**The relationship between school trajectory and incidences of youthchildbearing: A longitudinal analysis of the National Income Dynamics Study data of 2008 and 2012.**

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**Submitted in partial fulfilment of the academic requirement for the degree of Masters in Population Studies**

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## Declaration

I, Nthatisi Merylin Leseba declare that:

This dissertation is my original research except where otherwise indicated.

This dissertation has not been submitted for any degree or examination at any other university.

This dissertation does not contain other people's data unless specifically acknowledged as been sourced.

This dissertation does not have other people's writing unless specifically acknowledged. All the quoted sources have been referenced.

Where the exact words of participants have been used, their words have been placed in italics and inside quotation marks and referenced.

Signed

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Date

# Abstract

Youth childbearing is one of the public health and developmental problems globally with numbers ranging from 14 to 16 million. There has been a traceable decline in the incidences of youth childbearing in most parts of the world. In South Africa, youth childbearing has not declined for some selected population groups: Coloreds and Africans. The differentials of youth childbearing are also still observed in some geographic locations. To address this developmental problem, resolutions have been made and implemented for some decades now. These resolutions emphasis was to ensure formal education to young girls. Educating young females comes as a protective factor to early childbearing, repeated cycle of poverty and helped in the economic and political development of the country. However, the educational system in South Africa is reported to serve two sub-educational systems, namely: the first sub-system that serves the upper-income quintile of the country and the second sub-system that serves the lower income quintile. Collectively, this has led to a conclusion that, the South African educational system is characterized by a late entry, high-grade retention, and high drop-out rates. This study is a longitudinal study using three waves (2008, 2010 and 2012) from the National Income Dynamics Study (NIDS). The analysis was done on a sample of 956 female youth that reported neither a pregnancy nor childbearing in 2008. Over the three years, 261 youth were lost to attrition. To infer and reduce bias in the results, weights were used for the analysis. The analysis uses descriptive analysis both at a cross-sectional and cohort level analysis. To identify possible determinants on incidences of youth childbearing in South Africa, a cohort level multivariate analysis was done. The results show that population group, parental residential status and having repeated a grade between 2008 and 2012 were determinants of incidences of youth childbearing in 2012. In conclusion, having repeated a grade is indeed a major determinant of youth childbearing in South Africa. In recommendations, the educational system should put in place a student support services to help students deal with personal and academic challenges they face.

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## Dedication

To my beautiful daughter, thank you very much for your patience, love, care and for being so understanding. To my mom in heaven, thank you very much for making it all happen. I LOVE YOU BOTH.

# 1. Chapter One

## 1.1 Introduction

The United Nations Population Fund (UNFPA) estimates that the population aged 10 to 24 is slightly below 1.8 billion in the world population of 7.3 billion, which is approximately 25% of the world population. The under 25-year olds are also known as 'history's largest generation of adolescents' due to the population growth rates (UNFPA, 2015). Most population growth is in developing countries, which was home to about 85% of the global 10 - 25-year old population in 2008 (UNICEF[1], 2008: Gupta et al., 2014), and 89% in 2015 (UNFPA, 2015). Given the population dynamics in many developing countries it is projected that in 2030, the youth population will increase (Loaiza and Liang, 2013). Gupta et al. (2014) additionally pointed out that, by the end of the century, the world's population might be as high as 17 billion where approximately 9 out of 10 people will be in their youth.

Youth and adolescence are transitional phases in a human's life. Globally, most people in this phase still depend on their family units for emotional and financial support or full-time education (Kiddy, 2002). However, within this group, there are different aspirations, educational levels, achievements, culture and socio-economic statuses which in the long run affect their health and health-related behaviours (Kiddy, 2002). For some females in this age group, these years are a time to explore, learn and increase enormously in autonomy, but for other girls the story is different, this is a time where girls are vulnerable to exclusion from rights and opportunities or just plain discrimination (United Nations (UN), 2016). Female youths have been faced with developmental challenges that hinder sustainability later in life (Sedgh et al., 2015: Mushwana et al., 2015). According to UNFPA (2015), youth childbearing has been observed as both a developmental and a public health problem that needs attention as the world moves towards achieving the Sustainable Developmental Goals (SDGs) 2012; Sedgh et al., 2015: Mushwana et al., 2015) (UNFPA, 2015).

UNICEF (2008) reported youth childbearing as an essential health issue globally, with an increasing awareness of the importance of the problem in the 1960's and 1970's. In recent years, there has been a noticeable, although uneven, decrease in the birth rates among

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[1] United Nations International Children's Emergency Fund

adolescent girls in other parts of the world. This decrease has occurred in most developed countries such as the United States of America (US) (Kearney et al., 2015), England and Wales (Office for National Statistics, 2014), the Netherlands, Slovenia and Singapore (Sedgh et al., 2015). However, other countries have experienced an increase in youth childbearing and those countries are mostly developing nations such as Niger, Bangladesh, India, Mali, Mozambique, and Angola (WHO[2], 2016; Guttmacher Institute, 2016).

Historically, a decline in youth childbearing has been observed for over 60 years. Noticeably, there has been a massive improvement in youth birth rates in the poorest regions (developing countries) of the world. There has been a decline of youth birth rates from 170 births per 1000 average population aged 15-19 in 1950-55 to 106 per 1000 average population aged 15-19 in 2010 (Akin et al., 2016). Globally, there has been an observable decrease and then an increase in teenage pregnancy from 2003 to 2016. There were 15 million births to females aged 15-19 reported in 2003 (Senanayake and Faulker, 2003). By 2008, UNICEF (2008) reported 14 million births worldwide were born to women aged 15-19. However, by 2014 the number increased significantly to 16 million, where it has remained constant until 2016 (Sedgh et al., 2015; WHO, 2016). On that note, there are also approximately an additional 2 million recorded births from girls under the age of 15 yearly (Akin et al., 2015).

The distribution of youth childbearing is uneven across the world (Akin et al., 2015). The majority (95%) of the adolescent childbearing occurs in developing countries (Loaiza and Liang, 2013). Sedgh et al., (2015) affirmed that half of the 16 million global statistics occur in just seven countries namely Bangladesh, Brazil, The Democratic Republic of Congo, Ethiopia, India, Nigeria and the US (United States) (WHO 2016; UNICEF, 2008). In some low and middle-income countries, almost 10% of girls become mothers before the age of 16 and one-third of these young women are reported to be married as children (Sedgh et al., 2015; Akin et al., 2015). Regionally, among middle and low-income countries, adolescent birth rates range from as high as 112 per 1000 average population aged 15-19 in some parts of West Africa and South Asia with the lower rate of 6 per 1000 average population aged 15-19 from Eastern Asia in 2015 (Akin et al.,2015). On the other hand, developed countries contribute only 5% of the total adolescent birth rates (UNFPA, 2015)

Panday et al., (2009) revealed that the reason behind the non-uniform trends between developing and developed countries is because developed countries have experienced a lengthy period of industrialization which coincides with the decline in the overall fertility. The US is

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[2] World Health Organization

one of the developed countries with the highest rates of adolescent childbearing and the decline has been slow because of the inequality in the population (Panday et al., 2009). The difference between the rates does not only happen between regions, there are differences between the regions.

The differences in adolescent birth rates among countries in the same region are substantial, particularly in the Sub Saharan Africa (SSA). For example, Burundi has an average of 60 per 1000 population aged 15-19 while Niger has 210 per 1000 population (Akin et al., 2015). In 2008, the regional average rate of birth per 1000 females aged 15-19 years was 143 varying from 45 in Mauritius to 229 in Guinea for population aged 15-19 (Nguyen et al., 2016). In some SSA countries, 1 in 5 adolescent females gives birth each year while in other countries, 30-40% of all adolescent female experience motherhood before the age of 18 (Teefers, 2004). South Africa compared to other SSA middle-income countries has been experiencing a decline in overall fertility (Panday et al., 2009; Jewkes et al., 2009).

Timaeus and Moultrie (2013) and Panday et al. (2009) highlighted that adolescent fertility is lower in South Africa than in most African countries. The World Bank (2016) showed a decline in the adolescent fertility of South Africa from 57.5 per 1000 population of women aged 15-19 in 2008 down to 46.6 per 1000 population in 2014. However, adolescent fertility has not declined for everyone in South Africa, there are population groups and provinces that still experience high incidences of youth childbearing (Ramathuba, 2013). The Free State, Gauteng, and North-West provinces had the lowest proportions of teenage fertility while Mpumalanga, Northern Cape, Limpopo and Eastern Cape reported higher levels of early pregnancy (Timaeus and Moultrie, 2013). Youth childbearing in South Africa can be traced from the country's history of racial classification that created inequalities amongst the people (Timaeus and Moultrie, 2013).

Reported teenage fertility rates from white South Africans and Indians (144 and 22 per 1000 population aged 15-19 years) is a mirror of developed countries while the rates are higher among black South Africans (71 per 1000 female population aged 15-19 years) and the coloured population group (60 per 1000 female population aged 15-19 years) portraying a picture of a developing country (Timaeus and Moultrie, 2013).

Youth childbearing is a complex issue that is poorly understood as it covers issues inclusive of conception, termination, miscarriage and live births (Kiddy, 2002). Before delivery, young women are at a higher risk of anaemia and hypertension disorders that might cost them their lives if left unattended during antenatal care (Zinyane and Ehler, 2006). The WHO (2016) reported that depression, iron deficiency- anaemia, and Human Immunodeficiency Virus (HIV)

are among the major causes of disability-adjusted life years lost in 10–19-year olds. It should also be noted that Africa has the highest rates of disability-adjusted life years among adolescents.

If young women make it through pregnancy to delivery, the consequences intensify. Maternal deaths are the second most common cause of death among young women in reproductive ages (Alves et al., 2013; WHO, 2016). The risk of death among young women is about a third higher among women aged 15-19 than other age groups (Sedgh et al., 2015). Approximately 287 000 young women die due to complications of pregnancy and childbirth yearly internationally, where 99% of them reside in developing countries (WHO, 2016). Roughly 2 million or more young women were left with a chronic illness or disabilities after childbearing globally (WHO, 2016). Maternal deaths are caused by obstructed labour, fistula, and premature delivery among young women (Sedgh et al., 2015) because of their small underdeveloped pelvic structure (Alves et al., 2013: Wells et al., 2017)

The postnatal period is also a very challenging stage for young women. Youth mothers are also likely to experience post-natal depression and other mental health issues leading to a lesser probability of breastfeeding and bonding with their children (Morinis et al., 2013; Sedgh et al., 2015). Reid and Meadows-Oliver (2007) indicated that several demographic characteristics may have a relationship to depression in adolescent mothers inclusive of the childbearing status, age, school attendance, socioeconomic status (SES) and educational attainment. Moreover, Weeds and Nicholson (2014) and Schwab-Reese et al. (2016) urges that depression also comes with shame and stigma associated with teenage pregnancy in most communities.

Early labour and delivery are more common among youth mothers compared to women in other age groups, commonly resulting in low birth weighed babies (Alves et al., 2013). In developing countries, "stillbirths and death in the first week and the first month of life are 50% higher among babies born to mother younger than the age of 20" (WHO, 2011:3). Due to these adverse outcomes, teenage pregnancy has been labelled a major public health problem alongside cardiovascular disease, cancer and mental health in most countries in the world (Corcoran, 2016). Cognitive development of children born to youth mother is affected (Lawlor and Shaw, 2002). Morinis et al. (2013) urged that babies born to youth mothers have less development speaking at the age of five and are reported to have lower educational attainment than children born to older mothers. Moreover, Kirby (2002a) observed that, potential poor outcomes for children born to adolescent mothers expand beyond infancy and chances of being born preterm to poor outcomes as those children move to adulthood.

Many adolescent mothers have been reported to be dependent on social welfare for the upbringing of their children, solely because most them are unemployed and single (Kalil and Kunz, 1999; Madigan et al., 2014). By the time they reached the age of 30, teenage mothers were more likely to living in poverty than mothers with a first birth at the age of 24 years or older because these teenage mothers were less likely to be educated, employed and less likely to have been living with a partner (Schuyler Centre for Analysis and Advocacy, 2008). Several of these developmental challenges have been noted and have also landed a spot in the current developmental agenda. With a broad aim of protecting and helping in a healthy nurturing of female youth, resolutions have been introduced to prevent youth childbearing internationally and locally for quite some time now (UNESCO[3], 2013).

## 1.2 Background of Study

In 1989 at the Convention on Rights of the Child (CRC), governments and societies were provided with the essential elements of a strategy for the protection of girls and boys up to adulthood (Loaiza and Liang, 2013). In 1994, an International Conference on Population and Development (ICPD) was held in Cairo and placed emphasised the resolutions of CRC. The ICPD put an emphasised supporting the needs, aspirations and development capacities of all youth across the globe (Loaiza and Liang, 2013). Apart from empowering all youth globally, ICPD made an emphasis on the value of investing in women and girls (UNICEF, 2015). This was specifically to contribute towards the equal quality of life (Loaiza and Liang, 2013).

Reproductive health, together with women empowerment and gender equality has been observed to be a prerequisite for sustainable development (Girard, 2016). Therefore, the ICPD conference agreed on two primary objectives in about reproductive health needs of young women: Firstly, "to address adolescent sexual and reproductive health issues, including unwanted pregnancy, unsafe pregnancy, unsafe abortions and sexually transmitted diseases inclusive of HIV/AIDS[4], through promoting a responsible and healthy reproductive and sexual behaviour" and secondly "to substantially reduce all adolescent pregnancies" (Loaiza and Liang, 2013:pg3). The principles of reducing adolescent pregnancy and benchmarks informed

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[3] United Nations Educational, Scientific and Cultural Organization
[4] Human immunodeficiency virus infection and acquired immune deficiency syndrome

the Millennium Developmental Goals which were aimed for global development agenda (UNICEF, 2015).

Recently as the world moved towards the SDGs, youth childbearing is still one of the factors that need to be addressed. Goal 3 of the SDG's, - "to ensure healthy lives and promote well-being at all ages calls for achieving worldwide access to sexual and reproductive health care, reducing global maternal death rates and ending the AIDS epidemic by 2030" (AVERT, 2016). Reproductive health problems are a leading cause of ill health and death for women and girls of childbearing age in developing countries. This was because impoverished women are more likely to experience unplanned pregnancies, unsafe abortion, maternal death and disability, sexually transmitted infections (STIs) and related problems (AVERT, 2016).

African countries have also had continent specific resolutions. The African Union Constitutive Act and African Union Commission strategic plan of 2004-2007 also gave priority to youth development and empowerment (African Union Commission (AUC), 2006). In doing so, the African Union (AU) developed a policy framework in the form of the "African Youth Charter"; the framework was to enable AU policymakers to channel youth issues in all development policies and programs (AUC, 2006). The African Youth Charter was divided into different types of articles to address different developmental concerns of youth; however, the most applicable now is Article 16 on Health and Article 23 on Girls and Young women. Article 16 stated that "Every young person shall have the right to the best attainment state of physical, mental and spiritual health" (AUC, 2006; pg. 27). Article 16 was broken down in five sections, and in those sections AU countries committed to undertake a full implementation of the rights to provide access to youth-friendly reproductive health services, inclusive of contraceptives, antenatal health services, post-natal services to indirectly address the issue of high levels of youth childbearing within the continent (AUC, 2006). South Africa signed the African Youth Charter on the 28th May 2009 and July 8th, 2009 (South African Government, 2015).

South Africa also took a huge step in moving towards sustainability and development after 1994. The umbrella policy for South Africa that enclosed every other policy implemented after 1998 comes from the Population Policy for South Africa of 1998. The policy was designed to provide high and equitable quality of life to all South Africans (Department of Social Development (DSD), 2015). Among many other umbrella objectives, the Population Policy addressed the issue of sexual and reproductive health for all, and specifically adolescent reproductive health (DSD, 2014). The South African policies and plans that identified sexual

and reproductive health were priority areas in health interventions particularly in the Eastern Cape (Social Development and Special Programme (SDSP), 2015).

Both the prevention of unintended pregnancies among teenagers and the provision of support to those who do conceive contributes to the overall aim of enhancing reproductive health (SDSP, 2015). The National Adolescent Sexual and Reproductive Health and Rights (ASRH&R) framework strategy has been developed as an explicit strategy that could serve as a guide to stakeholders involved in various aspects of ASRH&R in South Africa (Department of Health, 2015). More so, the Department of Health (2015) asserts that, the primary purpose was to identify missing gaps in the promotion of youth sexual and reproductive health and rights to combat youth childbearing; as well as reducing higher risks of health problems between the mother and the child during early pregnancy (Alves et al.,2013). The Population policy objectives have also been brought down to the National Developmental Plan of 2030.

Numerous international interventions that have been implemented to reduce youth childbearing have simultaneously been addressing the equally critical issue of education to all (Loaiza and Liang, 2013). The resolution of quality education has been emphasized from the CRC framework to the South African National Developmental Framework of 2030 (National Planning Commission, 2012).

The ICPD resolution of education is the backbone of all the educational policies, with the primary objective of a greater focus in education and keeping girls in schools because schools are a critical site for improving adolescent health due to the time spent there. Schools ensure that girls and young women can participate actively, equally and effectively with boys at all levels of social, educational, economic, and political civic life (AUC, 2006). The AU specifically developed a framework that guaranteed universal and equal access to formal education of a minimum of nine years (AUC, 2006). Moreover, the AU brought something different compared to the rest of the resolutions, as it also included a guarantee equal access to completion of vocational, secondary and higher education to address the existing imbalance between young women and men in certain professions (AUC, 2006).

## 1.3 Problem Statement

After years of implementing developmental policies relating to education and youth childbearing, there are still a few setbacks. Many developing countries have not achieved the guarantee of quality education and necessary knowledge to reduce risk-taking behaviour and health risk (UNFPA, 2015). UNFPA (2011) reported that the developmental problem of youth childbearing would continue to increase due to the unmet needs of contraceptives and the decreasing age of sexual debut among youth (Panday et al., 2009). Nevertheless, the priority has been given to 'a guarantee of universal education' for informed decision making and to acquire enough information to use contraceptives effectively and efficiently, thus overcoming the issue of unmet needs of contraceptive. In support, education leads to social and economic benefits to individuals and has been observed to be the reason why overall fertility globally since the 1970s (UNCIEF, 2008; Panday et al., 2009).

The biggest dilemmas in the educational system of South Africa are slow to progress, high-grade retention rate, dropping out, and re-entry in the educational system (Branson et al., 2013; Timaeus and Moultrie, 2013). This is despite significant investments made towards education to create sustainability in South Africa. Branson et al. (2013) further posit that not keeping pace at school is a direct determinant of school dropout even after controlling for the quality of education and socio-economic status. In addition, the American Academy of Paediatrics (AAP) (2015) also indicated that low-achieving students tend to progress at the same rate whether given an opportunity to repeat a grade or not. Grade retention does not necessarily help students score better at the end of the repeated grade and may have detrimental effects both emotionally and socially for retained students ((AAP, 2015; Thomas and Strauss, 2014). However, the issue of grade retention has been motivated for a very long time due to the advantages of giving a student another year to develop the required skills for that grade (National Association of school psychologists (NASP), 2011).

On the other hand, it seems the adverse outcomes related to grade retention outweigh the positive outcomes. NASP (2011) reported that grade retention has negative outcomes for youth. Among many other consequences correlated to grade, retention is increased behaviour problems coupled with negative socio-emotional adjustments such as low self-esteem, poor peer relationships, poor school attendance and stigmatization (Balfanz et. al., 2009). Some previously mentioned consequences or signs observed on retained students are factors

associated with teenage pregnancy. Woodward et al., (2001), Langile (2007) and Mothiba and Maputle (2012) stipulated that factors, contributing to teenage pregnancy include low-self-esteem, behavioural problems, low educational attainment among others.

In South Africa right after the end of apartheid in 1994, many people aspired to be educated, thus increasing the number of people enrolled in schools, and very unfortunately, the quality of education decreased (Panday et al., 2009). In the same period when the quality of education was affected negatively, youth childbearing became a massive setback in South Africa, as it hindered the ability to achieve several global developmental goals (Panday et al., 2009). Grant and Hallman (2006) additionally indicated that only one in five young mothers returned to school after the experience of pregnancy or motherhood, and those that return to school are predominantly among those who had excellent academic records before childbearing. Therefore, with the determined adverse effects of grade retention, there is a need to determine if grade retention and slow progress before childbearing contribute to incidences of youth childbearing.

## 1.4 Definition of Concepts

The incidence rate is the number of new cases of a disease that occur during a specific period in a population at risk of developing the disease (Gordis, 2004). In this context, an incidence is the number of new births recorded as per population at risk being youth age 19-23 years in 2012. Furthermore, Phippis and Sower (2002) defined 'early childbearing' as giving birth at 15 years or younger. According to World Health Organization (2011), an 'adolescent' is someone aged 10-19 while a 'young person' is 10-24 years old. The WHO definition of an 'adolescent' and a 'young person' are like those of the United Nations International Children's Emergency Fund (UNICEF) (2015) and UNFPA, 2015) previously known as The United Nations Population Activities. While the United Nations, United Nations Educational, Scientific and Cultural Organization UNESCO (2014) and International Labor Organization ILO (2016) define 'youth' statistically as people between the ages of 15 and 24 years (UN, 2015). In this study, 'youth' is defined as per the United Nation definition, and adolescent as per WHO definition.

## 1.5 The Theoretical Framework

Akella and Jordan (2011) argued that most theoretical explanations of social contextual factors related to youth childbearing should be grounded on the theories of social behaviour that focus on experiences during childhood and adolescence. Obejimi and Bellingham-Young (2014) developed a model that determines factors associated with teenage pregnancy unique for Africa. The conceptual framework illustrated below in Figure 1 shows five different social and economic factors leading to currently observed high rates in Africa. The determinants of high teenage pregnancy are both social and economic (Nyakubenga, 2009). The factors are socio-economic status, educational attainment, urbanization, family unit and cultural structures (Jewkes et al., 2009: Obejimi and Bellingyam-Young, 2014). For this study Educational attainment will highlight on issues related to grade retention which are the trajectories within the educational system.

