaining to the shape of the hazard function over time, which could be increasing, remaining constant or decreasing, but it should not be the same for everyone.

This model derives its name from the fact that the ratios of the estimated hazards for any two individuals are assumed to be constant or proportional to each other over time. This assumption may not be valid in cases where covariates are likely to vary with time or time-dependent covariates, such as the effect of school grade on the probability of dropping out of school. The Proportional hazards (PH) function can be written as:

$$h_i(t) = h_o(t) \exp(\beta_1 x_{i1} + \beta_2 x_{i2} \dots + \dots + \beta_k x_{ik})$$

Where $h_i(t)$ is the baseline hazard, x_i is a vector of individual characteristics, and β is a vector regression coefficients and includes an intercept term. This model is

semi-parametric because while the baseline can take any form, the covariates are entered in the model in a linear form. The hazard ratios for any two observations are assumed to be constant at any time in the survival time, hence

$$\frac{h_i(t)}{h_j(t)} = \frac{h_0(t)e^{\beta_i t}}{h_0(t)e^{\beta_j t}}$$

The hazard function is a measure of the probability for the event occurring at a particular time t , given that the event has not yet occurred. The larger the value in the hazard function, the higher the probability that an event under observation has occurred. For time constant covariates, the model can be expressed as:

$$\log h(t) = \alpha(t) + \beta x^t$$

Where $\alpha(t)$ can be any function of (t) . The equation states that the hazard of an event happening at time t depends on the status of a covariate at that time. It is called the proportional hazard model because for any two individuals at any point in time, the ratio of their hazard will be constant, that is, the ratio of the hazard does not depend on time. Meanwhile the model can allow for time-varying explanatory variables which are likely to change with time such as age, school grade and income. The model can be expressed as a log which implies that the value of a variable at time t affects the hazard at time t . The model can allow for time-varying explanatory variables which are likely to change with time such as age and school grade. In that case, the model can be expressed as

$$\log(t) = \log t = \beta_0 + \beta_1 x_1 + \beta_2 x_2(t) + \beta_3 \log(t).$$

This implies that the value of variable x_2 at time t affects the hazard rate at time t .

3.9 Limitations of the study

This study may be affected by some limitations. Firstly, some of the variables of interest for analyses such as age at first sexual intercourse, school pregnancy and reproduction are sensitive and stigmatizing and have legal, social and cultural desirability implications. Some respondents are therefore likely to deliberately falsify data on some of these leading to systematic biases in estimating them, their effects and predictors. Some respondents may have forgotten the timing of some of the events and their associated information which may lead to inaccurate dating of events. This is likely to affect older cohorts who have experienced the events of interest a long time ago and might create a problem of cohort comparison when one cohort provides incorrect information compared to others. Although the cross-sectional design of the study collected retrospective data using event history methods, sometime varying covariates may have been inadvertently incorrectly collected. Additionally, the cross-sectional approach to data collection makes the temporality of the estimates of school pregnancy, school dropout and school re-entry and some of their predictors unknown. High levels of rural to urban migration did pose a problem of having few eligible women available in the rural areas. To deal with this problem, the number of enumeration areas selected in the rural areas was slightly increased.

Chapter Four

Trends in learner pregnancy, school dropout and re-entry in South Africa

4.1 Introduction

Pregnancy among young women who are still enrolled in school is a serious concern in both developed and developing countries due to its negative effect on schooling. The increasing expansion in school participation among girls and the decrease in age at puberty has increased the risk of many girls falling pregnant while still enrolled in school in many sub-Saharan Africa countries. This chapter presents data on learner pregnancy and school dropout in South Africa.

4.2 Learner pregnancy rates in South Africa

The high value placed on both fertility and education encourages adolescent girls to seek motherhood while at the same time aspire for better education (Preston-Whyte and Zondi 1992). While this is the case, evidence from different sources indicates that more learners stay in school long beyond the onset of menarche due to a high rate of temporary school withdrawals and grade repetition (Grant and Hallman, 2008; Schindler, 2008). Evidence from the Annual School Survey conducted by Department of Basic Education (2009) supports these findings. The results from this survey indicated that in 2011, close to 30 percent of learners who were registered for grade 12 were 20 years of age and above – well above the age of 18 which is the normal age for people enrolled in this school grade. Given this scenario, it is not surprising that a substantial number of women would commence sexual intercourse

while still enrolled in school, which increases the risk of becoming pregnant while still enrolled in school.

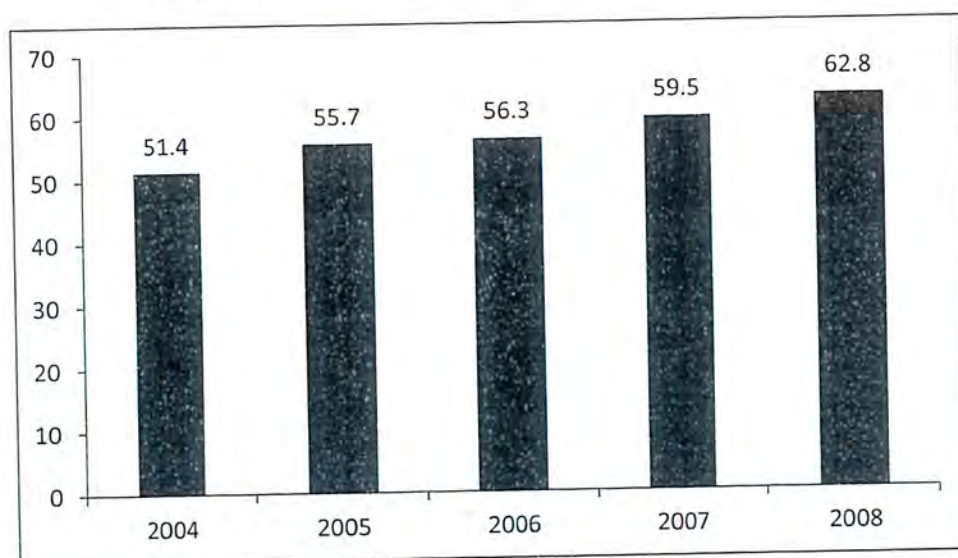
Different surveys have estimated the extent to which women become pregnant while still enrolled in school in South Africa, including among others, the Annual School Survey and the General Household Surveys (GHS). The data from Annual School Survey indicated that between 2003 and 2005, the number of pregnant learners increased by 28, 4% from 19,788 learners to 25,407. In 2006, this number almost doubled from the figures observed in 2005 with 49,763 (95.8%) learners becoming pregnant. In subsequent years, it stabilized around 49,600 for two consecutive years, in 2007 and 2008, and thereafter decreased by approximately 9% to 45,276 pregnancies in 2009 (Department of Basic Education, 2011). While the Annual School Survey indicates that learner pregnancy declined in 2009, information from GHS found that 71,364 learners attending school became pregnant between 2008 and 2009, which is far higher than the 45,276 indicated by Annual School Survey in the same period. More than two-thirds (70%) of these had already given birth at the end of 2009 when data was collected, while 20% were still pregnant and the remaining 10% had either experienced miscarriage or had aborted the pregnancy (Department of Basic Education, 2011).

The discrepancies in the number of learner pregnancies between these two sources can be attributed to methodological differences used in collecting data on school pregnancy. While the Annual School survey collected information regarding the number of learners who had been pregnant directly from the schools, the GHS collected data on school pregnancy using population surveys at the household level. While information collected by the schools cannot be entirely reliable simply

because some learners may drop from school or may terminate the pregnancy before the teachers in school become aware of it, the same cannot be said about households. Information taken from the GHS is likely to be more reliable because parents are more likely to know about the pregnancy status of their children, whether terminated or not.

A report commissioned by the Department of Education to look at learner pregnancy in South Africa presented, as part of its findings, the number of pregnancies per 1000 learners enrolled in school. The results in Figure 4.1 show that learner pregnancy rate increased consistently between 2004 and 2008. While 51.4 per 1000 learners were pregnant in school in 2004, this number increased to 55.6 and 56.3 per 1000 in 2005 and 2006 respectively. It further increased to 59.5 and 62.8 per 1000 learners in 2007 and 2008 respectively.

Figure 4.1 Learner pregnancy rates per 1000 learners enrolled in school, 2005-2008



Source: Department of Basic Education, 2009

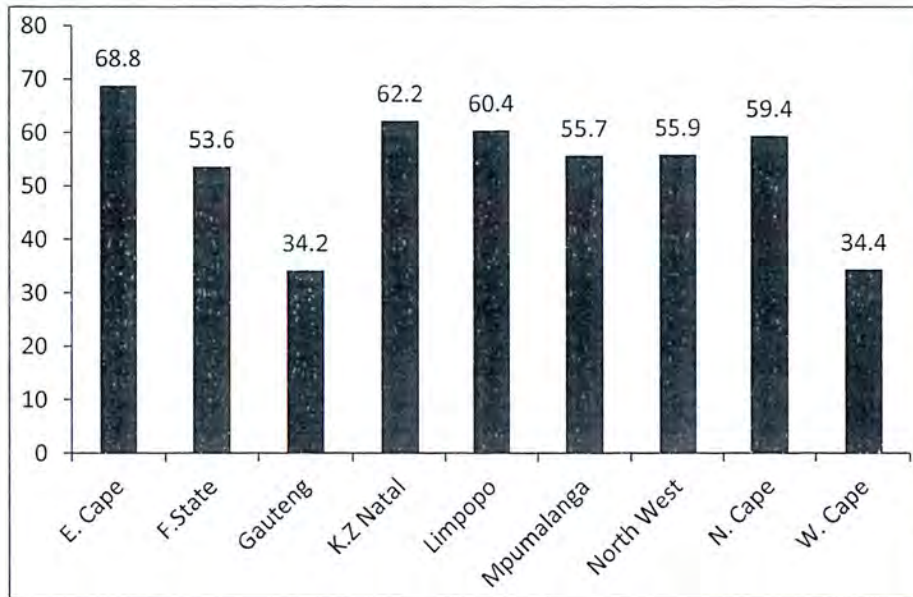
Panday et al., (2009) attributed the observed increase in learner pregnancy mostly to an improved data collection during this period, and not to an increase in rate of learner pregnancy, implying that the prevalence of school pregnancy has been seriously under-reported by previous surveys. However, it is important to also note that the number of learners who are exposed to the risk of falling pregnant in school has been increasing in recent years. This suggests that the actual number of new school pregnancies could have increased. The risk of pregnancy increases with the age of women, and available evidence indicates that an increasing proportion of women enrolled in schools are at an advanced age. For example, the analysis of the Annual School Survey reveals that 41, 3% of learners enrolled in grade 12 in 2009 were above the expected age of 18 years, the number increased to 46.7% and 51.9% in 2010 and 2011 respectively. This suggests that increasing number of learners are staying in school for longer periods and have older ages in recent years than previously. This is an indication that the risk of becoming pregnant while still in school is increasing because older women are at a higher risk of becoming pregnant than women who are relatively younger.

4.2.1 Learner pregnancy by provinces

Studies dealing with school pregnancy suggest that the phenomenon of school pregnancy in South Africa differs according to provinces. A study by Grant and Hallman (2008) in KwaZulu-Natal found that 24% of women who were 18 years of age had become pregnant while enrolled in school. Another study in Western Cape found that only 12% of African women in the same age were pregnant in school (Marteleto et al., 2008). Figure 4.2 presents learner pregnancy rates. The figure shows that learner pregnancy rates differ according to different provinces in South Africa. The two richest provinces in South Africa namely Gauteng and Western

Cape experienced the lowest rates of learner pregnancies with 34 per 1000 learners between 2004 and 2008.

Figure 4.2 Learner pregnancy rates by province, 2004-2008



Source: Department of Basic Education, 2009

By contrast, the highest number of pregnancies was observed in the provinces that are relatively poorer including the Eastern Cape (68.8), KwaZulu-Natal (62.2) and Limpopo (60.4). The North West province had a moderate learner pregnancy rate of approximately 56 pregnancies per 1000 registered learners. Data from GHS collected in 2009 also indicate that the provinces of KwaZulu-Natal, Limpopo and Eastern Cape were leading in the prevalence of learner pregnancy.

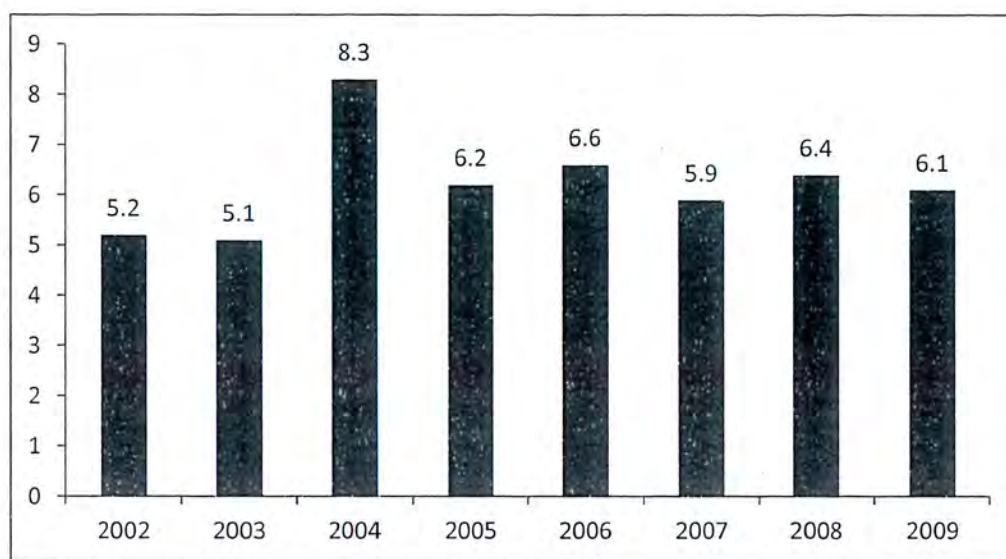
4.3 School dropout

Data on school pregnancy in general is difficult to find in South Africa. However, data on school dropout due to pregnancy is available. Statistics regarding the effect of pregnancy on schooling indicates that the number of women dropping out of school after becoming pregnant has been declining since 1988. Data from the 1988

South African Demographic and Health survey (SADHS) indicates that pregnancy was the main reason for not attending schooling. Approximately 10% of women in the age group 15 to 24 had left school due to pregnancy (Department of Health, 2000). Supporting the above finding, a study in the province of KwaZulu- Natal indicated that school pregnancy was the main determinant of school dropout with 35% of women who were pregnant while enrolled in school dropping out by age 20 (Grant and Hallman, 2008). On the other hand, the study by Marteleto, (2008) found that 62 percent of 17 year old women who were ever-pregnant were still enrolled in school, suggesting that pregnancy-related school dropout differs substantially across different regions in South Africa.

The General Household surveys data collected between 2002 and 2009 presented in Figure 4.3 shows that the proportion of learners dropping out of school due to pregnancy related reasons has been fluctuating in this period (Department of Basic Education, 2010). The figure shows that the percentage of children in ages 7 to 18 who were not attending school due to pregnancy ranged between 5.2 and 5.1 between 2002 and 2003, increased to 8.3 percent in 2004 and declined thereafter to 6.2 and 6.6 in 2005 and 2006 respectively. School dropout due to pregnancy fluctuated between 5.9, 6.4 and 6.1 between 2007, 2008 and 2009 respectively indicating an upward trend over this period.

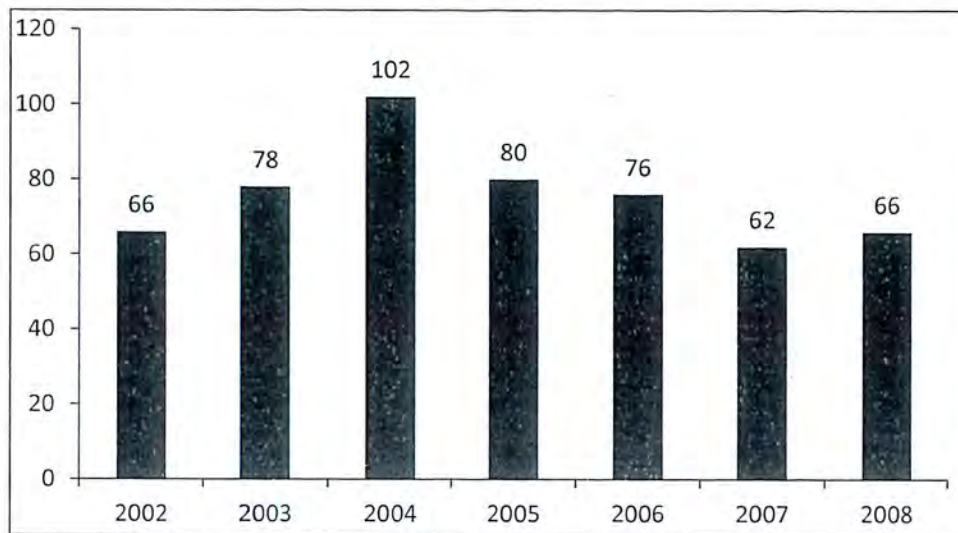
Figure 4.3 Percentage of children aged 7 to 18 years not attending school due to Pregnancy-related reasons



Source: Department of Basic Education, 2011

Figure 4.4 shows the total number of girls of ages between 13 and 19 who reported that they were not attending school due to pregnancy-related reasons. The data presented in this figure shows that in 2002, 66,000 girls who were not attending school cited pregnancy as the main reason for not being in school. The number increased to 78,000 in 2003 and reached a peak of 102,000 in 2004 before starting to decline thereafter, reaching 80,000 in 2005, 76,000 in 2006 and 62,000 in 2007 respectively. It then increased slightly to 66,000 in 2008.

Figure 4.4 Pregnancy-related reasons for not attending school for girls aged
13-19 years



Source: Stats SA, 2011

4.4 Return to school after pregnancy

Literature on school re-entry as part of assessing school attainments for women who were pregnant in school is scanty in both developed and developing countries. In South Africa, even fewer studies have been done on school re-entry of girls who previously had dropped out of school due to pregnancy. The findings from these studies indicate that despite the progressive policy allowing women to return to school after childbearing, the number of women who return to school after dropping out as a result of pregnancy is low (Grant and Hallman, 2008; Marteleto and Lam, 2008). These studies estimated that approximately one third of teenage mothers return to school after giving birth. The findings by Grant and Hallman (2008) supported this finding by indicating that less than one-third (29%) of women in ages 14-19 returned to school after dropping out while more than half (52%) of those in ages 20 -24 were able to do so. However, these studies did not examine

appropriately factors influencing school re-entry of girls who previously dropped out of school.

4.5 Conclusion

Data on school pregnancy, school dropout and re-entry is available, but inadequate as most of the data on these school trajectories are based on institutional reporting and therefore only explain this phenomenon from institutional perspectives. The limitations of institutional surveys is the under reporting of these events as many women who are outside schools would be omitted from estimating school pregnancies, school dropouts and school re-entry rates and factors influencing these processes. In addition very few studies have addressed school pregnancy, school dropout and school re-entry using population based surveys in South Africa and none from the North West province. The following chapters therefore present findings on school pregnancy, school dropout and school re-entry and factors influencing them using a population based household approach. This methodological shift is expected to provide a more accurate estimation of these events and their predictors in the North West province of South Africa.

Chapter Five

Rates and predictors of learner pregnancy

5.1 Introduction

School pregnancy constitutes a large proportion of teenage pregnancy. It also constitutes the largest proportion of unwanted pregnancy in adolescence in sub-Saharan Africa (Lesetedi et al. 1988). The high incidence of school pregnancy in this world region is a matter of concern in many countries because of its association with most reproductive health and social problems faced by young mothers, and its contribution to the failure of countries in achieving the Millennium Development Goals (MDGs), which include eradicating extreme poverty and hunger; achieving universal primary education; and achieving gender equality and empowerment of women. Other MDGs not yet achieved, which are associated with teenage pregnancy are reduction in childhood mortality; improvement in maternal health (Gebreselassie, 2011); and reversing the spread of HIV/AIDS (UNAIDS, 2012; Carmichael, 2011). This chapter used the social disorganization theory to explain the prevalence of learner pregnancy to examine the effect of individual, school, household and neighbourhood level factors on learner pregnancy.

5.2. Social disorganization theory and learner pregnancy

The theory, originally developed by Shaw and Mckay (1942) was used to explain spatial differentials in crime rates when they asserted that the rate of crime was higher in neighbourhoods where the institutions of social control such as the family, schools, churches and community groups were weak therefore reducing social capital and collective efficacy leading to crime (Sampson et al., 1997). This was later expanded to include the effect of family structures when Sampson (1986)

noted that neighbourhood crime rates were higher in unstable families because such families lacked control over the behaviour of its members. Family structures and neighbourhood characteristics have also been found by previous studies to significantly influence individual and school level factors that directly and indirectly influence educational outcomes. The theory of social disorganization has therefore been adopted in this chapter to explain how selected individual, school, household and neighbourhood level factors influence learner pregnancy.

Poverty has been defined here as lack of money, powerlessness, deprivation, constrained choices, unfulfilled capabilities and lack of skills, which lead to low quality of life and standard of living (United Nations, 2002; Cohen, 1993). In the short term, learner pregnancy can perpetuate poverty through school dropout and/or interruption and low educational attainment (Perper et al., 2010) because it impedes expansion of opportunity by locking the potential of young women to escape or grow out of poverty. In the long term, poverty resulting from pregnancy in school can lead to intergenerational poverty and vulnerability which are processes by which poor parents transmit poverty and other forms of vulnerability to their children, including teenage pregnancy (Castaneda and Aldaz-Carroll, 1999). School pregnancy can perpetuate poverty by entrenching it (Harper et al., 2003) through lack of or low educational attainment of offspring of poor and probably of single parent families of women who previously dropped out of school through a low level human capital trap (Mayer-Foulkes, 2009).

Additionally, school dropout due to learner pregnancy exacerbates the gender inequality and disempowerment of women because of the low educational attainment and low “capabilities” thereof (Sen, 1999) of girls who were previously

pregnant at school (Meekers and Ahmed, 1999) leading to the high gender disparity in education (Klasen, 2002). The resulting disempowerment of women has been in the centre of the continuing high childhood and maternal mortality in sub-Saharan Africa (Shen and Williamson, 1999; Karlsen, et al., 2011; Aderibigbe et al., 2011). Poverty faced by single parent mothers has also been found to contribute to increasing their risk to HIV/AIDS infection because of the adoption of adult roles at a young age and use of commercial sex as a survival strategy (Mbirimtengerenji, 2007).

Previous studies have identified a number of risk factors for learner pregnancy, including a young age at sexual debut (Macleod and Tracey, 2010; Cardoso and Verner, 2007; Astone and McInahan, 1991); a higher age at school entry (Lloyd, 2005); a lower grade at an older age (Marteleto et al., 2008); and grade repetition, and previous school dropout experience (Marteleto et al., 2006; Grant and Hallman, 2006). Sexual exploitation by fellow male students and teachers were also found to be a common cause of learner pregnancy (Boerma et al, 1998). Family structure characterized by single parent families, broken families, absence of one or both parents, and living in foster or extended families; and number of siblings have also contributed to school pregnancy (Hillis et al., 2010). Additionally, there is a lack of discourse on sexual matters between girls and parents because of the perceived taboos associated with sex (Izugbara, 2008; Orji and Esimai, 2003).

Parents' level of education was also identified by previous studies as an important factor influencing school pregnancy (Sabetes et al., 2010), which could be associated with household poverty, which could encourage young girls to start contributing to family income at an early age by selling sex if necessary (Spies,

2006). Two previous studies have suggested that household poverty also predisposed young girls to behavioural problems, depression, low self-esteem, and poor self-control and early initiation of sexual activity (Nalwada et al., 2010; Kasente, 2003). Other factors that have been identified as significant risk factors to school pregnancy include sexual violence by a close partner and or peers (United Nations Population Fund, 2007; Pallitto and Murilo, 2008). Neighbourhood as a spatial construct such as districts or place of residence was also found to affect rates of school pregnancy (Rutenburg et al., 2002; Burgard and Lee-Rife, 2009; Crane, 1991; Hogan and Kitagawa, 1985).

South Africa has one of the highest school pregnancy rates in sub-Saharan Africa. Teenage pregnancy rates and premarital childbearing in South Africa has been estimated at 30% (NRC-IOM, 2005; Mahy and Gupta, 2002), but the rates vary between the provinces. The high incidence of school pregnancy has been attributed to society's tolerant attitude towards early age at sexual debut and premarital childbearing (MacQuestion et al., 2012; Grant and Hallman, 2006; Kaufman et al., 2000). Family structure characterized by single parenthood mother headed households, foster or extended families and broken families (Hillis et al., 2010; Mackay, 2005), have also contributed to the high prevalence of school pregnancy in South Africa. As expected this has significant negative consequences on black adolescents in South Africa including the high prevalence of HIV/AIDS (Muula, 2008) and high school dropout rates which seriously compromise the lifelong possibilities for many young women, leading to feminization of poverty among blacks in South Africa, which is reflected in the high rate of gender disparity in poverty (Shisana et al., 2010).

Additionally, many children born to teenage mothers live in multiple deprivations including lack of income; parental/guardian unemployment; lack of/low education; lack of both or one parent; and poor quality environment characterized by lack of water and sanitation (Wright and Noble, 2012), which has created the need for expansion of the target group for the South African Child support grant, which provides social protection for nearly 10 million children (Department of Social Development [South Africa et al., 2012). The economic challenges now being faced in South Africa suggest that it may not be possible to further expand and sustain the social protection programme in its current form without plugging the supply routes of socially vulnerable children. This paper therefore estimated rates and investigated predictors of school pregnancy in North West province of South Africa.

5.3 Measures

The main dependent variable in this chapter was becoming pregnant while still enrolled at school after age 14. School pregnancy status was obtained by asking respondents “have you ever been pregnant while enrolled at school?” If school pregnancy occurred after age 14, the pregnancy status of the woman was coded “1” and if pregnancy did not occur any time after age 14 until a woman permanently dropped out of school or matriculated at grade 12, the woman’s pregnancy experience was coded “0”.

The independent variables included individual, school, household and neighbourhood level characteristics. The individual level characteristics were age cohorts which was categorized as less than 25, 25-29 and 30 years or older; birth order which was categorized as 1st, 2nd, 3rd and 4th or higher; and age at first sexual

intercourse categorized as less than 18 and 18 years or older. The school level characteristics included in the analyses were age at school enrolment which was categorized as less than 7, 7 and 8 or more years of age; grade at age 14 categorized as less than grade 8, grade 8 and grade 9 or higher; highest grade attained categorized as less than grade 8, grades 8-10 and grade 11 or higher; and previous school dropout experience categorized as never dropped out of school and previously dropped out of school.

Regarding household level characteristics, number of siblings categorized as “1”, “2”, “3” and “4” or more; family structure at age 14 categorized as living in both parent family, living in single parent mother headed family, living in single family father headed family and living in foster or extended family were analysed. Also included as a household characteristic is the highest level of education of the mothers of the women categorized as less than grade 8, grades 8-10 and grade 11 or higher. The neighbourhood level characteristics included in this analysis were perceived schooling status of neighbourhood peers, district and place of residence which were categorised as Bojanala and Modiri-Molema districts and rural and urban neighbourhoods respectively.

5.4 Description of background characteristics

In this section, the distribution of women by individual, school, household and neighbourhood level characteristics have been presented.

5.4.1 Individual level characteristics

Individual level characteristics of women, mostly of demographic nature have been identified by previous studies as significant predictors of learner pregnancy. Among these are age cohorts and age at first sex (Macleod and Tracy, 2010;

Cardoso and Verner, 2007). The distributions of women by individual level characteristics are presented in Table 5.1. The table shows that overall the median age of the women was 28 years. About 26%, nearly 31% and 44% of the women were in the under 25, 25-29 and 30 years or older age cohorts respectively. The mean birth order was 2.7 and 32.1% of the women were of birth order one, nearly 22% were of birth order two, 16.3% were of birth order three, and 30% were of birth order 4 or higher. The median age at first sexual intercourse was 18 years and the majority of the women, about 59%, initiated sexual intercourse at 18 or more years, and nearly 41% had the first sexual intercourse at less than 18 years of age. Nearly 38% of the women had experienced a school pregnancy before matriculation at grade 12.

Table 5.1 **Percentage distribution of women by selected individual level Characteristics**

Selected individual level characteristics	%	Number of women
Age cohort		
<25	25.6	149
25-29	30.8	179
35+	43.6	254
Total	100.0	582
Median age of women	28	
Birth order		
1	32.1	187
2	21.6	126
3	16.2	94
4 or higher	30.1	175
Total	100.0	582
Mean birth order	2.7	
Age at first sex		
<18 years	40.5	236
18 years or older	59.5	346
Total	100.0	582
Median age at first sex	18	
Ever been pregnant at school?		
Yes	38.5	224
No	61.5	358
Total	100.0	582

5.4.2 School level characteristics

The school level characteristics of the women are presented in Table 5.2. The table describes age at school entry, grade at age 14, highest grade attained and previous school dropout experience. Previous studies on teenage learner pregnancy elsewhere have identified these school level factors to be significant predictors of school pregnancy (Lloyd, 2005; Marteleto et al., 2008; Grant and Hallman, 2006). The distribution of the women by school level characteristics show that the median age at school entry was 7 years, and the majority (48%) started schooling at 7 years of age. Only 14.4% started schooling at 8 years or older and 38% started schooling

Table 5.2 Percentage distribution of women by selected school level characteristics

School level characteristics	%	Number of women
Age at school entry		
<7	37.8	220
7	47.8	278
8 years or older	14.4	84
Median age at school entry	7	582
Grade at age 14		
<8	45.7	266
8	33.8	197
9 or higher	20.4	119
Median grade at age 14	8	582
Grade at school dropout		
<8	5.3	31
8-10	25.1	146
11+	22.2	129
Never dropped out of school	47.4	276
Highest grade attained		
<8	20.4	119
8-10	24.9	145
11 or higher	54.6	318
Mean highest grade attained	10.9	582
Previous school dropout status		
Never dropped out	47.4	276
Ever dropped out	52.6	306
Median grade at previous school dropout	9	582
Total	100.0	582

at less than 7 years of age, indicating that more than one third of the women started schooling at less than the recommended 7 years of age and more than one fifth of the women started schooling at higher than the recommended age. The median grade at age 14 was grade 8, which was the recommended grade at age 14. However, nearly 46% of the women were in less than grade 8 at age 14, indicating that they were older than the recommended grade at age 14, probably due to repetition and/or previous school dropout experience. One third of the women were in grade 8 which is the recommended grade at age 14 and 20.4% were in grade 9 or higher, indicating that they were younger than the recommended age at that grade.

Additionally, 25.1%, 22.2% and only 5.3% of the women dropped out of school at grades 8-10, grades 11 or higher and less than grade 8 respectively. About 47.4% of the women never dropped out of school until they matriculated. The majority, 55% of the women, attained grade 11 or higher, 25% attained grades 8-10 and only 20% attained less than grade 8. The mean grade attained by the women was 10.9. About 47% of the women also previously dropped out of school and the median grade at previous school dropout was grade 9, confirming that many of the women may have repeated grades.

5.3.3 Household level characteristics

The Household level characteristics of the women are presented in Table 5.3. The household level characteristics included family structures, number of siblings and mothers' educational attainment. Previous studies on teenage pregnancy observed that family structures (Zwang and Garene, 2007; Hallman, 2004; Kaufman and Stavrou, 2002), number of siblings in the family (Gaudia et al., 2010) and parental

level of education are significant predictors of teenage pregnancy. Table 5.3 shows that the mean number of siblings of the women was 2.7 and 43% of the women had 4 or more siblings, 20% had 2 siblings and 19% each had 1 and 3 siblings. Distribution by family structure show that 41% and 37.1% of the women lived in both parent families and single parent mother headed families respectively and nearly 12% and 11% lived in single father headed and extended families respectively at age 14. Over 35% and 46% of the mothers' of the women attained less than grade 8 and grades 8-10 respectively. Only 18.4% of the mothers of the women completed grade 11 or higher.

Table 5.3: Percentage distribution of women by selected household level characteristics

Household and neighbourhood characteristics	%	Number of women
Family structures at age 14		
Both parents	40.5	236
Single parent mother headed	37.1	216
Single parent father headed	11.5	67
Foster/extended	10.8	63
Number of siblings		
1	18.8	109
2	19.8	115
3	18.8	109
4+	42.7	248
Mean number of siblings	2.7	582
Missing		1
Mothers highest education		
<8	35.2	205
8-10	46.4	270
11 or higher	18.4	107
Mean level of education of mother	7.4	582
Total	100.0	582

5.3.4 Neighbourhood level characteristics

Table 5.4 presents the neighbourhood level characteristics of the women when they were enrolled at school. The characteristics include perceived schooling status of

neighbourhood peers, district of residence and rural-urban residential neighbourhoods. Neighbourhood factors, especially the urban-rural residential neighbourhoods have been found to be significantly associated with teenage pregnancy (Burgard and Lee-Rife, 2009; Mudege, 2008; Rutenburg, 2002). Table 4.4 shows that 60% and 40% of the women perceived that their neighbourhood peers were not in school and in school respectively. Regarding the distribution of women by districts, the table shows that 65% of the women were from Bojanala district, which is mostly urban and the industrial hub of North West province and 35% were from Modiri-Molema district which is mostly rural. Overall, 78% and 22% of the women lived in urban and rural neighbourhoods respectively.

Table 5.4 Percentage distribution of women by selected household and neighbourhood level characteristics

Household and neighbourhood characteristics	%	Number of women
Perceived schooling status of peers		
Not in school	60.0	350
In school	40.0	229
Missing	0.05	3
District of residence		
Bojanala	64.9	378
Modiri-Molema	35.1	204
Place of residence		
Urban	22.5	131
Rural	77.5	451
Total	100.0	582

5.4 Differentials in learner pregnancy

In this section the differentials in learner pregnancy and its association with selected individual, school, household and neighbourhood level characteristics are presented.

5.4.1 Differentials in learner pregnancy by individual level characteristics

In Table 5.5, the differentials in school pregnancy by individual level characteristics are presented. The table shows that the rate of learner pregnancy increased with the increase in age cohort from 31% in the less than 25 year age cohort to 35.2% in the 25-29 year age cohort and to 45.3% in the 30 year or older age cohort. However, the rate of learner pregnancy decreased with increase in age at sexual debut. Nearly 58% and 25.4% of the women who initiated sexual intercourse at less than 18 years and 18 years or older respectively experienced learner pregnancy.

Table 5.5 Differentials and association of learner pregnancy by selected individual level characteristics

Individual level characteristics	Have you ever been pregnant at School?		Total	Df	χ^2
	Yes	No			
Age cohort					
<25	30.9 (46)	69.1 (103)	100.0 (149)	2	9.41***
25-29	35.2 (63)	64.8 (446)	100.0 (179)		
30+	45.3 (115)	54.7 (139)	100.0 (254)		
Birth order					
1	40.1 (75)	59.9 (112)	100.0 (187)	3	3.29
2	43.7 (55)	56.3 (71)	100.0 (126)		
3	33.0 (31)	67.0 (63)	100.0 (94)		
4+	36.0 (63)	64.0 (112)	100.0(175)		
Age at first sex in years					
<18	57.6 (136)	42.4 (100)	100.0 (236)	1	61.42*****
18+	25.4 (88)	74.6 (258)	100.0 (346)		
Total	38.5 (224)	61.5 (358)	100.0 (582)		

Significance: *=0.05; **=0.01; ***=0.001; *****=0.0001

Age cohort and age at first sex are significantly associated with learner pregnancy at $p<0.001$ and $p<0.0001$ respectively. The birth order of the women was not

significantly associated with experience of learner pregnancy in this population of women.

5.4.2 Differentials in learner pregnancy by school level characteristics

Differentials in learner pregnancy by school level characteristics are presented in Table 5.6. The table shows that age at school entry was significantly associated with experience of learner pregnancy at $p < 0.0001$. The table shows that the prevalence of learner pregnancy increased with increase in age at school entry with the majority of women (55%) who experienced learner pregnancy joining school at

Table 5.6 Differential in learner pregnancy by selected school level characteristics

School level characteristics	Have you ever been pregnant at School?		Total	Df	χ^2
	Yes	No			
Age at school entry					
<7	28.6 (63)	71.4 (157)	100.0 (220)	2	19.38****
7	41.4 (115)	58.6 (163)	100.0 (278)		
8+	54.8 (46)	45.2 (38)	100.0 (84)		
Grade at age 14					
<8	48.1 (128)	51.9 (138)	100.0 (266)	2	19.46****
8	31.5 (62)	68.5 (135)	100.0 (197)		
9 or higher	28.6 (34)	71.4 (85)	100.0 (119)		
Highest grade attained					
<8	46.2 (55)	53.8 (64)	100.0 (119)	2	50.17****
8-10	59.3 (86)	40.7 (59)	100.0 (145)		
11+	26.1 (83)	73.9 (235)	100.0 (318)		
Previous school dropout status					
Never dropped out	58.2 (178)	41.8 (128)	100.0 (306)	1	1.5.58****
Ever dropped out	16.7 (46)	83.3 (230)	100.0 (276)		
Total	38.5 (224)	61.5 (358)	100.0 (582)		

Significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

8 years or older followed by 41.4% and 28.6% who joined school at 7 years of age and less than 7 years of age respectively.

As expected, learner pregnancy decreased with increase in grade at age 14. The rate of learner pregnancy was higher for women in the less than grade 8 (48.1%) at age 14, followed by those in grade 8 at age 14 (31.5%) and lowest for women in grade 9 or higher at age 14 (28.6%). Additionally, learner pregnancy increased with increase in grade attainment from 46.2% among women who attained less than grade 8 to 59.3% among women who attained grades 8-10 before declining to 26.1% among women who attained grade 11 or higher, indicating that the higher the grade attained the less likely women are to become pregnant at school. Table 4.6 also shows that the incidence of learner pregnancy was higher (58.2%) for women who previously dropped out of school than for women who never dropped out of school (16.7%). Grade at age 14, highest grade attained and previous school dropout experience were significantly associated with learner pregnancy at $p < 0.0001$.

5.4.3 Differentials in learner pregnancy by household level characteristics

The differentials in school pregnancy by household level characteristics are presented in Table 5.7. The table shows that the prevalence of learner pregnancy varied by type of family structure. Learner pregnancy was lowest among women who lived in both parent families (36.1%) followed by single parent mother headed family (37.7%) and single parent father-headed family (41.8%). The prevalence of learner pregnancy was higher among women who lived in extended families (46%). Additionally, the rate of learner pregnancy also decreased with increase in the educational level of the mothers of the women. Learner pregnancy decreased from nearly 53% among women whose mothers attained less than grade 8 to 31.1% and 29.9% among women whose mothers attained grades 8-10 and grade 11 or higher respectively. Family structure and mothers' level of education were significantly

associated with experience of learner pregnancy at $p<0.05$ and $p<0.0001$ respectively.

Table 5.7 Differential in learner pregnancy by selected household level characteristics

Household level characteristics	Have you ever been pregnant at School?		Total	Df	χ^2
	Yes	Yes			
Family structures					
Both parents	36.1 (78)	63.9 (138)	100.0 (216)	3	2.40*
Single mother headed	37.7 (89)	62.3 (147)	100.0 (236)		
Single father headed	41.8 (28)	58.2 (39)	100.0 (67)		
Foster/extended	46.0 (29)	54.0 (34)	100.0 (63)		
Number of siblings					
1	34.1 (47)	56.9 (62)	100.0 (109)	3	2.52
2	36.5 (42)	63.5 (73)	100.0 (115)		
3	42.2 (46)	57.8 (63)	100.0 (109)		
4 or higher	35.9 (89)	64.1 (159)	100.0 (248)		
Mothers highest education					
<8	52.7 (108)	47.3 (97)	100.0 (205)	2	26.98****
8-10	31.1 (84)	68.9 (186)	100.0 (270)		
11 or higher	29.9 (32)	70.1 (75)	100.0 (107)		
Total	38.5 (224)	61.5 (358)	100.0 (582)		

Significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

5.4.4 Differentials in learner pregnancy by neighbourhood level characteristics

Table 5.8 present differentials in learner pregnancy by neighbourhood characteristics which included perceived schooling status of neighbourhood peers, district of residence and rural-urban neighbourhoods at age 14. The table shows that at 46.3%, the prevalence of learner pregnancy was higher among women who perceived that their neighbourhood peers were in school compared to nearly 34% among women who perceived that their neighbourhood peers were not in school.

Perception of the schooling status of neighbourhood peers and experience of learning pregnancy was significantly associated at $p < 0.001$.

Table 5.8 Differential in learner pregnancy by selected neighbourhood level characteristics

Household characteristics	level	Have you ever been pregnant at school?			Df	X ²
		Yes	No	Total		
Perceived schooling status of peers						
Not in school		33.7 (118)	66.3 (232)	100.0 (350)	1	9.23***
In school		46.3 (106)	53.7 (123)	100.0 (229)		
District of residence while at school						
Bojanala		38.6 (146)	61.4 (232)	100.0 (378)	1	0.01
Modiri-Molema		38.2 (78)	61.8 (126)	100.0 (204)		
Place of residence while at school						
Rural		44.3 (200)	55.7 (251)	100.0 (451)	1	29.40****
Urban		18.3 (24)	81.7 (107)	100.0 (131)		
Total		38.5 (224)	61.5 (358)	100.0 (582)		

Significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

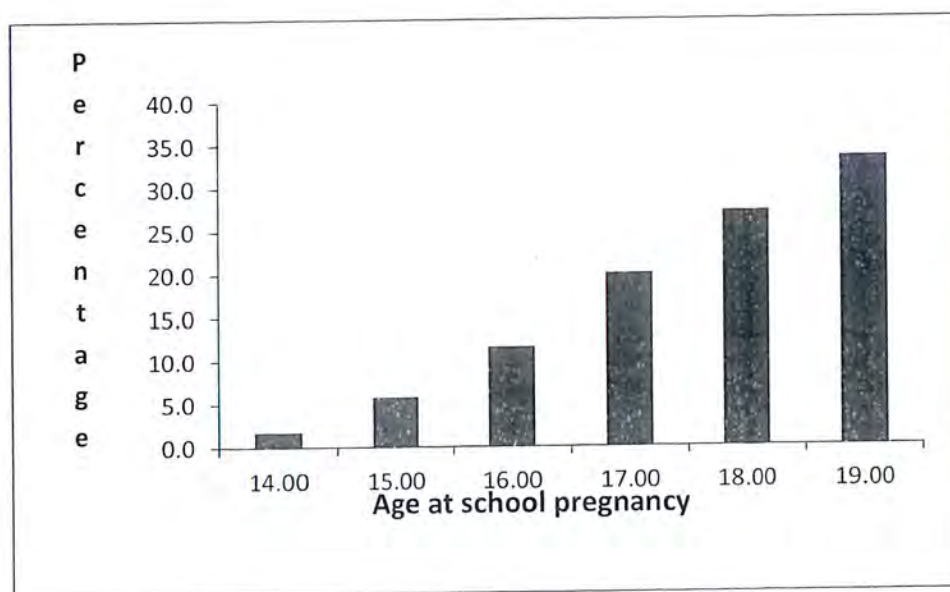
Regarding differentials by rural-urban neighbourhoods, 44.3% and only 18.3% of the women who lived in rural and urban neighbourhoods respectively become pregnant while at school indicating that the experience of learner pregnancy was higher in rural neighbourhoods than urban neighbourhoods in this study population. Rural-urban neighbourhoods were significantly associated with learner pregnancy experience at $p < 0.0001$.

5.5 Mean differentials in age at learner pregnancy

In this section the mean differentials of age at school pregnancy by the individual, school, household and neighbourhood level characteristics using the Kaplan-Meier survival method are presented. The differentials presented in this section are those that were identified to be significantly associated with learner pregnancy status.

The log rank chi-square statistic was used to test whether or not the means of the categories of the selected individual, school, household and neighbourhood characteristics were significantly different at the 95% Confidence Interval. Figure 5.1 presents the distribution of women who become pregnant at school by age at pregnancy. The figure shows that the rate of learner pregnancy increased from 14 years of age to 19 years of age for this group of women.

Figure 5.1 **Distribution of women who become pregnant at school by age at school pregnancy**



5.5.1 Differentials in mean age at learner pregnancy by individual level characteristics

The mean differentials at age at learner pregnancy by age cohort of the women and age at first sex of the women are presented in Table 5.13. The table shows that the mean age at learner pregnancy for this group of women is 17.8. The mean age at learner pregnancy was 18.1 years for women in the <25 year age cohort, 17.7 for women in the 25-29 year age cohort and 17.1 years for women in the 30 years or older age cohort, showing that women in the younger age cohorts become pregnant

at school later than women in the oldest age cohort. As expected women who initiated sexual activity at less than 18 years of age experienced learner pregnancy earlier than those who delayed the initiation of sexual activity to 18 years or older. The mean age at learner pregnancy was 17.3 years for women who initiated the first sex at less than 18 years and 18.6 years for women who initiated sexual activity at 18 years or older. The mean age at learner pregnancy were significantly different for women in the different age cohorts and age at sexual debut at $p < 0.0001$.

Table 5.9: Mean differentials in experience of learner pregnancy by individual level characteristics

Individual characteristics	level	Mean age at school pregnancy	Log-Rank X ₂
Age cohort			
<25		18.8 (149)	32.9****
25-29		17.6 (179)	
30+		17.1 (254)	
Age at first sex			
<18		17.3 (236)	41.25****
18+		18.7 (346)	
Total		17.8	582

Level of significance: *=0.05; **=0.01; ***=0.001; ****=0.001

Figure 5.2 and Figure 5.3 presents the Kaplan-Meier survival plots showing the proportion of learners surviving to age at learner pregnancy. Figure 5.2 shows that differentials by age cohorts show that women started experiencing learner pregnancy at 14 years of age for women in all the three age cohorts. However, experience of learner pregnancy progressed faster for women in the 30 or higher age cohort than for women in the less than 30 years age cohorts. Figure 5.2 shows that by 19 years of age, approximately 80% of the women in the less than 30 year age

cohorts experienced learner pregnancy compared to nearly 90% for the women in the 30 years or older age cohort.

Regarding differentials by age at first sex, the result presented in Figure 5.3 shows that women who initiated sexual activity at less than 18 years started experiencing learner pregnancy earlier at age 14. By age 19 years, 75% of the women who initiated sexual activity at 18 years or older experienced learner pregnancy compared to nearly 90% of the women who initiated sexual activity at less than 18 years. The Log-rank Chi-square tests show that the mean ages at pregnancy were statistically significantly different for women in different age cohorts and age at first sexual activity categories at $p < 0.0001$.

Figure 5.2 Kaplan-Meier plots showing the proportion of learner pregnancy at age at pregnancy by age cohort

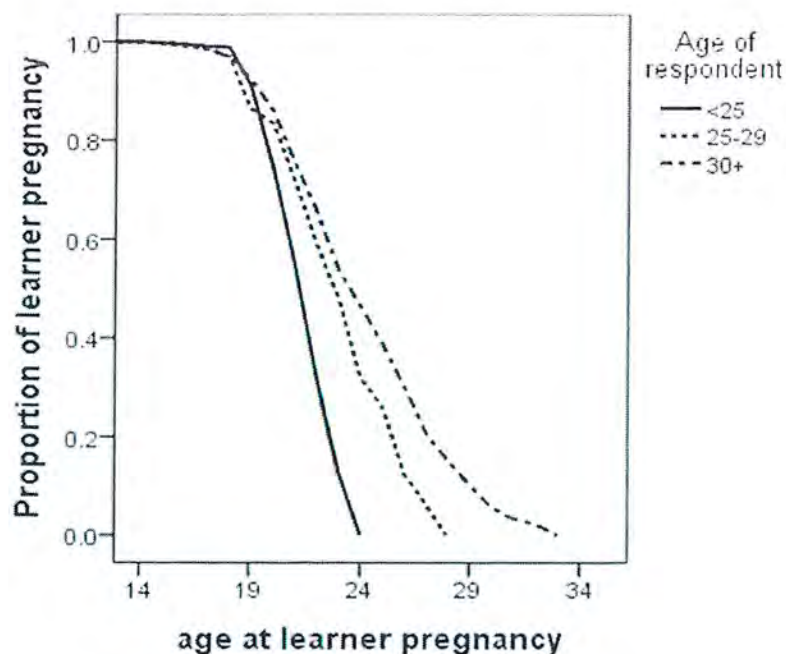
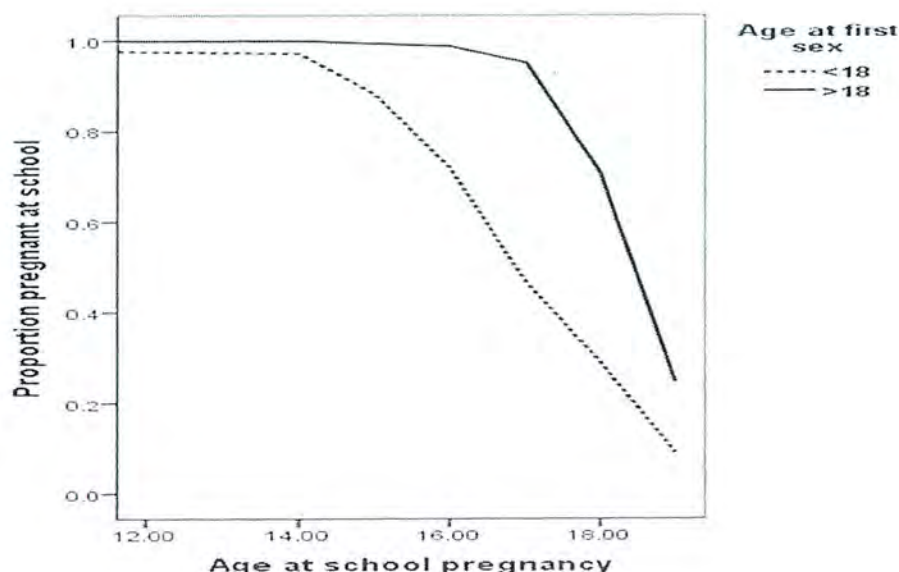


Figure 5.3 Kaplan-Meier plots showing the proportion of learner pregnancy at age of pregnancy by age at first sex



5.6.2 Differentials in mean age at learner pregnancy by school level characteristics

In Table 5.14, the mean differentials of age at pregnancy by school level characteristics including age at school entry, grade at age 14, highest grade attained and previous school dropout experience are presented. The table shows that the mean age of learner pregnancy was 17.6, 17.9 and 17.5 for women who joined school at less than 7 years, 7 years and 8 years or older respectively. The table also shows that the mean age at pregnancy was lower for women who were at grade 7 or lower at age 14 (17.4); learner pregnancy increased to 18.1 years for women in grade 8 at age 14 and then dropped slightly to 17.9 years for women who were in grade 9 or higher at age 14.

Furthermore, Table 5.14 shows that overall there was no difference in mean age of learner pregnancy by grade attained. The mean age at learner pregnancy was 17.9

and 17.5 years for women who attained less than grade 8 and grades 8-10 respectively, and 18 years for women who attained grade 11 or higher. Differentials by previous school dropout experience also shows that the mean age at learner pregnancy was higher for women who never dropped out of school (18.4) than for women who previously dropped out of school (17.6).

Table 5.10 **Mean differentials in experience of learner pregnancy by individual level characteristics**

School level characteristics	Mean age at school pregnancy	Log-Rank X_2
Age at school entry		
<Grade 7	17.6 (220)	4.95*
Grade 7	17.9 (278)	
Grade 8+	17.5 (84)	
Grade at age 14		
<Grade 8	17.4 (266)	4.21*
Grade 8	18.0 (197)	
Grade 9+	17.8 (119)	
Highest grade attained		
<grade 8	17.9 (119)	7.41
Grades 8-10	17.5 (145)	
Grade 11+	18.0 (318)	
Previous school dropout experience		
Dropped out	17.6 (276)	19.93****
Never dropped out	18.4 (306)	
Total	17.8	582

Significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

In Figure 5.4, the Kaplan-Meier plots showing the age pattern of learner pregnancy by age at school entry is presented. The figure shows that women who joined school at less than 7 years experienced learner pregnancy earlier, and by 19 years of age, more than 80% of them had experienced learner pregnancy. However, the experience of learner pregnancy increased rapidly for women who joined schooling at 8 years or older and by 19 years of age nearly 90% had experienced learner

pregnancy. Interestingly, women who joined school at 7 years experienced pregnancy later and less than 80% of them had ever been pregnant at school by 19 years of age.