**Figure 1**: **Illustration of the social and economic determinants of teenage pregnancy in Africa**
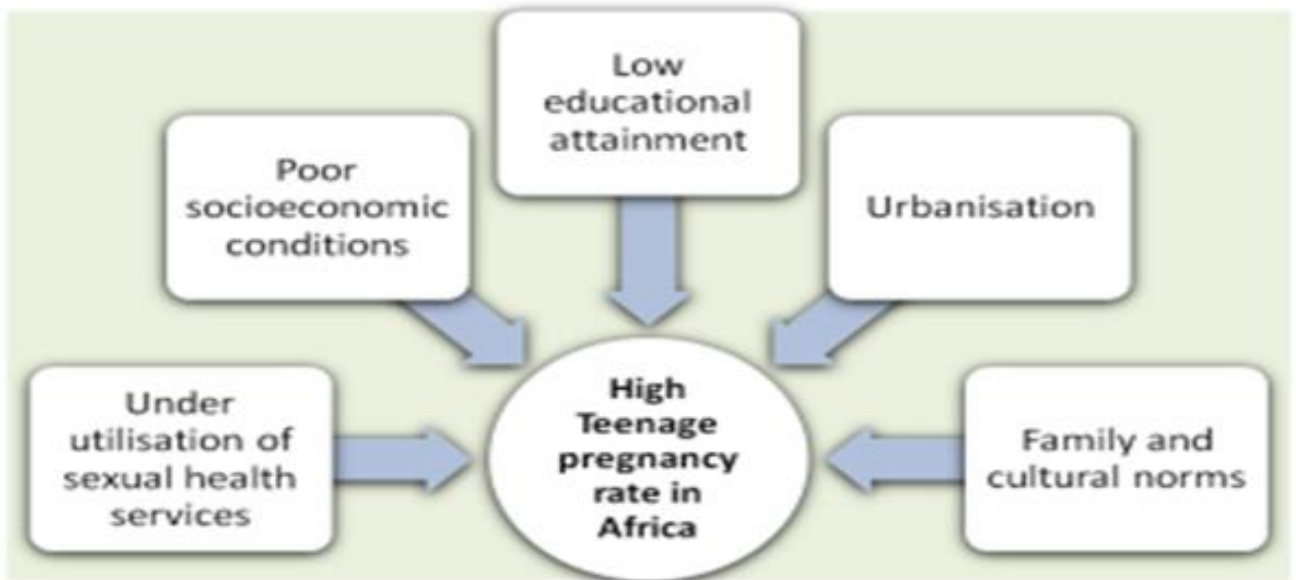


Adapted from: A policy pathway to reduce teenage pregnancy in Africa

Source:  Obejimi and Bellingyam-Young, 2014; pg. 136).

1.  **Socio-economic Status:** Lower socioeconomic status, measured by income and employment, are correlated to high teenage pregnancies in Africa (Obejimi et al., 2014). This is because, youth from disadvantaged backgrounds are more likely to have low expectations of education and experience economic stress (Fomby and Sennott, 2013). For some deprived youth, predominantly for girls whose self-esteem tends to drop as they mature, sexuality may be all there is left to value (Mollborn et al., 2014). The lack of opportunity and hope for the future have been identified as a driving force behind high rates of teen pregnancy in most African countries (Obejimi et al., 2014)

2.  **Utilization of health care services and low educational attainment**: Since the dataset used in this study does not contain variables on health care services, the focus will be on low educational attainment. Lower female educational attainment has been associated with higher levels of teenage pregnancy due to lack of information on the effective use of healthcare services, risk-taking behaviour, and individual socioeconomic status (Obejimi, 2014). The South African Demographic Health Survey of 1998 also showed a strong relationship between education and teenage fertility; teenage motherhood was highly concentrated among females with primary education and declined among teenage mothers with secondary schooling (Panday et al. 2009).

3.  **Parental Factors and Cultural norms**: In most African countries, early marriage is the reason behind high levels of teenage pregnancy (Obejimi et al., 2014). Numerically, one-third of women between the ages 20 and 24 are reported to have been married before the age of 18 in most developing African countries (Akin et al., 2016). However, the issue of early marriage is not applicable for South Africa. In South Africa, marriage is not universal, and it is usually delayed since half of the women who have reproduced are not married (Panday et al. 2009). Decision making and behaviours regarding sex and pregnancy prevention are influenced by socially constructed norms and culture (Madumo et al., 2015).

4.  **Urbanization:** Urbanization also an impact on the rates of teenage pregnancy because overall fertility decline began in urban areas due to economic development, and increased access to education and contraceptive usage (Panday et al. 2009). Fertility

decline later moved to rural areas. The same story has been happening for teenage fertility-the geographic location determines the levels of teenage pregnancy

### 1.6 Objectives of the study

### 1.6.1 The main Objective

The main objective of the paper is to determine the relationship between the incidence of youth childbearing and scholastic trajectory.

### 1.6.2 Specific Objectives

1. To identify variables that were associated with childbearing in 2008 among females 15 – 19 years
2. Report on the scholastic progress between 2008 and 2012 of females 15 – 19 years
3. Determine the incidence of childbearing among this group of females between 2008-2012
4. Determine variables that were associated with childbearing in 2012 among the group of females who were not mothers or pregnant in 2008
5. To identify whether scholastic trajectory is significantly associated with the incidence of childbearing in this group when controlling for other demographic and socioeconomic factors.

### 1.6.3 Questions to be asked

1. What percentage of females 15 – 19 years had failed a grade in 2008?

2. Are incidences of youth childbearing significantly higher among scholastically challenged South African female youth?

3. If so, does the association between the incidence of childbearing and being scholastically challenged remain significant while controlling for other demographic and socio-economic factors

4. What is the incidence of childbearing among this group of females between 2008-2012?

**1.6.4 Research Setting**

Data used in this study was collected in South Africa. South Africa is located at the Southern tip of Africa and shares borders with Lesotho, Swaziland, Zimbabwe, Botswana and Mozambique. It is a middle-sized country with the same size as Niger, Angola, Mali and Colombia. The country is divided into nine provinces namely: Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West, and Western Cape (Tennant, 2016). The country's provinces vary with size and population density. Gauteng is the highly populated and highly urbanised province compared to the rest of the provinces and the least densely populated province is the Northern Cape (Statssa, 2017). The country is divided into rural areas and urban areas. Rural areas were previously known as homelands during the apartheid era and were mostly African dominated (Tennant, 2016). Brand South Africa (2013) further added that the urban population has been increasing from 52% in 1990 to 62% in 2011 while the share of people from rural areas has dropped from 48% to 38% over the same period. After the end of apartheid in 1994, South Africa has been a democratic country that has improved the socio-economic-political status of the country (Ratangee, 2006).

South Africa is known as the "Rainbow nation" because it is home to 55.9 million people (Statssa, 2016) from different cultural, religious, historical, language, socio-economic background and different political groups. Most importantly, there are four different population groups namely: Africans, Whites, Indians/Asians and Coloureds (Rantangee, 2006). There is a noticeable inequality between the previously mentioned population groups with a GINI coefficient of 0.72 in 2006 to 0.68 in 2015 (Adams, 2014: Statssa, 2017). The Gini coefficient is the measure of income inequality, ranging from 0 to 1- where 0 is an equal society and a value of 1 represents an entirely unequal society (Adams, 2014).

The South African population groups are composed of people from different ethnicities and different languages. The South African Black African population is made up of four broad groupings namely: Nguni which is made up of Zulu, Xhosa, Ndebele and Swazi people, secondly, The Sotho-Tswana group inclusive of Southern, Western and Northern Sotho speakers, sometimes also known as Speli, Tswana and Sotho speakers (Tennant, 2016). Additionally, there are Tsonga and Venda speakers. The White South Africans include descendants of Dutch settlers, Afrikaners, German and French descendants that come to South Africa in the 17th centuries (Brand South Africa, 2007). Together with English speakers, which are descendants of the British settlers who came to South Africa in the 18th century. The

coloured population group are mixed lineage descendants and a majority of them speak Afrikaans, while most of the Indian population are descendants of the indentured workers originally from India (Brand South Africa, 2007).

## 1.7 Organization of the study

The study is divided into five main chapters respectively. With a short summary of each chapter given below:

### Chapter 1

Chapter one includes a preliminary literature review on general statistics on teenage pregnancy and youth childbearing, consequences of teenage pregnancy all from during pregnancy, termination of gestation and adverse outcomes for the mother and the baby.  The background of the study consists of developmental goals and resolutions that have been implemented from a global level such as the resolutions from CRS, ICPD, developmental goals- MDG's and SDG. At a continental level, the African Youth Charter and the Population Policy and the South African National Developmental Framework of 2030 at a national level. All the previously mentioned developmental plans recommended education for all and protection of the rights of a girl child and indirectly to reduce the high levels of youth childbearing. Also, there is a conceptual framework used as an analytic tool with different possible social and economic determinants of teenage pregnancy in Africa by Obejimi and Bellingyam-Young in 2014.

### Chapter 2

This chapter includes all information from reviewing relevant existing literature of risk and protective factors associated with teenage pregnancy and childbearing. In exploring the literature, the risk factors are divided into two major sections, which are the mesosystem and the macrosystem. The mesosystem is inclusive of education and family. Education is divided into three subsections namely, school attachment and educational aspiration, sex education in schools and academic performance. While, the macrosystem is constructed by religion, customs, and laws. The breakdown of the determinants thus follows the theoretical framework used in this study.

### Chapter 3

This chapter describes firstly the advantages and disadvantages of using secondary data, followed by the data sets used to answer the research questions and the main objectives on why the data on that study was collected in the first place. Dependent and vital independent variables will be described together with other complimentary variables from the baseline dataset. The description of the variables will include, the question from the adult questionnaire in which the variable was derived from and the response coding in the statistical package used for analysis in the study. Lastly, the chapter will explain the analysis techniques that will be used and the limitations of the study. The study will be making inferences about the population using the sample.

**Chapter Four**

This chapter presents possible factors contributing to youth childbearing among South African youth, keeping in mind that majority of variables used in this section are from the study's baseline dataset (2008). Moreover, it will present the results obtained both from a cross-sectional and longitudinal study. It will additionally determine the determinants of youth childbearing for both 2008 and 2012. The chapter further, helps answer the research questions on scholastic progress and incidences of youth childbearing among scholastically challenged female youth by running a multivariate logistic analysis. Chapter four will also determine the likelihood of giving birth to a young female in South Africa after repeating a grade.

**Chapter Five**

This chapter includes an in-depth discussion on the results and findings of the study as per the theoretical framework used and gives possible recommendations on future policy making and future research.

## 2. Chapter Two: Literature Review

### 2.1 Introduction to Literature Review

Cadena et al. (2016) in the Young Women United report from New Mexico urged that, if the world is truly committed to a bright future for young people, particularly for young girls, there should be continuous investments in solutions that address youth childbearing and all possible contributing factors. This chapter contains a review of the literature on factors contributing to youth childbearing globally. It covers literature from both qualitative and quantitative studies. Those factors being: the education of the individual, parental educational attainment, religion, population group (race), socio-economic status, geographic location and cultural factors. Kirby et al. (2007) urged that identifying and targeting those factors that both affect adolescents' decisions about sex can positively be changed by interventions that greatly increase young people's chances of reducing sexual risk-taking. Factors contributing to youth childbearing can be divided into two the mesosystem and macro-system factors which are thought to, directly and indirectly, impact on the young person per the Bronfenbrenner ecological system. This theory determines a child's development within a system of relationships that form her environment (Ryan and Paquette, 2001).

### 2.2 Mesosystem Factors contributing to youth childbearing

Bronfenbrenner (2005:46) reports that the "mesosystem comprises of the relations among two or more settings in which the developing person becomes an active participant". Williams and Nelson-Gardell (2012) defined the mesosystem as the merging of two microsystems such as the individual and other microsystems such as the family unit and school. In this context, mesosystems factors are dynamics that affect youth directly (Williams and Nelson-Gardell, 2012). These are factors that young people interact with directly and affect behaviour as well as well-being (Williams and Nelson-Gardell, 2012). The school environment can be narrowed down into: education aspiration and school attachment, academic achievement, attitudes

towards school, and sex education in schools while family unit formation can be divided into single parent households-either the mother or the father only resident (Corcoran et al. 2000).

### 2.1.1 Education

Education can be well-defined as "a purposive, sociological, conscious or unconscious, scientific, psychological and philosophical process, which brings full development of an individual and a systematic development of a society" (Kumar, 2009: pg. 3). Schools and education have been observed to be protective of young women regarding of risky behaviour that can lead to pregnancy or early childbearing. A protective factor was defined by Kirby et al. (2007) as factors that discourage any behaviour that may lead to sexually transmitted diseases and pregnancy or encourage prevention from sexually transmitted diseases or pregnancy. Increasing access to education has been identified as one of the reasons why fertility has been declining since the 1970's (Panday et al., 2009). It has been one of the factors contributing to fertility decline in Brazil as in 1983, 43% of children aged 0-4 where born to teenage mothers with low educational attainment, while ten years later the proportion declined to 21% (Almedia and Aquino, 2009). An observable improvement has been noticed in Uganda where cohabitation and marriage, together with motherhood, were usual routes to social recognition and economic security for girls that were out of school but sending girls to schools increased the possibility of young women securing jobs thus reducing marriage rates among youth (Sekiwunga, 2009). Social scientist and educators have proffered a variety of explanations on how schools reduce or increase sexual risk-taking behaviour and some of those explanations were the impact of school structure, school characteristics academic performance and aspiration (Kirby, 2002; Arai, 2009)

### 2.1.2 School attachment and Educational Aspiration

Panday et al (2009) indicated that globally youth are more educated than any other cohort in history and many young people see the benefits of education and aspire to be educated. Educational aspiration may be measured as a dream to go to college or attain tertiary education, the probability of attaining tertiary education and individual fear of disappointing parents if they do not make it to a tertiary institution (Xie et al., 2016). Aspiration and belief about the future help young people to plan for higher education, thus increasing self-esteem, a sense of competence, communication and refusal skills (Kirby, 2002; Gorard et al., 2012).

According to Kalil and Kunz, (1999), those skills in addition to school attachment help in the refusal of unprotected sex, thus reducing the risk of early childbearing, or rather refusal in having sexual intercourse at all. Allen et al., (2005) reported that there is an association between dislike of school and behaviours leading to teenage pregnancies because in such scenarios it may be possible that a young person may consider parenting as an alternative route to adulthood. It is important, at this point, to highlight that in most developing countries there are gender roles and norms that promote gender inequalities in relationships making it difficult to implement the refusal and negotiation skills acquired from education. Having unprotected sex is wrapped around not only around gender norms, but sexual taboos within societies influencing how and when teenagers should have sex (Jewkes et al., 2009: Willan, 2013). Adolescent girls' decisions and behaviour regarding sex and pregnancy prevention are influenced by social norms on how peer groups define sexual debuts (Corcoran et al., 2000). On the other hand, Kalil and Kunz (1999) urged that feeling in control over the future together with positive self- regard may result in decreasing sexual activity, or more consistency and effective usage of contraceptives (Kalil and Kunz 1999).

Scholastically attached students, in also, possess good social skills, high self-esteem and willingness to learn constantly, while those that were ambivalently attached to school were regularly angry, impulsive, had a low-self-esteem and were easily frustrated (Kaiser and Romansky, 2011). Moreover, school attachment promotes academic success and self-worth that serves as a vital part of the comprehensive approach to preventing and reducing risk factors (Gorard et al., 2012).

The Seattle Social Development Project (SSDP) implemented programs that kept youth in schools guided by the social development model. The program increased youth attachment to schools and families, helped youth succeed, and develop plans for higher education and future aspiration to be educated and successful, thus helping in postponing sexual debut and reducing early childbearing (Hawkins et al.,2008). During the SSDP School and family program evaluation, Lonczak et al. (2002) observed that the full intervention group reported significantly fewer sexual partners and less interest in initiating sexual activities before the age of 21 in comparison to the control group. Moreover, in the SSDP evaluation, Mouton et al. (2006) observed that changes in school attachment among youth can also affect their health and behavioural problems. In the (United States) US, school attachment in adolescence was correlated with higher levels of school achievement and less misbehaviour such as substance abuse and sexual activities leading to HIV or pregnancy (Mouton et al., 2001). However, while

controlling for gender, poverty and ethnicity in elementary schools' changes in school attachment between the ages of 13 to 18 lead to high behavioural problems such as crime, substance abuse, and sexual activities.

Conversely, as much as school has been observed to be a protective measure against early childbearing, prolonged schooling and globalization have encouraged the development of distinct youth culture and social world in which premarital sexual activity can be legitimized (Timeous and Moultrie, 2013). This is explained by the sexual debut that has been decreasing over the last 40 years, simply because puberty starts at a younger age (Tower, 2000). Girls reach sexual maturity as young as 12-14 years (Tower, 2000). Very, unfortunately, sexual maturity is reached while those young girls are still of school going age (Loaiza and Liang, 2013; Palamuleni and Adebowale, 2014). Also, Gurmu and Dejena (2012) noted that it has become increasingly common for teenagers to reach physical maturity long before they reach mental and emotional maturity leading to ill-preparedness and making unwise decisions that expose them to serious consequences affecting their future. Similarly, Panday et al. (2009) noted sexual experimentation and physical maturity among young people is increasing in South African secondary schools leading to unwanted pregnancies, HIV, and other sexually transmitted infections. Sexuality among teenagers is a common and normal bridge to adulthood which does not need to be stigmatized rather it should be supported and informed (Panday et al., 2009).

In the US, half of the students in grade 9-12 had engaged in sexual intercourse, with the majority being sexually active in Grade 12 (Cavazos-Rehg et al., 2009). The same thing is happening in South Africa as observed by Ramathuba (2013) that, secondary-school girls are normally sexually active, but less likely than adults to make protective measures about contraception and STI prevention.

Sexual debut for girls in South Africa ranges between 16-18 years and 17-20 years depending on the samples drawn from different locations (Panday et al. 2009).

For most samples, 18% of men and 8% of females had sexual intercourse at the age of 14 or younger (Panday et al., 2009). Then again, Raj (2010) indicated that early sexual debut should not be solely linked to early childbearing, as it was also necessary to answer the question of why teenagers fall pregnant when there is knowledge in younger age groups of the effective use of contraceptives.

Keeping girls in schools in cooperation with providing an evidence-based sex education program was effective in promoting sexual health among teenagers thus reducing teenage childbearing in Nigeria (Palamuleni and Adebowale, 2014).

### 2.1.2.1    Sex Education in Schools

Through observation, young people hear messages about sexual intercourse and the importance of abstinence until marriage mostly in their communities, but fail to get an opportunity to ask legitimate questions about it (Lynch, 2017). Universally, comprehensive sex education programs have been implemented. These comprehensive sex education programs have been implemented to offer cultural and age appropriate sexual-health information in a safe environment of learning, to help young people to clarify their individual, communities and family values regarding sexual intercourse and sexuality in general (McKeon,2006). Additionally, sex education was implemented to assist young people in developing necessary skills to communicate, refuse and negotiate, all these are done through providing medically accurate information about abstinence, contraception and effective usage of condoms (McKeon, 2006).

Many schools in America and some parts of the world teach the importance of abstinence until marriage and some practical ways of using contraceptives to prevent sexually transmitted diseases and pregnancy (Lynch, 2017). Sex education implemented in schools should be both useful and comprehensive. These highly effective- and comprehensive sex education programs have shown signs of improvement, both short and long-term in America. During the evaluation, the short-term impact has been the delay of sexual debut, an increase in the usage of condoms and contraceptives, incidences of protected sexual activities, a decrease in the number of partners among sexually active learners (McKeon, 2006; Kirby, 2005).   In the long -term, the impacts of highly effective comprehensive sex education were lower levels of pregnancies and lower prevalence's of sexually transmitted diseases (Hauser, 2004).

However, the issue of sex education in schools has been very controversial. Parents in the United Kingdom do not acknowledge sex education being taught in schools because many them believe it is unfitting to teach children about sex, whilst others reason that it should be a parents' choice to teach their child and that sex education will promote sexual activities amongst young people in school-going-ages (Saner, 208). Nonetheless, Kirby (2001);

Weinstock et al. (2004) similarly reported that sex education does not initiate sexual activities, it also does not lower the age of sexual debut in schools and does not increase the frequency of sex and sexual partners. On the contrary, the only programs that promoted what parents feared were the abstinence-only programs because 88% of abstinence pledge-takers in America were reported to have increased risk of sexually transmitted diseases and pregnancy (McKeon, 2006). Also, President Obama also proposed to stop federal funding for abstinence-only-programs due to the ineffectiveness and inaccuracy (Lynch, 2017).

On the other hand, it was observed that comprehensive sex education was more effective in schools and more schools were advised to implement those programs (Chohan and Gina, 2009). South Africa like many other countries implemented the universal sex education program to help prevent HIV and teenage pregnancy. The life skills program also known as Life Orientation (LO) was implemented in South African schools in 1998, the objective of the program was to deal with the holistic development of the learners throughout childhood, give them knowledge, skills, values that can help in achieving full physical intellectual, personal, emotional and social potential in the new democratic South Africa (Jacobs, 2011).

HIV and sexuality are significant components of the Life Orientation Program introduced to public schools by the South African Department of Education in 1997. However, the program is not clearly defined and schools and teachers are given a considerable amount of flexibility in their implementation of the program (Francis, 2010).

Studies have noted that in the South African context, teachers who felt their teaching training had prepared them to teach students about HIV were significantly more likely to implement HIV education in their classes compared to those who never had any kind of training about HIV (Mathews et al., 2006). Additionally, Ahmed et al., (2009) reported that other problems faced by teachers were the comfort levels and the character of teachers in class while providing information about sexuality education. Nevertheless, these studies did not comment on the content covered by teachers in these HIV lessons, and it had emerged in a qualitative study among teachers that they felt conflicted about teaching students about condom use and safer sex practices when, for the majority, their values were focused on encouraging abstinence among young people (Ahmed et al., 2009).