Figure 5.4 Kaplan-Meier plots showing the proportion of learner pregnancy at age of pregnancy by age at school entry

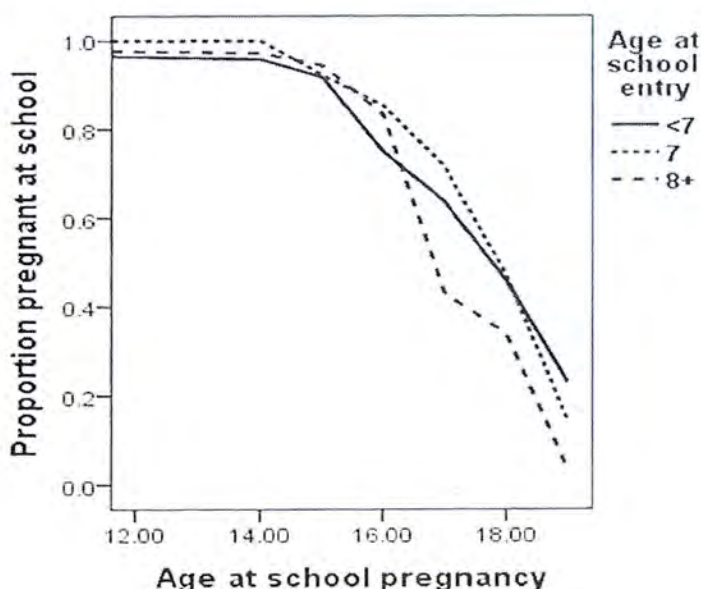
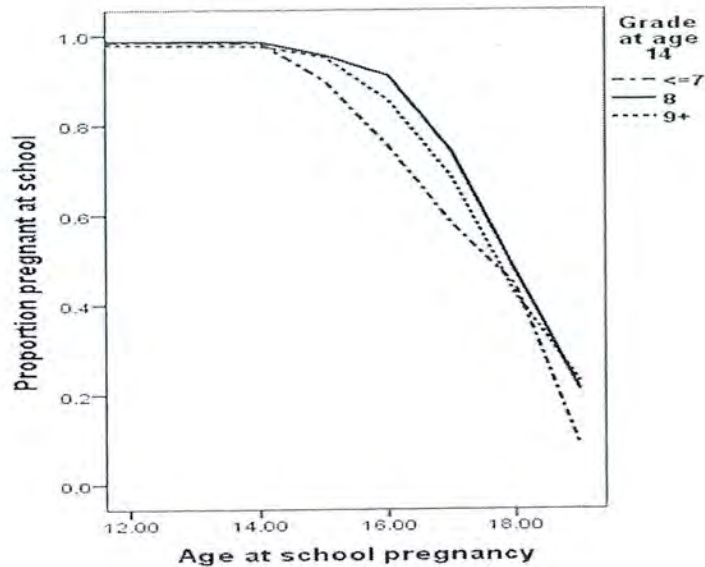


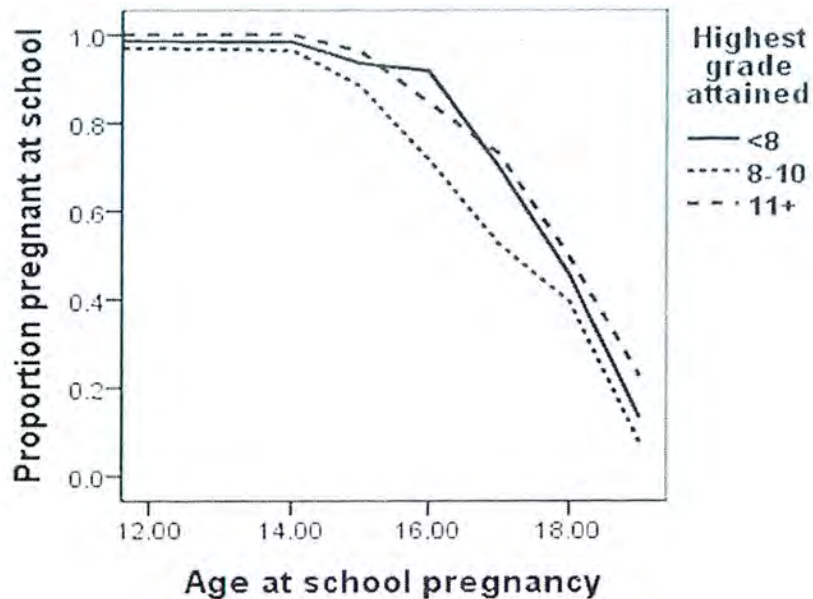
Figure 5.5 presents the Kaplan-Meier plots showing the age pattern of learner pregnancy by grade at age 14. The figure shows that as expected women who were in a lower grade at age 14 (grade 7 or less) experienced pregnancy earlier and by 19 years of age, 90% of these women had been pregnant in school. On the other hand, women who were in grade 9 or higher at age 14 followed by women who were in grade 8 at age 14 experienced lower rates of learner pregnancy, and about 78% of them had experienced learner pregnancy by 19 years of age. The result observed is consistent with expectation that women who were in a higher grade at age 14 experienced a lower learner pregnancy rate than women who were in lower grades at age 14.

Figure 5.5 Kaplan-Meier plots showing the proportion of learner pregnancy at age of pregnancy by grade at age 14



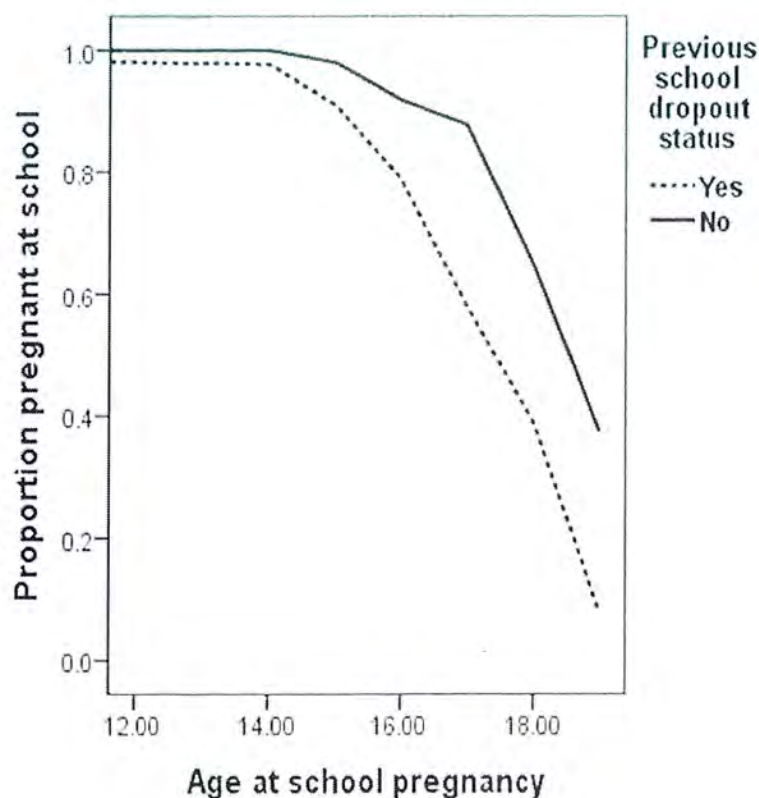
Furthermore, the Kaplan-Meier plots showing the pattern of learner pregnancy by highest grade attained are presented in Figure 5.6 showing that women who attained grades 8-10 followed by those who attained less than grade 8 experienced learner pregnancy earlier than women who attained grade 11 or higher. The rate of learner pregnancy increased with age for women who attained grade 8-10 and less than grade 8, and by 19 years of age nearly 90% and 80% of these women respectively had experienced learner pregnancy compared to 76% of the women who attained grade 11 or higher. The result shown is consistent with the expectation that women who attained higher grades had lower learner pregnancy rates than women who attained lower grades.

Figure 5.6 Kaplan-Meier plots showing the proportion of learner pregnancy at age of pregnancy by highest grade attained



Regarding the age pattern of learner pregnancy by previous school dropout experience, the Kaplan-Meier plots presented in Figure 5.7 shows that women who previously dropped out of school experienced learner pregnancy earlier and the rate of pregnancy increased rapidly with increase in age compared to women who did not previously experience school dropout. Only 60% of the women who did not drop out of school become pregnant at school by 19 years of age compared to nearly 90% of those who previously dropped out of school.

Figure 5.7 Kaplan-Meier plots showing the proportion of learner pregnancy at age of pregnancy by previous school dropout status



The Log-rank Chi-square tests shows that the mean age at pregnancy among women who were enrolled in school was statistically significantly different for women in different groups of age at school entry ($p < 0.05$), grade at age 14 ($p < 0.05$), highest grade attained ($p > 0.05$) and previous school dropout experience ($p < 0.0001$).

5.6.3 Differentials in mean age at learner pregnancy by household level characteristics

The mean differentials in age at learner pregnancy by family structure and mothers' level of education are presented in Table 5.11. The table shows that the mean age at learner pregnancy was higher for women who lived with both parents (17.9) followed by women who lived in single mother-headed families (17.8) and single

father-headed families (17.6). Women who lived in extended families experienced learner pregnancy at a lower age (17.2). Additionally, the mean age at learner pregnancy also increased with increase in the grade attainment of the mothers of the women. The mean age at pregnancy was only 17.2 years for women whose mothers attained less than grade 8 and it increased to 17.6 years for women whose mothers attained grades 8-10. Women whose mothers attained grade 11 or higher experienced learner pregnancy at nearly 18 years. The results in Table 5.15 show that the mean age at learner pregnancy was significantly different for women in different family structures and mothers' grade attainments at $p < 0.05$.

Table 5.11 Mean differentials in experience of learner pregnancy by household level characteristics

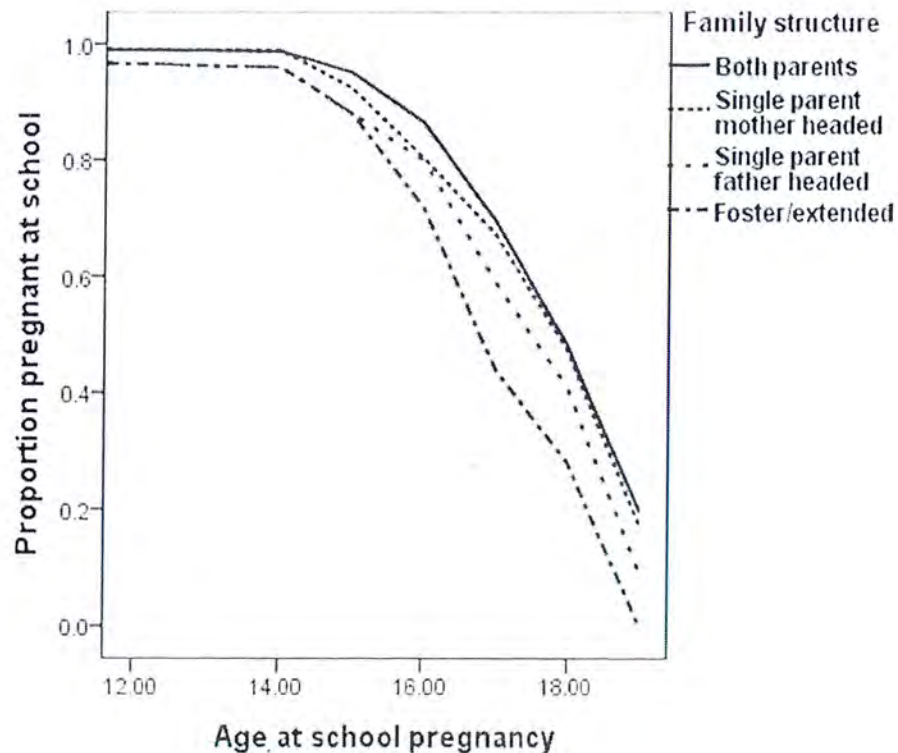
Household level characteristics	Mean age at pregnancy	Log-Rank X^2
Family structure		
Both parents	17.9 (216)	8.62*
Single parent mother headed	17.8 (236)	
Single parent father headed	17.6 (67)	
Foster/extended	17.2 (63)	
Mothers' level of education		
<Grade 8	17.2 (205)	7.85*
Grade 8-10	17.6 (270)	
Grade 11+	17.9 (107)	
Total	17.8	582

Significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

Figure 5.8 presents the Kaplan-Meier plots showing the age pattern of learner pregnancy by family structure. Women who lived in extended families, followed by those who lived in single father-headed households experienced learner pregnancy earlier and more rapidly and by 19 years of age nearly 100% and 90% respectively had experienced learner pregnancy. As expected, probably due to supervision and

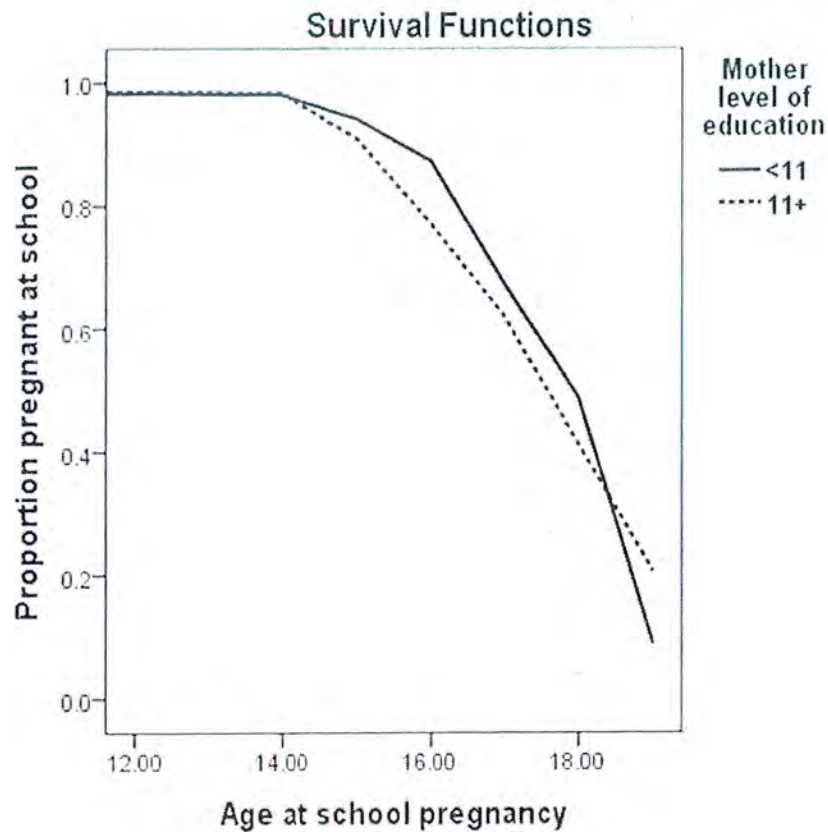
close monitoring, the age pattern of learner pregnancy indicates that women who lived in both parent families survived longer in school without experiencing learner pregnancy.

Figure 5.8 Kaplan-Meier plots showing the proportion of School pregnancy at age of pregnancy by type of family structure



Additionally Figure 5.9 presents the Kaplan-Meier plots showing the age pattern of learner pregnancy for women at different grade attainments. The figure shows that although women who had attained less than grade 11 started experiencing learner pregnancy later, women who attained grade 11 or higher had lower overall learner pregnancy rates.

Figure 5.9 Kaplan-Meier plots showing the proportion of learner pregnancy at age of pregnancy by mothers' school grade attainment



5.6.4 Differentials in mean age at learner pregnancy by neighbourhood level characteristics

Table 5.12 presents the mean differentials in age at learner pregnancy by perceptions of the schooling status of neighbourhood peers and type of neighbourhood residence at age 14. The table shows that there was no difference in the mean age of learner pregnancy by type of perceptions regarding the schooling status of neighbourhood peers. However, the mean age of learner pregnancy was significantly different for women who lived in rural and urban neighbourhoods at $p < 0.001$. Women who lived in rural neighbourhoods at age 14 experienced learner

pregnancy at a lower age of 17.7 years compared to 18.3 years for women who lived in urban neighbourhoods at age 14.

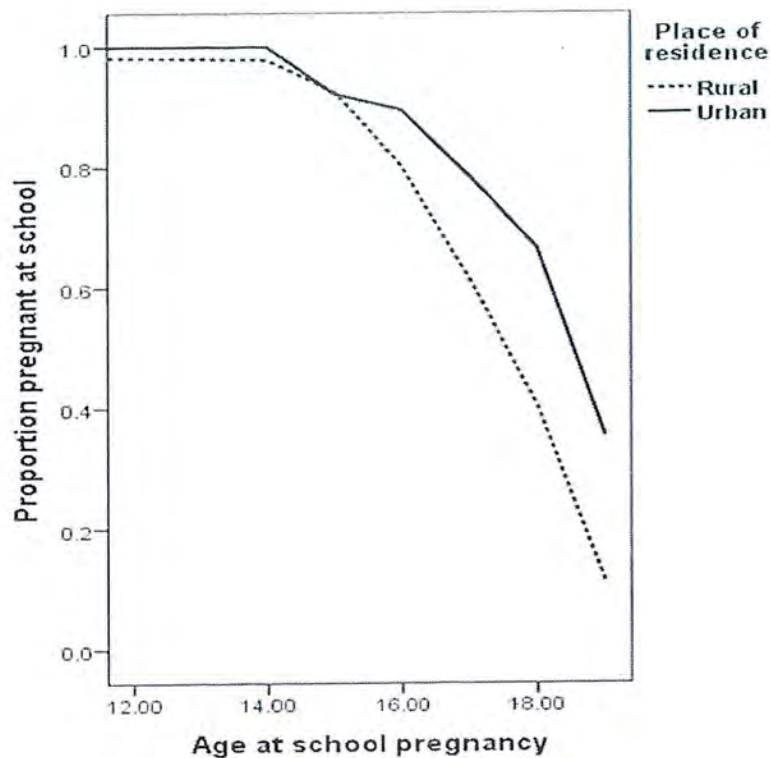
Table 5.12 Mean differentials in experience of school pregnancy by household level characteristics

Neighbourhood level characteristics	Mean age at school pregnancy	Log-Rank X_2
Perceived schooling status of neighbourhood peers	17.8 (350)	0.61
Not in school	17.8 (229)	
In school		
Neighbourhood residence	17.7 (451)	10.19***
Rural	18.3 (131)	
Urban		
Total	17.8	582

Significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

The age pattern of school pregnancy presented in Figure 5.10 shows the Kaplan-Meier plots showing the differences in age at school pregnancy for women who lived in rural and urban neighbourhoods at age 14. Women in rural neighbourhoods appeared to have started experiencing learner pregnancy more or less at the same time as those in urban neighbourhoods. However, by 19 years of age, the prevalence of learner pregnancy was higher among women in rural neighbourhoods than women in urban neighbourhoods.

Figure 5.10 Kaplan-Meier plots showing the proportion of learner pregnancy at age of pregnancy by neighbourhood places of residence



5.7 Predictors of learner pregnancy

The adjusted coefficients predicting the effects of individual, school, household and neighbourhood level covariates of learner pregnancy are presented in Models 1, 2, 3, 4 and 5 in Table 5.13. Model 1 presents the effects of individual level covariates showing that sexual debut at less than 18 years significantly increased learner pregnancy by 4.07 ($p < 0.0001$) times; and women who were in the under 25 and 25-29 years age cohorts were 50% ($p < 0.001$) and 36% ($p < 0.01$) respectively less likely to have experienced learner pregnancy compared to women in the 30 or older age cohorts. The results in the model shows that learner pregnancy is significantly less likely among women in the younger age cohorts than women in the older age cohorts after adjusting for the effect of age at sexual debut.

Model 2 shows the effect of selected school level covariates on learner pregnancy. The model shows that learner pregnancy decreased with the increase in the level of grade attainment of the women. Women who attained grades 8-10 and grades 11 or higher were 79% ($p<0.01$) and 88% ($p<0.0001$) significantly less likely to have experienced learner pregnancy than women who attained only less than grade 8. Women who previously never dropped out of school were also significantly less likely to have experienced learner pregnancy by 90% ($p<0.0001$) than women who previously ever dropped out of school. However, the model did not find age at school entry and grade at age 14 significant predictors of learner pregnancy in this study population after adjusting for the effect of other school level covariates.

Model 3 presents the effects of selected household level covariates on learner pregnancy. The model shows that the likelihood of learner pregnancy among the women decreased with the increase in the educational attainments of their mothers. Women whose mothers attained grades 8-10 and grades 11 or higher were only 0.39 ($p<0.0001$) and 0.37 ($p<0.0001$) times significantly likely to have experienced learner pregnancy compared to women whose mothers attained grades 11 or higher. Conversely, family structure which was significantly associated with learner pregnancy at the bivariate analysis was not a significant predictor of learner pregnancy after controlling for the effect of mothers' highest grade attainment.

In Model 4, the effect of neighbourhood factors that were significantly associated with learner pregnancy at bivariate level are presented after controlling for their effects simultaneously. The model shows that the women were significantly more likely by 1.66 ($p<0.01$) and 3.51 ($p<0.0001$) to have experienced learner pregnancy

if they perceived that their peers were not in school and if they lived in rural areas respectively.

In Model 5, the significant predictors of individual, school, household and neighbourhood level covariates that significantly predicted learner pregnancy in this study population are presented. The model shows that although the effect of initiating sexual debut at less than 18 years was reduced in Models 5 after the effects of other covariates were controlled for, it remained a significant predictor of learner pregnancy, and women who had sexual debut at less than 18 years were 2.99 ($p<0.0001$) times significantly more likely to have experience learner pregnancy than women who had sexual debut at 18 years or older.

Model 5 also shows that being in less than grade 8 at age 14 and attaining grades 8-10 increased learner pregnancy by 1.41 ($P<0.5$) and 2.5 ($p<0.0001$) times respectively and remained significant predictors of learner pregnancy after adjusting for effects of other covariates. Additionally, having previously never dropped out of school remained a significant predictor, but its effect on learner pregnancy declined to only 0.04 ($p<0.0001$) times compared to those who ever dropped out of school previously. Conversely, women whose mothers' attained grades 8-10 were 0.52 times significantly less likely to have experienced learner pregnancy compared to women whose mothers attained only less than grade 8.

Regarding the household and neighbourhood covariates, women who perceived that their neighbourhood peers and women who resided in rural areas at age 14 were 1.81 ($p<0.01$) and 3.15 ($p<0.0001$) times significantly more likely to have experienced learner pregnancy than those who perceived their peers were in school and resided in urban areas respectively. The effects of the perception that

neighbourhood peers were at home and the effect of living in rural areas at age 14 on learner pregnancies increased and reduced respectively after controlling for other covariates simultaneously.

Table 5.13 **Logistic regression coefficients showing the adjusted effects of selected individual, school, household and neighbourhood level covariates on learner pregnancy**

Selected covariates	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Age cohort										
Under 25	0.50**	(0.32-0.79)							0.67	(0.39-1.14)
25-29	0.64*	(0.42-0.98)							0.91	(0.56-1.47)
30+ ®	1.00								1.00	
Age at first sex										
<18	4.07****	(2.84-5.83)							2.99****	(1.98-4.53)
18 ®	1.00								1.00	
Age at school entry										
<7®			1.00							
7			0.62	(0.33-1.13)						
8+			0.80	(0.45-1.42)						
Grade at age 14										
<8			1.50*	(0.87-2.57)					1.41*	(0.87-2.07)
8			1.15	(0.65-2.03)					1.05	(0.56-1.55)
9 or higher ®										
Highest grade attained										
<8			0.21**	(0.07-0.57)					1.53	(0.90-2.63)
8-10			0.12****	(0.04-0.32)					2.51****	(1.57-5.99)
11+			1.00						1.00	
Previous school dropout										
Ever dropped out			1.00						1.00	
Never dropped out			0.10****	(0.01-0.09)					0.04****	(0.02-0.11)

Table 5.13 Continues

Selected covariates	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Mothers level of education										
<8			1.00						1.00	
8-10			0.39**** (0.27-0.58)						0.52** (0.33-0.82)	
10+			0.37**** (0.22-0.61)						0.60 (0.33-1.11)	
Family structure at 14										
Both parent			0.85 (0.50-1.49)							
Single mother headed			0.66 (0.37-1.18)							
Single father headed			1.17 (0.61-2.24)							
Extended			1.00							
Perceived schooling status of peers										
In school					1.00				1.00	
Out of school					1.66** (1.14-2.31)				1.81** (1.19-2.75)	
Place of residence										
Urban					1.00				1.00	
Rural					3.51**** (2.16-5.69)				3.15**** (1.81-5.50)	

® Reference category; OR=odds Ratio; CI= Confidence interval; levels of significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

5.8 Discussion

This chapter found that 38% of the women in the sample experienced learner pregnancy. At the bivariate level, the association between learner pregnancy and age cohorts, age at sexual debut, age at school entry, grade at age 14, grade attainment and previous school dropped status was confirmed. Additionally, learner pregnancy was higher for women whose mothers had a low school grade attainment and those who perceived that their neighbourhood peers were in school. Learner pregnancy was also prevalent for women in rural neighbourhoods. At the multivariate level, the odds of learner pregnancy were higher for women who had sexual debut at less than 18 years; attained grade 8-10; perceived that their neighbourhood peers were not in school; and lived in rural areas at age 14. Conversely, the risk of learner pregnancy was lower among women who never dropped out of school and had mothers who attained grades 8-10.

A young age at sexual debut and the high prevalence of premarital sex has increased the susceptibility of teenagers to school pregnancy. This was consistent with another study (Bello and Adesemoye, 2012) which attributed the higher incidence of learner pregnancy among women who had sexual debut at a young age to the erosion of cultural and sexual values and norms, which has somehow allowed young people to freely express sexual behaviours which were previously disapproved. A previous study attributed the young age at sexual debut in South Africa to the apparent tolerance of premarital sex (Pillow, 2004). The rapidly changing family structure, that is now characterized by single parent households, extended and child headed families, encourages early age at sexual debut as a survival strategy against the stresses of poverty, subsequently leading to pregnancy (Oleke, et al., 2006).

Additionally, some studies have suggested that lack of paternal and maternal support (Ellis et al., 2003; Woodward and Fergusson, 1999); lack of child-parent discourse on sexual matters, which is the case in most sub-Saharan Africa, makes teenage girls rely more on their peers for support (Mmbaga et al., 2012). Inappropriate advice and emulating peers to gain acceptance by engaging in sexual activities with older men “the sugar daddy syndrome” increases the susceptibility of teenage women to pregnancy (Resnick, 2007).

A large number of women in this study, nearly 46%, were older than the recommended grade (grade 8) at age 14, which indicates that they joined school late or they repeated grades due to poor performance, or previously dropped out or withdrew from schooling. The elevated risk of learner pregnancy for girls who attained less than grade 8 at age 14 and previous dropouts in this study is consistent with the suggestion that older age at a lower grade or slow grade progression due to grade repetition and withdrawal from schooling are risk factors for learner pregnancy for girls (UNESCO, 2011; Guttmacher Institute, 2010). Grade repetition poses a significant problem for girls because as they get older (Grant and Hallman, 2006), schooling competes with other life events and the older age at a low grade increases their distaste for schooling and also reduces the level of support from parents and guardians to keep them in school (Kane, 2004).

Additionally, older age at school competes with other roles, usually of an adult nature, which effectively shifts the girls’ interest to non-school activities such as remunerative work to support themselves and/or their families (Sabates et al., 2010). Other factors that could lead to learner pregnancy for older girls include contraceptive failure and not feeling comfortable obtaining and using contraceptives

(Santelliet al., 2006), use of alcohol and other illicit entertainment such as drugs (Deardorff, 2006), and pressures to have unprotected sex or fear of asking a partner to use condoms (Alio et al., 2009).

The finding that the rate of learner pregnancy is higher in rural neighbourhoods is consistent with observations by previous studies (Olorunfemi, 2012; Mchnu, 2012; Maroke, 2011). In this study, we suggest that the higher rate of learner pregnancies in rural neighbourhood could be attributed to the creeping changes in family structures in rural neighbourhoods and its effects on sexual behaviour which has already been discussed. The modernization processes have increased the diversity of social organizations even in rural areas leading to the reproduction of urban conditions and value systems in rural areas (Hobbs, 1995). These have eroded rural sexual norms, leading to teenage sexual activity and pregnancy. Additionally, the lack of or inadequate sporting and recreational facilities that can engage teenagers and protect them from risky health behaviours, including sexual behaviour could explain the high rate of learner pregnancy in rural neighbourhoods (Gregory et al., 2006; Erulkar et al., 2001).

South Africa's large population of teenage learners provides an opportunity to address learner pregnancy using school based interventions. The fact that most teenagers enter school before sexual debut is a great opportunity to inculcate norms, values, skills and aspirations that delay sex and pregnancy. The increasing family fragility must also be addressed because parents as primary socialising agents are better positioned to influence the sexual behaviour of their children through constant support and supervision that encourages sexual discourse. Peers are another important group that is relied upon for guidance and direction, whose

influence can be tapped by organizing school and community peer support groups. Additionally, policies that focus on increasing access to and uptake of adolescent reproductive health services and reduction of sexual violence are also recommended. The success of school and community based interventions to reduce teenage pregnancy will curtail the risk of intergenerational transfer of poverty and other forms of vulnerability including teenage pregnancy among teenage school girls in South Africa.

5.9. Limitations

Although this chapter has identified some significant predictors of learner pregnancy, it has some limitations. Firstly, the findings of the study could have been affected by the accuracy of reporting data on pregnancy and issues which are usually affected by social desirability biases. It is likely that some of the women did not report becoming pregnant at school, which is likely if the pregnancy was aborted. Secondly, some of the events that could have affected school pregnancy status took place a long time ago and could have been omitted. For example, the socioeconomic status of the women at a time of their schooling was not analysed, which could have affected the results obtained in this study, particularly the high significant levels of some of the covariates. Thirdly, the use of cross-sectional retrospective data makes the temporality of school pregnancy and some of the predictors used in this chapter unknown.

5.10 Conclusion

We conclude that the problem of learner pregnancy is prevalent in the North West province, calling for a thorough examination of this problem from a broader

perspective including individual, school, household and neighbourhood level environments in which teenage learners operate. Key among these issues are the tolerance of early age at sexual debut and premarital childbearing, the slow school progression reflected by older age at a lower school grade and structural factors such as the changing family structure and spatial neighbourhood vulnerabilities which could lead to intergenerational transfer of vulnerability including learner pregnancy. This is reflected in the low education attainment of both the women who become pregnant at school and that of their mothers, which suggests that daughters, like their mothers, were not equipped with skills, values, attitudes and aspirations to prevent learner pregnancy.

Chapter Six

Levels and predictors of school dropout of girls

6.1 Introduction

Sub-Saharan African countries have made progress in increasing access to education for both girls and boys over the last three decades. However, this progress continues to be eroded by the high school dropout rate, which has been identified as one of the main challenges affecting the attainment of the Millennium Development Goal (MDG 2) of Universal Primary Education and increasing the secondary education participation rate in this world region (UNESCO, UNICEF and Save the Children, 2010). The consequences of this failure have a much wider ramifications on other MDGs that are directly influenced by educational attainment including eradication of extreme poverty and hunger (De-Muro and Burchi, 2007); reducing childhood mortality (Schultz 1993; Malhotra and Schuler, 2005); improving maternal health (United Nations, 2001); achieving gender equality and empowerment of women (Lazo, 1995; Dighe, 1995); and curbing the spread of HIV/AIDS and its impacts (UNESCO, 2010). This challenge is affecting more girls than boys (Holmes, 2003). However, addressing the problem of school dropout for girls continues to be a daunting task in many countries in this world region, including South Africa. This chapter presents results on the level and predictors of school dropout among blame women in North West province.

6.2 Factors influencing dropout from school by girls

Previous studies have identified a number of interrelated factors in different country settings for the disproportionately higher school dropout rate for girls including individual student, cultural, household, school and community factors. Individual

pupil factors such as poor health, lack of motivation, poor nutrition (Glewwe and Jacoby, 1995; Hunt, 2008); and early initiation of sexual activity, pregnancy and child bearing have been identified by previous studies as major contributors to the dropout of girls from school (Grant and Hallman, 2006; Cardoso and Verner, 2007). Household factors have also been identified as important in the higher rate of girl's dropout from schooling (Alexander, 2008). These include the discriminatory allocation of household resources for education, which reduces the willingness to support girls' education in the face of limited household resources (Nekatibeb, 2002); parental decisions on whether or not children, especially older ones, would continue schooling (Liu, 2004); the nature and form of living arrangements including co-parent and non-parent family structures and number of siblings also influenced the risk of girl dropping out of school (Eloundou-Enyegue *et al.*, 2006; Rose and Al-Samarrai, 2001; Khanam, 2008). Higher dropout rates and delinquency of children in single parent households, mostly where the fathers were absent (Popenoe, 1996; Blankenhorn, 1995) and girls who grow without both biological parents are also more likely to drop out of school and more likely to become teenage mothers (Astone and McLanahan, 1991). Conversely, parental co-residence was found to reduce the risk of school dropout through the support, encouragement and guidance provided by parents (Odaga and Heneveld, 1995).

The school level factors have also contributed to limiting girl's participation in education in a number of ways. These include age at school entry, low grade at a higher age because of poor grade progression (Marteleteo *et al.*, 2008; Grant and Hallman, 2006), long distances to school, which negatively affect completion probabilities (Chaudhury *et al.*, 2006; Gitter and Barham, 2007); exclusion and marginalization of girls by supporting and promoting cultural stereotypes that

promote society's low expectations of girls and women (Kethugisile *et al.*, 2000); unfavorable school environments which disadvantage girls by limiting their access to essential services such as sanitation services while at school, which negatively affecting their learning achievements by absenteeism, poor academic performance and ultimately low levels of academic and grade attainments (Kethugisile *et al.*, 2000; Alike, and Egbochuku, 2009). This sustains the perception that girls have a lower academic potential than boys (Dimbisso, 2009); and the hostile, physical, emotional and sexual harassment, which increase girls sense of vulnerability and distrust of teachers and male students, who perpetrate violence against girls and women also increase the risk of school dropout (Tesfaye, 2006; Melese and Fenta, 2009).

School dropout has also been attributed to household factors which encourage early marriage, motivated by the desire to improve the socioeconomic standing of poor households through bride price (Kakuru, 2003; Kasente, 2003). The perceptions that girls education is a waste of money due to pregnancy and early marriage (Odaga and Heneveld (1995); that girls education only benefits their marital families (Nalwada *et al.*, 2010); and that the discounted value of girls education is lower than the discounted value of returns from education (Pal, 2004), also contribute to the withdrawal of girls from education. Regarding the educational attainment of parents, especially mothers, a previous study of the effect of parent's education on schooling of children found that children of more educated parents are more likely to progress in education (Chowdhury *et al.*, 2002; Nath et al., 2008), with the education of the father having a greater impact on the school retention of boys and that of the mother enhancing educational attainment of girls (Behrman et al., 1999; Swada and Lokshin, 2001; Holmes, 2003; UNESCO, 2005). Neighbourhood level

factors including the perceived or actual schooling status of peers and neighbourhood place of residence especially urban-rural neighbourhood types have also been identified as contributors to differences in school dropout rates (Burgard and Lee-Rife, 2009).

In South Africa nearly 79% of girls have enrolled in school, making South Africa one of the countries with the highest school enrollments in sub-Saharan Africa, but this success has been greatly reduced by the equally high permanent and temporary dropouts from the education systems (National Research Council, 2005). Previous studies have identified a number of factors that influence dropout from schooling of girls in South Africa including HIV/AIDS (Poulsen, 2006), school pregnancy and economic difficulties at the household level (Hallman and Grant, 2003; 2004). However, the increasing proportion of teenage pregnancies and childbearing placed anywhere at 30% or higher in the last two decades have exacerbated the school dropout rate for girls (Mahy and Gupta, 2002; NRC-IOM, 2005). This in part has been attributed to the tolerant attitude towards early initiation of sexual intercourse and premarital childbearing (Kaufman, 2000; Hallman and Grant 2003; Dixon, 2012).

However, the new education policy that guarantees school girls' continued schooling in the event of school pregnancy and/or childbirth (Kaufman *et al.*, 2001), should result in reduced dropout rate of girls before matriculation at grade 12. The main objective of this chapter is therefore to estimate the magnitude of school dropout for girls and identify the main factors perpetuating school dropout for girls.

6.3 Measures

The dependent variables used in this chapter was whether or not a girl dropped out of school after enrollment at age 14 irrespective of reason for dropout; and the second was the survival time measured by grade at school dropout to the event of school dropout any time after age 14 irrespective of school dropout. If the event of school dropout occurred after age 14 the dropout status of a the student was coded “1” and “0” if otherwise, meaning that the student did not drop out of school and matriculated at grade 12 and was censored. The survival time to school dropout was measured as grades completed at dropout if a student did dropout or grade of matriculation if a student did not dropout and was therefore censored.

The independent variables were grouped into four groups, namely individual, school, household and community/neighbourhood level variables. The individual level variables included were age categorized as less than 25, 25-29, 30 or higher age cohorts; birth order categorized as 1st, 2nd, 3rd and 4th or higher; age at first sex categorized as less than 18 years, 18 years or older; ever got pregnant after age 14 and while still schooling categorized as yes or no; and ever gave birth while still schooling which was also categorized as yes or no.

School level factors included were age when schooling started categorized as less than 7 years, 7 and 8 years or older; grade at age 14 categorized as less than grade 8, grade 8 and grade 9 or higher; grade at school dropout categorized as less than grade 8, grades 8-10 and grades 11 or higher; highest grades attained by the women which was categorized as less than grade 8, grades 8-10 and grade 11 or higher; and previous school dropout status categorized as ever dropped out of school and never dropped out of school. The household data used were number of siblings

categorized as “1”, “2”, “3” and “4” or more; family structure at age 14 which was categorized as both parent family, single parent mother headed family, single parent father headed family and extended family; and mothers’ highest grade attainment categorized as less than 8, grades 8-10 and grades 11 or higher. The community/neighbourhood level factors analyzed included perceived schooling status of neighbourhood peers, which was categorized as in school and not in school, district of residence categorized as Bojanala and Modiri-Molema; and place of residence categorized as urban and rural.

6.4 Differentials in learner dropout

In this section, the differentials in learner dropout by individual, school, household and neighbourhood level variables of women have been presented. These variables were included in the estimation of school dropout because they were hypothesised to influence rates of school dropout. The analysis tested four hypotheses:

- i Learner dropout from school is significantly higher for women who initiated sexual debut at less than 18 years than 18 years or older;
- ii. Learner dropped out is significantly higher among women who experienced learner pregnancy compared to women who did not experience learner pregnancy;
- iii. Learner dropout is significantly higher among women whose mothers attained less than grade 8 compared to women whose mothers attained grades 8 or higher; and
- iv Learner dropout is significantly higher among women who were living in rural areas at age 14 than women in urban areas at age 14.

6.4.1 Differentials in school dropout by individual level variables

In Table 6.1, the differentials in learner dropout by individual level variables are presented. The table shows that overall, nearly 53% of the women dropped out of school at some time after age 14, but before matriculation at grade 12. School dropout increased with increase in age cohort indicating that fewer women in the youngest age cohort dropped out of school compared to women in the oldest age cohort. The percentage of women who dropped out of school increased from 48.3% in the under 25 year age cohort to 59.4% in the 30 years or older age cohort. Age cohort was significantly associated with learner dropout at $p < 0.05$.

Table 6.1 also shows that the proportion of learner dropout increased with increase in birth order of the women from 47% among women in the first birth order to 54% at birth order 2 and 63% at birth order 4 or higher. Birth order was significantly associated with learner dropout at $p < 0.01$. However, learner dropout decreased with age at sexual debut. Nearly 7 in 10 women who initiated sexual activity at less than 18 years dropped out of school compared to only 41.6% among women who initiated sexual activity at 18 years or older. Age at sexual debut was significantly associated with learner dropout at $p < 0.0001$. Additionally, as expected, nearly 8 in 10 women who become pregnant at school dropped out of school compared to only 35.8% of the women who did not experience learner pregnancy. Learner pregnancy was significantly associated with learner school dropout at $p < 0.0001$.

Table 6.1 **Differentials in school dropout status by individual level variables of women**

Individual level variables	Number of women	Drop out status		Total	Df	X^2 <i>P value</i>
		No	Yes			
Age cohort						
<25	149	51.7	48.3	100.0	2	8.65*
25-29	179	53.6	46.4	100.0		
30+	254	40.6	59.4	100.0		
Birth order						
1	187	52.9	47.1	100.0	3	15.28**
2	126	46.0	54.0	100.0		
3	94	58.5	41.5	100.0		
4+	175	36.6	63.4	100.0		
Age at first sex						
<18	236	31.4	68.6	100.0	1	41.10****
18+	346	58.4	41.6	100.0		
Ever been pregnant at school						
No	358	64.2	35.8	100.0	1	105.58****
Yes	224	20.5	79.5	100.0		
Total	582	47.4	52.6			

Level of significance= *=0.05, **=0.01; ***=0.001; ****=0.0001

6.4.2 Differentials in school dropout by school level variables

Differentials in learner dropout by school level variables are presented in Table 6.2. The table shows that the rate of school dropout increased with age at school entry. The percentage of women who dropped out of school increased from nearly 4 in 10, nearly 6 in 10 and over 7 in 10 among women who started schooling at less than 7 years of age, 7 years of age and 8 years of age or higher respectively. Age at school entry was significantly associated with learner dropout at $p < 0.0001$. However, learner dropout decreased with grade at age 14, from nearly 67% among women who were in less than grade 7 at age 14 to 40.6% and 41.3% among women who were in grade 7 and grades 8 or higher respectively. This is an indication that learner dropout is higher and more likely among women who were older for the

grade they were in than those who were either younger or at the recommended age at a particular grade. Grade at 14 was significantly associated with learner dropout at $p<0.0001$. As expected, probably also a function of age and school performance, school dropout was much lower among women who attained grade 11 or higher compared to women who attained less than grade 11. Only 13.2% of the women who attained grade 11 or higher dropped out of school compared to 80% and 65% among women who attained less than grade 8 and grades 8-10 respectively. The higher school dropout rates among women who attained lower grades could be associated with a number of factors including older age, school pregnancy, poor school performance and lack of resources for financing their education. Grade attainment of the women was significantly associated with school dropout at $p<0.01$.

Table 6.2 **Differentials in school dropout status by school level variables of women**

School level variables	Number of women	Drop out status		Total	Df	X ₂ P value
		No	Yes			
Age at school entry						
<7	220	60.9	39.1	100.0	2	31.95****
7	278	42.8	57.2	100.0		
8	84	27.4	72.6	100.0		
Grade at age 14						
<7	266	33.1	66.9	100.0	2	43.88****
8	197	59.4	40.6	100.0		
9+	119	59.7	40.3	100.0		
Highest grade attained						
<8	119	19.8	80.2	100.0	2	35.8**
8-10	145	34.4	64.6	100.0		
11+	318	86.8	13.2	100.0		
Total	582	47.4	52.6			

Level of significance= *=0.05, **=0.01; ***=0.001; ****=0.0001

6.4.3 Differentials in school dropout by household level characteristics

Among the household level variables, only the highest level of grade attainment of the mothers of the women in the study sample was significantly associated with learner dropout at $p < 0.0001$. The result presented in Table 6.3 shows that the prevalence of learner dropout decreased with the level of education of the mothers of the women in the study. The prevalence of learner dropout decreased from nearly 7 in 10 among women whose mothers' attained less than grade 8 education to nearly 5 in 10 and 4 in 10 among women whose mothers attained grades 8-10 and grade 11 or higher respectively. This result shows that mothers' education is an important predictor of the educational attainment of the girl child in South Africa. It is also consistent with the view that lower mothers' education increases educational vulnerability and probability of a lower educational trap for the girl child.

Table 6.3 Differentials in school dropout status by household level variables of women

Household level variables	Number of women	Drop out status		Total	Df	X^2 P value
		No	Yes			
Number of siblings						
1	109	56.0	44.0	100.0	3	6.84
2	115	44.3	55.7	100.0		
3	109	52.3	47.7	100.0		
4+	248	42.7	57.3	100.0		
Family structure						
Both parents	242	50.0	50.0	100.0	3	3.58
Single mother headed	181	48.1	51.9	100.0		
Single father headed	86	38.4	61.6	100.0		
Extended family	73	49.3	50.7	100.0		
Mothers highest education						
<8	205	30.2	69.8	100.0	2	38.91****
8-10	270	54.8	45.2	100.0		
11+	107	61.7	38.3	100.0		
Total	582	47.4	52.6			

Level of significance= *=0.05, **=0.01; ***=0.001; ****=0.0001

6.4.4 Differentials in school dropout by neighbourhood level characteristics

Table 6.4 presents results on the differentials of neighbourhood level variables in learner dropout. Among the three neighbourhood level variables in the table including perception of schooling status of neighbourhood peers, district of residence at age 14 and place of residence at age 14, only place of residence, categorized as rural and urban neighbourhoods was singly associated with school dropout at $p < 0.01$. Table 6.4 shows that the prevalence of learner dropout was higher in rural areas than in urban areas. Nearly 55% of the women in rural neighbourhoods reported they dropped out of school compared to nearly 44% in urban neighbourhoods. This could have been attributed to a number of factors including inadequate school facilities, longer distances to school, poverty and low values attached to education of the girl child in rural neighbourhoods.

Table 6.4 Differentials in school dropout status by neighbourhood level variables of women

Neighbourhood level variables	Number of women	Drop out status			Df	X ₂ P value
		No	Yes			
Perceived schooling status of peers						
Not in school	350	50.0	50.0	100.0	1	2.88
In school	229	42.8	57.2	100.0		
District of residence						
Bojanala	378	47.6	52.4	100.0	1	0.01
Modiri-Molema	204	47.1	52.9	100.0		
Place of residence						
Rural	131	44.8	55.2	100.0	1	3.11**
Urban	451	56.5	43.5	100.0		
Total	582	47.4	52.6			

Level of significance= *=0.05, **=0.01; ***=0.001; ****=0.0001

6.5 Mean differentials in grade at school dropout

Overall, the mean grade at school dropout in this study population was grade 11.3. The recommended age at grade 11 is 17 years which is also the pick age in adolescence during which a large proportion of adolescents, more than 40%, were already sexually active and therefore at risk of becoming pregnant. In this section of chapter 6 it was hypothesized that school grade is a significant predictor of school dropout and that the grade at school dropout is significantly influenced by the individual, school, household and neighbourhood characteristics of the women. The log Rank Chi-square statistic was used to examine the extent of differentials in the mean grade at school dropout for women in different categories of selected variables.

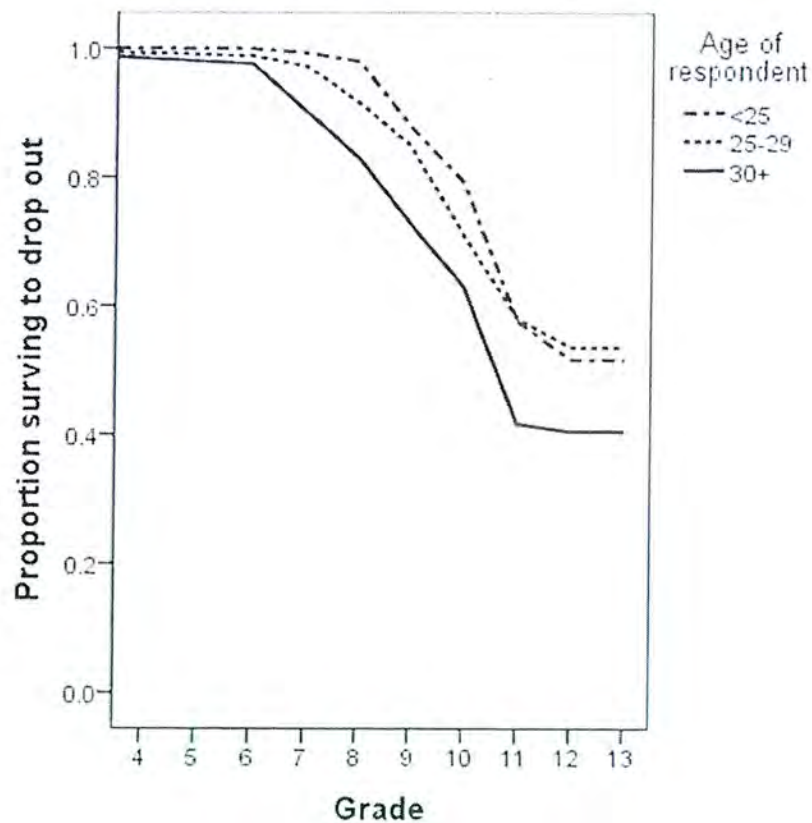
6.5.1 Differentials in mean grade at school dropout by individual level variables

Table 6.5 shows that the mean grade at school dropout was significantly different for women in the different categories of the selected individual level variables. The table shows that the mean grade at school dropout significantly decreased with increasing age cohorts from 11.7 for women in the under 25 age cohort to 11.5 and 10.8 for women in the 25-29 and 30 years or older age cohorts respectively. Age cohort and mean grade at school dropout was significantly dependent at $p < 0.001$. The result shows that women in the older age groups dropped out of school nearly one grade earlier than women in the youngest age cohort.

Figure 6.1 presents the age pattern of grades at which school dropout occurred. The figure shows that school dropout started early for women in all age cohorts, but

started earlier for women in the oldest age cohort. Prevalence in school dropout progressed faster for women in the oldest age cohorts and slowly for women in the youngest age cohort. By grade 11, more women in the oldest age cohort had dropped out of school (nearly 60%) compared to women in the 25-29 year age cohort (50%) and youngest age cohort, under 25 years cohort (45%). This indicates that there were more survivors to school dropout among women in the younger age cohorts than women in the older age cohorts.

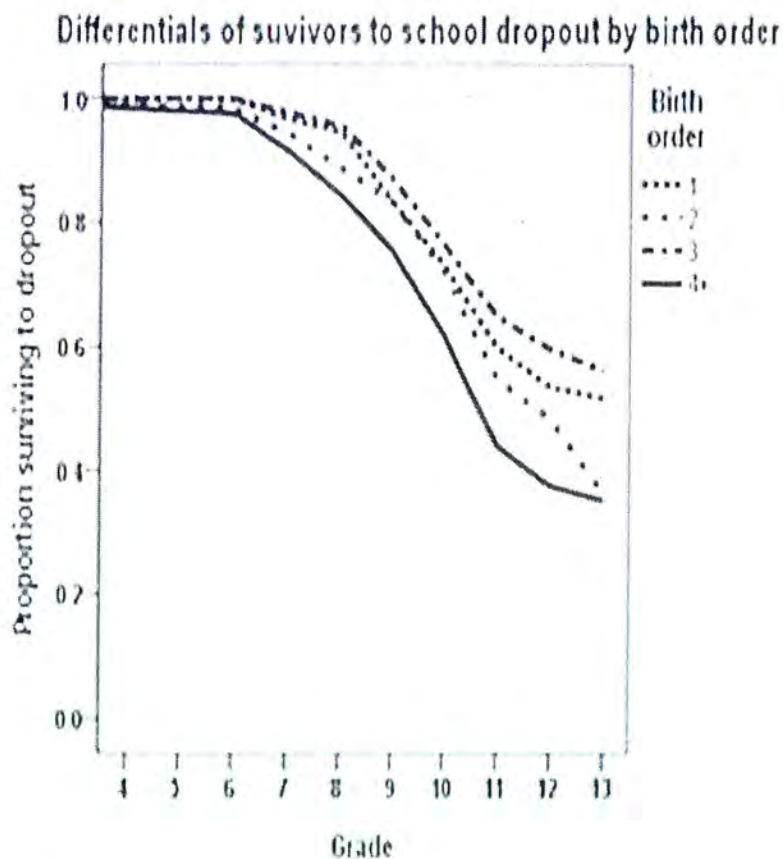
Figure 6.1 Kaplan-Meier plots showing differentials of survivors by age cohort of women



Although consistent with the age cohorts, the pattern of mean grade at school dropout by birth order of the women was not clear. The mean grade at school dropout increased from grades 11.5 and 11.3 among women of birth order "1" and "2" respectively to grade 11.7 for women of birth order "3" before declining to grade

10.8 for women of birth order “4” or higher. The mean grade at school dropout was significantly dependent on birth order at $p < 0.001$. Figure 6.2 presents the Kaplan-Meier plots showing the grade at school dropout by birth order. The figure shows that the prevalence of school dropout at each grade increased with birth order of the women. However, by grade 11, the proportion of survivors in school dropout were more among women of birth orders “1” and “2” than of birth orders “3” and “4” or higher.