Farah et al. (2009) have noted that the curriculum and practical training of individuals to become teachers was inadequate to instil in them the necessary attitudes and behaviours that would suitably qualify them to shape the attitudes and behaviours protective against HIV infection in the children and youth they would teach. Given that research in South Africa has shown that life skills and sex education have been insufficiently integrated into the school

curriculum, and that teachers' values influence what is covered (Rooth, 2005), it cannot be assumed that those with more schooling have necessarily received adequate HIV and health-related education enough to help in preventing youth childbearing. However, students from Pinetown district, Kwa-Zulu Natal reported that, the reason behind high levels of youth childbearing is schools is not necessarily the ineffectiveness of LO as a course, but also the failure of parental involvement in their sexuality because, LO provides with information that equips them for a healthy sexual behaviour (Zulu, 2016).

### 2.1.2.2    Academic Performance

Educational achievement and goals are essential in an adolescent's life because school is their major social and occupational context (Xie et al., 2016). Excellent academic performance and investment in schools have been associated with less sexual risk-taking (Kirby, 2002). Kalil and Kunz (1999) further indicated that academic skills and expectations are related to adolescent childbearing. Teenagers with higher skills and better scores on standardized school achievement test are more likely to delay sexual activity (Kalil and Kunz, 1999: Miller and Moore, 1990). Young women's educational achievements such as grades are associated with their delay in sexual debut and a choice of healthy relationships (Hensel and Sorge 2014).On the other hand, Mpaza and Nzima (2010) urged that, teenage pregnancy is indeed associated with low achievement and low vocational aspiration in Kwa-Zulu Natal South Africa but educators also believe that when girls miss school for antenatal appointments and pregnancy-related illness, the occasional school disruption can lead to underachieving and the students might be faced with grade retention after childbirth.

Additionally, there is clear evidence to suggest that girls who perform poorly in school and who have lower educational abilities, aspiration and motivation are more likely to become pregnant early (Woodward et al., 2001). In New Zealand, educational failure typically preceded pregnancy onset (Woodward et al., 2001; Fergusson and Woodward 2000).  Poor academic performance, particularly in middle childhood and early adolescent, including lower intelligence and poorer achievement in mathematics reading and scholastic ability, are some of the contributing factors to youth childbearing (Woodward et al., 2001). Specifically, Kearney et al. (2015) reported that in New Zealand women who had below average educational attainment at the age of 7 and 16 also had a significantly higher chance of becoming a teenage

mother. Alternatively, the association between teenage pregnancy and educational underachievement may be partially or wholly non-causal and arises from selection processes associated with teenage pregnancy (Young et al., 2004). However, the relationship between lower education achievement and youth childbearing remains even when adjusting for other social factors in the US per The National Surveys of Family Growth of 2006-2008 (Kearney and Levine, 2012).

### 2.1.2.3    Grade Retention

The educational systems globally (exclusive of England) have been flexible enough to allow underachievers to repeat a grade (Education Endowment Foundation, 2015). In South Africa, provincial educational departments encourage schools to hold back learners in Grade 10, 11, and 12 who are performing poorly to reduces risks of poor performance in the final matric examinations (Department of Education, 2015). When students fail to master the academic material and skills of a grade at the end of the academic year, educators are left with no choice but to let the student repeat the grade by joining a class of younger students in the following academic year (Cannon and Lipscomb, 2011; Education Endowment Foundation, 2015). The reason behind grade retention is to ensure that a student has mastered grade-level material through repetition before promotion to the next grade (Warren et al., 2013). Although grade retention is a severe step that needs to be addressed in the form of a policy in the US and many other parts of the world, struggling students benefit and gain grade-level skills during their retention year ((UCLA, 2008; Cannon and Lipscomb, 2011). Grade retention may result in increased self-esteem due to a greater academic performance in the retention year (Scribol, 216).

 On the contrary, American Academy of Paediatrics (AAP) (2015) stipulated that, grade retention does not necessarily mean a child will score better on achievement tests at the end of the repeated grade, in most cases students who benefit from grade retention have previous signs of high self-esteem and emotional control (AAP, 2015). Also, principals in Los Angeles stated that grade retention has short-term benefits and long-term consequences (Cannon and Lipscomb, 2011). The Education Endowment Foundation (2015) reported that several researchers suggested that, repeating a year is harmful to a student's chances of academic success particularly among socially disadvantaged students and from minority population groups because it inadvertently increases educational inequality. The education inequality is created because students that have repeated a grade are more likely to drop-out of school and less likely to catch up with their peers of a similar level who did not have to repeat a grade,

even after completing an additional year of schooling (Education Endowment Foundation, 2015). In addition, Campbell (2012) stated that it is also close to impossible for a learner to do well in a grade they do not deserve to be in.

Grade retention often proves to be challenging and contentious for the school, parents, and students, this was observed in Los Angeles United School district (Cannon and Lipscomb, 2011). Grade retention is a triggering event that assigns retained students a low status in the academic hierarchy, defined to an essential extent by academic ability, and intelligence, leading to stigmatization (Warren et al., 2014). UCLA (2008) indicated that in addition to the failure of correcting learning problems, grade repetition is associated with increased behaviour and emotional problems. It has been well-established that in externalizing behaviour problems and adolescent pregnancy risk, emotional vulnerability may lead to seeking sexual intimacy and early parenthood (Woodward et al., 2001: Cook and Cameron, 2015).

Furthermore, Allen et al. (2005) stipulated that studies suggest that students that repeat a grade are more likely to dislike school thus, increasing the risk of youth childbearing. Girls who are struggling academically were at a higher risk of pregnancy (Timaeus and Moultrie, 2013). In countries where there are high levels of late entry into school and grade repetition, poor school performance and slow advancement can increase the likelihood of getting pregnant and living school (Marteleto et al., 2009). On the contrary, Dannelle (2016) argued that there is no clear study and proven that retention without any other underlying factors causes behaviour problems; this is because students from lower social status and specific population groups such as the Black Americans and Hispanic are likely to repeat a grade. However, what is proven is that retained students are more likely to drop out of school, although, particularly in high school. Students who drop out of school are five times likely to have been retained in a previous grade than those remaining in school (Dannelle, 2016). About to youth childbearing. Kirby (2002b) noted that students who have dropped out are either at a higher risk of pregnancy or that students would drop out of schools due to pregnancy.

Socially and culturally students who have repeated a grade are regarded to have lesser abilities and intelligence, with this stigmatization leaving a lasting scar on their educational careers through self-fulfilling prophecies, the stratification of learning opportunities and an

impact on self-esteem whereby the students may end up losing hope and some end up dropping out of school (Campbell, 2012: Warren et al., 2013). Students that have repeated a grade will be older than the grade they are in which is normally referred to as 'age-lag'.

In addition to repeating a grade, age lag is observed where there is a late entry in schooling, and when one dropped out and re-enrolled in the educational system (Timaeus and Moultrie, 2013). In South Africa, high levels of age lag may be attributed to educational aspiration. Panday et al. (2009) reported that aspiration for education is relatively high and many older learners are still found in secondary schools trying to attain better educational qualifications in South Africa. In Brazil, pregnancy has been observed to be high among those that were older for the grade they were in either due to repeating a grade or the lag already existed upon entry in the educational system (Young et al., 2004). Moreover, the major challenge was that most girls in schools were in classes that do not correspond to their age globally (Loaiza and Liang, 2013). In 2007, 17% of lower-secondary school-age adolescents were enrolled in primary education (about 67 million of which 35 million were girls) and the majority of them dropped out of school due to pregnancy (Loaiza and Liang, 2013). The temporary drop-out of school is one of the characteristics of the South African educational system is somehow associated with early childbearing.

Youth that attended school regularly were reported to have delayed childbearing (Balfanz et. al., 2009). In Brazil, nearly half of the students that did not attend school on regular basis were reported to have had experienced a reproductive episode (either being pregnant and terminated or carried through with the pregnancy) during adolescent, a much higher proportion than those who had repeated a grade but stayed in school (Balfanz et. al., 2009). Despite all the negative characteristics and possible explanations to why teenagers in school get pregnant and the protective effect school exerts over sexual behaviour, girls in schools are less likely to be sexually active than girls out of school; although the risk of pregnancy during ages at which girls are still in schools increases (Panday et al., 2009)

### 2.1.3 Family and Parental Factors

Oxford Dictionary (2014) defined a family as a group containing two parents and their children living together under one roof, which is normally a mother and a father. It is socially expected and constructed that mothers should provide emotional support and fathers should provide both emotional and financial support for their children, particularly their teenager (Hoga, 2009).

Mothers take up the massive responsibility of directly supervising the behaviour of their teenagers (Hoga, 2009). Therefore, having both parents in a household plays a vital role in promoting or hindering the transmission of broader values and norms about pregnancy and fertility (Furstenberg et al., 1998; Arai, 2009). This is because, parents are primary educators of attitudes and perceptions about teenage pregnancies that have favourable or adverse effects on their children and families, hence influencing the development and behaviour of their children (Lee, 2001: Mpanza and Nzima, 2010).

In Brazil, parents instilled fear in their children about early parenthood, because teenage pregnancy and fertility were against moral principles with a adverse effect on the concept of a family among social groups (Hoga, 2009). Moreover, youth family units also help if a teen mother returns to school, where maternal grandmother looks after the child or may help pay for childcare during school hours (Willan, 2013). Young mothers with no active support system may be forced to stay home and take care of the baby further compromising their future and the child's future (Willan, 2013).

### 2.1.3.1    Family Structure

Mackay (2010) while reviewing the literature observed that children nurtured in different family context or structures display different patterns of developmental outcomes throughout their lives. The structure of a family is highly correlated with teenage pregnancy, where girls from single family backgrounds are more likely to become pregnant than those from two-parent households (Arai, 2009). According to Schwarzwalder and Tax (2015) in Washington DC, adolescents raised in intact families (being it adoptive or biological parents) were less likely to engage in early sexual activities, or to be romantically involved with older partners, or to become pregnant, or give birth as teenagers. Moreover, children from intact families were more likely to be in stable romantic relationships than peers in married-step parents and single mother households (Arai, 2009). This is because most intact families have good communication skills with their sons and daughters and two-parents can supervise the activities of their children effectively (Stammers, 2002: Arai, 2009).

In Brazil, even after controlling for several parental involvement variables, adolescents living with both biological parents were significantly less likely to transition into sexual activities early in life (Hoga, 2009). In London, Stammers (2002) adjusted for race, age and

socio-economic status, and found that children living in two-parent households were still less likely to become pregnant as teenagers or initiate sexual activities early. It was found that children living in two-parent families have a better quality of life, greater access to health care and fewer emotional and behavioural problems than children living in other family structures, thus making the advantages of having two-parents work as a protective factor against teenage pregnancy. However, all benefits of living in an intact family do not apply in a high-conflict intact family in some areas. Children living in low-conflict intact families tend to do better than those in step-parent families or those in high-conflict families in Washington (Child Trend, 2016). In Sao Paulo Brazil, young girls from high-conflict families used pregnancy as a get away from the problems faced at home, especially violence (Hoga, 2009).

In Western Industrial countries, so as other parts of the world, the percentage of children living in the single-parent household has increased significantly due to increased divorce rates, and this has had an adverse impact on youth (Fomby and Cherlin, 2007). Girls from single-parent families were more likely to become pregnant than those from two-parent households (Arai, 2009). This is because, youth living with no biological parent or single-parent households were less likely than children with two resident biological parents to exhibit behavioural self-control (Child Trend, 2016). Many youths from single-parent households suffer from various social difficulties and self-esteem issues that may lead to teenage pregnancy (Alami et al., 2014). The likelihood of teenage pregnancy among teenagers from lone families is due to lack of supervision of the teenager's behaviour and good communication between the parent and the teenager (Arai, 2009). In the US, adolescents that residence areas with high levels of lone-families and high female labour participation were likely to engage in pre-marital sexual actives putting them at the risk of childbearing (Schwarzwalder and Tax, 2015).

The nature and scope of communication between parent and child reduce the capacity of a parent to monitor the behaviour and emotions of their children (Arai, 2009) effectively. Young people who report distant and problematic relationships with their parents tend to start sexual intercourse earlier in New Zealand (Woodward et al., 2001). Young people who have a sense of connection to parents and family are more likely to delay sexual activities, this was observed in the Province of Kwa-Zulu Natal South Africa (Pilgrim and Blum 2012; Mpanza and Nzima, 2010). Additionally, the quality of the parent-child relationship on maternal discussions about birth control and perception of maternal disapproval of premarital sex can be associated with the delay in first intercourse and increased contraceptive usage (Black, 2012).

Among the English-Speaking Caribbean's, it was observed that poor relationship with parents was significantly associated with experiencing sexual violence, such as forced sex,

leading to childbearing among youth (Pilgrim and Blum, 2012). The parent-child relationship also influences adolescents' sexual activity through indirect effects of parental support on youth emotional development (Lee, 2001).

### 2.1.3.2     Non-Resident Father Households

In most cases, the custodial parent is the mother after a separation and illegitimate children normally or lawfully reside with their mothers leading to no-residential fathers (Mackay, 2010). The absence of a father-figure in homes brings about a chain of reaction dilemmas ranging from emotional problems and potential hazardous behaviour that may affect their futures (Kim, 2007). Having an absent father might have a negative impact on the child's well-being (Mackay, 2010). Boothroyd (2008) indicated that the absence of a co-resident father during early childhood is associated with earlier age of puberty and first sexual relationships. Given the fact that, it has been previously stated that earlier ages of puberty are associated with early childbearing, growing up with an absent father can lead to early childbearing as well. An absent father has been associated with unsafe sexual behaviour leading to youth childbearing (Harden, 2009). The relationship, therefore, suggests that father absence alters and shapes children's sexual development in a way that may facilitate the development of weak and unstable relationships and sexual behaviour in such relationships leading to childbearing out of those unstable relationships (Harden, 2009).

In addition, daughters of absent fathers are willing to have sex outside of committed relationships and have intentions of getting pregnant, which may be associated to be essential motivation factors underlying sexual behaviour (Pappas, 2012).  Boothroyd (2008) also suggests that, in Europe, North America and Australia, father absence may have contributed to the recent increase in teenage pregnancy for the first time since 1991 and the rise of sexually active adolescent in general. This is because instability within one generation could cause instability in the next especially as family formations has been changing in the recent years (Fomby and Cherlin, 2007).

Teenagers with absent fathers are additionally likely to seek father figures in forms of intergenerational relationships in the United States (Valdez, 2009). The exploitation of vulnerable young girls by older men may be one of the nations' serious problems associated with youth childbearing that is seldom written about (Valdez, 2009). Ideally, a 15-year-old does not have the mental and emotional experience to match intelligence with a 20 years old man, which may lead to coerced sexual encounters leading to early childbearing (Valdez,

2009). Valdez (2009) further reported that, among the 900 000 teenage girls that fall pregnant in California, one-third of the pregnancies are fathered by men older than 20 years and 70% of the births were out of wedlock. Argumentatively, Males (2004) in the review of the literature suggested that perhaps older men may not be contributing to teenage pregnancy. The median age difference between the mother and the father was reported to be less than 5 years demonstrating that the relationships must have been consensual. However, Males (2004) cannot demonstrate anything about consent unless they specifically asked about it in the interviews as well. The only conclusion this statement allows us to draw is that the relationships were more age equal than initially hypothesized.

On the other hand, Female-headed households may also affect parenting monitoring and role modelling thus increasing the acceptance of teenage sexual activities (Kalil and Kunz, 1999). The assumption is that children of women who become pregnant outside of wed lock view premarital childbearing as a norm and more likely to follow their mothers as role models (Almedia and Aquino, 2009). It is also common that children born to their mother before the age of 20 are more likely to continue with the intergenerational pattern of early childbearing (Almedia and Aquino, 2009).

### 2.1.3.3    Family Experiences

An intersection of changes in parental union formation and youth childbearing behaviour was observed in the mid-20th century and has been increasing since then ((Mooyaart and Liefbroer, 2016). Instabilities in families have been very detrimental to adolescent behaviour and school attachment, this is because the change in a union status affects youth negatively (Fomby and Sennott, 2013). In New Zealand, parental separation led to an adverse impact on social conduct and behaviour such as early onset of sexual behaviour, teenage pregnancy and economic hardships (Mackay, 2010). Mackay (2010) further indicated that the economic circumstances of families decline after a divorce which may somehow affect the teenagers negatively.

In the US one fifth (20%) of adolescents that experienced one family structure change and an additional 20% that have experienced two or more family structure transitions have been reported to be at  risk of early childbearing (Fomby and Sennott, 2013). Still, in the US, adolescents whose parents were married at the time they were born and separated later in their life were 42% less likely to engage in sexual activities compared to an adolescent whose parents were cohabiting when they were born (Schwarzwalder and Tax, 2015). In Uganda, instabilities in family structure were common in areas with a higher rate of teenage pregnancies, with

underlying causes of instability related to separation, divorce or death of a parent (Sekiwunga, 2009).

Almedia and Aquino (2009) further indicated that many times children are already exposed to childcare before having given birth themselves, particularly in the absence of the other parent, therefore, having a child may not be a break of the daily routine. In South Africa, the tone of the contributing factors to teenage pregnancy is the effect of migration to the family structures. The system of migrant labour was a consequence of the Apartheid labour system that encouraged migration from rural areas to urban areas for work. This consequently disrupted gender relationships and family life, leading to high proportions of children living without their parents or one of their parents, thus increasing the risk of youth childbearing (Timeaus and Moultier, 2013). Vundule et al., (2010) reported that pregnant teenagers from rural Cape Town were less likely to live with both of their biological parents and the most critical evident association was that of an absent father.

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### 2.1.3.4    Parental Education

Several studies have indicated maternal educational attainment as one of the contributing factors to early childbearing (Woodward et al., 2001; Vundule et al., 2010). Lee (2001) reported that in Taiwan parental education (especially of the mother) is a significant correlate of adolescent pregnancy regarding both delaying the onset of sexual activity and reducing the risk of pregnancy. Centres of Disease Control and Prevention (2017) attributed this to the fact that, parents have a strong impact on whether a teenager makes healthy decisions for themselves, and those healthy decisions may be linked to better parental education. The same was observed in New Zealand. Teenage mothers in New Zealand were notably from socially disadvantaged family backgrounds raised by single mothers, frequently with low educational qualifications, a low socio-economic status, and below average living standards (Woodward et al., 2001).

Langile (2007) additionally stated that, teenage choices to become sexually active and to use contraception, as well as their ability to use contraceptives is influenced not only by the family structure and parental communication, but also the parental norms and values concerning teenage pregnancy in Canada, England, and Wales (Langile, 2007). Healy (2013)

further indicated that, for many rural families, teenage pregnancy and early parenting are cultural norms, repeated generation after generation in the USA. Gurmu and Dejena (2012) also indicated that single mothers in Ethiopia were also observed to be more accepting of teenage childbearing. Generally, teenagers with parents that were more accepting of teenage childbearing had more defined intention of having a child at young ages (Gurmu and Dejena, 2012).

## 2.2 Macrosystem as a contributing factor to youth childbearing

The macro system is composited of cultural values, religion, customs and laws (Berk, 2000). It refers to the general trends of ideology and organization that characterize a given society or social group such as the population group, place of origin (Berk, 2000). Macrosystems describes the cultural or social experiences of various social groups such as social classes, ethnic groups, or socioeconomic status (household income) and parental education (Ryan, 2001). These macro system factors may affect the adolescent's development positively or negatively (Oswalt, 2017).

### 2.2.1 Religion

Religion influences young girls' decisions on sexual encounters. According to Fonda (2013), a high individual perception of religiosity works as a protective factor to sexual encounters and youth childbearing rather than specific religious affiliations. Religion and community norms regarding pregnancy were reported to be a contributing factor in seeking pregnancy prevention methods in Hammanskraal South Africa (Madumo et al. 2015). Among many other issues that religion addresses in communities are the issue of girls being pregnant before marriage and in most cases abstinence has always been advised (Valdez, 2003). Fonda (2013) indicated that major religions regard teenage pregnancy as a taboo, thus resulting to young people in those religious groups engaging in a many of alternative sexual activities, other than sexual intercourse putting them at a risk of sexually transmitted diseases and HIV/AIDS rather than teenage pregnancy. Noticeably, religion also shapes attitudes and beliefs regarding sexuality in

terms of friendships, dating patterns and how youth use their time (Fonda, 2013). Religion forms a network of religious people that tend to give a closer supervisor of their teenager's activities, which can result in a better outcome for youth (Fonda, 2013).

However, it has also been found that it is a religious taboo for parents or guardians to talk to children about issues around their sexuality. Regnerus (2007) stated that the discussions about sex are not a norm among religiously devoted families. Also, Hanna (2010) and Mothiba and Maputle (2012) also indicated that there is a growing severe religious fear that discussing sexually related matters may encourage early sexual engagement. Apart from the cultural and religious taboo for parents to talk about sexuality to youth, it is generally difficult for parents and elders to talk about sex with their children (Macleod and Tracey (2009; Hanna, 2010). The difficulty and the taboos around addressing youth sexuality may work against the principles of religion is addressing (premarital sex). Therefore, Mothiba and Maputle (2012) highlighted that the reluctance of parents to address youth sexuality leads to the ignorance of children about issues related to puberty, sexual activities, and pregnancy, putting youth at a higher risk of early childbearing. Positively, the Netherlands and other Scandinavian countries have benefited from the culture of openness regarding sexual issues on the part of both teachers and parents leading to the currently low rates of teenage pregnancy (Cook and Cameron, 2015). It was also observed that boys that reported high levels of religiosity (religiosity was measured through their perception on the importance of religion in their lives) were less likely than girls to recognize pregnancy risks and understand contraceptive practices putting their female partners at a higher risk of pregnancy (Regnerus, 2007).