Figure 6.2 Kaplan-Meier plots showing differentials of survivors by birth order of women



Additionally, the mean grade at school dropout was significantly different for women at different ages at sexual debut. Women who initiated sexual debut at less than 18 years dropped out of school one grade earlier at grade 10.5 compared to

women who had sexual debut at 18 years or older whose mean grade at school dropout was 11.8. Age at sexual debut and mean age at school dropout were significantly dependent at $p < 0.0001$.

Figure 6.3 presents the Kaplan-Meier plots showing that women who initiated sexual activity earlier in life dropped out of school at lower grades than women who delayed onset of sexual activity. By grade 11 fewer women who delayed sexual activity until 18 years or older had dropped out of school indicating higher survival rates among these women than those who started sexual activity early at less than 18 years indicating lower survival rates in school dropout among this group of women.

Figure 6.3 Kaplan-Meier plots showing differentials of school dropout by age at first sex of women

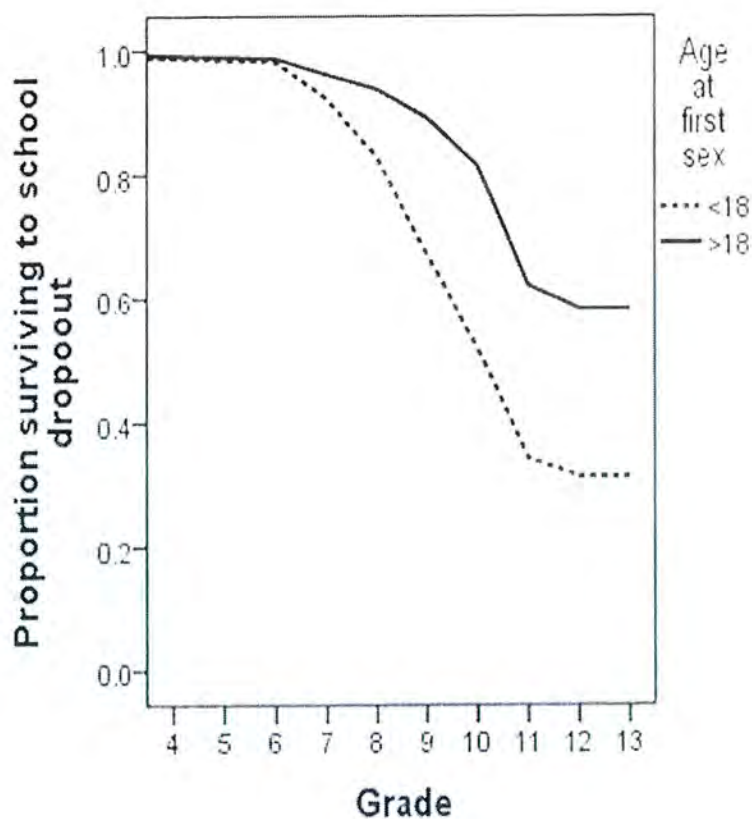


Table 6.5 **Differentials of women by mean grade at school dropout and selected individual level characteristics of women**

Selected variables	Number of women	Mean grade at school dropout	C I	Log-Rank
Age cohort				
<25	149	11.7	11.4-11.9	13.08***
25-29	179	11.5	11.3-11.8	
30+	254	10.8	10.6-11.1	
Birth order				
1	187	11.5	11.3-11.8	17.53***
2	126	11.3	10.9-11.6	
3	94	11.7	11.4-12.1	
4+	175	10.8	11.1-11.5	
Age at first sex				
<18	236	10.6	10.3-10.8	57.26****
18+	346	11.8	11.6-11.9	
Total	582	11.3	9.62-9.95	

Level of significance= *=0.05, **=0.01; ***=0.001; ****=0.0001

6.5.2 Differentials in mean grade at school dropout by school level variables

Table 6.6 presents the differentials in the mean age at school dropout by school level variables. The table shows that the mean grade at school dropout was higher and significantly different at $p < 0.0001$ at grade 11.7 and grade 11.2 for women who entered schooling at less than 7 years and 7 years respectively compared to grade 10.2 for women who entered schooling at 8 years or older. Furthermore, Figure 6.4 shows that women who joined school at ages older than the recommended age of 7 years started experiencing school dropout as early as grade 6 and by grade 11, more than 70% of the women who joined school at age 8 or older had already dropped out of school. Conversely, only about 35% of the women who started schooling at less than 7 years dropped out of school by grade 11, indicating a greater survival rate from school dropout for women who started schooling at a young age.

Figure 6.4 Kaplan-Meier plots showing differentials of survivors by age started school

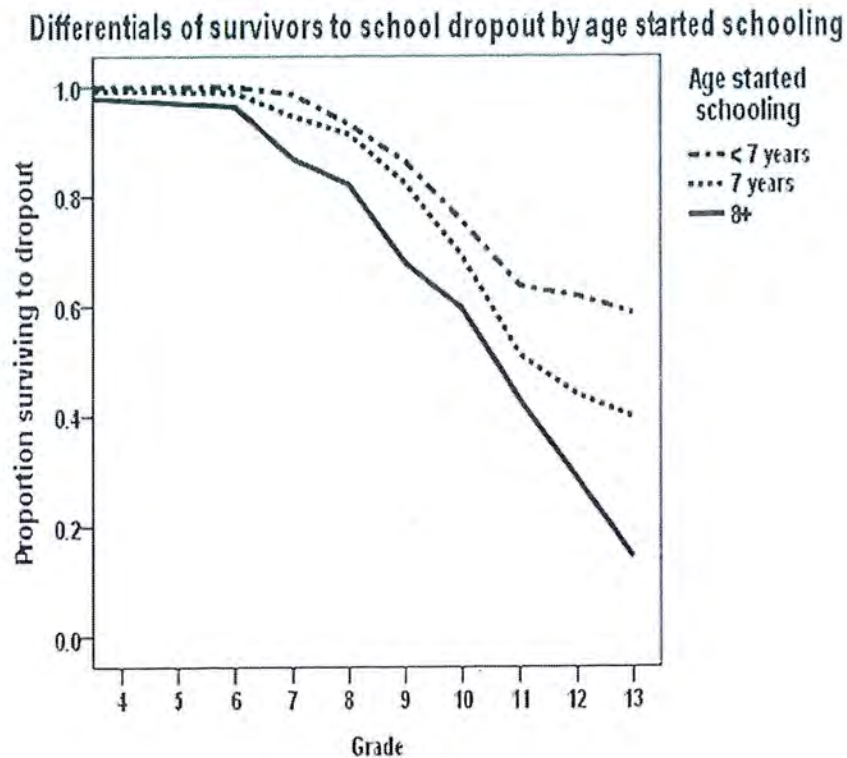
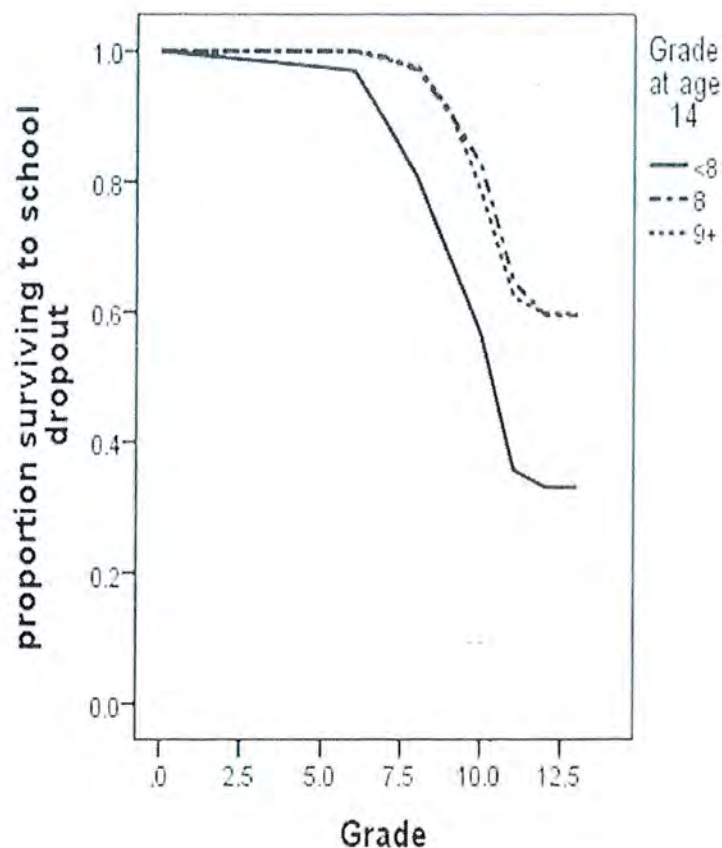


Table 6.6 also shows that the mean grade at school dropout significantly increased with grade at age 14. Women who were in grades less than 8 at age 14 dropped out of school at more than one year earlier than women who were in grades 8 and 9 or higher at age 14 and the difference in grade at school dropout was significant at $p < 0.0001$. Figure 6.5 presents differentials in Kaplan-Meier plots showing differentials of survivors by grade at age 14. The figure shows that women in the less than grade 8 at age 14 dropped out of school earlier and by grade 11 more than 60% of them had dropped out of school compared to women who were in grade 8 and grade 9 or higher at age 14. The figure shows that less than 40% of the women who were in grade 8 and 9 or higher dropped out of school by grade 11.

Figure 6.5 Kaplan-Meir plots showing differentials of survivors by grade at age 14



As expected Table 6.6 shows that the mean grade at school dropout was significantly lower at grade 11.8 and grade 10.5 for women who did not become pregnant at school and become pregnant at school respectively. The difference in grade at dropout of school between the two categories of women was nearly one grade. Regarding survivorship by learner pregnancy status, Figure 6.6 shows that for both women who become pregnant at school and those who did not become pregnant, learner dropout rate increased by grade. However, the rate of learner dropout increased faster among women who become pregnant at school than those who were not pregnant at school. By grade 11, while more than 70% of the women who have ever become pregnant at school had already dropped out of school, only less than 35% of those who never become pregnant at school had dropped out of

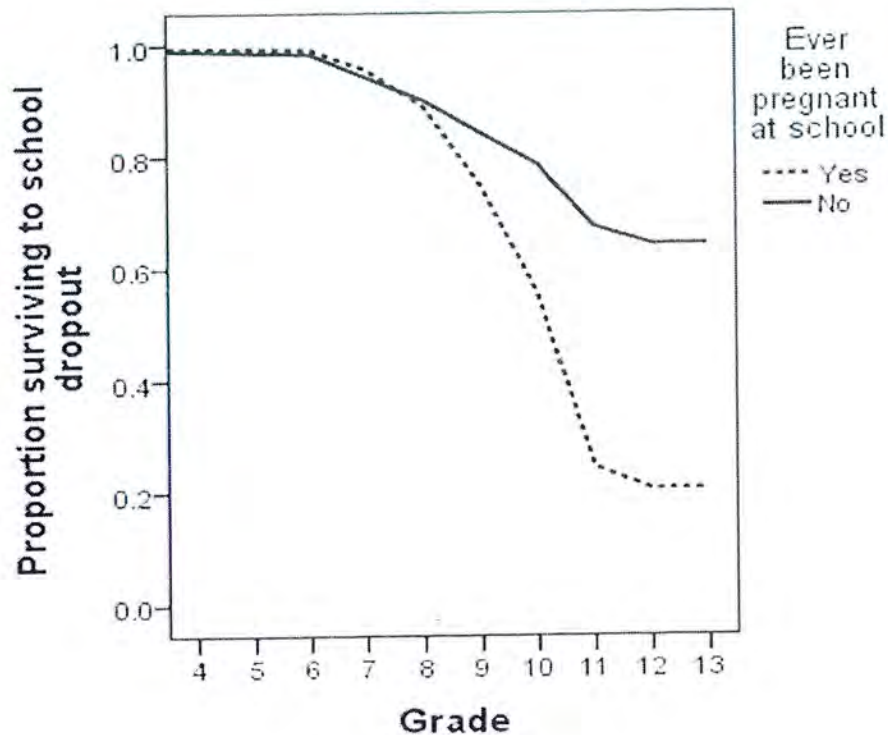
school by grade 11. The mean age at school dropout status by learner pregnancy status were significantly different at $p < 0.0001$.

Table 6.6 **Differentials of women by mean grade at school dropout and selected school level characteristics of women**

Selected variables	Number of women	Mean grade at school dropout	C I	Log- Rank
Age at school entry				
<7	220	11.7	11.5-12.0	38.49****
7	278	11.2	11.0-11.4	
8+	84	10.3	9.8-10.7	
Grade at age 14				
<8	266	10.6	10.3-10.8	54.66****
8	197	11.9	11.7-12.1	
9+	119	11.8	11.6-12.1	
Highest grade attained				
<8	119	10.0	9.6-10.3	537.03****
8-10	145	9.4	9.3-9.6	
11+	318	12.6	12.5-12.7	
Ever been pregnant at school				
Yes	224	10.5	10.3-10.8	96.74****
No	358	11.8	11.5-11.9	
Total	582	11.3	11.1-11.5	

Level of significance= *=0.05, **=0.01; ***=0.001; ****=0.0001

Figure 6.6 Kaplan-Meier plots showing differentials of survivors by school pregnancy status of women



6.5.3 Differentials in mean grade at school dropout by household level variables

Table 6.7 presents differentials in the mean grade at school dropout by household level variables. The table shows that the mean grade at school dropout was significantly different at $p < 0.05$ for women with different sibling sizes. The mean grade at school dropout decreased from grade 11.6 for women with only “1” sibling to grade 11.3 for women with “2” siblings before rising slightly to grade 11.5 for women with “3” siblings. The mean grade at school dropout for women with “4” or more siblings was 11.0. Furthermore Figure 6.7 shows that the proportion of women dropping out of school increased with grade for women with different

sibling sizes. However, women with “3 and “4” or more siblings dropped out of school at a faster rate than women with only “1” sibling. By grade 11 more than 55% of women with “3” and “4” or more siblings had dropped out of school compared to only about 40% of women with only “1” sibling.

Figure 6.7 Kaplan-Meier plots showing differentials of survivors by number of siblings

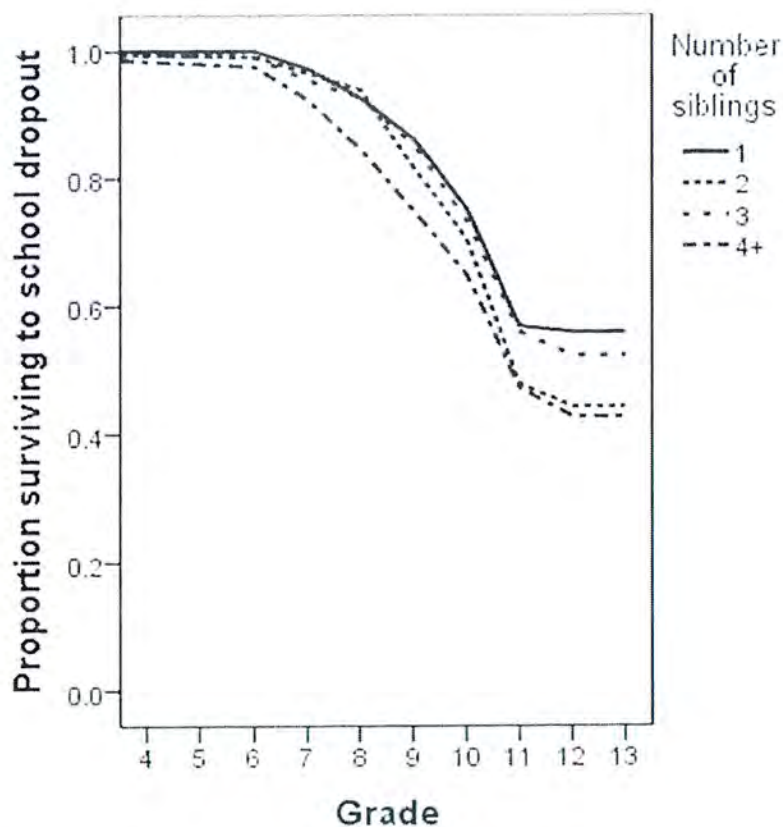


Table 6.7 also presents the mean grade at school dropout by the grade attainment of the mothers of the women showing that the mean grade at school dropout increased with increase in the grade attainment of the mothers of the women. The table shows that the grade at school dropout increased from 10.6 for women whose mothers attained less than grade 8 to grade 11.6 and grade 11.8 for women whose mothers attained grades 8-10 and grade 11 or higher respectively. The mean grade at school

dropout was significantly different at $p < 0.001$ for women whose mothers attained different educational grades.

Figure 6.8 presents the grade pattern of school dropout by the highest grade attained by the mothers of the women. The pattern observed is consistent with what is presented in Table 6.7 and shows that women whose mothers had lower than grade 8 attainment dropped out of school at lower grades than women whose mothers attained grades 8-10 or 11 or higher indicating lower survival rates in schooling for women whose mothers attained lower grades. By grade 11 nearly 65% of the women whose mothers attained less than grade 8 had dropped out of school compared to only 35% and 40% of women whose mothers attained grades 8-10 and grade 11 or higher respectively.

Figure 6.8 Kaplan-Meier plots showing differentials of survivors by mother's highest educational level

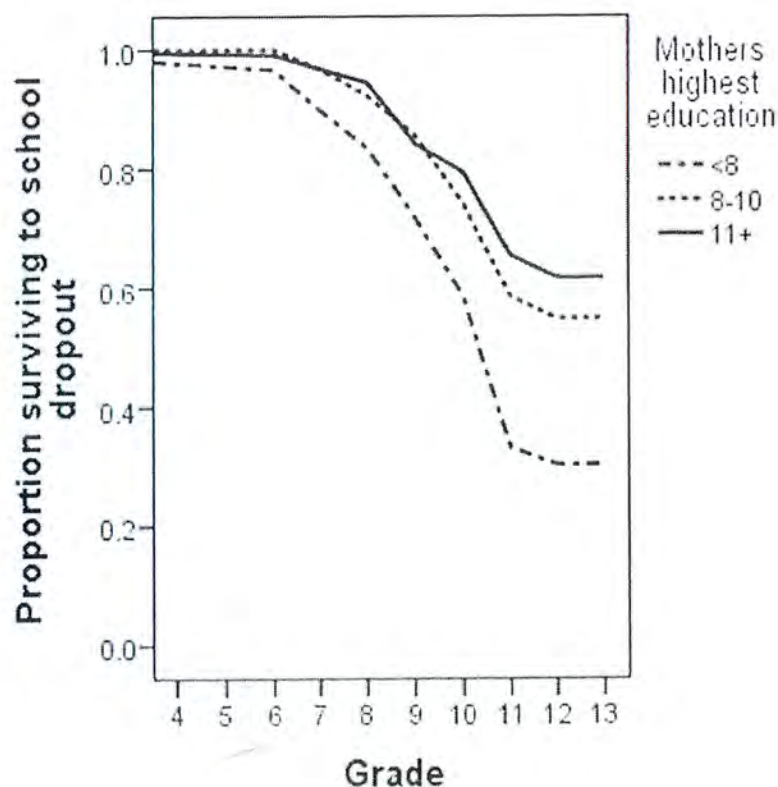


Table 6.7 Differentials in mean grade at school dropout of women by selected household variables

Selected variables	Number of women	Mean grade at school dropout	C I	Log-Rank
Number of siblings				
1	109	11.6	11.3-11.9	7.93*
2	115	11.3	11.0-11.6	
3	109	11.5	11.2-11.8	
4+	248	11.0	10.7-11.3	
Family structure				
Both parents family	236	11.3	11.0-11.5	2.03
Single mother headed	216	11.3	11.1-11.6	
Single father headed	67	11.1	10.8-11.5	
Extended family	63	11.2	10.7-11.7	
Mothers highest education				
<8	205	10.6	10.3-10.9	43.03***
8-10	270	11.6	11.4-11.8	
11+	107	11.8	10.5-12.1	
Total	582	11.3	11.1-11.4	

Level of significance= *=0.05, **=0.01; ***=0.001; ****=0.0001

6.5.4 Mean differentials in grade at school dropout by neighbourhood level variables

Rural-urban neighbourhoods were the only neighbourhood variables which significantly impacted on the mean grade at school dropout. Data presented in Table 6.8 shows that the mean grade at school dropout was higher in rural areas at grade 11.2 than in urban neighbourhoods which was grade 11.5. The rural-urban differentials in the mean age at school dropout was significant at $p < 0.05$. This differential is likely to result from the socioeconomic and cultural differences between rural and urban neighbourhoods. These differences have been associated with lower educational attainments in rural areas than urban areas, which could explain the lower mean grade at school dropout in rural neighbourhoods.

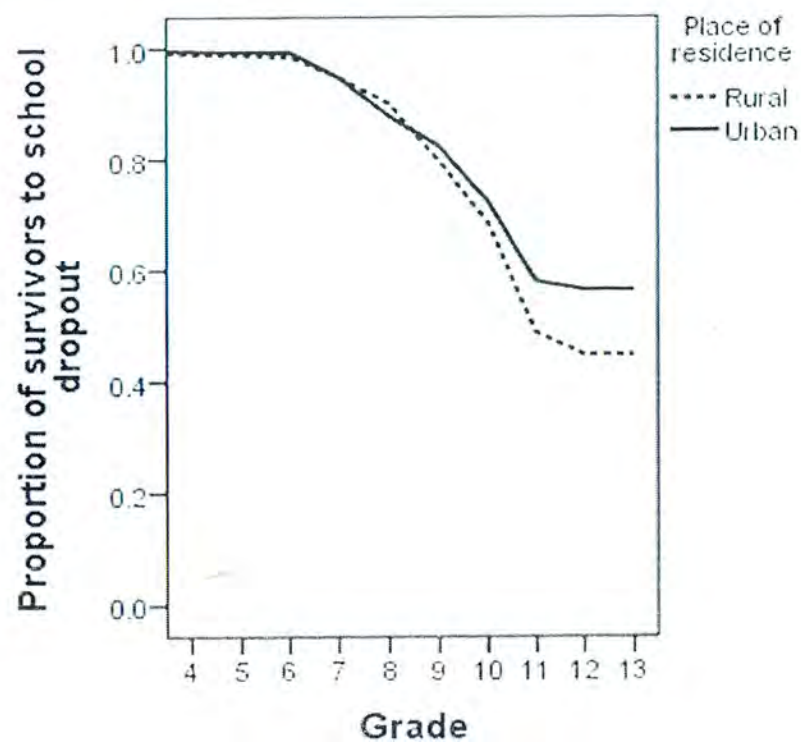
Additionally, Figure 6.9 shows that for women in both rural and urban neighbourhoods, the proportion dropping out of school increased with grade. However, by grade 11 more women in rural areas (50%) than urban areas (40%) had dropped out of school.

Table 6.8 Differentials in mean grade at school dropout of women by selected community variables

Selected variables	Number of women	Mean grade at school dropout	C I	Log-Rank
Perceived schooling status of peers				
Not in school	350	11.3	11.1-11.5	1.37
In school	229	11.2	11.0-11.5	
District of residence				
Bojanala	378	11.2	11.0-11.4	0.18
Modiri-Molema	204	11.4	11.1-11.6	
Place of residence				
Urban	131	11.2	11.0-11.4	4.07*
Rural	451	11.5	11.1-11.4	
Total	582	9.7	9.62-9.95	

Level of significance= *=0.05, **=0.01; ***=0.001; ****=0.0001

Figure 6.9 Kaplan-Meier plots showing differentials of survivors by rural-urban neighbourhoods



6.6 Predictors of school dropout

In this section, four hypotheses were tested including: i) learner dropout from school was significantly higher for women who were less than 18 years at sexual debut compared to those who were 18 years or older; ii) learner dropped out was significantly higher among women who experienced learner pregnancy compared to women who did not experience learner pregnancy; iii) learner dropout was significantly higher among women whose mothers attained less than grade 8 compared to women whose mothers attained grades 8 or higher; and iv) learner dropout was significantly higher among women who were living in rural areas at age 14 compared to those living in urban areas at age 14. The results are presented in Table 6.9 in five models.

Model 1 shows that learner dropout from school was 2.64 ($p < 0.0001$) times significantly more likely among women who had “4” or more siblings; and 2.21 ($p < 0.0001$) times significantly more likely among women who were less than 18 years at sexual debut compared to those who were 18 years or older. The results confirm the hypothesis that “learner dropout from school was significantly higher for women who were less than 18 years at sexual debut compared to those who were 18 years or older” after controlling for selected individual level covariates.

Model 2 presents results on school level covariates. The results show that women who experienced learner pregnancy were 3.16 ($p < 0.0001$) times significantly more likely to have dropped out of school; women who entered schooling at 7 and 8 or more years of age were 2.17 ($p < 0.0001$) and 3.11 ($p < 0.0001$) times significantly more likely to have dropped out of school; and women who were in grade 8 and grades 9 or higher were 0.34 ($p < 0.0001$) and 0.41 ($p < 0.0001$) times significantly

less likely to have dropped out of school. The results presented in the model confirm the hypotheses that “learner dropped out was significantly higher among women who experienced learner pregnancy compared to women who did not experience learner pregnancy” after controlling for selected school level covariates simultaneously.

Model 3 present results on the hypothesis that “learner dropout was significantly higher among women whose mothers attained less than grade 8 compared to women whose mothers’ attained grades 8 or higher.” The results show that women whose mothers attained less than grade 8 were 3.71 ($p < 0.0001$) times significantly more likely to have dropped out school compared to women whose mothers attained grades 11 or higher. The result confirm the hypothesis that “learner dropout was significantly higher among women whose mothers attained less than grade 8 compared to women whose mothers attained grades 8 or higher” after controlling for other household level covariates.

Model 4 presents the results on neighbourhood level variables showing that learner school dropout was 1.30 ($p < 0.05$) and 1.60 ($p < 0.0001$) times significantly more likely if they perceived that their neighbourhood peers were not in school and if they lived in rural areas. Conversely, learner school dropout was 0.95 ($p < 0.05$) times significantly less likely if they lived in Modiri-Molema district compared to Bojanala district. The results confirm the hypothesis that learner school dropout was significantly higher in rural areas than in urban areas after controlling for other neighbourhood covariates.