Religion has also been found to be a barrier for young girls or women to seek contraceptives in health care centres. Isa et al. (2012) indicated that, in many developing countries, lack of extra resources (like travelling expenses to the health care centre) makes contraception and reproductive advice inaccessible; this situation may also be exacerbated by religious beliefs that disapprove of any artificial birth controls (Isa et al., 2012). Religion is not only a predictor concerning contraceptives usage but it is a predictor to attitudes on the morality of contraception (Fonda, 2013). Youth that perceived religion to be vital were less likely to use contraceptives at first intercourse (Fonda, 2013). Also, individuals who identify with a religious group were reported to have stronger prescriptions regarding aspects around family planning and specific gender roles together with group norms or social norms regarding abortion among African Americans and Latinos in the United States (Mollborn et al., 2014).

Also, religion is one of the factors contributing to sexual activities that result in pregnancies irrespective of the nationalization of the abortion policies in some countries. Mollborn et al.

(2014) indicated that some of the respondents in the study in the USA expressed that, she never planned of getting rid of her pregnancy because her religion does not believe in abortion (she was Baptist). Additionally, the very same response was given in South Africa was a teenager started that she could not have an abortion because her religion is against abortions (she was a Christian) (Mathiba and Maputle, 2012).

### 2.2.2    Population Group Differentials

Determining the race/ethnic disparities helps in finding innovative programs directed to that specific race to reduce youth childbearing. Also race/ethnicity differentials can be used to determine which racial groups are making progress on the implemented programs (Wiltz, 2015). Some states in the US, the Mississippi state found innovative ways to tackle youth childbearing by targeting specific population groups, while other states like Kansas have implemented programs that have made it hard for other population groups to access sex education (which is critical in preventing youth childbearing) (Wiltz, 2015). The racial and ethnic disparities are stubborn often because they are caused by poverty and complex arrays of societal factors (Wiltz, 2015).

Black families in the US had lower levels of educational attainment, higher levels of out of wedlock childbearing and were more likely to live below the poverty line compared to families of other races (Scott and Perry, 2001). This was attributed to the fact that black families in the United States have been subjected to slavery and exposed to social and economic conditions different from other white families (Young et al., 2004). Schools in the US with higher percentages of black and other minority groups were also likely to have higher rates of teenage pregnancy than those with lower percentages of minority population students (Kirby, 2002). In the US, teenage births of Hispanic females were 101.8 per 1000 female teenagers nationally, and the rate for African American was 91.4 per 1000 female teenagers (Corcoran et al., 2000). In comparison, teenage births from white Americans were 48.1 per 1000 female population (Corcoran et al., 2000). An impressive improvement has been observed in the US among all racial groups about the decline of teen birth rates. There has been a decline of 64% nationwide in teen birth rates for the last two decades; however, the decline has not been even, birth rates for black and Latin teens have dropped precipitously compared to that of white teens,

this was due to the programs that have been directed to black and Latin teens in the past years (Wiltz, 2015).

In New Zealand, rates of teenage pregnancy and parenthood are significantly higher among indigenous Maori women than in other ethnic groups (Woodward et al., 2001). Similarly, in South Africa, the history of racial classification was accompanied with gross inequality in access to education, economic opportunities as well as health facilities, have later defined higher teenage pregnancies in some population groups (Panday et al., 2009). However, Timaeus and Moultier (2013) also further justified that, the reason behind high levels of teenage pregnancy among Africans is that, African societies in South Africa tend to be more tolerant of premarital pregnancy than Eurasian societies. Positively, since 2004, teenage fertility rates have declined. Majority of the decline was among the white population by 29.8% followed by Africans at 16.8%, Colored's by 12.7% and Indians at 7.8% (Panday et al., 2009). Young whites and Asian women were much less likely to have given birth as a teenager and much more likely to matriculate than African teenagers (Timaeus and Moultier, 2013). On the contrary, about to contraceptive usage, black parents were more likely than white parents to approve of contraception because black parents were concerned about the problem of possible offspring and were eager to prevent pregnancy in Kwa Zulu Natal in South Africa (Mpanza and Nzima, 2010). The use of contraceptives among black Africans was observed to be high because the majority of African youth used contraceptives after their first birth (Smith, 2012)

However, in South Africa, it is still not clear if the teen birth rates among middle-class African women differed from those of the minority ethnic women (Timaeuos and Moultrie, 2013). Almedia and Aquiana (2009) indicated that in the middle-class, teenage pregnancy does not necessarily mean the teenage lives are on a downward trajectory, but it merely means that their academic careers may be delayed. However, a different story is told for the lower social economic class; the disruption due to childbearing is more significant and has a lot of adverse effects (Almedia and Aquiana, 2009). Harden et al (2009) stated that racial-cultural differences could be linked to socioeconomic status (SES).

### 2.2.3 Socio-Economic Status

SES has been associated with premature childbearing. Arai (2009) indicated that young women who have children in their youth years are predominantly from lower SES globally. It has been observed that youth in communities with high rates of poverty and social disorganization are more likely to become pregnant in the US and in urban areas of Pelotas, Southern Brazil (Kirby et al., 2001; Kirby, 2002a). Madumo et al. (2015) additionally stated that poverty in South Africa is the root cause of the occurrences of unplanned pregnancies especially among adolescents that were unemployed or did not have parents and depended on grants. In Uganda, Beyeza-Kashesya et al. (2010) observed that poverty provides an enabling environment for producing many children because poor children had many children compared to more affluent people. This was attributed to the fact that more impoverished people rely on children as a form of future insurance (Beyeza-Kashesya et al., 2010).

Despite the direct relationship between early childbearing and low SES, Arai (2009) urged that the impact of low SES is still observed in fertility patterns of people who have upgraded socially. In England, living in a chronically poor environment on a long-term basis affects the reproductive outcome of young women, early fertility persists in the low-income groups (Arai, 2009). In a sample from England, 17% of teenage mothers reported lower SES in their families of origin at the age of 7 (Arai, 2009).

In Wales and South Africa, there is an association between teenage pregnancy and low SES because low SES is associated with poorer access to health care services. In addition to providing contraception, health care centres are the main source of reproductive health education apart from parents and guardians in these settings (Nyakubenga, 2009: Whithworth and Corkerill, 2013). Similarly, in the Netherlands, social deprivation was one of the social factors associated with teenage pregnancy (Arai, 2009). In countries, such as Australia, New South Wales, and Sweden, teenage mothers constituted 2% of women from least-deprived areas and 7% in most deprived areas (Arai, 2009).

SES is also observed to be a protective measure against teenage pregnancy. Harden et al., (2009) indicated that higher SES is associated with higher educational goals because family resources are available to assist the young person meet those goals. Educational goals and school performance will also dictate the risk of childbearing at young ages (Harden et al., 2009). There have been several possible reasons why low SES was associated with youth childbearing as low SES is also associated with larger family sizes, single-parent households, and fewer resources. Thus, the association between poverty and early childbearing has been established, however, the specific conditions and pathways are not entirely understood (Arai, 2009).

For example, low SES has been associated with an increased risk of engaging in transactional sex. Poverty or other lack of a supportive family unit may lead young women to look to an adult man for rescue or escape from the economic trajectories in their families (Lindberg et al. 2009). Transactional sex and the exchange of sex for gifts or money on a non-commercial basis is a typical pattern in Uganda and East Africa (Nyakubenga, 2009). Transactional sex is characterized with greater difficulties in negotiating safer sexual activities leading to unwanted pregnancies among youth (Nyakunenga, 2009). Women who live in poverty are more likely to engage to transactional relationships for economic security, which leads to them staying in abusive relationships, inter-generational relationships and having multiple partners (Willan, 2013). In those relationships, men make decisions about sex often resulting in sexual coercion and unprotected sex (Willian, 2013). A study conducted in the USA of 300 couples found that teenage mothers who were involved with older men were likely than their peers with the same age partners to come from poor households (Males, 2004).

Arai (2009) has argued that young women from other social classes do fall pregnant at relatively the same rate as those of the lower SES, but proportionately more young women from other social classes opt for safe abortions as compared to those in the low SES. To emphasize the point Arai (2009) further highlighted that, over 60% of teenage pregnancies in England in the more well-off areas were terminated compared with only around half that were in the most deprived areas. In summary Arai (2009) stated that, in general, the relationship between SES and pregnancy is very evident in Britain and other settings of the world. The evidence in Britain may still exist because, social deprivation is a social factor that is not exclusively defined by the family income, but a variety of other factors inclusive of the teenager's level of education, health and employment status of parents together with the parent's occupation (Kearney and Levine, 2012).

### 2.2.4   Geographic location

Neighbourhoods or communities can have an impact on behaviour that is independent of individual characteristics and the interaction through individual and social context (Coory, 2000). The social interaction between youth and other people in rural and more impoverished communities may be strong enough to be a negative influence on young people due to lack of opportunities and the paucity of positive role models (Coory, 2000). Neighbourhood peers and school friends may also communicate positive messages about early pregnancy and parenthood (Coory, 2000).

The geographic differential in teen pregnancy rates may be due to differences in demographics from one community to another, or by socio-environmental factors such as norms, the availability of public health and health care resources (Layde and Remington, 2013). People living in urban areas are believed to have lower teenage pregnancies as they could engage in more profitable activities that urban regions should offer (Obejimi and Bellingham-Young, 2014). The urban/ rural differentials are attributed to the fact that fertility decline in urban areas was due to economic development, and  increased access to education and contraception and is slowly moving to the rural areas (Panday et al. 2015). The reason behind the youth fertility geographic area differentials is that urban areas are characterized by higher levels of school attendance among adolescents, compared to rural areas. This tends to discourage early childbearing or act as a protective factor. Education may also account for the lower levels of motherhood and pregnancies among urban dwellers (Marteleto, Lam and Ranchhod, 2008). In Uganda, 40% of girls in rural areas had no formal education and 10% had attained more than a primary education, while those in urban areas about 70% had formal education and beyond primary education (Gideon, 2013) lower levels of educational attainment were attributed to high teenage birth rates in rural Uganda (Gideon, 2013).

On the contrary, The America National Campaign to prevent teenage pregnancy in rural areas reported that, some researchers believe that teenage childbearing is much a concern in urban areas like it is in rural areas. The only difference is that urban teenagers have access to health services that can terminate pregnancies and provide adequate contraception; while other researchers speculate that rural areas have limited access to opportunities and services increasing the risk of childbearing (Healy, 2013). An improvement in birth control methods adopted in urban areas is the primary reason for the lagging behind of the rural teenage

pregnancies and early childbearing (Beslgiroha, 2009). The same was observed in Botswana, where the unmet need for contraceptives was identified as one of the primary reasons behind observable levels of teenage pregnancy nationally (Letamo and Navaneethan, 2015)

Youth living in rural areas have been a source of growing concern around issues related to early childbearing (Healy, 2013). Adolescents in rural areas usually lack money to access health services and the existing health services were not designed with teenagers in mind (Langile, 2007). In 2010, the birth rates for girls aged 15-19 in rural counties in the USA was 43 per 1000, nearly one-third higher than the rates in metropolitan countries (33 per 1000) (Healy, 2013). The teen birth rates were higher in rural counties than those observed in major urban centres even among minority ethnic and racial groups. Also, SES and geographic location factors can sometimes be linked to ethnicity because areas with higher teenage pregnancy rates tend to be poorer and some also have high proportions of the minority populations groups (Coory, 2000). In South Wark London, high rates of deprivation, and ethnically mixed population were linked high teenage fertility rates (Coory, 2000). In South Africa, the hotspots of teenage pregnancy are observed to be in the townships and rural areas or sometimes the outskirts of town (Dommisse, 2007). India was a little different, high levels of teenage pregnancy are among the young married rural dweller while those in urban areas are relatively low; the birth rates are usually out of wedlock (Cook and Cameron, 2015). Like any other rural area, the rural-urban differences in India were linked to educational and financial opportunities for young women in towns and cities (Daniels, 2015).

### 2.2.5   Cultural Factors

An adolescent girl's decisions and behaviours regarding sex and pregnancy prevention are influenced by socially constructed norms and culture (Madumo et al. 2015). Social norms are defined as the rules of behaviour that are acceptable in a society or among a group of people, those that do not adhere by these norms may be rejected (Heinrichs et al., 2006). In West Baltimore, young girls were taught to be proud of their ability to procreate (Bailey, 2006). Ozaukee and Menominee country had teen birth rates 14 times higher because of social norms that promote procreation, and lack of birth control (Layde, 2013). In Barraza, teen motherhood is used as an identity that a girl has transformed into a woman, and that teens have taken on the adult roles of a mother and shall be respected (Daniels, 2015).

In other developing countries, such as Sri Lanka, Nepal, Maldives, Bhutan, and Bangladesh, a shared culture of early marriages along with cultural expectations to have a child soon after the marriage has been the reasons behind high proportion of teenage pregnancies (Raj, 2010). Cultural norms may be among the factors associated with the variation of teenage pregnancy rates across the globe as cultural factors modify sexual attitudes and health-seeking behaviour of young women (Isa, 2012). Societies have different perceptions about masculinity and femininity. The social construction relies heavily on sexual performance; and paternity is one of the most essential masculinity from a very young age in South Africa and other African countries (Hanna, 2001). On the other hand, pregnancy is used as an epitome of womanhood and is used as a passage to young womanhood (Jewkes et al., 2009). Hanna (2001) further indicated that in the African context teenage girls sometimes feel pressure to get to get pregnant to avoid the label "barren" and to prove their maturity.

## 2.3 Summary

This literature review has indicated that there are several possible risks and protective factors to youth childbearing around the world, particularly in the most deprived regions and countries of the world inclusive of South Africa. However, there seem to be two major factors that are underlying the high levels of youth childbearing, that being, education, and family structure. Other factors such as cultural values, socio-economic status of the family, geographic location, religion have a common reason to why they are determinants of youth childbearing which is lack of adequate education. One factor in the reviewed literature that seems not to be a dependent on educational attainment is family structure and family experience. Despite the influence education has on several variables reviewed in this chapter, all the variables are equal predictors of youth childbearing depending on the region of occurrence.

# 3. Chaper Three: Methodology

## 3.1 Introduction of the methodology

This chapter outlines the research methodology used to answer research questions for the study. The chapter is divided into four sections. The first section of the study discusses the location of the study, sources of data, data used and sampling designs. The second section is a description of the sample both in 2008 at the cross-sectional level and then for 2012 at a cohort level. It additionally addresses the issues of attrition and correcting attrition to avoid bias in the results. The third section is on the variable description and the research hypothesis. Lastly, the final section is on data analysis methods to be employed in the study and the limitations of the study.

## 3.2 Location of the Study

Data used in this study was collected in South Africa. South Africa is located at the Southern tip of Africa and shares borders with Lesotho, Swaziland, Zimbabwe, Botswana and Mozambique. It is a middle-sized country with the same size as Niger, Angola, Mali and Colombia. The country is divided into nine provinces namely: Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West, and Western Cape (Tennant, 2016). The country's provinces vary with size and population density. Gauteng is the highly populated and highly urbanised province compared to the rest of the provinces and the least densely populated province is the Northern Cape (Statssa, 2017). The country is divided into rural areas and urban areas. Rural areas were previously known as homelands during the apartheid era and were mostly African dominated (Tennant, 2016). Brand South Africa (2013) further added that the urban population has been increasing from 52% in 1990 to 62% in 2011 while the share of people from rural areas has dropped from 48% to 38% over the same period. After the end of apartheid in 1994, South Africa has been a democratic country that has improved the socio-economic-political status of the country (Ratangee, 2006).

South Africa is known as the "Rainbow nation" because it is home to 55.9 million people (Statssa, 2016) from different cultural, religious, historical, language, socio-economic background and different political groups. Most importantly, there are four different population groups namely: Africans, Whites, Indians/Asians and Coloureds (Rantangee, 2006). There is a

noticeable inequality between the previously mentioned population groups with a GINI coefficient of 0.72 in 2006 to 0.68 in 2015 (Adams, 2014: Statssa, 2017). The Gini coefficient is the measure of income inequality, ranging from 0 to 1- where 0 is an equal society and a value of 1 represents an entirely unequal society (Adams, 2014).

The South African population groups are composed of people from different ethnicities and different languages. The South African Black African population is made up of four broad groupings namely: Nguni which is made up of Zulu, Xhosa, Ndebele and Swazi people, secondly, The Sotho-Tswana group inclusive of Southern, Western and Northern Sotho speakers, sometimes also known as Speli, Tswana and Sotho speakers (Tennant, 2016). Additionally, there are Tsonga and Venda speakers. The White South Africans include descendants of Dutch settlers, Afrikaners, German and French descendants that come to South Africa in the 17th centuries (Brand South Africa, 2007). Together with English speakers, which are descendants of the British settlers who came to South Africa in the 18th century. The coloured population group are mixed lineage descendants and a majority of them speak Afrikaans, while most of the Indian population are descendants of the indentured workers originally from India (Brand South Africa, 2007).

## 3.3 Source of the data

### 3.3.1 Secondary data

The study will be analysing secondary data, which is defined as using existing data collected by other researchers to answer specific research questions. Almost invariably, these questions are different from the ones posed by the secondary data analyst (Hox, 2005: Baslaugh, 2007; Johnston, 2014). The use of secondary data is a useful option for researchers with limited time and resources to collect data because they do not have to devote resources in collecting, capturing, cleaning and saving the data in electronic formats for easy usage (Baslaugh, 2007; Johnston, 2014). In most cases, pre-collected data comes in a breadth of many variables, bigger sample size collected across various sources and sometimes nationally representative or representative of the sample (Hox, 2005; Baslaugh, 2007), thus creating a faster access to relevant information and a greater access to hard to reach populations (Hox, 2005). Moreover, the breadth of available data creates a broader comparison and calculation of odds among members of a population or a sample (Hox, 2005). The most important advantage is that

secondary data is normally collected and designed by experts and professionals that small project managers may not have at their disposal (Baslaugh, 2007).

However, as noted above, the data was originally collected for a different purpose which means that the dataset may not answer specific research questions a researcher is interested in or have information a researcher would have liked to be included in the collection of the dataset (Basluagh, 2007). In most cases, researchers work on data that is already existing and the variables may be categorised in a different way a researcher would have preferred them or data may not have been collected in some geographic location that is of interest to the researcher (Hox, 2005; Basluagh, 2007). The researcher does not participate in the collection and cleaning of the data, which may lead to failure to understand how well and serious the data was affected by low response rates and respondents misunderstanding a question of interest (Baslaugh, 2007).

### 3.3.2   National Dynamics Income Study

The dataset used in this paper is from the first nationally representative panel study conducted in South Africa called the National Dynamics Income Study (NIDS) (NIDS, 2017). A panel study is defined as monitoring change among a set of people at a different point in times (Branson, 2016). NIDS is implemented by the Southern African Labour and Development Research Unit, (SALDRU) which is part of the School of Economics at the University of Cape Town. This government funds this panel study (NIDS, 2017). The objective of the study was to track and understand the dynamics of poverty both at household and individual levels overtime (NIDS, 2017). It examines well-being, human capital activity, health and education, fertility and mortality among other things (NIDS, 2017). There have been four waves in the NIDS and the key feature was to collect data every two years. However, this study will use the latest version of wave 1 version 6.1 of 2008 that was updated and released in 2016, the second wave of 2010-2011, that was modified in August 2016 together with wave 3 version 2.1 of 2012 updated and released in 2016 only. The data sets were merged together into the individual data sets using the personal identity number (pid).

### 3.3.3   Sampling Design:

A stratified, two-stage cluster sample design was used in sampling the households to be included in the first base wave of 2008 (NIDS, 2009). The Statistics South Africa Master sample was used for the selection of 400 Primary Sampling Unit (PSU) from 3000 PSU's in the first wave of data collection (NIDS, 2017). Leibbrandt et al. (2009: p9) defined a PSU as a geographic area consisting of at least one Enumeration Area (EA) or some EAs from the 2001 Census; while an EA is defined as the smallest portion of land demarcated by a country for purposes of census enumeration. Although the 400 PSU's were selected at random from the provincial strata, the sample was not designed to be representative at a provincial level, thus implying that analysis at the provincial level is not recommended (Leibbrandt et al., 2009). The 400 PSU's contained privately owned households in all provinces of South Africa, together with residences in worker's hostels, converts and monasteries (NIDS, 2017). The sample excluded living quarters such as student accommodation, nursing homes, hospitals, prisons and military barracks. Some data for those individuals living in these settings and linked to a NIDS household was captured in proxy questionnaires.

From the 400 PSU's, NIDS managed to interview and follow 7305 households and approximately 28 000 young, old, rich and poor people over a period of the study. A series of four questionnaires administrated were namely: the child questionnaire (for individuals 0-14 years), adult questionnaire (for individuals 15 years and older) and the household questionnaire together with a proxy questionnaire. In this study, household members were identified as members of a household currently in residence and panel members of a selected household, who were previously resident in the household provided they have agreed to partake in the study (NIDS, 2017). The first respondents were required to list all members of the household within the same compound or homestead who have been in the household at least 15 days during the past 12 months before data collection and are usual residence were given a 'NIDS mark' and were considered as 'Continuous Sample Members' (CSMs). On the other hand, non-resident members that were 'out-of-scope' at the time of the survey were also included in the study as Temporary Sample Members (TSMs). Additionally, to refresh the sample taking into consideration attrition, children to CSM mothers were included in the survey as CSMs (Brandson, 2016)

### 3.4 Sample

In the baseline data (2008), the sample size was 1208 female youth aged 15-19. Due to this study being longitudinal, information was collected from the same people in 2008, 2010 and 2012. Deng et al. (2013) define a longitudinal study as a study that gathers information from the same individuals repeatedly over a specific period. In the collection of data at different periods, there is a huge possibility some initial subjects might be lost to attrition over the years. Attrition is defined by Salkind (2007) as study participants that drop out if the study prematurely. Therefore, due to attrition, 301 female youth interviewed in 2008, were not re-interviewed in 2010 leading to the sample size of 907 in 2010. In 2010, the sample was aged 17-21. Between 2010 and 2012, 145 female youth were not re-interviewed.