In Model 5 the results on all covariates that were significant predictors at the individual, school, household and neighbourhood level models are presented to

show whether or not the hypotheses being tested remained significant. The results show that sexual debut at less than 18 years with odds ratio 2.22 ($p<0.0001$); becoming pregnant at school with odds ratio 4.69 ($p<0.0001$); having mothers who attained grades less than 8 and 8-10 with odds ratios 1.55 ($p<0.01$) and 1.41 ($p<0.001$) respectively; and residing in rural areas at age 14 with odds ratio 1.63 ($p<0.001$) remained significant predictors of school dropout. The results therefore confirm all the four hypotheses “learner dropout from school was significantly higher for women who were less than 18 years at sexual debut compared to those who were 18 years or older”; “learner dropped out was significantly higher among women who experienced learner pregnancy compared to women who did not experience learner pregnancy”; “learner dropout was significantly higher among women whose mothers attained less than grade 8 compared to women whose mothers attained grades 8 or higher”; and “learner dropout was significantly higher among women who were living in rural areas at age 14 compared to those living in urban areas at age 14”. Other factors that increase the likelihood of dropping out of school were having “4” or more siblings, entering schooling at ages 7 and 8 or higher and being in less than grade 8 at age 14.

Table 6.9 Logistic regression odds ratio showing the adjusted effects of selected individual, school, household and neighbourhood level covariates on school dropout

Selected covariates	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Age cohort										
Under 25	1.00									
25-29	0.84	(0.51-1.38)								
30+ [®]	1.27	(0.80-2.03)								
Birth order										
1	1.00								1.00	
2	1.21	(0.72-2.05)							1.18	(0.68-2.04)
3	0.89	(0.50-1.58)							0.97	(0.53-1.78)
4+	2.64****	(1.63-4.26)							2.25****	(1.35-3.74)
Age at first sex										
<18	2.21****	(1.48-3.29)							2.22****	(1.26-3.38)
18 [®]	1.00								1.00	
School pregnancy status										
No			1.00						1.00	
Yes			3.16****	(1.11-4.23)					4.69****	(2.99-7.33)
Age at school entry										
<7 [®]			1.00						1.00	
7			2.17****	(1.48-3.17)					1.89**	(1.22-2.91)
8+			3.11****	(1.76-5.52)					2.06*	(1.07-3.97)
Grade at age 14										
<8			0.34****	(0.23-0.51)					1.95**	(1.13-3.36)
8			0.41****	(0.26-0.65)					0.77	(0.44-1.36)
9 or higher [®]			1.00							

Table 6.9 Continues

Selected covariates	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Mothers level of education										
<8			3.71 ****	(2.27-6.06)					1.55**	(0.96-2.05)
8-10			1.32	(0.84-2.09)					1.41***	(0.89-1.78)
10+			1.00						1.00	
Perceived schooling status of peers										
In school					1.00				1.00	
Out of school					1.30**	(0.93-1.83)			1.25	(0.83-1.89)
District of residence										
Bojanala					1.00				1.00	
Modiri-Molema					0.95*	(0.66-1.34)			0.91	(0.59-1.41)
Place of residence										
Urban					1.00				1.00	
Rural					1.60****	(1.08-2.39)			1.63***	(0.64-1.79)

® Reference category; OR=odds Ratio; CI= Confidence interval; levels of significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

6.8 Risk factors influencing the timing of school dropout

The Cox proportional hazard Model presents the hazard ratios on the risk factors influencing school dropout using four models. Model 1 presents the adjusted hazard ratios on the risks of school dropout using the individual level variables of age group, birth order and age at sexual debut. The model shows that the risk of school dropout was higher at 1.55 ($p<0.001$) for women in the age group 30 years or older and 1.53 ($p<0.0001$) for women who had sexual debut at less than 18 years. In Model 2 the adjusted results of school level factors are presented showing that the risk of school dropout was 1.25 ($p<0.05$) for women who experienced learner pregnancy; and 2.04 ($p<0.0001$) for women whose highest grade attainment was grades 8-10 at school dropout. However, the risk of school dropout was 26% ($p<0.05$) and 29% ($p<0.05$) lower for women who entered schooling at 7 years and were in less than grade 8 at age 14.

Model 3 presents the effects of selected household and community level factors on school dropout. The Model shows that the risk of school dropout was 1.61 ($p<0.05$) and 1.13 ($p<0.05$) for women whose mothers attained less than grade 8 and women who lived in rural areas at age 14 respectively. Conversely, the risk of school dropout was lower by 15% for women who had only 1 sibling.

Model 4 presents the results of the cox proportional hazard model after controlling for the effects of selected individual, school, household and community level variables simultaneously. The results show that the risk of dropping out of school significantly increased by 1.68 ($p<0.001$) for women who were in the 30 years or older age group; 1.63 ($p<0.0001$) for women who initiated sexual activity at less than 18 years of age; and 1.42 ($p<0.01$) for women who experienced learner

pregnancy. Additionally, the risk of school dropout was higher by 2.06 ($p<0.0001$) for women whose highest grade attainment before school dropout was 8-10 years; and 1.52 ($p<0.01$) for women whose mothers attained grades 8-10.

Conversely, the risk of school dropout was lower by 25% ($p<0.05$), 50% ($p<0.05$) and 32% ($p<0.05$) for women who entered schooling at 7 years of age, for women who were in less than grade 8 and for women who were in grades 8-10 years respectively. The cox proportional hazard model confirmed the hypothesis that compared to women who never experienced learner pregnancy, the risk of school dropout was higher for women who experienced learner pregnancy. The results also confirm the hypothesis that the risk of school dropout was higher for women who lived in rural areas compared to those who lived in urban areas at age 14.

Table 6.10 Cox hazard proportional model indicating Hazard Ratios of variables influencing the risk of school dropout for women

Covariates	Model 1	Model 2	Model 3	Model 4
Age groups				
<25 [®]	1.00			1.00
25-29	1.29 (0.93-1.77)			1.28 (0.91-1.78)
30+	1.55*** (1.17-2.10)			1.68*** (1.22-2.30)
Birth order				
1	0.90 (0.67-1.20)			
2	0.74 (0.54-1.02)			
3	0.80 (0.55-1.16)			
4+ [®]				
Age at first sex				
< 18	1.53*** (1.20-1.93)			1.63*** (1.26-2.10)
18+ [®]				1.00
Ever Pregnant at school				
Yes		1.25* (0.98-1.57)		1.42** (1.08-1.86)
No [®]		1.00		1.00
Age at school entry				
<7		0.79 (0.55-1.13)		0.85 (0.58-1.23)
7		0.74* (0.54-1.020)		0.75* (0.54-1.03)
8+ [®]		1.00		1.00
Grade at age 14				
<8		0.71** (0.54-0.94)		0.50* (0.55-1.00)
8		0.75 (0.53-1.06)		0.68* (0.47-0.97)
9+ [®]		1.00		1.00

Table 6.10 continue

Covariates	Model 1	Model 2	Model 3	Model 4
Highest grade attained at school dropout				
<8 [®]		1.00		1.00
8-10		2.04**** (1.63-2.81)		2.06**** (1.56-2.73)
11+		1.23 (0.84-1.81)		1.08 (0.73-1.60)
Number of siblings				
1			0.85* (0.68-1.33)	0.91 (0.60-1.36)
2			0.86 (0.64-1.16)	0.98 (0.68-1.40)
3			0.90 (0.65-1.23)	1.01 (0.71-1.44)
4+ [®]				1.00
Mothers highest education				
<8			1.61** (0.90-1.13)	1.52** (1.08-2.14)
8-10			0.88 (0.62-1.25)	0.96 (0.69-1.33)
11+ [®]			1.00	1.00
Residence				
Urban [®]			1.00	1.00
Rural			1.13* (0.84-1.51)	1.12** (0.81-1.53)

6.9 Discussion

The study found that school dropout in the North West province is significantly influenced by young age at sexual debut, high rates of school pregnancies, low mothers' grade attainment and rural residence. The study found that nearly 38% of the women reported ever having been pregnant while enrolled in school respectively. Of the women who have ever become pregnant, nearly 80% dropped out of school. Other factors that influence school dropout in a significant way were higher age at school entry, low grade at a high age, low educational attainment of mothers and having many siblings.

The role of school pregnancy in influencing school dropout observed in this study is consistent with previous studies in other countries in sub-Saharan Africa (Cardoso and Verner, 2007; Hunt, 2008) and South Africa (Mahy and Gupta, 2002; NRC-IOM, 2005). Pregnancy among the schooling population is a reflection of the collapse of population wide social and reproductive values (Helge, 1989; Pillow, 2004). Although not encouraged, the increasing tolerance of early initiation of sexual activity, which has also been confirmed in this chapter as a significant predictor of higher rates of school dropout, in the general population could be contributing significantly to pregnancy and childbearing among the schooling population in South Africa. This view is supported by this and a previous study which showed that the age at initiation of sexual activity is directly related to the risk of unplanned pregnancy (Martelelo et al., 2008). Another study found that girls who are already sexually active at a young age were more likely to drop out of school (Hindi and Fatusi, 2009).

School girls of up to grade 12 constitute a large number of girls who are going through physical, sexual and emotional adaptation and challenges. Ignorance and naivety on sexual matters and how to protect against unwanted pregnancy makes school girls particularly vulnerable to exploitation by older men who are often responsible for their pregnancy. This problem is exacerbated by the relatively high rate of unmet needs for pregnancy prevention among the schooling populations. Some of the men responsible for school girls' pregnancies are the teachers into whose care the girls are entrusted, and who students may find difficult to resist. A previous study observed that older men lure school girls into unprotected sexual activities which often lead to pregnancy by using gifts, (Blanc, 2001). Often these girls are abandoned with their children leading to school dropout, or married to protect the family honour (Nyakubega, 2009). Adopting a mix of domestic, community and school interventions is therefore important not only to prevent unwanted pregnancies, but also to ensure that girls are retained in school. One such strategy is increasing access to reproductive health services including access to contraception.

South Africa has also been cited as one of the countries with a high rate of sexual and gender based violence. Many of the victims of this violence are young women, most of them students, and are susceptible to unwanted pregnancies (McGurk, 1993). Although the current policy regarding school pregnancy allows girls to continue schooling and in some cases are referred to as students with special needs, and girls who have dropout of school due to pregnancy and childbirth are allowed to return to school, the school environment and attitudes of teachers and other students is not enabling for such students to continue their education (Kaufman et al., 2001; Chigona and Chetti, 2007). Additionally child care is often a fulltime job which is

incompatible with schooling in the current school system and environment, which contributes to student mother's school dropout. Changing the attitude of teachers and other students to support student mothers to achieve their schooling objectives and instituting flexible schooling and child care options for student mothers is an imperative in addressing school dropout due to pregnancy.

Another finding of this study is that students who were in a low grade at a higher age were at an elevated risk of dropping out of school. This finding is consistent with previous studies elsewhere (Cameron, 2005; EPDC, 2009; Sabetes et al., 2010). In South Africa, the minimum official age at starting grade one is 7 years of age, which implies that by age 14, students should have completed grade 7, which is the final grade in the primary education cycle. The finding in this chapter shows that a large number of students (nearly 46%) in this study were in grades lower than grade 7 at age 14 suggesting that they either started schooling late, or repeated grades.

Late school entry and grade repetitions are sources of difficulties for students, school teachers and administrators from a number of perspectives. For students, older students and repeaters are ridiculed by their younger classmates and could lead to dropout; and older students are also likely to perform poorly in class and find difficulty in coping and may drop out of school (Taylor et al. 2010). At the household and community level, older age at school competes with other household demands for girls including the need for remunerative and non-remunerative work, which could also contribute to dropout from school (Sabates et al., 2010). Previous studies also found that older age at school is particularly problematic for girls because they often come under pressure to marry (Cain, 1977; UNESCO, 2005). It

is therefore important to identify late starters early, and provide them with appropriate interventions to secure progression through the school system.

The finding that mother's educational attainment is a significant determinant of school dropout has been observed by a previous study (Rao Mohan, 2000). Some of these were attributed to the low school attainment for girls whose mothers have low level of education to inability to provide appropriate educational support (Sabetes et al., 2010). It is possible that mothers with low education just do not have the resources needed to ensure their children, including boys, to continue schooling. A previous study reported that low education is associated with low household income which causes girls to drop out of schooling (Ampiah and Adu-Yeboah, 2009). It is also likely that girls whose mothers have low education engage in income generation which affects their participation in education. However, this study could not investigate the association between level of mother's education and household income because of lack of appropriate data.

6.8 Limitations of the chapter

Although this chapter has identified some of the main causes of school dropout for girls, it has been affected by lack of data to assess the impact of economic status of households, which previous studies found significantly associated with school dropout. Additionally, the findings of the study could have been affected by the accuracy of reporting data on pregnancy which is usually affected by social desirability biases, which is likely if the pregnancy was aborted. Some of the factors leading to school dropout could have also been omitted if they occurred a long time ago or at an earlier age.

6.9 Conclusion

It can therefore be concluded that the four interdependent factors of age at sexual debut, learner pregnancy, mothers' grade attainment and rural residence are the main factors influencing dropout from school for girls. However, these factors appear to be exacerbated by late age at school entry, low grade at older age implying a late age at school entry or repetition of grades and higher number of siblings. It is therefore recommended that greater emphasis on sexual abstinence, reproductive health counseling and services through school based programmes; addressing the high rate of sexual and gender based violence; and adopting flexible schooling systems to accommodate pregnant and student mothers be pursued.

Chapter Seven

Rates and predictors of school re-entry of women who previously dropped out of school

7.1 Introduction

In this chapter, results on school re-entry status of women who previously dropped out of school are presented. School re-entry is defined as a situation in which a girl who previously dropped out of school for any reason re-joined school at any time after dropping out of school. School re-entry status was probed by asking women who were in school at age 14 and ever dropped out of school “Did you ever returned to school after dropping out of school?” Overall, 306 women reported they ever dropped out school sometime after age 14, but before matriculation at grade 12. Despite a policy on school re-entry, (especially due to pregnancy), being in place in some countries in sub-Saharan Africa, including South Africa, a number of factors including individual, school, household and community level factors have impeded school re-entry of girls who previously dropped out of school (Mwansa, 2011). In this chapter results on rates of school re-entry and predictors of school re-entry are presented. In the chapter, three hypotheses were also tested including: i) women who dropped out of school due to pregnancy were less likely to return to school compared to women who dropped out of school for other reasons; ii) women living in both parent families were more likely to return to school after school dropout compared to women living in other family structures; and iii) women who lived in rural areas at school dropout were less likely to have returned to school compared to women who lived in urban areas.

7.2 The theory of social disorganization and education outcomes

This chapter is premised on the theory of social disorganization. The theory was originally developed by Shaw and Mckay (1942) to explain spatial differentials in crime rates when they observed that the rate of crime is not uniform everywhere, but varied by residential differences. The rate of crime was higher in neighbourhoods where the institutions of social control such as the family, schools, churches and community groups were weak therefore reducing social capital and collective efficacy leading to crime (Sampson et al., 1997). Later, Sampson (1986) observed that community crime rates can be influenced by family structures in such a way that unstable families characterized by disruptions have a higher rate of crime because such families lack control over the behaviour of its members. The theory was used to explain schooling outcomes by examining the effect of neighbourhoods and family structures on schooling outcomes by previous studies (Maydun, 2011; Bowen et al., 2002). Apart from the effect of getting pregnant at school and dropping out of school due to pregnancy, family structures and neighbourhood characteristics have been considered as important factors influencing schooling outcomes because they are a common context or denominator that also affects becoming pregnant at school and dropping out of school for pregnancy related reasons. A number of studies have identified neighbourhoods as important in influencing individual life outcomes such as education, health, employment, sexual activity and crime (Sampson et al., 2002; Stephanie, 1999; Melvin, 1885; Suttles 1972). Most of these studies found that people who live in better off neighbourhoods performed better in all the above outcomes.

Neighbourhood has been conceptualized differently in analyzing its effects on individual outcomes. The first of this is neighbourhood as a network of connections

characterized by shared beliefs, circumstances, priorities, relationships, or concerns which binds individuals of a given group to one another. These networks can be based on ethnicity or religion where members share a common culture or systems of belief that enables them to promote a common agenda regardless of where they live (Chaskin, 1997), implying that this conception of neighbourhood has both a spatial and virtual relevance and application. Secondly, neighbourhood as a spatial construct is defined as a delineated space characterized by sharing residential areas where households are in close proximity to each other and the neighbourhood is a subunit of a larger residential area such as an urban or rural area where people interact socially (Hallman, 1984). In this concept of neighbourhoods, people are differentiated by a number of attributes such as culture, economic status, learning environment, lifestyle and facilities such as shopping and leisure facilities (Keller, 1968). In this study, neighbourhood as conceptualized by Hallman (1984) and Keller (1968) has been used.

Family structure is another factor that has been observed to significantly influence individual outcomes including educational outcomes (Petrosino et al., 2009; Turagabeci, 2007; Ginther and Pollak, 2004). Family structure impacts on educational outcomes in a number of ways. These include children's behaviour in school and out of school, involvement in drug and alcohol use, sexual activity and teenage pregnancy, delinquency and crime and socioeconomic situation (Campbell et al., 2010; Yuxin and Karen, 2009; Institute for American values, 2005; World Bank, 2004). Derman-Sparks and Edwards (2009) identified a number of family structures which can influence educational outcomes of children. The ones which are most relevant to the South African context and which have been used in this chapter are the nuclear family in which a married man and woman live together with

their biological children; single-parent family in which a father or a mother is singly responsible for the raising of one or more biological or adopted children; foster family where one or more children are legally or socially recognized as temporary members of a family; extended family where other close relatives such as grandparents, aunts and uncles play a major role in raising children; and broken family where the parents of children have divorced.

7.2.1 Family structure and educational outcomes

There is evidence to suggest that the parents and children co-resident family has a better educational outcome for children than other family structures (Ginther, 2004; Bjorklund et al., 2004; Biblarz and Raftery, 1999) which can be associated with mostly financial, social and cultural support. Evidence in sub-Saharan Africa supports the view that family structure has important effects on education. Children who live in foster and extended families without their parents and those in single parent households and families that are broken are less likely to attain good educational outcomes (Campbell et al., 2010; World Bank, 2004). In South Africa, Anderson (2003) observed that Blacks and coloureds are more disadvantaged in education than whites and that family structure is at the centre of the continued racial inequality in educational attainment in post-apartheid South Africa.

Low school re-entry rates among people who previously dropped out of school is one of the problems of poor educational outcomes in sub-Saharan Africa and girls who previously dropped out of school are more likely not to return to school than boys (Mwansa, 2011). Much of the literature on social disorganization theory and schooling focused on racial differences in schooling outcomes in America (Whites vs Blacks). The literature appears to be relevant to the South Africa experience,

where schooling outcomes between whites and blacks have been assessed by using completion rates and level of education. In this regard, the social disorganization theory can also be used to explain low school re-entry rates of girls who previously dropped out of school.

A previous study in the United States of America found that family structure is one of the important factors associated with poor schooling outcomes (Thernstrom and Thernstrom, 2003). Another study also found that teenage girls living in disrupted families, especially where one of the parents, especially the father, is absent, are likely to experience school disruptions (Popenoe, 1996; Blankenhorn, 1995). Family structure is an important determinant of school re-entry because it is likely to have a wide range of impacts including social, psychological and financial support for girls who previously dropped out of school. Family structure in South Africa is characterized by absence of one or both parents, foster and extended family systems and child-headed families which all have different implications for poverty levels, moral and social control, and supervision and role models for girls.

The discriminatory allocation of household resources for education, in the face of household poverty, reduces the chances of girls who previously dropped out of school to re-enter schooling and complete their education. In a previous study, Nakatibeb (2002) observed that the willingness to support education of the girl child is low in poor families. Traditionally, poor socioeconomic status has been identified as the main cause of poor schooling outcomes and an impediment to school re-entry for girls, which is more prominent in single parent and broken families (Madyun, 2011; Elder, 1981). It can therefore be concluded that in a situation where family structures are disrupted and weak, social, psychological,

moral and financial support is likely to be weak leading to permanent school dropout.

Family structure not only influences schooling outcomes through school dropout Suh et al.,(2007), but also indirectly through its effect on teenage pregnancy. A number of studies have found that the odds of early sexual debut and teenage pregnancy are relatively higher among young women in single parent families than those in both parent families (More and Chase-Lansdale, 2001; Billy et al., 1994). Ellis et al., (2003) also found that the effect of father's absence on teenage pregnancy is greater in families where the father was absent for long periods of time. The higher rate of teenage pregnancy in single parent mother headed families is attributed to early initiation of sexual activity, mostly with older men (Hallman, 2004); and coercion or forced sexual activity, usually by older sexual partners (Kaufman and Stavrou, 2002).

Additionally, marital status of parents has also been associated with teenage pregnancy, with teenagers whose parents are single being more likely to become pregnant in teenage years (Succof and Upchurch, 1998; Hogan and Kitagawa, 1985). Hogan and Kitagawa (1985) also found that having a sister who was a teenage mother increased the risk of early childbearing for young women. Lack of parental authority, monitoring and supervision in single, mostly mother headed families, is a strong contributor to early age at sexual debut and teenage pregnancy (Zwang and Garene, 2007). Although a number of studies have found a strong association between family structure and teenage pregnancy, a study by Crowder and Teachman (2004) found that the effect of family structure on teenage pregnancy is statistically weak after controlling for the effect of other socio-economic variables.

7.2.2 Neighbourhoods and schooling outcomes

School re-entry can also be significantly impeded by neighbourhood attributes. One of the ways through which neighbourhoods impede school re-entry is the socioeconomic conditions in neighbourhoods. Bursik (1999) argued that neighbourhoods that are economically differentiated are characterized by high levels of social mobility, individualism and social polarization which undermine the creation of long term relations leading to weak social ties and lack of support for good schooling outcomes. In neighbourhoods where social ties are weak, the economic demands on families is even greater, which increases the desire to work and contribute to family income, making women in poorer families who previously dropped out of school to prefer work to schooling (Ampiah and Adu-Yeboah, 2009). Additionally, the priority of poor households is provision of basic necessities such as food and security, and not education of previous school dropouts who have already been condemned as failures.

A second way in which neighbourhoods can affect schooling outcomes is cultural diversity, which acts as a barrier for shared values in communities, school programmes and curricula (Madyun, 2011). The clash in cultural and religious attitudes towards the school re-entry of girls who previously became pregnant or who dropped out of school due to pregnancy related reasons is particularly important in this regard. A previous study by Chigona and Chetty (2008) noted that some communities disapproved of re-entry of teenage mothers to school because they believed they are a bad example to other girls. The perceived schooling participation of peers is a third important factor that can impede schooling outcomes. In neighbourhoods where social ties are weak, it is difficult to use peers as strong social capital and role models to improve schooling outcomes and return

girls who previously dropped out of school to school. Jencks and Mayer (1990) suggested that in neighbourhoods where levels of friendship and peer ties are weak, schooling outcomes are likely to be poor. Madyun and Lee (2008) also argue that peers are critical in instituting appropriate behaviors and attitudes, and this is expected to be true even in schooling situations. It is therefore possible that in situations where fostering peer interaction sustainably and trustfully is low, peer support in promoting positive schooling outcomes is likely to be low.

Conversely, where negative peer influence is strong, educational outcomes are also likely to suffer. A study by Fordham and Ogbu (1986) among African-American adolescents found that most adolescents preferred popularity and acceptance in the peer group over schooling. This suggests that where peer perceptions are not supportive to good schooling outcomes, peers did not maximize opportunities that increased their schooling. The lack of social control for positive socialization is therefore a consequence of neighbourhood social disorganization and can lead to less successful development toward desirable schooling outcomes (Madyun and Lee, 2008).

The type of neighbourhood has also been found to influence schooling outcomes through its effects on teenage pregnancy. Rutenburg et al., (2002) found that communities where school enrollment was perceived to be relatively high, had lower adolescent pregnancy rates compared to neighbourhoods where school enrolment was low, suggesting that better neighbourhoods are less likely to be associated with early pregnancy. This finding is consistent with other studies which found that teenagers in low socioeconomic neighbourhoods are significantly more likely to initiate sexual activity at a young age and engage in unprotected sex (Burgard and

Lee-Rife, 2009), or become teenage mothers and drop out of school than teenage girls in higher socioeconomic and non-slum neighbourhoods (Crane,1991). However, another study by Hogan and Kitagawa (1985) found that the effect of neighbourhoods on pregnancy among black teenage girls disappears when parental supervision of early dating was controlled for.

7.3 Description of background characteristics

The results presented in this chapter are based on 306 women who had ever dropped out of school. In this section the profiles of these women are presented by individual, school, household and community level characteristics of the women.

7.3.1 Distribution of the women by individual level variables

Table 7.1, describes the women by their individual level variables which include current age cohort, birth order, age at first sex and school pregnancy status which are hypothesized to influence school re-entry. The table shows that the mean age of the women was 29.8 years. Nearly half (49.3%) of the women were in the 30 year or older age cohort, 27.1% were in the 25-29 year age cohort and only 23.5% were in the less than 25 year age cohort. The table also shows that the majority of the women (36.3%) was of birth order 4 or higher followed by nearly 29% of birth order 1. The mean age at first sex for the women was 17.4 years, which was generally low, but not out of the ordinary as most women in this society initiate sexual activity rather early in teenage years. Nearly 53% of the women initiated sexual activity at ages below 18 years and only 47% initiated sexual activity at 18 years or older. Table 7.1 also shows that the mean age at first pregnancy for the women was 18.2 years and nearly 6 in 10 women become pregnant at school, which although quite

high, could be expected because of the apparent tolerance of premarital sex in this society.

Table 7.1 Distribution of women who ever dropped out of school by individual level variables

Individual level variables	%	Number
Age cohort		
<25	23.5	72
25-29	24.1	83
30+	49.3	151
Mean age	29.8	
Birth order		
1	28.8	88
2	22.2	68
3	12.7	39
4+	36.3	111
Age at first sex		
<18	52.9	162
18+	47.1	144
Mean age	17.4	306
School pregnancy status		
Yes	58.2	178
No	41.8	128
Mean age at first pregnancy	18.2	306
Total	100.0	306

7.3.2 Distribution of the women by school level variables

The school level profiles of the women are presented in Table 7.2. The school level variables included in the table are reasons for school dropout, age at school dropout, grade at school dropout and duration of school dropout. The table shows that the majority, 6 in 10 of the women, dropped out of school due to financial reasons followed by 39% who dropped out of school due to pregnancy related reasons. Only 20.9% dropped out of school due to academic reasons.