The number of female youth that was not re-interviewed between 2010 and 2012 decreased compared to the number of female youth lost to attrition between 2008 and 2010 because 156 female youth were interviewed in 2008 and again in 2012-but, not in 2010. Therefore, 712 female youth were interviewed in all the NIDS data waves (wave 1, 2 and 3). In total, 868 female youth aged 19-24 were interviewed in 2012 (which is the 712 and the 156 that was not interviewed in 2010 but where interviewed at the baseline). Additionally, the sample remains random meaning it can still be used to generalize and make inferences about the entire female youth population. Figure 2: The Study Sample Chart Flow from 2008 to 2012 on the next page shows the previously mentioned data flow from 2008 to 2012 together with attrition between each wave.

**Figure 2: The Sample Chart Flow from 2008 to 2012**
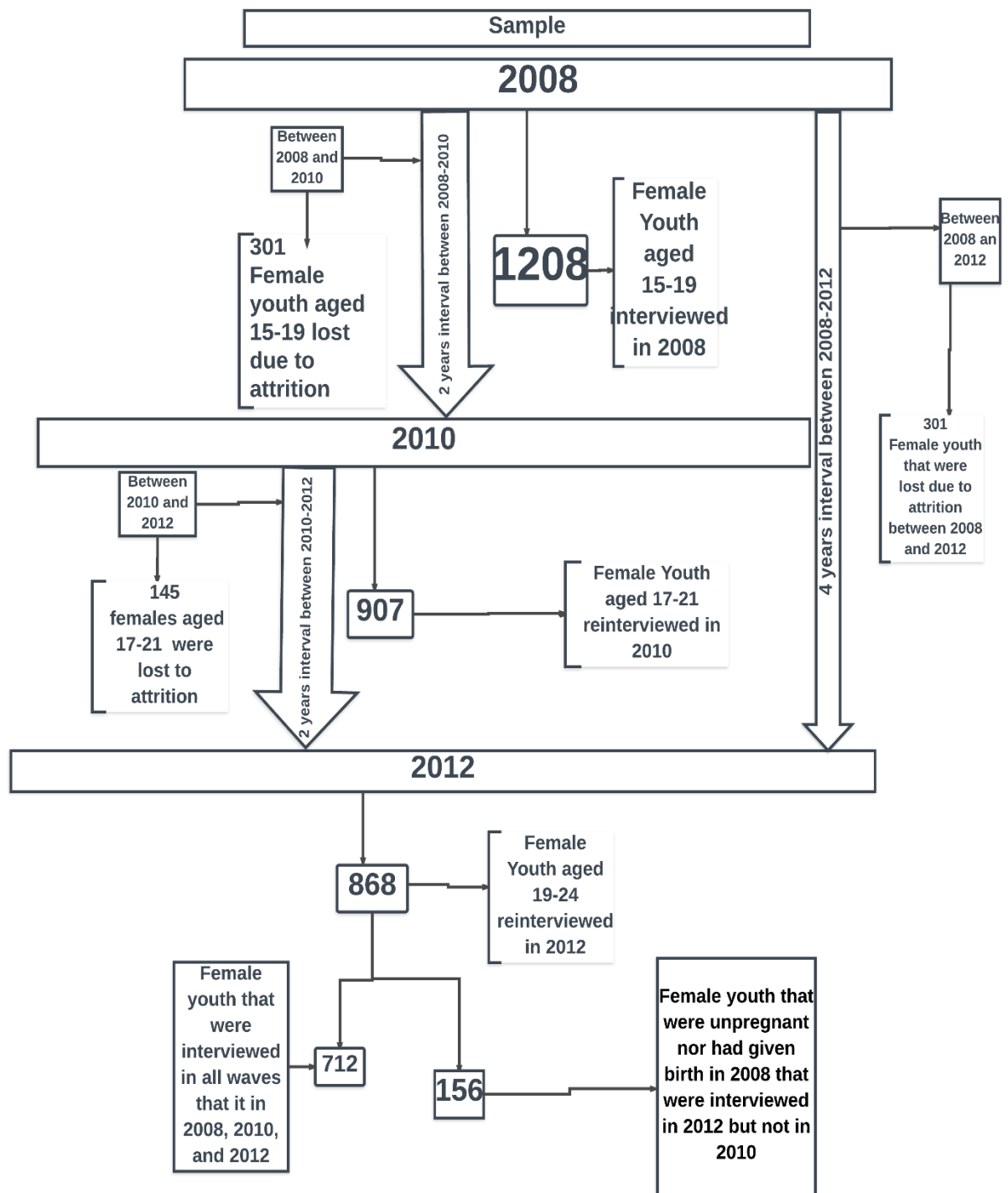


SOURCE: Nthatisi Leseba (Author) (2017)

### 3.4.1 Sub Sample

In 2008, the sample size was 1208 female youth aged 15-19. The study aims to determine the incidence of youth childbearing in 2012 from youth mothers that were childless nor pregnant in 2008. As the focus is on incidence, the 170 female youth aged 15-19 reported to have given birth and 44 reported to have been pregnant during the time of the study were removed from the incidence analysis thereby reducing the subsample of 2008 from 1208 to 956. Due to attrition, 234 female youth were not re-interviewed in 2010 leading to the subsample size reducing to 722 in 2010. Between 2010 and 2012, 105 female youth were not re-interviewed. In 2012, 126 female youth were interviewed in 2008 and again in 2012-but, not in 2010, and 566 female youth were interviewed in all the NIDS data waves (wave 1,2 and 3), adding up to a total of 695 female youth aged 19-24 in 2012. Figure 3: The Sub Sample Chart Flow from 2008 to 2012 on the next page shows the previously mentioned data flow of the subsample from 2008 to 2012 together with attrition between each wave.

**Figure 3:The Sub- Sample Chart Flow from 2008 to 2012**
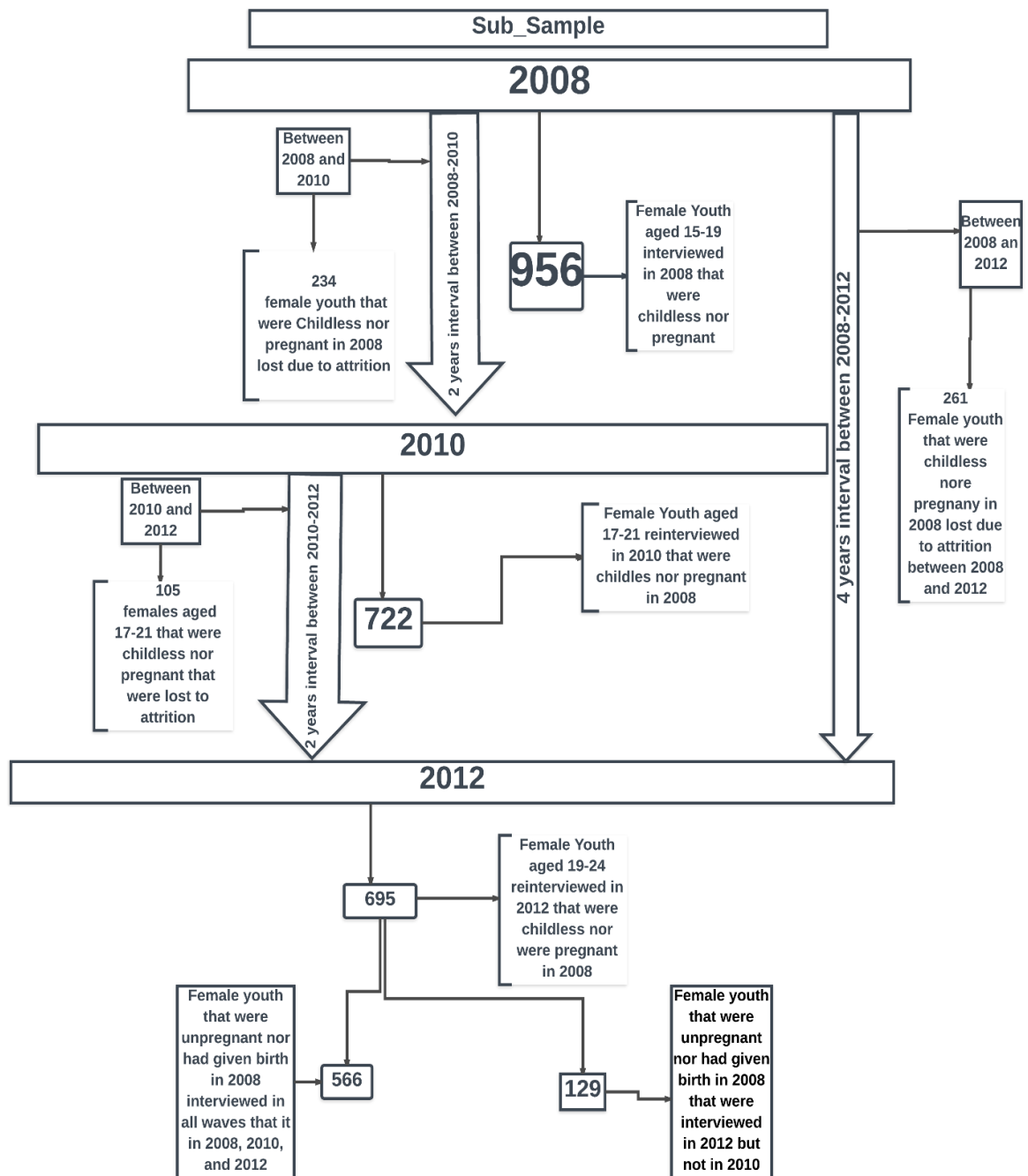


SOURCE: Nthatisi Leseba (Author) (2017)

### 3.4.2    Participants Lost to Attrition.

Handling longitudinal studies is complicated because there are respondents lost to attrition. The attrition may reduce the sample size and can result in biased inferences (Deng et al., 2013). There are various reasons why participants are not re-interviewed in longitudinal studies, those reasons range from failure to locate the respondents, mortality, and refusal to participate (Deng et al., 2013). In the worst-case scenarios, attrition reduces the sample size to the extent that it hinders analysis or the available sample size after attrition may not be representative of the entire population, thus hindering inferences (Deng, 2013). Post-stratified weights were used to adjust for attrition.

### 3.4.3    Post Stratified Weights

Nicholas (2008) reported that weights, in general, are used to adjust for unequal probabilities of sampling, with an assumption that, the selected sample in a survey is a miniature of the bigger population represented and to correct technique errors (Nicholas, 2008). Moreover, there is a considerable possibility that the sample might over or under-represent the distribution in the population, therefore, for that reason, this study will use the post-stratified weights. Post Stratified weights are computed after data collection using auxiliary data. In the calculation of post-stratification specific strata such as the sex and sex distribution of the population are used to adjust the sample data to confirm more to the population parameter. This reduces bias due to possible non-responses and under-representation of other groups in the population (STATA13 Manual, 2013).

### 3.5 Variable Description and Measurement

### 3.5.1    Dependent variable

The dependent variable in this study is female youth aged 19-24 who had given birth in 2012 but were childless nor pregnant in 2008 at the age of 15-19. Since not all gestation periods end in childbirth, the independent variable will also include female youth at the ages of 17-21 in 2010 particularly those that were pregnant but did not give birth. Four questions from the 2008 NIDS (being the baseline) wave 1, 2010 wave 2 and 2012 wave 3 datasets were used to the dependent variable. These questions are as follows:

**2008 Wave 1 (baseline)**

From wave 1 the questions and expected responses are as follows:

- Question B1 (Demographics). "What is your date of birth" (NIDS, 2016). Those born between 1993 and 1989 (age 15-19 in 2008) were included in the study.

  Question B2: "What is your gender? Female respondents were included in the study.

- Question C1 (Children Ever Born was asked): "Have you ever given birth". The response is [binary response]: Yes, or No. In 2008, the expected answer to question C1.2 was No from the respondents.

- Question C1.10: "Are you currently pregnant" The response is [binary response]: Yes, or No. In this wave the expected response should be a "No".

**2010 Wave 2 (Two years' interval from the baseline)**

In this wave, the aim is to follow the subsample in the baseline dataset through data, which are women aged 15-19 in 2008 that were childless nor pregnant. The expectation is that, not all pregnancies end in a childbirth. Therefore, it is vital to determine those that were pregnant in 2010 from the 2008 subsample that did not report to have given birth. From wave 2 the questions and expected responses are as follows:

- Question B1 (Demographics). "What is your date of birth" (NIDS, 2016). Those born between 1993 and 1989 (age 17-21 in 2008) were included in the study.

- Question C1 (Children Ever Born was asked): "Have you ever given birth". The response is [binary response]: Yes, or No. In 2008, the expected answer to question C1.2 was "Yes" from the respondents.

- Question C1.10: "Are you currently pregnant" The response is [binary response]: Yes, or No. In this wave the expected response should be a "Yes".

**2012 Wave 3 (Two years' interval from the previous survey (2010) and Four years interval from the baseline dataset (2008))**

In this wave, the aim is to determine those female youths in the 2008 subsample that reported to have been pregnant. Together with those that gave birth in 2010 plus those that gave birth and were pregnant in 2012 as incidences of youth childbearing. From wave 3 the questions and expected responses that help determine the dependent variable are as follows:

- Question B1 (Demographics). "What is your date of birth" (NIDS, 2016). Those born between 1993 and 1989 (age 19-24 in 2008) were included in the study.

- Question C1 (Children Ever Born was asked): "Have you ever given birth". The response is [binary response]: Yes, or No. In 2008, the expected answer to question C1.2 was "Yes" from the respondents.

- Question C1.10: "Are you currently pregnant" The response is [binary response]: Yes, or No. In this wave the expected response should be a "Yes".

### 3.5.2 Explanatory variable: grade repetition and grade failure

According to Obejimi and Belling-Young's (2014) conceptual framework for teenage pregnancy in Africa, youth childbearing is determined by some numerous factors including low educational attainment and female literacy. Therefore, the main independent variable in this study is having repeated a grade in the four-year interval (2008-2012). There are several questions asked in all waves to determine grade retention. The questions were all taken from Section H which contained questions related to education in all three waves. The question on grade retention is only asked in Wave 1 (baseline dataset) and the following two waves, the question is asked related to grade retention is on education results from the previous wave. This variable on scholastic progress is also used to determine the academic progress of youth

throughout the years as one of the study objectives. The questions and expected responses are as follows per each wave:

## 2008 Wave 1 (Baseline dataset)

- Question H11: "Were there any grades at school that you repeated?" The variable is a binary variable with answers "Yes or No. In 2008, the expected answer to question H11 was "Yes" from the respondents. The respondent that responded "Yes" to question H11 will be considered as the control group.

## 2010 Wave 2 (Two years' interval from the baseline)

- Question H11: on Educational results was asked. The question was "What was the result of this schooling in 2008?" Question H11: is a Categorical Variable with responses
    1. Withdrew before completing the year
    2. Failed the grade or program
    3. Passed the grade or program

To determine the explanatory variable, the expected response from the variable on education results should be "2. Failed the grade or Programme".

## 2012 Wave 3(Four years' interval from the baseline and Two years interval from the previous dataset (2010))

- Question H11: on Educational results was asked. The question was "What was the result of this schooling in 2010?" Question H11: is a Categorical Variable with responses
    1. Withdrew before completing the year
    2. Failed the grade or program
    3. Passed the grade or program

To determine the explanatory variable, the expected response from the variable on education results should be "2. Failed the grade or Programme".

### 3.5.3   Variable Description

Table 2.9.1 below indicates the questions asked of the female youth during the interview and any recoding of data to create the other explanatory variables and their categories.

**Table 1: Variables description**

| Other Independent Variables | |
| --- | --- |
| **Residential Status of parents** | |
| **Variable Name** | **Details** |
| Determining Orphanhood | The variable of mother and father residing in the household was derived from the question: <br> D6: "Does your [...] live in this household?" <br> 1=Yes <br> 2= No <br> 9= Do not know <br><br> The variable on the parental residence was complimented using a variable on "orphan-hood status" and the question was as follows (asked in relation to the mother and father): <br> D1: Is you're [….] still alive? <br> 1= Yes <br> 2=No <br> 8= Refused <br> 9= Do not know <br><br> The combination of the two variables (Orphan status and residential Status) was as follows: <br> Maternal Residential Status was categorised as follows: <br> 1= Mother alive and residing in the Household <br> 2= Mother alive, not residing in the household <br> 3= Mother died <br><br> Paternal Residential Status was categorised as follows: <br> 1= Father alive and residing in the Household <br> 2= Father alive, not residing in the household <br> 3= Father died |
| Population         Group (Race) | The variable is derived from the question: <br>  B3: "What population group would you describe yourself as belonging to? " <br> The variable is a categorical variable with the following responses: <br> 1= African |

| | |
|---|---|
| | 2=Coloured<br>3= Asian/Indian<br>4=White |
| Religion Affiliation | The variable is derived from the question: M8: "What religion are you?"<br>This variable is a categorical variable with the following responses:<br>1= No religion<br>2=Christian<br>3=Jewish              \\<br>4=Muslim<br>5= Hindu<br>6= African traditional spiritual belief |
| Importance of religion in one's life | The variable was from the question:<br>M7: How important are religious activities in your life?<br>The categories of responses were as follows:<br>1= Not important<br>2=Unimportant<br>3=Important<br>4=Very important |
| Maternal Education | This categorical variable was derived from two different variables in two different questionnaires. Maternal Education of resident mother is derived from the household roaster and maternal education for non-resident mothers is derived from the wave 1 questionnaire.<br> Both Questions were derived from a question:<br>D8: What is the highest grade in school that your mother successfully completed?<br> 1=Primary School Education (Grade R-Grade 7)<br> 2=High School Education (8-10)<br> 3=Matric Education<br> 4=No Schooling<br> 5=Tertiary Education |
| Paternal Education | This categorical variable was derived from two different variables in two different questionnaires. Paternal Education of resident fathers is derived from the household roaster and paternal education for non-resident fathers is derived from the wave 1 questionnaire. Both Questions were derived from a question:<br><br>D8. "What is the highest grade in school that your father successfully completed?<br>The categories where are follows:<br> 1=Primary School Education (Grade R-Grade 7)<br> 2=Secondary School Education (8-10)<br> 3=Matric Education<br> 4=No Schooling<br> 5=Tertiary Education |

| | |
|---|---|
| | 6=Father Education Unknown<br>7=National Technical Certificate (NTC) |
| Ethnicity | This variable is derived from the question on home language with an assumption that the home language can be used as a proxy for ethnicity. Piombo (2015) justified that, in surveys where delineate between members of different population groups, home language is used to assign people into different ethnic categories. Therefore, the question used to deprive the ethnicity variable is:<br>B4: Which language do you usually speak at home?<br>The categories of the responses together with the ethnic groups linked to them are as follows'<br>1=Nguni Ethic Group (Zulu, Xhosa, Ndebele, Swati)<br>2=Sotho-Tswana Ethnic Group (Sotho, Peli, Twana)<br>3=Tshonga and Venda Ethic Group<br>4=English Speakers (White South Africans, Coloureds, Indians/Asians) |
| Geographical Type (Location) | The categorical variable is derived from a question in the household questionnaire on the "local are type"<br>There are different categories used in this variable, namely:<br>1= Rural Formal<br>2=Tribal Authority Areas<br>3=Urban Formal<br>4= Urban Informal<br>The geographic locations used in this paper are geographic locations from the 2001 South African Census. This is because the baseline data was collected (2008) before the 2011 Census. |
| Household Income | The question of Household income per capita was derived from the household question on household income full imputation.<br>The variable was further created into being a categorical variable using Per Capita Income Quintile intervals from the Income and Expenditure Survey South Africa of 2011. The categories are as follows:<br>5= Upper Income quintile = R 57100 and above<br>4=Fourth Income Quintile =R57009 – R 21003<br>3=Third Income Quintile =R 21002- R9887<br>2= Second Income Quintile = R9886- R4544<br>1=Lower Income Quintile = R4543 and below<br>(STATSA, 2012) |

| Education Variable | The Education Variable will be broken down into three sections, namely: highest grade completed, grade currently enrolled in and results from the grade one was enrolled in. |
|---|---|
| |     1.  Highest grade Completed was derived from a question:<br>H1: "What is the highest grade in school that you have successfully completed?<br> The expected responses were categorised as follows:<br>1=Grade R- 3<br>2=Grade 4-6<br>3=Grade7-9<br>4=Grade 10-11<br>5=Matric<br>6=Others<br>7=No Schooling<br>Secondly, to determine of female youth were enrolled in a year, a variable was derived from a question:<br>H13: "Did you attend any school or classes or correspondence courses of any kind at any time in {**naming a specific year**? Include university, technical colleges or any courses as well as school"<br><br>And the expected responses were:<br>1=Yes<br>2=No<br><br>Lastly, the variable on grade retention in 2008 was derived from a question:<br>H11: "Were there any grades at school that you repeated?"<br><br> And the expected responses were:<br>1=Yes<br>2=No<br>A similar question was asked about results on people that were enrolled in the previous wave. The question used to determine the results was:<br>H22"What was the result of this schooling in {naming a specific year}?<br><br>And the expected responses were:1=Withdrew before completing<br>2=Failed the grade<br>3=Passed the grade or programme<br>4=Continuing in the program<br>5=Lost to Attrition<br>6=Information Missing<br>7=Not enrolled in 2008 |

### 3.6  Data management

An online request was made to utilize on the National Income Dynamics Study website to utilize the first three waves of the study. A free account was created stating the reasons for downloading the data and permission to obtain the data online was granted. The data was downloaded from the NIDS website (https://www.datafirst.uct.ac.za) The Stata format of the different waves were downloaded.