The table also shows that the mean age at school dropout was 19.4 years, and about 45% of the women dropped out of school at 17-19 years of age; nearly 30% dropped out of school at less than 17 years of age; and only 25% of the women dropped out

of school at 20 years or older. Table 7.2 also shows that the mean grade at school dropout was grade 9.8, which indicates that most women dropped out of school soon after joining secondary level education. The majority of the women (48%) dropped out of school at grades 8-10 followed by 42% who dropped out of school at grades 11 or higher. Furthermore, Table 7.2 shows that the mean duration of school dropout for the women was 2.2 years. However, there were no differences in the proportion of women who dropped out of school in the different durations of school dropout.

Table 7.2 **Distribution of women who ever dropped out of school by school level variables**

School level variables	%	Number
Reasons for dropping out of school		
Academic	20.9	64
Financial	39.9	122
Pregnancy	39.2	120
Age at school dropout		
<17	29.7	88
17-19	45.4	121
20+	24.8	97
Mean age	19.4	306
Grade at school dropout		
<8	10.1	31
8-10	47.7	146
11+	42.2	129
Mean grade	9.8	306
Duration of school dropout		
1	33.7	103
2	32.7	100
3+	33.7	103
Mean duration	2.2	306
Total	100.0	306

7.3.3 Distribution of the women by household level variables

Table 7.3 presents the women in the study sample by household level variables which included the educational attainment of the mothers of the women, number of

siblings of the women and the family structure in which the women lived when they dropped out of school. The table shows that the mean grade attained by the mothers of the women was grade 7.4. Nearly 47% of the mothers of the women attained less than grade 8, 40% of the mothers of the women attained grades 8-10 and only 13.4% of the mothers of the women attained grades 11 or higher. Overall the finding indicates that the level of education attained by the mothers' of the women was low.

Table 7.3 Distribution of women who ever dropped out of school by household level variables

Household level variables	%	Number
Mothers level of education		
<8	46.7	143
8-10	39.9	122
11+	13.4	41
Mean grade	7.4	306
Number of siblings in the household		
1	15.7	48
2	20.9	64
3	17.0	52
4	46.4	142
4+	3.6	306
Mean siblings		
Family structure		
Both parents	39.5	121
Single parent mother headed	30.7	94
Single parent father headed	17.3	53
Extended	12.4	38
Total	100.0	306

Table 7.3 also shows that the mean sibling number of the women was 3.6 and the majority of the women (46%) reported that they had at least 4 siblings followed by 21% of the women who said that they had 2 siblings. Only 17% and 16% of the women said they had 3 and 1 siblings respectively. The result indicates that the family size of the women was high. Data on family structure shows that about 35%

of the women lived in both parent families, nearly 40% lived in a single parent mother headed family, 11.4% lived in single parent father headed family and only 13.4% lived in an extended family. The distribution of the women by family structure shows that most of the women lived in fragmented families.

7.3.4 Distribution of the women by neighbourhood level variables

Among the variables included in Table 7.4 as neighbourhood level variables are perceived schooling status of neighbourhood peers, district of residence and place of residence at the time of school dropout. These variables were included not only because they directly influence school dropout, but also other variables which directly influenced school dropout and school re-entry status of the women such as school pregnancy. The table shows that the majority of the women, nearly 6 in 10, perceived that their neighbourhood peers were not in school and only 43% of the women perceived that their neighbourhood peers were in school at the time of dropping out of school.

Table 7.4 **Distribution of women who ever dropped out of school by selected household level variables**

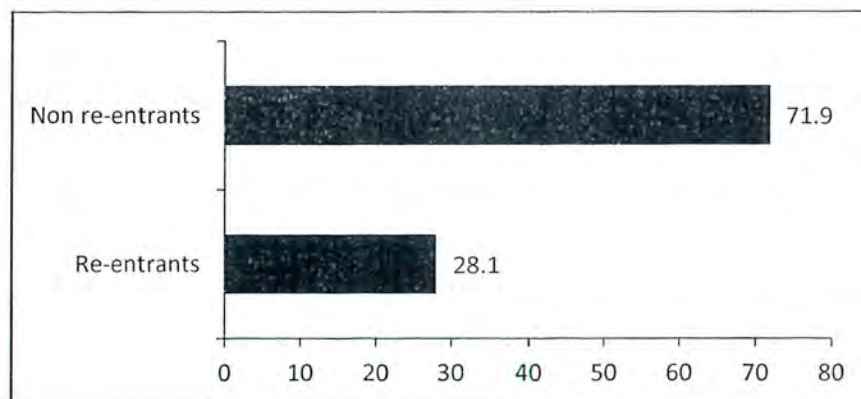
Neighbourhood level variables	%	Number
Perceived schooling status of peers		
Peers are not schooling	57.2	175
Peers are schooling	42.8	131
District of residence at school dropout		
Bojanala	64.7	198
Modiri-Molema	35.3	108
Type of place of residence		
Rural	61.8	189
Urban	38.2	117
School re-entry status		
Returned to school	28.1	86
Did not return to school	71.9	220
Total	100.0	306

Regarding the district of residence, nearly 65% of the women lived in Bojanala district which is mostly urban and is the industrial and social service hub of the North West province, and 35% lived in Modiri-Molema district which is mostly rural, agricultural and the administrative home of the North West province. Table 7.4 also shows that about 8 in 10 and 2 in 10 of the women lived in rural and urban neighbourhoods respectively at the time of school dropout.

7.4 School re-entry status

The school re-entry status of the women is presented in Figure 7.1. The figure shows that overall, the prevalence of school re-entry was low. Only 28% of the women ever re-entered schooling after school dropout. The majority, nearly 72% of the women who dropped out of school did not return to school. This is an indication that despite having policies in place to improve the schooling outcomes of women by enabling women who drop out of school, especially those who do so due to pregnancy, the prevalence of school re-entry of the girl child in particular and women in general remained low.

Figure 7.1 Distribution of women by school re-entry status



7.5 Differentials in school re-entry status

This section presents differentials in school re-entry status of women who previously dropped out of school by individual, school, household and community level variables of women. Of the women who ever dropped out of school, only 86 women representing only 28.1%, reported they returned to school and matriculated. This result indicates that only a small proportion of women who drop out of school ever returned to school.

7.5.1 Differentials in school re-entry by individual level variables

Table 7.5 presents the differentials in school re-entry status by individual level variables of the women. The table shows that the prevalence of school re-entry after school dropout increased with increase in age cohorts of the women, suggesting that in this sample the proportion of women who returned to school was higher among the older women than the younger women. Nearly 38% of the women aged 30 years and older reported they returned to school compared to 19.3% and 18.1% of the women in the 25-29 and less than 25 years age cohorts respectively. The result shows that age cohorts was significantly associated with school re-entry for women who previously dropped out of school at $p < 0.001$. Although surprising, this result can be explained in two ways. First it is likely that most women in the younger aged cohorts recently dropped out of school; and secondly, older women who dropped out of school some time ago re-entered schooling to take advantage of the increasing opportunities in appropriate and life-skill learning provided for people who did not complete formal secondary education or who could not proceed to tertiary education.

Table 7.5 also shows that learner pregnancy status is significantly associated with school re-entry at $p < 0.0001$. The table shows that 44.4% of the women who become pregnant at school returned to school after dropping out of school compared to only 5.5% of those who did not become pregnant at school. The higher rate of school re-entry by women who dropped out of school due to pregnancy could be associated with the policy that encourages and supports previously pregnant students to return to school after child birth.

Table 7.5 Percentage distributions of women by school re-entry status and selected individual level characteristics

Individual level variables	Number of women	School re-entry status			Df	X ²
		Yes	No			
Age cohort						
<25	72	18.1	81.9	100.0	2	13.75***
25-29	83	19.3	80.7	100.0		
30+	151	37.7	62.3	100.0		
Birth order						
1	88	26.1	73.9	100.0	3	1.86
2	68	33.8	66.2	100.0		
3	39	30.8	69.2	100.0		
4+	111	25.2	74.8	100.0		
Age at first sex						
<18	162	31.5	68.5	100.0	1	1.94
18+	144	24.3	75.7	100.0		
Ever been pregnant at school						
Yes	178	44.4	55.6	100.0	1	55.80****
No	128	5.5	94.5	100.0		
Total	306	28.1	71.9	100.0		

(R); Reference category; level of significance * < 0.05 ; ** < 0.01 ; *** < 0.001 ; **** < 0.0001

Although the rate of school re-entry was found to be higher among women in the 2nd and 3rd birth orders and among women who initiated the first sexual activity at less than 18 years of age, birth order and age at sexual debut were not significantly associated with school re-entry status in this population.

7.5.2 Differentials in school re-entry by school level variables

Table 7.6 presents differentials in school re-entry by school level variables including reasons for school dropout, age at school dropout, grade at school dropout and duration of school dropout. This is because these variables are expected to influence school re-entry of women who previously dropped out of school. The table shows that nearly 57% of the women who dropped out of school because of pregnancy re-entered schooling compared to only 14% and 7.4% of the women who dropped out of school due to academic and financial reasons. The reasons for school dropout were significantly associated with school re-entry at $p < 0.0001$. The result also supports the hypothesis that girls who dropped out of school for pregnancy related reasons are more likely to return to school than those who dropped out of school for other reasons. This is expected because of the policies that encourage women who dropped out of school due to pregnancy to return to school after child birth (Mwansa, 2011).

The age at school dropout is another important determinant of whether or not a woman who dropped out of school will return to school. In this study the association between age at school dropout and school re-entry was assessed and the results presented in Table 6.6 showing that the prevalence of school re-entry decreased with increase in the age at school dropout. About 45% of the women who dropped out of school at 16 years or younger re-entered schooling compared to only 25.2% and 13.2% of the women who dropped out of school at 17-19 and 20 years or older respectively. The low school re-entry among women who dropped out of school at 20 years or older could be associated with the likelihood that schooling competes with other life events at older ages including pressure to marry and have a family and pressure to contribute to family income (Ayiga and Rampagane, 2013).

Stigma associated with older age at low school grades could also prevent women who dropped out of school from rejoining schooling. Additionally, strong community norms against women who got pregnant at school could prevent older women from returning to school (Chigona and Chetty, 2008). On the other hand the higher rate of school re-entry of women who dropped out of school at younger ages could be the result of the support provided by parents and the policy environment which supports school re-entry for women who dropped out of school.

Table 7.6 Percentage distributions of women by school reentry status and selected school level variables

School level variables	Number of women	School re-entry status		Total	Df	X ²
		Yes	No			
Reasons for dropping out of school						
Academic	64	14.1	85.9	100.0	2	79.71****
Financial	122	7.4	92.6	100.0		
Pregnancy	120	56.7	43.3	100.0		
Age at school dropout						
<17	91	45.1	54.9	100.0	2	21.93****
17-19	139	25.2	74.8	100.0		
20+	76	13.2	86.8	100.0		
Grade at school dropout						
<8	31	29.0	71.0	100.0	2	0.11
8-10	148	28.8	71.2	100.0		
11+	129	27.1	71.9	100.0		
Duration of school dropout						
1	103	52.4	47.6	100.0	2	48.13****
2	100	21.0	79.0	100.0		
3+	103	10.7	89.3	100.0		
Total	306	28.1	71.9	100.0		

(R); Reference category; level of significance * <0.05; ** <0.01; *** <0.001; **** <0.0001

In this study the effect of the duration of school dropout was also assessed. This is because school re-entry can be affected by the time a woman stays out of school. The result presented in Table 7.6 shows that the prevalence of school re-entry

decreased with the duration of school dropout. About 52% and 21% of the women who dropped out of school for at least 1 year and 2 years respectively re-entered schooling compared to only 11% of the women who dropped out of school for 3 or more years. This is likely because the longer the duration of being out of school, the more likely it is that interest in schooling is lost. Additionally, other interests such as marriage and desire to work and contribute to family income could replace desire to study. Regarding the differentials in rate of school re-entry and grade at school dropout, the result presented in Table 7.6 shows that there was no statistical association between school re-entry status and grade at school dropout.

7.5.3 Differentials in school re-entry by household level variables

The differentials in school re-entry by household level variables are presented in Table 7.7. The table shows that differentials in school re-entry increased with increase in the grade attainment of the mothers of the women. The prevalence of school re-entry increased from nearly 26% among women whose mothers attained less than grade 8 to more than 30% among women whose mothers attained grades 8-10 before it declined slightly to 29% among women whose mothers attained grade 11 or higher. The table also shows that the prevalence of school re-entry decreased with increase in the number of siblings from about 34% among women who had at least 2 siblings to nearly 27% and 25% among women who had 3 and 4 or more siblings respectively. Although the pattern of school re-entry by the educational attainment of the mothers of the women and number of siblings of the women would seem logical, in this study they were not statistically associated.

However, family structure was found to be significantly associated with school re-entry of women who previously dropped out of school at $p < 0.001$. Results

presented in table 7.7 show that the prevalence of school re-entry was about 44% among women who lived in both-parent families, nearly 43% among women who lived in single parent father headed family and 24.4% among women who lived in extended families. Only 19% of the women who lived in a single parent mother headed family re-entered schooling after school dropout. The higher prevalence of school re-entry among women in both parent family and single father headed family could be attributed to the support and supervision parents and fathers provided. Conversely, the lower prevalence in school re-entry by women who lived in single parent mother headed households could be attributed to poverty and lack of sufficient authority and supervision by mothers.

Table 7.7 Percentage distributions of women by school reentry status and selected household level variables

Household level variables	Number of women	School re-entry status		Total	Df	X ²
		Yes	No			
Mothers' grade attainment						
<8	43	25.9	74.1	100.0	2	4.48
8-10	122	30.3	69.7	100.0		
11+	41	29.3	70.7	100.0		
Number of siblings in the household						
1	48	31.3	68.7	100.0	3	2.36
2	64	34.4	65.6	100.0		
3	52	26.9	73.1	100.0		
4+	142	24.6	75.4	100.0		
Family structure						
Both parents	108	35.2	64.8	100.0	3	9.93***
Single mother headed	122	18.9	81.1	100.0		
Single father headed	35	42.9	57.1	100.0		
Extended	41	24.4	75.6	100.0		
Total	306	28.1	71.9	100.0		

(R); Reference category; level of significance * <0.05; ** <0.01; *** <0.001; **** <0.0001

7.5.4 Differentials in school re-entry by neighbourhood level variables

The differentials in school re-entry by neighbourhood level variables are presented in Table 7.8. The neighbourhood variables include are perceived schooling status of neighbourhood peers, district of residence and type of place of neighbourhoods. The table shows that the prevalence of school re-entry was higher (32.8%) among women who perceived that their neighbourhood peers were in school compared to 24.6% among women who perceived that their neighbourhood peers were not in school. In this regard, the schooling status of neighbourhood peers exerted a positive social capital which increased school re-entry. This is an indication that schooling status of peers can be an important neighbourhood social capital that can encourage women who previously dropped out of school to re-enter schooling. The result shows that the perceived schooling status of peers is significantly associated with school re-entry at $p < 0.05$.

Table 7.8 Percentage distributions of women by school reentry status and neighbourhood level variables

Neighbourhood level variables	Number of women	School re-entry status		Total	Df	X ²
		Yes	No			
Perceived schooling status of peers						
Peers not in school	175	24.6	75.4	100.0	1	5.60*
Peers are in school	131	32.8	67.2	100.0		
District of residence at school dropout						
Bojanala	198	21.2	78.8	100.0	1	13.19****
Modiri-Molema	108	40.7	59.3	100.0		
Type of place of residence						
Rural	249	30.9	69.1	100.0	1	6.69***
Urban	57	15.8	84.2	100.0		
Total	306	28.1	71.9	100.0		

R); Reference category; level of significance * <0.05; ** <0.01; *** <0.001; **** <0.0001

The district of residence and place of residence are also important in influencing whether or not women who previously dropped out of school re-entered schooling. Nearly 41% of women in Modiri-Molema re-entered school compared to only 21.2% in Bojanala district, and district of residence at school dropout was significantly associated with school re-entry status at $p < 0.0001$. Additionally, 30.9% of the women in rural areas who previously dropped out of school returned to school compared only about 16% in urban areas. The place of residence was significantly associated with returning to school at $p < 0.001$.

The difference can be attributed to district and neighbourhood level attributes of the women which is consistent with the differences in schooling outcomes between economically richer districts and urban and rural areas. The availability of alternative schools in the district or place of residence could enable women who do not want to return to the school they previously dropped out of to do so. Previous studies on school re-entry in general and women who dropped out of school due to pregnancy in particular found that women did not want to return to the school they previously attended (FAWE [Zambia], 2010). Conversely, neighbourhoods (district or place of residence) that offer a wide range of opportunities such as jobs for school dropouts will impede the likelihood of returning to school (Ampiah and Adu-Yeboah, 2009; Bursik, 1999).

7.7 Predictors of school re-entry

The multivariate results predicting school re-entry of women who previously dropped out of school are presented in Table 7.9 using five models. The models were developed based on variables that were significantly associated with school re-entry status at the bivariate analysis. Model 1 presents the results on individual level

variables of women's age cohort and learner pregnancy status after controlling for their effects on school re-entry simultaneously. The result showed that women in the less than 25 year age cohort were 2.74 times ($p<0.001$) significantly more likely to have returned to school compared to women in the 30 years or older age cohort. The model, however, showed that women who became pregnant at school were 83% ($p<0.0001$) times significantly less likely to have returned to school compared to women who were never pregnant at school.

In Model 2, the results on the effect of school level covariates on school re-entry are presented after controlling for their effects on school re-entry simultaneously. The model shows that school re-entry was 3.7 ($p<0.0001$) times significantly more likely and 42% ($p<0.001$) times significantly less likely for women who dropped out of school for financial and pregnancy related reasons respectively. School re-entry was also 11% ($p<0.001$) more likely and 30% ($p<0.01$) significantly less likely for women who were less than 17 and 17-19 years old respectively at school dropout. Additionally women who dropped out of school for 1 year and 2 years were 2.5 ($P<0.0001$) and 2.2 ($P<0.5$) times respectively significantly more likely to have returned to school. The model confirmed the hypothesis that women who dropped out of school for pregnancy related reasons were less likely than those who dropped out of school for other reasons to have return to school.

Among the household level variables, only family structure was significantly associated with school re-entry status after controlling the effect of other variables simultaneously. The result of the adjusted logistic regression presented in Model 3 shows that women who lived in both parent family and extended family were 1.7 ($p<0.05$) and 1.32 ($p<0.05$) times respectively significantly more likely to have

returned to school compared to women who dropped out of school and lived in extended family. The finding confirmed the hypothesis that women in both parent family who dropped out of school were more likely to return to school than those who live in other family systems. Although the single father headed household was also associated with a greater likelihood of school re-entry, it was not a significant predictor of school re-entry in this population of women.

Model 4 present results of adjusted logistic regression model on the effect of community level factors on school re-entry after controlling the effects of perceived schooling status of neighbourhood peers, district of residence at age 14 and type of place of residence at age 14 simultaneously. The model shows that women who lived in Bojanala district were 2.28 ($p<0.001$) times significantly more likely to have returned to school compared to the women who lived in Modiri-Molema district at school dropout. Conversely, women who perceived that their neighbourhood peers were out of school and women who lived in rural areas at school dropout were 0.58 ($p<0.05$) and 0.92 ($p<0.05$) times respectively significantly less likely to have returned to school. The results in the model confirm the hypothesis that women who lived in rural areas at school dropout were significantly less likely to have returned to school after school dropout.

In Model 5, the individual, school, household and neighbourhood level variables that were significant predictors of school re-entry are reported after controlling for their effects on school re-entry simultaneously. The results show that indeed women who dropped out of school for pregnancy related reasons were 62% ($p<0.0001$) significantly less likely to have returned to school; the effect of living in both parent and extended families increased by 2.24 ($p<0.05$) and 1.64 ($p<0.05$) times

respectively; and living in rural areas at school dropout also significantly reduced school re-entry by 0.72 times ($p < 0.05$) compared to women living in urban areas at school dropout. The effects of learner pregnancy and rural residence on school re-entry declined even further after the effects of other covariates were controlled for. These results confirm the hypotheses that “women who dropped out of school for pregnancy related reasons were less likely than those who dropped out of school for other reasons to have return to school” and “women who lived in rural areas at school dropout were significantly less likely to have returned to school after school dropout”. The hypothesis that “women in both parent family who dropped out of school were more likely to return to school” was also confirmed after controlling for all selected individual, school, household and neighbourhood level variables simultaneously.

Furthermore, the model shows that belonging to the less than 25 years age cohort increased school re-entry to 4.28 ($p < 0.001$) times significantly compared to belonging to the 30 years or older age cohort, which implies that women in the younger age cohorts were more likely to have returned to school. Furthermore, living in Bojanala district at school dropout increased school re-entry significantly by 3.17 ($p < 0.05$) times compared to living in Modiri-Molema district after the effects of all covariates were controlled for. Conversely, the effect of dropping out of school at 17-19 years and perceiving that neighbourhood peers were not in school reduced school re-entry by 60% ($P < 0.0001$) and 56% ($p < 0.05$) respectively and significantly compared to dropping out of school at 20 years or older and perceiving that neighbourhood peers were in school after controlling for the effect of all other covariates.

Table 7.9 Logistic regression coefficients showing the effects of selected individual, school, household and neighbourhood level covariates on school re-entry

Selected covariates	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Age cohort										
Under 25	2.74***	(1.30-5.78)							4.28***	(1.54-11.84)
25-29	1.03	(0.43-2.47)							1.28	(0.44-4.33)
30+ ®	1.00								1.00	
School pregnancy status										
Never become pregnant	1.00								1.00	
Ever became pregnant	0.17***	(0.03-0.23)							0.15***	(0.04-0.21)
Reasons for school dropout										
Academic									1.00	
Financial									1.63	(0.21-1.94)
Pregnancy									0.38***	(0.23-0.76)
Age at school dropout										
<17									1.68	(3.92-5.84)
17-19									0.40***	(0.5-0.22)
20+									1.00	
Duration of school dropout										
1									3.82***	(1.99-7.90)
2									2.61*	(0.94-7.24)
3									1.00	

(R); Reference category; level of significance * <0.05; ** <0.01; *** <0.001; **** <0.0001

Table 7.9 Continues

Selected covariates	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	CI	OR	CI	OR	CI	OR	CI	OR	CI
Number of siblings										
1			1.00							
2			1.56	(0.76-3.30)						
3			1.84	(0.94-2.60)						
4+			1.32	(0.62-2.79)						
Mothers' grade attainment										
<8			1.26	(0.72-2.20)						
8-10			1.05	(0.47-2.33)						
11+			1.00							
Family structure at 14										
Both parent			1.68*	(0.74-3.80)					2.44*	(0.73-8.13)
Single mother headed			0.72	(0.30-1.67)					1.37	(0.40-4.68)
Single father headed			1.32*	(0.87-3.18)					1.64*	(0.66-4.57)
Extended			1.00						1.00	
Perceived schooling status of peers										
In school							1.00		1.00	
Out of school							0.58*	(0.32-0.95)	0.44*	(0.22-0.88)
District of residence										
Bojanala							2.28***	(1.35-3.86)	3.17***	(1.41-7.12)
Modiri-Molema							1.00		1.00	
Place of residence										
Rural							0.92*	(0.23-1.11)	0.72*	(0.45-1.23)
Urban							1.00		1.00	

® Reference category; OR=odds Ratio; CI= Confidence interval; levels of significance: *=0.05; **=0.01; ***=0.001; ****=0.0001

7.8 Discussion

Despite a policy on school re-entry, especially due to pregnancy, being in place in South Africa, the proportion of women who previously dropped out of school and re-enter schools to complete their education continues to be low and this study has shown that only 28.1% of the schooling female population who ever dropped out of school in North West Province were reintegrated in school. This has significantly reduced the overall educational attainment of women. The low school re-entry rate is a concern mainly because the number of girls and women who drop out of school is large, which has a much wider ramification on overall development, especially the attainment of most MDGs associated with education.

Although some covariates that significantly increased school re-entry, including belonging to the youngest age cohort, living in both parent and extended families and residing in Bojanala district were identified, there are other covariates, including dropping out of school due to pregnancy, dropping out of school at ages 17-19, perceiving that neighbourhood peers were out of school and residing in rural neighbourhoods, significantly reduced school re-entry. This is worrying as pregnancy, which mostly occurs at 17-19 years and is common in rural areas, is the most common cause of school dropout for girls in sub-Saharan Africa in general and South Africa in particular.

Learner pregnancy and dropping out of school due to pregnancy is the most important individual and school level covariate undermining school re-entry of the girl child. This finding is consistent with previous studies (Chihona and Chetty, 2008) which identified lack of support from teachers; lack of counseling to combat stigma due to teenage pregnancy, poor teacher and peer attitudes towards teenage

mothers (Varga, 2003), poor parental attitude due to stigma of teenage pregnancy and poor socioeconomic status of families of teenage mothers as the main reasons for low school re-entry of previously pregnant girls. Cultural norms against premarital pregnancy and the perception that teen mothers are bad moral and role models for other girls also contribute to the low school re-entry of girls who dropped out of school due to pregnancy.

Other reasons for low school re-entry of teenage mothers include lack of aspirations on the part of the teenage mothers, poverty, child care demands and lack of appropriate and reliable child care support (Dench *et al.*, 2007). A previous study revealed that the responsibility of looking after children is one of the most important factors impeding the re-entry of teenage mothers into school (Sodi, 2009). The above situation reveals that low school re-entry rates for previously pregnant girls are due to lack of social capital at the school, household and neighbourhood levels.

Although literature on the effects of schooling status of neighbourhood peers is inadequate, our finding that the perception that neighbourhood peers are not in school significantly reduced the re-entry of teenage mothers in school is not unexpected. This is because in many communities dropping out of school due to pregnancy was supported to protect other girls from becoming pregnant and as a result most girls who drop out of school due to pregnancy remain out of school, creating the perception that schooling is over for girls who become pregnant at school and therefore do not return to complete their education (Chigona and Chetty, 2008). Additionally, school dropout precedes pregnancy for many girls, implying that girls, who perceive that their neighbourhood peers are not in school, also perceive that they have nothing or little to lose by not re-entering schools after

dropout, which is an indication that peers are an important factor through the so-called reflective problem (Lazear, 2001). A study by Vitaro *et al.*, (2001) on negative social experiences and school dropout appear to support the suggestion that out of school neighbourhood peers encourage teenage mothers not to return to school.