### 3.6.1  Data analysis methods

After merging all waves together, data analysis for this study was conducted in three ways. Firstly, a univariate analysis is done to determine which demographic and socioeconomic factors were a determinate of youth childbearing at the cross-sectional baseline. Secondly, a univariate analysis is also carried out to determine if those variables at baseline were contributing factors to the incidences of childbearing in 2012. To determine which variables should be included in the "preliminary main effect model" all variables with a p-value less than 0.25 were selected to build a multivariate model. The significance of each variable selected was verified by looking at Wald Statistics for each variable, comparing the estimated coefficients to those from a univariate model, thus eliminating variables that were not significant and comparing results from the previous model (chi-square test) (Hosmer and Lemeshow, 2000). In this stage, also adding any variable not included in the original multivariate model back in and checking their significance. Once completed, the model was known as the "main effects model"

The following multivariate logistic regression will be adopted in the study:

$$\text{Logit } (Y_i) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots. \beta_i X_i$$

Where  $i = 1, 2, 3 \ldots\ldots\ldots$

$Y_i$ = dependent variable; $\alpha$ = constant; $\beta_i$ = Co-efficient; $X_i$ = explanatory variables.

### 3.6.2  Ethical considerations

Ethical approval to conduct the secondary analysis for this study was obtained from the Humanities and Social Science Ethics Committee (protocol approval reference number (HSS/0709/016M) at the University of KwaZulu-Natal. The original survey data was collected

after informed consent of the respondents was obtained. Additionally, research data and the research do-file will be submitted and securely stored in the department for a period of five years.

### 3.6.3   Validity, Reliability and Rigour

The NIDS panel studies have been very reliable in all the waves that have been conducted and the data has been representative of the entire nation. Like any other secondary data analysis, the researcher does not have the privilege to ask questions that would help fully answer the research question and provide a clear picture of the problem at hand.

### 3.6.4   Summary

The main objective of this chapter was to outline the methodology employed in finding factors determining incidences of youth childbearing most importantly in determining if school trajectory is a determinate of incidences of youth childbearing. The analysis is longitudinal in nature and gives a broader understanding on the changes occurring with the scholastic progress among young women and their fertility. The chapter further includes the research hypothesis used in the univariate analysis. The following chapter presents the results of the study and the interpretation of those results.

# 4. Chapter Four: Results

## 4.1 Introduction for results

The first section contains a description of the socio-demographic characteristics of the sample-female youth aged 15-19 in 2008 at a cross-sectional level, and at a follow up to 2012 at a cohort level. The socio-demographic variables both in 2008 and 2012 are presented in the four major components of the conceptual framework- The social and economic determinants of teenage pregnancy in Africa by Obejimi and Bellingyam-Young (2014), namely: Family and cultural structures, urbanisation, socio-economic conditions, and educational attainment. This section also presents the cross-sectional univariate analysis determine variables that were significantly associated with childbearing in 2008.

The third section covers the scholastic progress of female youth who were childless and not pregnant in 2008 but gave birth in 2012 and reported the pregnancy. Moreover, the fourth section investigates the association between scholastic progress and incidences of childbearing in 2012, thus, giving a descriptive analysis of their academic progress from 2009 to 2011. Lastly, a multivariate logistic regression model is developed to determine whether scholastic progress is significantly associated with the incidence of childbearing in this group when controlling for other demographic and socioeconomic factors.

## 4.2 Cross-Sectional Sample Characteristics and univariate analysis

### 4.2.1 Sample characteristics and child bearing in 2008

#### 4.2.1.1 Family and Cultural Structures

The population groups in this study are further broken down into ethnic groups also known as ethnicity. Ethnicity is believed to have an influence on social behaviour (SAHO, 2015). Moreover, cultural norms also socially define and determine socially acceptable behaviours around femininity and masculinity (Hanna, 2001). Table 2 below shows a distribution of female young among population groups, ethnic groups, and religion (importance of religion in one's life and religion affiliation) in 2008.

**Table 2: Youth Childbearing by Population group, Ethnicity and Religion in 2008**

| Female youth aged (15-19) in NIDS 2008 | | | | | |
|---|---|---|---|---|---|
| **Population Group** | **Had given birth and/ pregnant in 2008** | | **Not pregnant and childless in 2008 (%)** | | **P-value in 2008** |
| **Africa** | (216) | 19.1% | (817) | 80.9% | 0.8198 |
| **Colored** | (33) | 22.0% | (105) | 78.0% | |
| **Asian/ Indian and Whites** | (3) | 12.9% | (34) | 87.1% | |
| **Ethnicity 2008** | | | | | |
| **Nguni Speakers** | (139) | 17.4% | (508) | 82.6% | 0.0002 |
| **Sotho-Tswana Speakers** | (61) | 21.6% | (257) | 78.4% | |
| **Tshonga and Venda Speakers** | (11) | 26.7% | (32) | 73.3% | |
| **English and Afrikaans Speakers** | (41) | 17.7% | (159) | 82.3% | |
| **Religious Affiliation 2008** | | | | | |
| **No Religion** | (23) | 20.6% | (70) | 79.4% | 0.0673 |
| **Christian** | (214) | 19.3% | (831) | 80.7% | |
| **Jewish, Muslims and Hindu** | (1 ) | 0.0 | (15) | 100.00% | |
| **African Traditional Churches** | (14) | 15.5% | (40) | 84.5% | |
| **Importance of Religion in Ones Live 2008** | | | | | |
| **Not Important** | (10) | 14.0% | (31) | 86.0% | 0.0685 |
| **Unimportant** | (11) | 21.7% | (52) | 78.3% | |
| **Important** | (122) | 19.9% | (441) | 80.1% | |
| **Very Important** | (103) | 18.3% | (425) | 81.7% | |
| **Information Missing** | (6) | 19.6% | (7) | 80.4% | |
| **(Population Size) N= 1 962 356 and (Sample Size) n=1208** | | | | | |

Source of data: NIDS (Data weighted) **\*all numbers in parenthesis are frequencies)**

\***all row percentages in the table add to 100.0%**

Religiosity is associated with behaviour that could lead to higher levels of teenage pregnancy as it usually discourages usage of any form of medical contraceptive methods while sexually active (Stayhorn and Stayhorn.,2009). Stayhorn and Stayhorn (2009) further reported that religious affiliations are not a predictor of contraceptive usage rather both religion affiliation and perception on the importance of religion in one's life determines the age at first sexual intercourse and contraceptive usage in the US. Nonetheless, in 2008 at a cross-sectional level race, religion affiliation and importance of religion (Distribution in 2008) were not

statistically associated with female childbearing or pregnancy. However, at a p-value, less than 0.05 (0.0002) ethnicity was a statistically associated with youth childbearing in 2008.

#### 4.2.1.2    Family Structure and Parental Education

Table 3 below provides with a distribution of female youth aged 15-19 in 2008 by parental residential status and educational attainment. According to the data used in the study, in 2008, 35.7% of female youth did not reside in the same households with their fathers, 29.0% female youth reported that their biological fathers were deceased. While 31.7% of fathers were alive and co-residing with these female youth, and 4.9% did not know the residential status of their biological fathers. Globally, changes in family structure have been observed (Charles et al, 2008). In the South African context, given the fact that the sample was born between 1989 and 1993, it should be noted that apartheid was still in effect. During the apartheid era, young men left their families in the traditional homelands to work for a while in the farms and mines located in the cities (SAHO, 2017). This was known as the labour migration system, which had several advantages to the Homeland communities and disadvantages. The disadvantages were inclusive of family disruptions and young men being used to the Western way of life, thus failing to go back to the Homelands (SAHO, 2017). This left women to raise children on their own (Mazibuko, 2000). Fomby and Cherlin (2007) in support stated that family disruption can cause serious behavioural problems among youth. However, paternal and maternal residential status were not statistically significant with a p-value of 0.4364 and 0.2728 respectively in 2008 at a cross-sectional level. Thus, concluding that they were not determinants of youth childbearing in 2008.

Both biological parents' educational attainment has a strong impact on healthy decisions in youth relationships, sex and sexuality among youth (Madkor et al., 2013). In support, in 2008 maternal education of both resident and non-resident mothers was statistically significant at a p-value of 0.0287 while paternal education of both resident and non-resident fathers was not statistically significant to be a determinate of youth childbearing with a p-value of 0.0647. Concluding that, maternal educational attainment was a determinant of youth childbearing and pregnancy while paternal educational attainment was not a determinant of youth childbearing and pregnancy in 2008 (shown in Table 4.2 below).

**Table 3: Youth Childbearing by Parental Residential Status and Education in 2008**

| Female youth aged (15-19) in NIDS 2008 | | | | | |
|---|---|---|---|---|---|
| **Paternal Residential** | **Had given birth and/ pregnant in 2008** | | **Not pregnant and childless in 2008 (%)** | | **p-values in 2008** |
| **Father Alive and Residing** | (66) | 18.0% | (284) | 82.0% | 0.4364 |
| **Father alive not residing** | (89) | 18.8% | (359) | 81.2% | |
| **Father died** | (83) | 19.5% | (274) | 80.5% | |
| **Unknown Residential Status** | (14) | 25.8% | (39) | 74.2% | |
| | | | | | |
| **Maternal Residential Status 2008** | | | | | |
| **Mother Alive and Residing** | (145) | 19.6% | (577) | 80.4% | 0.2728 |
| **Mother Alive Not Residing** | (64) | 17.2% | (236) | 82.8% | |
| **Mother died** | (43) | 19.2% | (143) | 80.8% | |
| | | | | | |
| **Parental Education 2008** | | | | | |
| **Maternal Education** | | | | | |
| **No Schooling** | (61) | 24.3% | (164) | 75.7% | 0.0287 |
| **Primary Education** | (81) | 22.2% | (291) | 77.8% | |
| **High School Education** | (64) | 20.8% | (262) | 79.2% | |
| **Diploma and Certificate without Matric** | (3) | 28.8% | (5) | 71.2% | |
| **Matric** | (16) | 10.1% | (81) | 89.9% | |
| **Tertiary Qualification** | (3) | 6.7% | (48) | 93.3% | |
| **Unknown** | (24) | 14.2% | (105) | 85.8% | |
| **Paternal Education 2008** | | | | | |
| **No Schooling** | (78) | 29.0% | (207) | 71.0% | 0.0647 |
| **Primary Education** | (57) | 18.9% | (214) | 81.1% | |
| **High School Education** | (30) | 16.9% | (165) | 83.1% | |
| **Matric** | (13) | 7.4% | (87) | 92.6% | |
| **Diploma and Certificate without Matric** | (3) | 0.0 | (26) | 100.0% | |
| **Tertiary Qualification** | (3) | 12.9% | (48) | 87.1% | |
| **Unknown-** | (71) | 17.3% | (257) | 82.1% | |
| **(Population Size) N= 1 962 356 and (Sample Size) n=1208** | | | | | |

Source of data: NIDS (Data weighted) **all row percentages in the table add to 100.0%**

**\*all numbers in parenthesis are frequencies)**

### 4.2.1.3    Urbanization

Ayele (2013) reported that, in most reviewed literature, higher youth childbearing rates are observed to occur in rural areas than in urban areas. Table 4 below presents the distribution of female youth aged 15-19 from the sample by place of residence in 2008. The highest frequency of births was observed in rural formal areas, followed by female youth from urban informal areas and the lowest percentage was observed in urban formal areas. In relation to the province of residence, the Free State had the highest percentage of pregnancies and childbearing than other provinces, followed by Mpumalanga and the lowest percentage was observed in Limpopo. Both geographic location and province of residence were statistically associated with youth childbearing in 2008 at a p-value of 0.0549 and 0.0004 respectively. Thus, concluding that, in 2008, geographic type and province of residence were determinants of youth childbearing.

**Table 4: Youth Childbearing by Place of Residence in 2008**

| Female youth aged (15-19) in NIDS 2008 | | | | |
|---|---|---|---|---|
| **Geographic Type 2008** | **Had given birth and/ pregnant in 2008** | | **Not pregnant and childless in 2008 (%)** | **p-values in 2008** |
| **Rural Formal Areas** | (25) | 30.5% | (57)    69.5% | 0.0549 |
| **Tribal Authority Areas** | (133) | 19.7% | (495)   80.3% | |
| **Urban Formal Areas** | (81) | 16.6% | (344)   83.4% | |
| **Urban Informal Areas** | (13) | 20.2% | (60)    79.8% | |
| **Province of Residence 2008** | | | | |
| **Western Cape** | (22) | 21.7% | (71)    78.3% | 0.0004 |
| **Eastern Cape** | (31) | 19.0% | (141)   81.0% | |
| **Northern Cape** | (12) | 14.9% | (60)    85.1% | |
| **Free State** | (20) | 26.5% | (57)    73.5% | |
| **Kwa-Zulu Natal** | (92) | 20.1% | (291)   79.9% | |
| **North West** | (15) | 20.0% | (72)    80.0% | |
| **Gauteng** | (20) | 17.5% | (81)    82.5% | |
| **Mpumalanga** | (22) | 24.1% | (63)    75.9% | |
| **Limpopo** | (18) | 12.7% | (120)   87.3% | |
| (Population Size) N= 1 962 356 and (Sample Size) n=1208 | | | | |

Source of data: NIDS (Data weighted) **all row percentages in the table add to 100.0%**

**\*all numbers in parenthesis are frequencies)**

### 4.2.1.4    Socio- economic Conditions

Table 5 below accounts for the distribution of female youth by Household Income per capita.
The presentation shows that female youth from the poorest households (quintile 1) in 2008
were more likely to have given birth compared to those residing in better other households
followed by those from quintile 2 households and the lowest was female youth from Quintile
5 households. In 2008, household per capita income quintile a determinate of youth
childbearing at a p-value of 0.0078. Thus, household income per capita was a determinant of
youth childbearing and pregnancy in 2008.

**Table 5: Youth Childbearing by Socio Economic Status 2008**

| Female youth aged (15-19) in NIDS 2008 | | | |
|---|---|---|---|
| Household       Income Per capita 2008 | Had given birth and/ pregnant in 2008 | Not pregnant and childless  in  2008 (%) | p-values in 2008 |
| Quintile 1 | (91)      23.8% | (281)    76.2% | 0.0078 |
| Quintile 2 | (77)      20.1% | (275)    79.9% | |
| Quintile 3 | (45)      14.4% | (199)    85.6% | |
| Quintile 4 | (31)      19.5% | (125)    80.5% | |
| Quintile 5 | (8)      12.9% | (76)    87.1% | |
| (Population Size) N= 1 962 356 and (Sample Size) n=1208 | | | |

 Source of data: NIDS (Data weighted) ***all row percentages in the table add to 100.0%**

**\*all numbers in parenthesis are frequencies**)

### 4.2.1.5    Summary

In 2008, there were variations on the frequency distributions in all the socio-demographic and
socio-economic variable among female youth aged 15-19. Most variables were in support of
the previously reviewed literature. However, among all the variables, only a few variables were
statistically significant at 95% confidence in the four major components of the conceptual
framework- The social and economic determinants of teenage pregnancy in Africa by Obejimi
and Bellingyam-Young (2014). In the component 'Family and Cultural structures' only
Ethnicity was significant. In the 'Urbanisation' component both geographic location and

provinces were significant, and 'Socio-economic conditions' was also statistically significant. These lead to a conclusion that, indeed some mesosystem and macro- system factors do affect the likelihood of early childbearing, but, because this is at a snapshot level, there is a higher possibility of change in the variables statistically significant.

## 4.3 Scholastic Progress from 2008 to 2012

**Introduction of scholastic progress**

Basic general education in South Africa is divided into three phases namely: Foundation Phase (Grade R to Grade 3), Intermediate Phase (Grade 4 to 6) and Senior phase (Grade 7-9) (Expat Cape Town, 2016). After the senior phase, there is Grade 10 to 12. Schooling in South Africa is compulsory from Grade 1 to 9 (Tucker, 2017). On that note, the South African educational system is faced with major challenges due to lack of financial support in smaller schools in rural areas and townships where only about 80% of the eligible population is enrolled (Expat Cape Town, 2016).

This section details the scholastic progress of female youth both at a cross-sectional and longitudinal analysis. Both the sections of the study are divided into two sub-sections, the enrolment of female youth between 2009 and 2012, together with the results obtained in each year for those enrolled (2009 to 2010). Information on academic progress is collected on the next wave for the previous year, analysis on this study was done before wave 4 was published by NIDS.

### 4.3.1 Cross-Sectional analysis on scholastic progress in 2008

This section below covers school progression among female youth that both reported pregnancy or childbearing and those that were neither pregnant nor given birth in 2008. It is divided into two sections: the first section is on the enrolment progress from 2008 to 2012 and the second section is on results obtained from 2008 to 2010

#### 4.3.1.1     School enrolment among female youth

Table 6 below indicates the enrolment of female youth from 2008 to 2012. In 2008, 84.6% of female youth were enrolled and 14.6% was not enrolled, while 0.8% enrolment information was missing. Among the enrolled female youth, 89.0% had not reported pregnancy or childbearing while 11.9% were pregnant or given birth. There were reasons why these female youths were not enrolled in 2008. This information of failure to enrol in 2008 was taken from wave 2. 35.4% were not enrolled due to financial constraints, 30.2% were pregnant or had given birth and 4.0% did not enrol due to the need to find a job. Moreover, none of those that reported financial constraints as the reason behind their failure to enrol had reported pregnancy or childbearing and indeed.

In 2009, 29% of female youth were lost to attrition as the data was collected in 2010, and 2.4% of the information was missing. In this years, the number of youth enrolled declined to 47.6% and 21.0% were not enrolled. Same as 2008, the most prominent reasons for not enrolling were: financial constraints (24.9%), pregnancy or childbearing (22.5%) together with a different reason-having completed school (18.5%) despite not enrolling in any kind of tertiary education. Additionally, in 2010, only 40.1% were enrolled and 30.7% was not enrolled. 15.8% that was enrolled could not afford to stay in school, 28.7% reported to have completed their studies and 22.9% reported to have started working. Only 2.1% in this years reported failure to enrol due to pregnancy or childbearing.

The most prominent reason for not enrolling in 2010 among youth that gave birth or pregnancy in 2008 was having started working (28.6%) and 23.9% could not afford to re-enroll. Moreover, in 2011, only 28.6% was enrolled and 52.5% was not enrolled. The three-main reason for not enrolling was lack of funding (25.6%), 14.5% wanted to get a job and 15.4% were pregnant/ and given birth. In addition, in 2012, many youths that had enrolled declined to 17.8% and 43.6% was not enrolled. And the most prominent reason was due to lack of funds (23.1%) followed by 13.4% of youth that wanted to get a job and 12.6% were pregnant and could not enrol.

**Table 6: Enrolment among youth from 2008 to 2012**

| Youth Enrolment in NIDS from 2008 to 2012 for youth that reported pregnancy and childbearing in 2008 | | |
|---|---|---|
| **Enrolled 2008** | **Had given birth and/ pregnant in 2008** | **Not pregnant and childless in 2008 (%)** |
| **Yes** | (139) 11.0% | (852) 89.0% |
| **No** | (108) 39.9% | (95) 60.1% |
| **Information Missing** | (4) 37.3% | (7) 62.7% |
| **Enrolled 2009 (using the 2010 questionnaire)** | | |
| **Yes** | (92) 10.8% | (508) 89.2% |
| **No** | (84) 23.2% | (189) 79.8% |
| **Lost in Attrition** | (66) 16.4% | (237) 83.6% |
| **Information Missing** | (1) 2.7% | (7) 97.3% |
| **Not asked in Phase 1 (2008)** | (9) 38.9% | (15) 61.1% |
| **Enrolment 2010 (using the 2010 questionnaire)** | | |
| **Yes** | (69) 9.0% | (426) 91.1% |
| **No** | (115) 23.0% | (291) 77.0% |
| **Lost to Attrition between 2008 and 2010** | (66) 16.4% | (237) 83.6% |
| **Information Missing** | (2) 66.5% | (2) 33.5% |
| **Enrolment 2011 (using the 2012 questionnaire)** | | |
| **Yes** | (47) 9.2% | (273) 90.8% |
| **No** | (97) 18.6% | (290) 81.4% |
| **Enrolled 2011, Lost to attrition 2010** | (1) 0.2% | (56) 99.8% |
| **Not enrolled 2011, Lost to attrition 2010** | (26) 17.6% | (74) 82.1% |
| **Lost to attrition between 2008 and 2010** | (2) 18.6% | (2) 81.4% |
| **Lost to attrition all waves** | (40) 21.3% | (154) 78.7% |
| **Information Missing** | (39) 66.5% | (107) 33.5% |
| **Enrolment 2012 (Using the 2012 questionnaire)** | | |
| **Yes** | (37) 11.0% | (181) 89.0% |
| **No** | (131) 15.9% | (449) 84.1% |
| **Enrolled 2012, Lost to attrition 2010** | (2) 5.8% | (42) 94.2% |
| **Not enrolled 2012, Lost to attrition 2010** | (0) 0.0% | (21) 100% |
| **Lost to attrition all waves** | (40) 18.6% | (154) 81.4% |
| **Information Missing** | (42) 21.9% | (109) 78.1% |
| **(Population Size) N= 1 962 356 and (Sample Size) n=1208** | | |

Source of data: NIDS (Data weighted) ***all row percentages in the table add to 100.0%**

***all numbers in parenthesis are frequencies)**

On the other hand, there has been a number of reason over the years among youth that give birth and reported pregnancy in 2008 for not enrolling. In 2008, majority of them could not enrol due to pregnancy/childbearing itself (42.8%), 23.3% wanted to get a job, in 2009, the reasons had changed, 28.6% reported to have started working, and 23.9% still did not re-enroll due to pregnancy/childbearing while 20.9% reported having completed school. Moreover, in 2010, 22.2% reported that they failed to enrol because they had completed the study, 21.2% had started working and 13.4% could not enrol due to lack of funding. In 2011, 25.3% reported

lack of funding, 18.3% were pregnant/ had given birth while 10.0% wanted to get a job. In addition, in 2012, also, 22.2% could not afford fees, 18.9% were pregnant or had given birth and 12.2% wanted to get a job.

Among those that were not pregnant or had given birth in 2008 the most prominent reason for not enrolling reported to have completed studying (30.8%), 19.5% could not afford to stay in school and 16.6% fell pregnant/ gave birth and could not enrol. In 2009, still majority had reported having completed schooling (31.0%), 21.2% had started working and 13.4% could not enrol due to lack of funding. Moreover, in 2010, 23.3% could not afford to stay in school, 11.5% were pregnant/had given birth and 13.6% wanted to work. In 2011, 23.3% could not afford to stay in school, 13.6% wanted to get a job and 11.5% could not enrol due to pregnancy. Lastly, in 2012, 23.3% could not afford the fee, 13.6% wanted to get a job and 11.5% was pregnant or had given having birth.

### 4.3.1.2    Summary

For our sample, there has been a noticeable decline in the number of female youth enrolling throughout the years. The main reasons of not staying in the educational system were, lack of funds for continuation, pregnancy and having completed school despite a failure to enrol in higher learning institutions. Only a few that reported pregnancy and childbearing in 2008 stayed enrolled; among those that did not enrol, initially they reason was pregnancy and childbearing, while the reason changed to having the need to look for a job in 2009 and later changed to lack of funding a few years later. On the other side, among youth that reported neither a pregnancy nor childbearing in 2008, the most reasons of failure to enrol were financial constraints and pregnancy from 2008 to 2012.

#### 4.3.1.3    Academic progress among female youth

South Africa has one of the highest-grade retention rates thus putting a huge hurdle in school completion (Branson et al. 2013). Unlike enrolment in the South African Educational system (high enrolment rates until late secondary) grade retention is common in all grades (Branson et al. 2013). The process known as 'weeding' may be one of the reasons behind high retention in Grades 10 to 12. Ministerial Committee on Learner Retention in the South African Schooling System (2008) reported that provincial educational departments "weed" (holding back learners) in Grade 10 to 12 with poor performance and those likely to fail the Grade 12 national exams with the aim of polishing them further before Grade 12. This section of the study is on results obtained from youth enrolled in a specific year

Table 7 below shows the scholastic progress of female youth that did not report pregnancy or childbearing in 2008. Before 2008, 40.3% of these female youths had repeated a grade in their lives and 58.2% had not repeated a grade, while 1.5% did not respond to the question, thus, labelled missing information. Among those that reported pregnancy and childbearing 2008, 51% of them had repeated a grade once or twice before 2008.

The 2008 results were obtained among those that reported being enrolled in 2008 but using the 2010 questionnaire. Only 54.3% that was enrolled in 2008 responded to the question while 30.3% was either lost to attrition or the data was missing. The most prominent progress results were, 1.7% reported to have withdrawn from the educational system, 5.8% had failed to progress to the next grade and 47.4% had passed to the next grade. For this year, scholastic progress data was only collected from the 11% of youth that was still enrolled in 2008 despite reporting either a pregnancy or childbirth. Among those which, 4.2% had passed to progress to the next grade, 1.1% had to repeat a grade and only 0.5% withdrew from the educational system and the rest were lost to attrition.

In 2009, the scholastic progress was still obtained using the 2010 questionnaire, meaning there were members of the sample that were lost to attrition. 51.9% was enrolled. Among the 51.9% that was enrolled, 89.2% had not reported childbearing or pregnancy in 2008 and 10.8% that was enrolled reported youth childbearing and pregnancy in 2008. Like in 2008, the results were obtained from only those that were enrolled. 1.1% of those that were enrolled withdrew from the educational system, 8.3% failed to progress to the following grade and 36.9% had passed the grade were enrolled in and had to progress to the next grade.

In 2010, the number of female youth enrolled had declined to 40.1%, 30.7% was not enrolled, while 29% was lost to attrition and 0.2% information missing. Among those that were enrolled, only 9% had reported youth childbearing and pregnancy in 2008 and 91% did not report pregnancy and childbearing in 2009. As for the results, in 2010, 1.3% withdraw from the educational system, 7.1% failed to enrol and 27.6% were progressing to the next grade.

**Table 7: Scholastic Progress among youth from 2008 to 2011**

| Results in NIDS 2008 to 2010 | | |
|---|---|---|
| **Grade Retention Before 2008** | **Had given birth and/ pregnant in 2008** | **Not pregnant and childless in 2008** |
| **Yes** | (128)  19.7% | (389)  80.3% |
| **No** | (117)  11.9% | (559)  88.1% |
| **Information Missing** | (7)  45.8% | (8)  54.2% |
| Results 2008 (From Wave 2) | | |
| **Withdrew before completing a year** | (7)  29.3% | (15)  70.7% |
| **Failed a grade or program** | (11)  18.3% | (64)  81.7% |
| **Passed a grade or program** | (77)  8.9% | (518)  91.1% |
| **Continuing in the program** | (0)  0.0% | (4)  100% |
| **Lost to attrition** | (66)  16.4% | (237)  83.6% |
| **Information Missing** | (10)  34.0% | (19)  66.0% |
| **Not enrolled in 2008** | (81)  32.0% | (98)  68.0% |
| Results 2009 (From Wave 2) | | |
| **Withdrew before completing a year** | (1)  5.4% | (14)  94.6% |
| **Failed a grade or program** | (20)  17.0% | (91)  83.0% |
| **Passed a grade or program** | (69)  9.7% | (384)  90.3% |
| **Continuing in the program** | (0)  0.0% | (4)  100% |
| **Lost to attrition** | (66)  16.4% | (237)  83.6% |
| **Not enrolled in 2009** | (84)  23.2% | (189)  76.8% |
| **Information Missing** | (12)  26.1% | (37)  73.9% |
| Results 2010 | | |
| **Withdrew before completing a year** | (2)  14.8% | (17)  85.2% |
| **Failed a grade or program** | (21)  10.4% | (77)  89.6% |
| **Passed a grade or program** | (36)  6.4% | (281)  93.6% |
| **Continuing in the program** | (0)  0.0% | (4)  100.0% |
| **Lost to attrition all waves** | (42)  21.9% | (109)  78.1% |
| **Not enrolled in 2010** | (100)  20.1% | (261)  79.9% |
| **Information Missing** | (11)  21.6% | (53)  78.4% |
| **Lost to attrition between 2010 and 2012** | (40)  18.6% | (154)  81.4% |
| (Population Size) N= 1 962 356 and (Sample Size) n=1208 | | |

Source of data: NIDS (Data weighted) *all row percentages in the table add to 100.0%

*all numbers in parenthesis are frequencies)

#### 4.3.1.4 Summary

For the sample, majority of these female youth had repeated a grade before 2008, and the number of those that repeated a grade between 2008 and 2010 were only few in numbers, but the frequencies of youth repeating a grade increased between 2008 and 2010 and then decreased in 2010. Students that were most likely to repeat a grade were that reported pregnancy in 2008, and more of those that reported pregnancy and childbearing had also repeated a grade once or twice before they fell pregnant.

## 4.4  Longitudinal data sample characteristics

This section is on the descriptive analysis of the sample in relation to a socio-demographic and socio-economic variable as done at a cross-sectional level (section 4.2.1). Nevertheless, for this section, the descriptive analysis will be at a cohort level. The main aim of the description in this section is to compare frequencies from 2008 with those of 2012 for noticeable changes in in between the years for female youth that eventually gave birth and reported pregnancy in 2012.

The results in this section may vary widely from what was observed at a cross-sectional level. Burt et al. (2017) reported the difference between cross-sectional results and longitudinal results is, the former gives results at a societal level and the later normally majors change at an individual level over a period. Furthermore, results from longitudinal data may also vary from those at a cross-sectional level because it helps in eliminating short-term effects thus, giving a precise cause-and-effect model (Burt et al., 2012). For this reason, the characteristics of the sample may differ or compliment that of the cross-sectional level.

### 4.4.1  Sample characteristics and child bearing in 2012

In 2008 (at the baseline year), 84.4% of female youth reported not to have given birth nor pregnant while 15.6% reported the opposite (having given birth or pregnant at the time of the study). Four years from the baseline, among the 84.4% of female youth that did not report pregnancy nor childbearing in 2008, 57.9% of them were still neither pregnant nor had given birth while 42.1% reported to have given birth or were pregnant in 2012.

### 4.4.2  Family and Cultural Structures

Table 8 presents the distribution of female youth 19- 23 years old in 2012 by population group, ethnicity, and religion at a cohort level. In comparison between 2008 and 2012, coloured youth had the highest percentage in both years, 22% in 2008 and 55% in 2012. Asian/Indian and Whites were also had the lowest frequencies both in 2008 and 2012.

Concluding that, in both years, coloured girls were more likely than other population groups to be youth mothers or to be pregnant. With regards to ethnicity, the same was observed as population group, in 2008 and 2012, female youth from the Tshonga and Venda ethnic group had the highest percentages of youth that had given birth or were pregnant at the time of the study with percentages 26.7% and 52.5% respectively.

There was still no variation on the highest frequency on the number of pregnancies and childbearing in 2008 and 2012 in relation to religion affiliation. Youth that reported to have no religion affiliation had the highest percentage of pregnancies and fertility at 20.6% in 2008 and 55% in 2012. Jewish, Muslims and Hindu female youth reported no pregnancies nor childbearing in 2012. Also, in 2012, a higher percentage of female youth did not respond to the question on importance of religion in one's life. Female youth that failed to respond to this question (Information Missing) had a higher percentage of pregnancy and fertility (47.2%) compared to those that responded. However, when comparing between 2008 and 2012 among those that did respond to the question, youth that viewed religion as unimportant in both years had the highest pregnancies and births than their counterparts at percentages 21.7% (2008) and 56.3% (2012) respectively.

**Table 8**: **Youth Childbearing by Population group, Ethnicity and Religion in 2012**

| Female youth aged (19-23) in NIDS 2012 who were not pregnant and had not given birth in 2008 | | | |
|---|---|---|---|
| **Population Group 2012** | **Did not give birth by 2012 (%)** | **Gave birth and were pregnant by 2012 (%)** | **P-value 2012** |
| **Africa** | (333) 58.2% | (274) 41.8% | 0.2475 |
| **Colored** | (37) 45.0% | (38) 55.0% | |
| **Asian/ Indian and Whites** | (12) 81.1% | (1) 18.9% | |
| **Ethnicity 2012** | | | |
| **Nguni Speakers** | (200) 57.3% | (167) 42.7% | 0.7914 |
| **Sotho-Tswana Speakers** | (114) 60.2% | (89) 39.8% | |
| **Tshonga and Venda Speakers** | (11) 47.5% | (12) 52.5% | |
| **English Speakers** | (57) 58.9% | (45) 41.1% | |
| **Religion Affiliation 2012** | | | |
| **No Religion** | (29) 45.0% | (24) 55.0% | 0.5239 |
| **Christian** | (330) 58.9% | (276) 41.1% | |
| **Jewish Muslim and Hindu** | (6) 100.0% | (2) 0.0% | |
| **African Traditional Churches** | (17) 59.7% | (11) 43.3% | |
| **Importance of Religion in Ones Live 2012** | | | |
| **Not Important** | (12) 73.7% | (10) 26.3% | 0.4383 |
| **Unimportant** | (20) 43.7% | (19) 56.3% | |
| **Important** | (162) 56.3% | (147) 43.7% | |
| **Very Important** | (182) 59.4% | (133) 40.6% | |
| **Information Missing** | (2) 52.8% | (4) 47.2% | |
| **(Population Size) N= 1 112 381 and (Sample size) n=695** | | | |

Source of data: NIDS (Data weighted) *all row percentages in the table add to 100.0

*all numbers in parenthesis are frequencies)

### 4.4.3    Family Structure and Parental Education

The impacts of family formation and parental education have been reviewed in the literature. Table 9 below shows the distribution of female youth in 2012 at the age of 19-23. There were observable changes in the distributions regarding paternal residence within the years. In 2008, a higher percentage of youths that had given birth or were pregnant were from households with unknown paternal residential status (25.8%) and that changed in 2012; youth with deceased fathers had the highest percentage (54.4%). The similarity between the years (2008 and 2012) among female youth that fall pregnant or give birth in 2012 is the permanent absence of a father in a household through either not knowing their residential status or by being deceased. On the other hand, maternal residential status in 2008 was different from that of 2012. Female youth with mothers residing in the household had the highest numbers of pregnancies and childbearing (19.6%) in 2008. That changed in 2012, female youth with mothers deceased had the highest distribution (59.9%).

For parental educational attainment, in 2008, youth with mothers with a diploma and certificates without matric had the highest percentage (28.8%), while in 2012, female youth with mothers with high school education (still no matric) had the highest percentage (47.6%) of births and pregnancies among female youth.

Moreover, youth with fathers with no schooling had the highest percentage (29%) and that changed to youth with fathers with high school education (44.2%) in 2012. For both maternal and paternal educational attainment, female youth with either a mother or a father with no matric had higher frequencies of pregnancy or childbearing. Justifying this, in 2008 and 2012, female youth with paternal education of National Technical Certificate did not give birth nor report pregnancy.

**Table 9: Youth Childbearing by Parental Residential Status and Education in 2012**

| Female youth aged (19-23) in NIDS 2012 | | | | | |
|---|---|---|---|---|---|
| **Paternal Residential** | **Did not give birth by 2012 (%)** | | **Gave birth and were pregnant by 2012 (%)** | | **P-Value 2012** |
| **Father alive and Residing** | (125) | 66.3% | (78) | 33.7% | 0.1135 |
| **Father alive not residing** | (143) | 59.6% | (117) | 40.4% | |
| **Father died** | (92) | 45.6% | (108) | 54.4% | |
| **Unknown Parental Residence** | (22) | 73.2% | (10) | 26.5% | |
| | | | | | |
| **Maternal Residential Status 2012** | | | | | |
| **Mother Alive and Residing** | (249) | 61.0% | (189) | 39.0% | 0.0156 |
| **Mother Alive Not Residing** | (84) | 60.1% | (72) | 39.9% | |
| **Mother died** | (49) | 40.1% | (52) | 59.9% | |
| | | | | | |
| **Parental Education 2012** | | | | | |
| **Maternal Education 2012** | | | | | 0.0023 |
| **No Schooling** | (64) | 53.0% | (55) | 47.0% | |
| **Primary Education** | (121) | 53.2% | (105) | 46.8% | |
| **High School Education** | (102) | 52.4% | (98) | 47.6% | |
| **Matric** | (39) | 86.1% | (14) | 13.9% | |
| **Tertiary Qualification** | (16) | 78.7% | (7) | 21.3% | |
| **Unknown** | (40) | 56.8% | (34) | 43.2% | |
| | | | | | |
| **Paternal Education 2012** | | | | | |
| **No Schooling** | (88) | 56.9% | (64) | 43.1% | |
| **Primary Education** | (90) | 59.0% | (80) | 41.0% | 0.0375 |
| **High School Education** | (68) | 55.8% | (53) | 44.2% | |
| **Matric** | (34) | 55.0% | (26) | 45.0% | |
| **Tertiary Qualification** | (8) | 85.9% | (2) | 14.1% | |
| **Don't Know** | (94) | 56.0% | (88) | 44.0% | |
| | | | | | |
| **(Population Size) N= 1 112 381 and (Sample size) n=695** | | | | | |

Source of data: NIDS (Data weighted) ***all row percentages in the table add to 100.0%**

***all numbers in parenthesis are frequencies)**

### 4.4.4 Urbanization

Table 10 below shows the distribution of female youth in 2012 that reported to have given birth and pregnancy by place of residence. In 2008, the highest percentage of births and pregnancies among all female youth was 30.5% from rural areas. However, in 2012, the highest percentage of female youths that were pregnant and had given birth changed to youth from urban informal areas with 57%. Breaking down place of residence into provinces, in 2012, the highest percentage of births and pregnancies was observed in Kwa-Zulu Natal at 52.2% while that was a change from the highest percentage being from the Free State (26.5%) in 2008.

**Table 10: Youth Childbearing by Place of residence in 2012**

| Female youth aged (19-23) in NIDS 2012 | | | |
|---|---|---|---|
| **Urbanization 2012** | **Did not give birth in 2008 and 2012 (%)** | **Gave birth and were pregnant by 2012 (%)** | **P-Value 2012** |
| **Rural Formal Areas** | (21) 62.6% | (20) 37.4% | 0.1892 |
| **Tribal Authority Areas** | (202) 56.8% | (169) 43.2% | |
| **Urban Formal Areas** | (139) 61.7% | (106) 38.3% | |
| **Urban Informal Areas** | (20) 43.0% | (18) 57.0% | |
| | | | |
| **Province of Residence 2012** | | | |
| **Western Cape** | (33) 57.6% | (19) 42.4% | 0.4026 |
| **Eastern Cape** | (65) 64.4% | (42) 35.6% | |
| **Northern Cape** | (21) 62.7% | (18) 37.3% | |
| **Free State** | (26) 52.1% | (20) 47.9% | |
| **Kwa-Zulu Natal** | (101) 47.8% | (102) 52.2% | |
| **North West** | (26) 55.5% | (30) 44.5% | |
| **Gauteng** | (38) 63.5% | (21) 36.5% | |
| **Mpumalanga** | (20) 51.7% | (24) 48.3% | |
| **Limpopo** | (52) 61.9% | (37) 38.1% | |
| **(Population Size) N= 1 112 381 and (Sample size) n=695** | | | |

Source of data: NIDS (Data weighted) *all row percentages in the table add to 100.0%

*all numbers in parenthesis are frequencies)

### 4.4.5 Socio- economic Conditions

Table 11 below shows the distribution of female youth by Household income per capita in 2012. The highest percentage of births and pregnancy was among youth from Quintile 1 in 2008 and that changed to Quintile 3 in 2012 (45.7%).

**Table 11: Youth Childbearing by Socio Economic Status in 2012**

| Female Youth (19-23) in NIDS 2012 | | | | | |
|---|---|---|---|---|---|
| Household Income Per capita 2012 | Did not give birth in 2008 and 2012 (%) | | Gave birth and were not pregnant by 2012 (%) | | P-value |
| Quintile 1 | (108) | 55.0% | (105) | 45.0% | 0.0250 |
| Quintile 2 | (103) | 54.6% | (99) | 45.4% | |
| Quintile 3 | (93) | 54.3% | (67) | 45.7% | |
| Quintile 4 | (53) | 58.7% | (35) | 41.3% | |
| Quintile 5 | (25) | 88.1% | (12) | 11.9% | |
| (Population Size) N= 1 112 381 and (Sample size) n=695 | | | | | |

Source of data: NIDS (Data weighted) *all row percentages in the table add to 100.0%

*all numbers in parenthesis are frequencies)

### 4.4.6 Summary

There has been a noticeable change in the frequencies and significance between the determinants of youth childbearing both at a cross-sectional level and cohort level. Only a few variables were determinants of childbearing both in 2008 and 2012, being: household income per capita, maternal and paternal education. Also, maternal residential status was a determinant of youth childbearing and pregnancy in 2012, but not in 2008. These variables that were determinants of childbearing in both years are variables that female youth interact with directly.

## 4.5   Longitudinal analysis on scholastic progress

This section below covers the school progression among female youth that both reported pregnancy and childbearing in 2012 (none of these females reported to have given birth or pregnancy in 2008). It is divided into two sections: the first section is on the enrolment progress from 2008 to 2012 and the second section is on results obtained from 2008 to 2010.

### 4.5.1   Enrolment 2008 to 2012

In 2009 at the age group 16-20 (2009 is the first year of observation of female youth that had not given birth or was pregnant in 2008). Overall, 51.9% of female youth that gave birth and were pregnant in 2012 were enrolled while 27.0% were not enrolled, 21.1% of these female youths were lost to attrition. The 27.0 % that did not enrol in the educational system had various reasons for not enrolling from having completed school to being suspended or expelled from school. Of those not enrolled, 37.6% reported to have completed school, 26.6% had already started working, 10.9% could not afford to stay in school and 24.9% were pregnant or had given birth. Table 12 below shows the distribution of female youth by enrolment from 2009 to 2012 among the female youth that reported to be pregnant and had given birth in 2012.

**Table 12: Youth Enrolment from 2009 to 2012**

| Youth Enrolment in NIDS from 2009 to 2012 | | |
|---|---|---|
| Enrolment 2009 (using the 2010 questionnaire) | | |
| Enrolled 2009 | Did not give birth in 2008 and 2012 (%) | Gave birth and were pregnant in 2012 (%) |
| Yes | (434) 63.3% | (166) 36.7% |
| No | (195) 36.3% | (78) 63.2% |
| Lost in Attrition | (243) 61.0% | (60) 39.0% |
| Information Missing | (6) 65.9% | (2) 34.1% |
| Not asked in Phase 1 (2008) | (17) 54.2% | (7) 45.8% |
| Enrolment 2010 (using the 2010 questionnaire) | | |
| Yes | (224) 65.2% | (124) 34.8% |
| No | (87) 43.8% | (128) 56.2% |
| Lost to Attrition between 2008 and 2010 | (70) 61.0% | (60) 39.0% |
| Information Missing | (1) 44.0% | (1) 56.0% |
| Enrolment 2011 (using the 2012 questionnaire) | | |
| Yes | (185) 70.2% | (88) 29.8% |
| No | (126) 43.7% | (164) 56.3% |
| Enrolled 2011, Lost to attrition 2010 | (39) 77.7% | (17) 22.3% |
| Not enrolled 2011, Lost to attrition 2010 | (31) 45.6% | (43) 54.4% |
| Information Missing | (1) 44.0% | (1) 56.0% |
| Enrolment 2012 (Using the 2012 questionnaire) | | |
| Yes | (125) 72.9% | (56) 27.1% |
| No | (212) 47.7% | (237) 52.3% |
| Enrolled 2012, Lost to attrition 2010 | (32) 84.1% | (10) 15.9% |
| Not enrolled 2012, Lost to attrition 2010 | (12) 73.8% | (9) 26.2% |
| Information Missing | (1) 44.0% | (1) 56.0% |
| (Population Size) N= 1 112 381 and (Sample size) n=695 | | |

Source of data: NIDS (Data weighted) *all row percentages in the table add to 100.0%

*all numbers in parenthesis are frequencies)

In 2010, for female youths that were pregnant and had given birth in 2012, 41.3% of them were enrolled and 39.8% were not enrolled. 42.7% of those not enrolled reported to have completed school, 25.5% had already started working, 29.6% could not afford to stay in school and only 1.9% was pregnant and some had already given birth.