The finding that residing in Bojanala district significantly increased school re-entry of women who previously dropped out of school could be attributed to the historical advantages resulting from a combination of factors including its urbanity, the role of the mining conglomerates and tourism which contributed to better social infrastructure including schools and lower poverty levels than in Modiri-Molema. The study sites in Bojanala as a neighbourhood system therefore offer better social capital structures that contributed to better schooling outcomes including the re-entry of girls into the school system than the rural study sites in Modiri-Molema. For example the availability of more schools also means that the distance to schools is not only shorter and makes girls feel secure, but also enables girls who previously dropped out of school to change schools thereby avoiding the stigma from peers and teachers (Chigona and Chetty, 2008); and the higher incomes from the mining, tourism and service sector employment means that financial support to return girls to school is available, which factors a previous study found increased school re-entry (Hunt, 2008).

The results also show that compared to urban areas, school re-entry of teenage mothers is low in rural neighbourhoods, which could be affected by the fewer alternative schools in rural neighbourhoods. This is in part due to the stigma girls who previously got pregnant at school face, mostly from their peers, necessitating

them to change schools. A previous study observed that the attitude of peers was a strong reason for teenage mothers to change schools. The finding is also consistent with the urban-rural differentials in participation in education, school dropout and education outcomes, which have been observed to be poorer in rural than urban neighbourhoods by another study (Birdsall *et al.*, 2005). Fewer schools in rural neighbourhoods contribute to reducing not only school participation in general, but also school re-entry of students who previously dropped out of school, especially girls (Hunt, 2008).

However, some of the findings did not support the view that urban neighbourhoods reduce school re-entry of girls because of economic pressures, which increase the demand for women to work and contribute to family income; greater availability of jobs in the urban than rural neighbourhoods and higher poverty rates in urban poor neighbourhoods (Tinto, 2006), which is consistent with the view that poverty is a major factor exacerbating school dropout and impeding school re-entry in South Africa (Hallman and Grant, 2004). Women who dropped out of school due to poverty are therefore more likely to choose work in preference to schooling because they are less likely to afford the cost of school re-entry and lose the economic leverage working brings. The finding also does not support the view that weaker social capital in urban neighbourhoods, where the high degree of social economic and cultural differentiation impedes social cohesion does not appear to impede school re-entry for women. Instead, rural neighbourhoods where there exists a strong network of relatives and friends held together by shared values and norms (culture) which are expected to exert stronger social, psychological and financial support, appears to impede school re-entry for women.

Furthermore, the finding that both parent families significantly increased school re-entry of girls is encouraging and consistent with previous studies, which found that the both parent family contributes more to better educational outcomes than any other family structure (Frisco et al., 2007; Heard, 2007; Sun and Li, 2011). Most of these studies attributed better schooling outcomes to the socioeconomic stability and closer supervision and support associated with both parent families. However, the finding that the extended family significantly increased school re-entry of women is surprising, as the level of care and support in this family system in South Africa is low and not conducive for schooling because most children in the extended family are looked after by aging and poor grandparents.

Nevertheless, it is likely that the school needs of girls in extended families are provided by either one or both of their absentee biological parents, who are willing to forego the company of their children so as to engage in productive employment. On the other hand, the receiving family, usually biologically related, also benefits in the form of company and/or labour support provided by fostered children (Eloundou-Enyegue and Stokes, 2002). It is also possible that the extended family is an important safety net especially for orphans and vulnerable children, and in this regard is a vital social capital capable of buffering schooling inequalities. A previous study by Lloyd (1994) supported the assertion that the extended family is an important social capital for mitigating schooling inequalities. A number of other studies have documented the role of the extended family in contributing to achieving higher educational outcomes for orphaned and vulnerable children especially in the context of HIV/AIDS (Mishra and Bignami-Van, 2008; World Bank, 2004; Ainsworth et al., 2005), which is prevalent in the North West province of South

Africa. This suggests that it can also significantly contribute to increasing re-entry of students who previously dropped out of school.

7.9 Limitations

This chapter has identified some of the significant predictors of school re-entry for girls and women who previously dropped out of school. However, the results presented in the chapter could have been affected by some limitations including lack of data on the socioeconomic situation during schooling of the women involved in this study, which impeded the estimation of the impacts of socioeconomic status on school dropout and re-entry. Secondly, the findings of the study could have been affected by the accuracy of reporting data on some of the events, notably learner pregnancy, which is usually affected by social desirability biases if some of the women wanted to appear compliant to social expectations when they were enrolled in school, which is more likely if the pregnancy was aborted. Thirdly, most of the events that are associated with school re-entry happened a long time ago and are dynamic, which makes their temporality rather unknown or inaccurately reported.

7.10 Conclusion

This chapter concludes that although the prevalence of school dropout was high in the study population, the prevalence of school re-entry of girls was low in the North West province of South Africa. This calls for stronger measures aimed at increasing re-entry of teenage women into schools if the objective of increasing education outcomes of women is to be achieved. In doing so a broader perspective including individual, school, household and neighbourhood level issues that impede school re-entry of girls who dropped out of school needs to be addressed.

Chapter Eight

Summary of main findings, conclusions and recommendations

8.1 Introduction

With only 2 years left for the attainment of the MDGs, especially those of Universal Primary Education (MDG 2) and gender equality and empowerment of women (MDG 3), schooling outcomes for girls and women has remained poor in many sub-Saharan African countries. In the few countries in sub-Saharan Africa, which have made significant progress and achieved MDG 2 such as Botswana and South Africa further progress in achieving good educational outcomes for girls and women and achieve gender equality and empowerment of women is being impeded by poor completion rates in secondary education, which is the gate way for achieving gender equality and empowerment of women and other MDGs especially those for poverty reduction, reducing childhood mortality, improving maternal health and combating HIV/AIDS and other diseases. The low secondary school completion rate is being exacerbated by a high rate of school pregnancy and the consequent school dropout. Previous studies have identified early age at pregnancy and childbearing as key factors impeding secondary education completion among women in sub-Saharan Africa (Eloundou-Enyegue, 2004; Madhavan and Thomas, 2005; Ahmed and Meeker, 1999).

In South Africa, between 2000 and 2005, teenage fertility was estimated at 66 per 1000 teenagers, a figure that is above the world average of 50 per 1000 teenagers (United Nations Population Divisions, 2000). Teenage fertility in South Africa occurs against the backdrop of increasing level of school participation (Madhavan and Thomas, 2005). A previous study revealed that when both schooling and

adolescent fertility are increasing, many women are likely to get pregnant while still enrolled in school (Mensch et al., 1998). In South Africa, although prevalence rates vary by provinces, school pregnancy is prevalent in ordinary schools, with 36,702 learners becoming pregnant in 2010 alone, and Mpumalanga and Kwazulu-Natal were the most affected (Department of Education, 2013). In the North West province, a study by Zilimbola (2013) in one secondary school found that one-third of learners in that school had either given birth or fathered a child.

The main aim of this study was therefore to examine the rate and timing of school pregnancy and its impact on matriculation among Black women in North West province. To do so, the study:

- i. estimated the rate and timing of learner pregnancy among women who were in school at age 14 and previously never pregnant, and identified the factors predicting learner pregnancy;
- ii. estimated the rate and timing of school dropout and to identified the main predictors of school dropout; and
- iii. estimated the rate and predictors of school re-entry among women who previously dropped out of school.

These three objectives appropriately represent the extent of schooling outcomes and schooling trajectories and factors that influence them.

8.2 Data and methods

The study used data collected using cross-sectional research design, which collected retrospective data from women pertaining to their schooling and pregnancy trajectory from age 14 to the date at which they either permanently dropped out of

school or matriculated. The target population in the study were black women living in the North West Province who were between the ages of 22 and 40 years, were enrolled in school at age 14 and had not experienced pregnancy before age 14. The rationale for using age 22 as a cut-off point was because by age 22, most women have either completed their high school education or dropped out of school before completing high school and are therefore able to provide information pertaining to their schooling trajectories and outcomes.

The study employed different methods of data analyses in the three analytical chapters namely chapters five, six and seven. Chapter five used the Pearson's chi-square statistic and the Kaplan-Meier survival method to examine patterns, differentials and timing of school pregnancy at the bivariate level and the Binary Logistic Model (BLM) to identify the predictors of school pregnancy. In chapter six, the Pearson's chi-square statistic and the Kaplan-Meier survival method were used to estimate the rate, differentials and timing of school dropout at the bivariate level and the Binary Logistic regression Model (BLM) was used to identify the predictors and risk factors of school dropout. In chapter seven, the Pearson's chi-square statistic and the Binary Logistic regression Model (BLM) were used to estimate differentials and identify the predictors of school re-entry of women who previously dropped out of school.

In chapter eight, the summary of main findings presented by each analytical chapter, namely rates and predictors of school pregnancy, factors influencing school dropout and rates and predictors of school re-entry; the conclusions drawn from the three main chapters; and the recommendations emanating from each analytical chapter are

presented. Also presented are the recommendations for future research on educational outcomes of the girl child and women.

8.3 Summary of main findings

In this section, the summary of the main findings of this study are presented. The first part presents findings on school pregnancy; the second part presents findings on school dropout; and the third part presents findings on school re-entry.

8.3.1 Summary of findings on learner pregnancy

Nearly 38% of the study respondents experienced learner pregnancy after age 14 and before matriculation. The results show that the rate of learner pregnancy in the North West province was higher than that of a similar study in Kwa Zulu-Natal province also in South Africa where 35% of women become pregnant while still enrolled in school (Grant and Hallman, 2008).

The mean age at learner pregnancy in this study population was found to be 17.8 years. This is the age group most at risk of pregnancy mainly because of the physiological, psychological and emotional transformations taking place in this population group. It is also the age at which young people are experimenting and searching for social identity and independence. As expected, the mean age at school pregnancy varies by individual, school, household and neighbourhood level covariates. At the bivariate level, age at sexual debut and age groups were the individual factors significantly associated with school pregnancy. The chapter shows that more women who had sexual debut at less than 18 years and were in the oldest age group experienced learner pregnancy. Among the school level factors, learner pregnancy was significant and increased with age at school entry, reduced with increase in school grade at age 14, highest grade attainment and was higher for

girls who previously dropped out of school. Low mother's grade attainment and family structure were associated with higher rates of learner pregnancy. Regarding the community level, perceptions on the schooling status of neighbourhood peers and rural place of residence were significantly associated with higher rates of school pregnancy.

At the multivariate level of analysis, the results presented in Model 5 show that women who had sexual debut at less than 18 years of age were more likely to have experienced learner pregnancy than women who had sexual debut at 18 years or older; learner pregnancy; being in less than grade 8 at age 14; having ever dropped out of school due to pregnancy; attaining grades 8-10, significantly increased learner pregnancy in this population of women. The perception that neighbourhood peers were in school and rural type of place of neighbourhood residence also significantly increased learner pregnancy. Conversely, having never previously dropped out of school and having a mother who attained grades 8-10 significantly predicted lower learner pregnancy in this population.

8.3.2 Conclusion on school pregnancy

From the results on rates and predictors of school pregnancy, it was concluded that learner pregnancy among women is prevalent in the North West province. The average age at pregnancies among learners was 17.8, which is at the peak of physiological, psychological and emotional transformations, during which young people are experimenting and searching for identities and independence. The main predictors of school pregnancy were found to include the early age at sexual debut and premarital childbearing; the slow school progression reflected by older age at a lower school grade; and structural factors including mothers' education and spatial

neighbourhood vulnerabilities which could lead to intergenerational transfer of vulnerability including learner pregnancy. This is reflected in the low education attainment both of the women who become pregnant at school and that of their mothers, which suggests that daughters, like their mothers, were not equipped with skills, values, attitudes and aspirations to prevent school pregnancy.

8.3.3 Summary of main findings on school dropout

The main objectives of this chapter were to estimate the rate and timing of school dropout among women who were enrolled in school at age 14 and identify the main predictors influencing school dropout. The findings show that nearly 53% of the women dropped out of school before matriculation at grade 12. The mean grade at school dropout in this study population was 11.4, which indicates that most school learners who dropped out of school did so in the first year of high school education. The result also shows that the mean grade at school dropout varied by the individual, school, household and neighbourhood attributes of the women.

Differentials by individual level variables show that the rate of school dropout increased with increase in age group indicating that women who were in the older age groups were more likely than those in the younger age groups to have dropped out of school; school dropout also increased with increase in birth order of the women indicating that more women of higher birth orders drop out of school than women of lower birth orders; and women who experienced learner pregnancy experienced higher rates of school dropout, indicating that school pregnancy was an important reason for school dropout in the study population. The results also show that the rate of school dropout decreased with increase in the age at sexual debut,

suggesting that women who initiated sexual activity at younger ages were more likely to have dropped out of school.

Differentials by school level variables show that learner dropout rate increased with higher age at school entry which is an indication that women who were older than the recommended age at school entry were more likely to drop out of school. Likewise, learner dropout decreased with grade at age 14, indicating that learner dropout was higher and likely among women who were older at a lower grade than those who were either younger or at the recommended age at a particular grade. However, learner dropout was much lower among women who attained grade 11 or higher compared to women who attained less than grade 11.

Results presented in chapter six also show differentials in school dropout by household level variables indicating that the rate of school dropout decreased with increase in grade attainment of the mothers' of the women in the study. This suggests that mothers' education is an important predictor of the educational attainment of the girl child in South Africa. Regarding neighbourhood level differentials, only place of residence was significantly associated with learner dropout and women who lived in rural neighbourhood at age 14 were more likely to drop out of school than those who were in urban neighbourhood.

The multivariate results presented in Model 5 shows that women were significantly more likely to have dropped out of school if they were of birth order 4 or higher and had sexual debut at less than 18 years of age. These results confirmed that number of siblings and age at sexual debut are important individual level predictors of school dropout in this population of women. Among school level predictors, women who experienced learner pregnancy, started school at 7 and 8 years of age

and were in less than grade 8 at age 14 were significantly more likely to have dropped out of school. The results indicate that the students who dropped out of school started schooling late and were also at a lower grade at age 14. Late entry in school and older age at school is associated with a number of challenges including poor school performance and competition by other life events which distract girls from schooling leading to dropout. The model also shows that mothers' grade attainment is a significant predictor of school dropout and women whose mothers attained less than grade 8 and grades 8-10 were more likely to drop out of school. These grades are low and could be associated with intergenerational transfer of vulnerabilities including the low education trap for the off springs of these women. Regarding neighborhood level factors, living in rural areas at age 14 was a predictor of increased school dropout.

8.3.4 Conclusion on school dropout

From the findings in chapter six, it can be concluded that school dropout among girls is prevalent in the North West province. The results also show that learner pregnancy was the main factor influencing the high rate of school dropout for the girl child. However, these factors appear to be exacerbated by early age at the initiation of sexual activity, low grade at older age implying late age at school entry or repetition of grades, low educational attainment of mothers of the girls and residing in rural neighbourhoods.

8.3.5 Summary of main findings on school re-entry

The results on school re-entry status of women who previously dropped out of school and the predictors of school re-entry were presented in chapter seven and show that of the 306 girls who dropped out of school, only 86 representing only 28%

re-entered schooling. This indicates that despite having policies in place to improve the schooling outcomes of women by enabling women who drop out of school, especially those who do so due to pregnancy, the rate of school re-entry of the girl child in particular and women in general remained low.

Differentials in school re-entry show that school re-entry increased with increase in age groups of the women, suggesting that in this sample the proportion of women (38%) who returned to school was higher among the older women than the younger women. The rate of school re-entry was almost 9 times higher among women who experienced learner pregnancy than women who did not experience learner pregnancy. Differentials of school re-entry also show that more women who dropped out of school due to pregnancy compared to women who dropped out of school for other reasons, re-joined schooling. The rate of school re-entry decreased with increase in the age at school dropout and duration of school dropout. Furthermore, differentials in school re-entry by household level factors revealed that the rates of school re-entry are higher among girls who lived in both parent and extended families than those who lived in single parent father and mother headed families; among girls who perceived that their neighbourhood peers were in school; and in Modiri-Molema district and rural areas than in Bojanala and urban areas of North West province.

At the multivariate level, the results of the analysis presented in Model 5 show that girls who have experienced learner pregnancy and those who dropped out of school due to pregnancy related reasons were significantly less likely to have returned to school. This is expected especially in societies where learner pregnancy is strongly disapproved. Poor attitude on mothering learners by teachers and peers could also

discourage them from re-joining schooling. Dropping out of school at 17-19 years of age was also a significant predictor of lower school re-entry rate probably because of the effect of learner pregnancy which is more common in the 17-19 years age group than other age groups. The results in Model 5 also show that women who were in rural areas at age 14 were less likely than those in urban areas to have re-joined schooling.

Conversely, results show that belonging to the less than 25 years age group increased school re-entry significantly compared to belonging to the 30 years or older age group. This is probably because most of the women were still young and could have been supported to rejoin school. Besides, the policy to encourage women to re-join schooling is relatively new and could have disproportionately benefitted younger women than older women. The effect of living in both parent and extended families on school re-entry also increased significantly probably because of the motivation and support provided by parents and extended relatives. Living in Bojanala district at school dropout increased school re-entry significantly compared to living in Modiri-Molema district after the effects of all covariates were controlled for. This is likely to be the result of the greater supply of schools and the more urban nature of the district which acts as strong social capital that encourage school re-entry.

8.3.6 Conclusions on school re-entry

This chapter concludes that although the prevalence of school dropout was high in the study population, the rate of school re-entry of girls was low in the North West province of South Africa. This was significantly associated with the incidence of learner pregnancy, dropping out of school for pregnancy related reasons, the

perception that neighbourhood peers were not in school and residing in rural areas. Conversely, school re-entry was influenced by a younger age group, district of residence and residing in both parent and extended families. This calls for stronger measures aimed at increasing re-entry of teenage women into schools if the objective of increasing education outcomes of women is to be achieved.

8.4 Recommendations to address school pregnancy, school dropout and school re-entry

In view of the high prevalence of school pregnancy and resulting high school dropout and low school re-entry by the girl child, the following actions are recommended:

- i. Efforts to address tolerance of premarital sex and premarital childbearing should be implemented by inculcating value systems and aspirations that discourage young women from sexual activity.
- ii. Increasing access to reproductive health services including access to contraceptive commodities for young people and providing youth friendly family planning services should be adopted as a strategy for reducing school pregnancy.
- iii. School and community based peer support groups and activities should be institutionalized and integrated in the daily lives of young people as a way of protecting them from illicit behaviours that increase their susceptibility to sexual activities and pregnancy.
- iv. Family dysfunctions propagated by family disruption due to the increasing level of divorce and adult mortality, and the problem of single parenthood and child fostering that expose young women to poverty, lack of appropriate parental guidance and protection should be addressed by

protecting and empowering the family as the primary institution of childbearing and socialization.

- v. Life Orientation (LO) as a school subject needs to be improved with the view of making it empower learners to avoid inappropriate behaviours. Key among such improvements includes creating awareness among young people about sexuality, sexual risks and other deviant behaviours such as drug and alcohol abuse.
- vi. Poverty is prevalent among black South Africans, which affects schooling through absenteeism due to lack of fees, taking time away from schooling activities to engage in income generating activities and sometimes dropping out of school altogether. Introducing free education for all or at least the most poor in rural communities should be considered.
- vii. Considering financial incentives for poor families by bringing them under the social protection services should be considered. This will encourage poor families and girls from such families to remain at school by keeping them out of efforts to contribute to family income and satisfy their individual needs.
- viii. Moreover, parents are often the first people to know about their daughter's pregnancy status. Changing the attitude of parents towards school pregnancy and keeping their pregnant girls in school instead of hurriedly marrying them and removing them from school is important.
- ix. Adopting a flexible schooling system to accommodate pregnant students and those who are mothers.

- x. Changing the attitude of teachers and students to support student mothers achieve their schooling objectives is important in enabling pregnant girls and young mothers to re-join schooling.
- xi. Although a formal policy is necessary, school re-entry of previously pregnant girls can still be achieved by raising awareness in schools through school visitation and community sensitization through the public media such as radio talk shows and newspapers regarding the need for school reintegration of girls who dropped out of school including those due to pregnancy.

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Questionnaire

Timing of first birth and its effect on school attainment in South Africa: The case of Black women in North West Province Survey

WHO SHOULD ANSWER THIS QUESTIONNAIRE?

Any Black women from 22-40 years of age who was attending school at the beginning of age 14.

Confidentiality

The information obtained in this questionnaire will be treated confidentially. No information obtained from any person will be used for any purpose except for research purpose.

Name (optional)

Dwelling unit number

Name of the EA.....

District:.....

Field staff

Interviewer's name.....Date of first interview.....

Please tick in the appropriate box

Demographic information			
1.1 What was your age at last birthday?		Age at last birthday.....	
1.2 Please indicate your date of birth		year	month
		day	
1.3 Have you ever been married ☐ 1 = YES ☐ 2 = NO			
If ever-married, please indicate the date of first marriage		year	month
		day	
Information on schooling			
In which year did you start attending Grade1/Sub A?		Year.....	
How old were you when you started school		Age.....	
Are you currently attending school? ☐ 1 = YES ☐ 2 = No			
What is the highest educational standard you have attained/passed?			
☐ 1 = Sub A/Grade 1	☐ 6 = Std4/Grade 6	☐ 11=Std9/ Grade	
☐ 2 = Sub B /Grade 2	☐ 7= Std 5 /Grade 7	☐ 12=Std10/Grad	
		☐ 13 =post matric	

5 Have you ever been pregnant at school? ☐ 1 =yes ☐ 2 = NO				
7 From the time you were 14 years of age have you ever dropped out of school? ☐ 1 =yes ☐ 2 = NO				
8 If ever dropped out of school, give the date/s and the standard/grades in which you dropped out.	Standard	year	month	day
9 If answered yes above, what was the main reason for dropping out of school? ☐ 1 =NO MONEY FOR SCHOOL FEES ☐ 2 = GETTING MARRIED ☐ 3 = STARTED WORKING ☐ 4 = PREGNANCY ☐ 5= OTHER, SPECIFY.....				
10 If you cited pregnancy as the main reason for dropping out, did such pregnancy result in live birth? ☐ 1 =YES ☐ 2 = NO				
Please give the date of in which you gave birth for that pregnancy.	year	Month	Day	
Did you return to school after dropping out? ☐ 1 =YES ☐ 2 = NO				
In all the cases where you returned to school after dropping out, give the dates in which you returned to school.	Year	Month	Day	

FERTILITY			
3.1 How many children have you given birth to (including those who died after birth) ☐ 0 ☐ 4 ☐ 1 ☐ 5 ☐ 2 ☐ 6 ☐ 3 ☐ 7+			
3.2 Give date/s of birth from the 1 st to the 3 rd child	Year	Month	Day Name
3.3 Are the children you mentioned above still surviving? ☐ 1 =YES ☐ 2 = NO			
3.4 If any passed away, please give date of death	Year	Month h	Day Name
4. I will like you to think back at a time when you were 14 years of age			
4.1 In which school standard were you enrolled in at age 14?	☐ Std2 or less ☐ 6 ☐ 3 ☐ 7 ☐ 4 ☐ 8 ☐ 5 ☐ other specify.....		
4.2 How would you classify the place in which you were staying at age 14? ☐ 1=Urban ☐ 2=Rural			
4.3 With whom were you staying at age 14? ☐ 1 =BOTH PARENTS			

☐ 2 = MOTHER ONLY ☐ 3 = FATHER ONLY ☐ 4 = GRANDPARENT/S ☐ 5 = OTHER, SPECIFY.....																																
4.4 Besides the person/s you stated above, how many other female adults were staying in the same household? ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4+																																
4.5 How were you related to the person/s you indicted above? e.g. GRANDMOTHER, AUNT ETC SPECIFY.....																																
4.6 What is the highest educational level attained by your mother and father? State the grade please Mother..... Father																																
4.6 How many brothers and sisters did you have, including those who died?	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 2px;">Brothers</th> <th colspan="2" style="text-align: left; padding: 2px;">Sisters</th> </tr> </thead> <tbody> <tr> <td style="padding: 2px;">☐ 0</td> <td style="padding: 2px;">☐ 0</td> <td style="padding: 2px;">☐ 5</td> </tr> <tr> <td style="padding: 2px;">☐ 5</td> <td style="padding: 2px;">☐ 1</td> <td style="padding: 2px;">☐ 6</td> </tr> <tr> <td style="padding: 2px;">☐ 1</td> <td style="padding: 2px;">☐ 2</td> <td style="padding: 2px;">☐ 7</td> </tr> <tr> <td style="padding: 2px;">☐ 6</td> <td style="padding: 2px;">☐ 3</td> <td style="padding: 2px;">☐ 8+</td> </tr> <tr> <td style="padding: 2px;">☐ 2</td> <td style="padding: 2px;">☐ 4</td> <td></td> </tr> <tr> <td style="padding: 2px;">☐ 7</td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">☐ 3</td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">☐ 8+</td> <td></td> <td></td> </tr> <tr> <td style="padding: 2px;">☐ 4</td> <td></td> <td></td> </tr> </tbody> </table>		Brothers	Sisters		☐ 0	☐ 0	☐ 5	☐ 5	☐ 1	☐ 6	☐ 1	☐ 2	☐ 7	☐ 6	☐ 3	☐ 8+	☐ 2	☐ 4		☐ 7			☐ 3			☐ 8+			☐ 4		
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4.8 How many sisters and brothers were you staying	Brothers	Sisters																														

with at age 14?	☐ 0 ☐ 5 ☐ 1 ☐ 6 ☐ 2 ☐ 7 ☐ 3 ☐ 8+ ☐ 4	☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8+
4.9 How many OLDER brothers and sisters were attending school when you were 14?	Brothers ☐ 0 ☐ 5 ☐ 1 ☐ 6 ☐ 2 ☐ 7 ☐ 3 ☐ 8+ ☐ 4	Sisters ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8+
5. SEXUALITY		
5.1 At what age did you start going out with a boy?	☐ less than 14 ☐ 14 ☐ 15 ☐ 16	☐ 17 ☐ 18 ☐ 19 ☐ above 19
5.2 At what age did you experience your first sexual intercourse?	☐ less than 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18	☐ 19 ☐ 20 ☐ above 20 ☐ never had intercourse
6. COMMUNITY FACTORS		
6.1 Which of the following statements do you agree most with? When I was a teenager (12-19 years) most girls of my age in the community in which I was staying had babies ☐ highly agree ☐ agree ☐ disagree ☐ highly disagree ☐ not sure		
6.2 When I was a teenager (12-19 years) most girls in the community were attending school. ☐ highly agree ☐ agree ☐ disagree ☐ highly disagree ☐ not sure		

The End. Thank you