Three years from the baseline and a year before the ending period (2011), fewer female youth that reported pregnancy and childbirth in 2012 were enrolled compared to other years. At the age of 19-22, only 28.6% of female youth that reported pregnancy and childbearing were enrolled and 52.5% was not enrolled. More female youths that gave birth and were pregnant in 2012 were not enrolled due to pregnancy and childbearing than other years (39.5%). However, 11.4% of youth that reported childbirth and pregnancy as their reason of not enrolling in 2009, re-enrolled into the educational system in 2011.

In 2012 at the age of 19-23, only as few as 17.2% were enrolled and 77.1% were not enrolment. Moreover, 31.6% were not enrolled due to lack of financial support, 17.4% wanted to look for a job and 27.6% were pregnant. For the first time in comparison to the previous years, 2.3% reported to had grades below standard and were not allowed to enrol that academic year, 1.9% found education useless and 5.7% had gotten a job.

#### 4.5.1.1    Scholastic Progress of young females

.    Table 13 below presents the distribution of female youth that had given birth and was pregnant in 2012 by grade retention before 2008. In 2008, 48.9% of female youth that reported pregnancy and childbearing in 2012 had already experienced grade retention once or more in their lives. Same as the cross-sectional analysis, results are obtained from female youth enrolled in a specific year.

**Table 13: Female youth by Grade Retention Before 2008**

| Female youth by Grade retention before 2008 | | |
|---|---|---|
| **Grade Retention Before 2009** | **Did not give birth in 2008 and 2012 (%)** | **Gave birth and were pregnant in 2012 (%)** |
| **Yes** | (146)    47.4% | (149)    52.6% |
| **No** | (233)    64.9% | (160)    35.1% |
| **Total** | (3)    52.6% | (4)    47.4% |
| (Population Size) N= 1 112 381 and (Sample size) n=695 | | |

Source of data: NIDS (Data weighted) *all row percentages in the table add to 100.0%

*all numbers in parenthesis are frequencies)

Table 14 below shows the distribution of results by female youth that had given birth and were pregnant in 2012 from 2008 to 2010. According to the 2008 results obtained in the 2010 wave, 6.8% of youth that gave birth and were pregnant in 2012 had to repeat a grade in 2008 while they had already experienced grade retention before 2008. 5.4% that reported

pregnancy and childbearing in 2012 had not repeated a grade prior to 2008 but had to repeat a grade in 2008.

The 2009 results from the 2010 questionnaire showed that, 8.3% of female youth that reported childbearing in 2012 and enrolled in the same year reported to have 'failed the grade or programme". Also, 60.8% of those that failed a grade in 2009 had reported to have repeated a grade before 2008 while 12.9% failed a grade both in 2008 and 2009.

Results form 2010 was obtained from the 2012 wave, where 15.5% of these female youths had been lost to attrition. However, among youth that reported pregnancy and childbearing in 2012, 7.1% of them reported to have failed to progress to the next grade and 1.3% had reported to have withdrawn. Unlike between 2008 and 2009 where theses female youth withdrew after failing to progress to the next grade, none reported to have withdrawn from the educational system between 2009 and 2010, meaning despite grade retention, they still enrolled into the education system.

**Table 14: Female youth by Grade Retention Between 2008 to 2010**

| Results in NIDS 2008 to 2010 | | |
|---|---|---|
| **Results 2008 (From Wave 2)** | **Did not give birth in 2008 and 2012 (%)** | **Gave birth and were pregnant in 2012 (%)** |
| **Withdrew before completing a year** | (12)  47.9% | (10)  52.1% |
| **Failed a grade or program** | (55)  60.4% | (20)  39.6% |
| **Passed a grade or program** | (418)  60.8% | (177)  39.2% |
| **Continuing in the program** | (3)  4.8% | (1)  95.2% |
| **Lost to attrition** | (243)  61.0% | (60)  39.0% |
| **Information Missing** | (21)  59.3% | (8)  40.7% |
| **Not enrolled in 2008** | (142)  35.2% | (37)  64.8% |
| **Results 2009** | | |
| **Withdrew before completing a year** | (4)  25.3% | (8)  74.7% |
| **Failed a grade or program** | (50)  62.3% | (29)  37.7% |
| **Passed a grade or program** | (189)  65.2% | (121)  34.8% |
| **Continuing in the program** | (3)  100.0% | (0)  0.0% |
| **Lost to attrition** | (70)  61.0% | (60)  39.0% |
| **Not enrolled in 2009** | (50)  36.8% | (78)  63.2% |
| **Information Missing** | (16)  52.4% | (17)  47.6% |
| **Results 2010** | | |
| **Withdrew before completing a year** | (8)  63.8% | (9)  36.2% |
| **Failed a grade or program** | (43)  57.9% | (34)  42.1% |
| **Passed a grade or program** | (196)  69.8% | (85)  30.2% |
| **Continuing in the program** | (4)  100.0% | (0)  0.0% |
| **Lost to attrition all waves** | (1)  44.0% | (1)  56.0% |
| **Not enrolled in 2010** | (102)  40.5% | (159)  59.5% |
| **Information Missing** | (28)  62.8% | (25)  37.2% |
| **(Population Size) N= 1 112 381 and (Sample size) n=695** | | |

Source of data: NIDS (Data weighted) *all row percentages in the table add to 100.0%

*all numbers in parenthesis are frequencies)

## 4.6 Multivariate Model Building

The model in this section was built using the Hosmer and Lemeshow (2000) model building technique. There were a few steps to follow:

a)      Basing our results on the univariate analysis (chi-square test), variable with a p-value less than 0.25 were selected to build a multivariate "preliminary main effect model"

b)      Variables found statistically significant in a) above were further tested using a Wald statistic for each variable.

c)       Each variable coefficient was compared to those in the univariate model

d)       Variables not statistically significant were eliminated

e)       To verify if then non-significant variables were not confounding variables, each variable was added into the model to determine statistical significance.

f)       Once completed, a "main effect model was created"

### 4.6.1   Bivariate Analysis

Table 15 below contains results from the Chi-square p-values to determine which baseline (2008) socio and demographic variables were significantly associated with childbearing in 2012. In determining significant variables to include in the "preliminary main effect model". All variables with a p-value less than 0.25 from Chi-Square were included (Hosmer and Lemeshow,2000). Those variables are population group, income, father residential status, mother residential Status, maternal education, paternal education, geographical location of residence, and having repeated a grade between 2008 and 2012.

**Table 15**: Variables and P-Values from a Chi-Square test

| Variables | P-Values 2012 (Chi-Square Test) |
|---|---|
| | |
| Religious Affiliation | 0.5239 |
| Importance of Religion | 0.4383 |
| Population Group | *0.2475 |
| Household income per capita (2008) | *0.0250 |
| Ethnicity | 0.7914 |
| Geographic Location | *0.1892 |
| Province of residence | 0.4026 |
| Mother residence status in the Household | *0.0156 |
| Father residence status in the Household | *0.1135 |
| Maternal Education | *0.0023 |
| Paternal Education | *0.0375 |
| Repeated a grade between 2008 to 2012 | *0.0167 |
| | |

Source of data: NIDS (Data weighted) (**All variables with a * were selected to build a preliminary main effect model**)

All variables statistically significant in Table 15 were tested further using Adjusted Wald Statistics Test shown in Table 16 below. After running an Adjusted Wald Statistics, a few variables were eliminated, leaving the following as statistically significant: Population group, maternal and paternal residential status, maternal education and grade retention between 2008 and 2012

**Table 16: Wald Statistics tests for variables in the Preliminary Main Effect Model**

| Variable | P-Value 2012 | Adjusted Wald Statistics | |
|---|---|---|---|
| (Values from Table 5.4.1.1 above) | | F- test | P-value |
| **Population Group** | 0.2475 | 2.32 | *0.1011 |
| **Income** | 0.0250 | 1.13 | 0.3453 |
| **Geographic Location** | 0.1892 | 0.59 | 0.6240 |
| **Mother residence status in the Household** | 0.0156 | 2.44 | *0.0892 |
| **Father residence status in the Household** | 0.1135 | 3.17 | *0.0438 |
| **Maternal Education** | 0.0023 | 2.91 | *0.0226 |
| **Paternal Education** | 0.0375 | 0.68 | 0.6408 |
| **Repeated a grade between 2008 to 2012** | 0.0167 | 2.84 | *0.0934 |
| | | | |

Source of data: NIDS (Data weighted) **(All variables with a * were selected to build a main effect model)**

### 4.6.2  Multivariate Analysis

The table below (Table 17) shows all variables included in the main effect model, those variables are namely:  population group, residential status of both the mother and the father, maternal education and grade retention between 2008 and 2012. Table 17 shows the unadjusted results and the adjusted results together with the p-values to determine significance to youth childbearing in 2012.

Moreover, Table 17 below shows categories in the predictor variables at a 95% confidence. Population group remained statistically significant as a determinant of youth childbearing in 2012, coloured youth were 92% more likely to give birth and to fall pregnant in 2012 in comparison to the African youth. Also, youth with deceased fathers were 79% more likely to become youth mothers or fall pregnant compared to those who had a resident father. Similarly, youth with deceased mothers were also more likely (138%) to have given birth in 2012 in comparison to those who had a resident mother.

In relation to maternal education, youth with mothers with no schooling were 94% more likely to be give birth or fall pregnant in 2012 compared to those with mothers with primary education. The only individual factor that remained statistically significant as a predictor of youth childbearing and pregnancy was having repeated a grade prior to pregnancy or childbirth: youth that had repeated a grade were 72% more likely to give birth or fall pregnant in 2012 in than their counterparts that had not repeated a grade between 2008 and 2012.

**Table 17: Incidences of Youth Childbearing multivariate model**

| Categorical Variables | Unadjusted OR (95% CI) | Wald Adjusted OR (95% CI) | Wald Adjusted p-value |
|---|---|---|---|
| Race | | | |
| Africans | 1.00 | 1.00 | 1.00 |
| Coloured | 2.46(1.08-5.61) | 1.92(1.00-3.70) | *0.049 |
| Indian/Asian and White | 1.64(0.21-13.12) | 0.73(0.09-6.40) | 0.782 |
| Paternal Residential Status | | | |
| Father alive and residing | 1.00 | 1.00 | 1.00 |
| Father alive but not residing | 1.17(0.68-1.99) | 1.21(0.71-2.08) | 0.486 |
| Father died | 1.91(1.09-5.77) | 1.79(1.02-3.15) | *0.041 |
| Unknown Residential Status of Father | 0.64(0.23-1.84) | 0.56(0.19-1.58) | 0.269 |
| Maternal Residential Status | | | |
| Mother alive and residing | 1.00 | 1.00 | 1.00 |
| Mother alive but not residing | 1.28(0.71-2.32) | 1.23(0.67-2.67) | 0.501 |
| Mother died | 2.51(1.09-5.77) | 2.38(1.09-5.25) | *0.030 |
| Maternal Educational Attainment | | | |
| Primary Education | 1.00 | 1.00 | 1.00 |
| High School Education | 1.08(0.63-1.84) | 1.04(0.60-1.78) | 0.269 |
| Matric | 0.23(0.94-0.58) | 0.21(0.09-0.48) | 0.892 |
| No Schooling | 0.98(0.53-1.83) | 0.94(0.07-0.51) | *<0.001 |
| Tertiary Education | 0.69(0.20-2.36) | 0.46(0.13-1.61) | 0.840 |
| Unknown | 0.56(0.27-1.18) | 0.56(0.27-1.19) | 0.223 |
| Having Repeated a grade between 2008 and 2010 | | | |
| Yes | 1.61(0.97-2.27) | 1.72(0.22-1.02) | *0.035 |

Source of data: NIDS (Data weighted)

### 4.6.3  Attrition

Moultrie and Timeaus (2013: p 4) indicated that longitudinal studies allow one to find young mothers' circumstances before giving birth from their subsequent circumstances leading to pregnancy and childbearing. Like any longitudinal study, this study experienced attrition. Timeaus and Moultier (2013) reported that attrition of the sample is an issue in any panel study. In this study, between 2008 and 2012, 27% of the sub-sample (youth that did not report any pregnancy or childbearing in 2008) were lost to attrition. Breaking attrition in-between years, between 2008 and 2010, 25% was lost to attrition and 18.5% between 2010 and 2012. There is 18.3% of female youth that was lost to attrition between 2008 and 2010 but was re-interviewed; 98.2% of these youth (re-interviewed in 2012 but lost to attrition in 2010) reported incidences of childbearing. Therefore, to account for individuals or households lost due to attrition, post-stratified calibrated weights were used for cross-sectional and panel weights for a longitudinal analysis. The sample size used was enough to make an inference about the determinants of youth childbearing in South Africa and observe the evolution of those determinants in between the years.

### 4.6.4  Summary

Sample characteristics result obtained from the cross-sectional level and the cohort level did complement each other giving a broader understanding of the determinants of youth childbearing in South Africa. Youth from Tshonga and Venda ethnicity were found to have the highest percentages of childbearing and pregnancy in all the years, this compliments the results found that grade retention was mostly reported by girls from Limpopo province which is a home for most Tshonga and Venda people. Permanent removal of a parent either through death or not knowing where they are residing is also one of the major contributing factors to high levels of youth childbearing in both years. Moreover, population group, parental residential status, and having repeated a grade between 2008 and 2012 were determinants of youth childbearing in this study.

# 5.  Chapter Five: Discussion and Conclusion

## 5.1 Introduction for Discussion and Conclusion

Youth childbearing has been highlighted in numerous studies as a global health and socio-economic problem. The diverse outcomes affect the mother, the baby and the society they reside in. Globally, continentally and nationally, resolutions dated as early as the 1960s have been implemented to address the global problem. In response to the resolutions, there has been a noticeable decline throughout the world with a few setbacks in some countries. South Africa has not been a stranger to the noticeable decline in early childbearing and setbacks. The pace at which early childbearing is declining in South Africa is uneven to other groups and has therefore continuously been a national concern. Factors contributing to early childbearing have been documented nationwide and still are explored for informed decision making. Studies have highlighted that, determinants of early childbearing can be related to an individual, the environment some live in and interact with daily, social and political factors of the country they reside in. The theoretical framework used for this study additionally broke the determinants of early childbearing into socioeconomic conditions, urbanization, educational attainment, family and cultural structure, and underutilization of sexual health services (Obejimi et al., 2014). These determinants have been understood to transform the context in which young females live and make decisions about their lives.

This study is a longitudinal study that uses three waves (the wave of 2008 as the first wave, the second wave of 2010 and the third wave collected in 2012) from the national panel representative study- NIDS. Longitudinal datasets are useful in determining contributing factors prior to childbearing and to determine the evolution of our sample (Moultrie and Timeaus, 2013). The main objective of the study was to statistically investigate whether grade repetition is significantly associated with the incidence of childbearing when controlling for other demographic and socioeconomic factors. In this light, this chapter presents discussions on the main findings, draw a conclusion and give recommendations and future research.

## 5.2 Discussion of main findings

### 5.2.1 Parental Factors and Cultural Norms

South Africa's history of racial classification is one of the core reasons highlighted to explain the uneven decline in youth childbearing across race groups. The classification leaves its footprint of gross inequality in access to education, the quality of education, disrupted family formation, health services and economic opportunities that reflects in teenage fertility rates (Panday et al., 2009: Harden et al., 2009: Timaeuos and Moultrie, 2013). Africans and Coloureds in South Africa have had the highest youth pregnancies and the slowest decline rates compared to other population groups from 1996 to recently (Panday et al., 2009: Mpanza and Nzima, 2010: Smith, 2012: Timaeuos and Moultrie, 2013).

In this study at a cross-sectional analysis, in 2008 (aged 15-19), more Coloured population reported higher levels of pregnancy and youth childbearing with the lowest being Asian/Indian and Whites. This concurred with the findings of other cross-sectional South African studies related to about teenage pregnancy and early childbearing. In 2001, teenage (15-19) fertility ranks were: 71 per 100 for African, 60 per 100 for Colored, 22 per 100 for Asians/Indians and 14 per 100 for Whites (Panday et al., 2009). However, an evolution was observed, in 2004 Africans had the second highest decline rate (16.8%) second to whites at 29.8% and Coloureds were at a third place with a decrease of 12.7%. Thus, in 2009, almost 16% of coloured female had experienced teenage fertility compared to 14% of African female youth aged 15-19 (Panday et al., 2009). At a cohort level analysis (when the sample was 19-23 years old), the Coloured population group still had the highest percentage of pregnancies and fertility.

Although race did not determine youth childbearing or pregnancy in 2008, for this study, in 2012 race was a determinant of pregnancy with Coloured youth more likely to have had a child or fall pregnant in the period 2008 – 2012 compared to the female African youth. The reasons for this may be that throughout the years of this study, the coloured youth had the lowest enrolment rate, and higher drop-out rates than other population groups, thus putting them at a greater risk of early childbearing. Marteleto et al. (2008) reported that coloured girls do not stay in school after their sexual debut in comparison to other population groups, thus also putting them at a greater risk of childbearing. The other reason behind the difference seen in incidences of childbearing among population groups among other things (such as lower socio-economic status, parental involvement, and unemployment) is the different cultural

norms and practices in society (Panday et al., 2009). MacEachern (2011) explained that every human being is part of a complex group being it race, ethnic groups, family; all these helps form a base of expected behaviour.

South Africa is one among other countries with a lot of cultural backgrounds. These cultural backgrounds can be seen in the kinships formed by different groups. Moultrie and Timeaus (2009) report that self-ascribed ethnic identity remains deeply rooted in South Africa. Ethnicity like race is culturally influenced and seems to be part of the explanation for certain behaviours. In 2008 ethnicity was a determinant of youth childbearing while population group was not statistically significant as a determinant of youth childbearing. A higher percentage of pregnancy and fertility was observed among the Tshonga and Venda Speakers followed by the Sotho-Tswana Speakers in 2008. At a cohort level, the highest births and pregnancies are observed among the Tshonga and Venda Speakers followed by Nguni Speakers. Irrespective of the high frequencies observed, in a cohort analysis, ethnicity was no longer statistically significant to youth childbearing.

Obejimi et al. (2014) while addressing determinants of teenage pregnancy in Africa found gender inequality as one of the reasons behind the current high prevalence of youth childbearing. In South Africa, among African ethnic groups, the construction of femininity and masculinity is deeply embedded in sexual performance for males and paternity, together with the ability to reproduce for females (Hanna, 2001). Pregnancy is understood to be an epitome of womanhood and is used as a transition into womanhood in some ethnic groups (Jewkes and Christofides, 2008).

Moreover, cultural practices that can be linked to youth childbearing such as ukwaluka[5], ukuthwala[6] (only to mention a few) are still regularly practiced in some ethnic groups particularly in the Eastern Cape and Limpopo, thus placing young girls at a risk of early childbearing (Jewkes and Christofides, 2008: Morake, 2011: Mothiba and Mputle, 2012).This, for the study, justifies higher incidences of childbearing among Nguni, Tshonga, and Venda ethnic groups in 2012 as Eastern Cape and Limpopo is predominantly home to these ethnic groups.

Moreover, religion is thought to shape the beliefs and behaviour regarding sexuality. In South Africa, there are several religious affiliations namely: Christians, Jewish Muslim and

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[5] Ukwaluka-a traditional ceremony for young Xhosa boys to transition into manhood, this is inclusive of traditional circumcision.

[6] Ukuthwala- a practice of abducting young girls and forcing them into marriage.

Hindu, African Traditional Churches and people with no religion affiliations at all. In 2008, a higher percentage of pregnancies was observed among female youth with no religion, followed by Christians. Also, Jewish, Muslims and Hindu youth did not report any pregnancy or childbirth in 2008 and 2012. Although religion affiliation was not a determinant of youth childbearing in both 2008 and 2012. Nonetheless, the fact that there are zero pregnancies and children born among Jewish, Muslim and Hindu female yet youth with no religion have reported higher incidences of childbearing somewhat show that religion to some extent religion does influence the sexual decisions young people make inclusive of many other variables. Alternatively, it could be urged that Jews, Muslims, and Hindu are predominantly Asian/Indian and white with a low prevalence of youth childbearing initially, better economic opportunities, higher quality education and stable families hence the zero fertility levels in both 2008 and 2012. Also, it is also important to note that, the data is self-reported and if there is any form of stigma associated with teenage pregnancy among these groups- there is a huge likelihood that, young women from these groups (Jews, Muslim, and Hindu) would not accurately report any incidences of pregnancy or childbearing.

Religious faith is coloured and confused in respect to sexual attitudes (Fonda, 2013), this means the roles of religion in explaining youth childbearing are not a clear cut. Nevertheless, perception and importance of religion in one's life are argued to be more significant than religion affiliation (Stayhorn, 2009). This is confirmed by the findings of the current study, which found that youth that reported religion as unimportant were more likely to have had a child or be pregnant than other youth with different perceptions about the importance of religion in their lives. However, the controversy is that, the second highest percentage was female youth that perceived religion to be very important in their lives in comparison to their counterparts. One possible reason behind the controversy may be because the data was collected from some minors and youth that have a higher probability of staying with their parents, the question might have been asked in presences of their parents.

In addition, Panday et al. (2009) indicated that the social environment in which a young person develops may have a profound effect on behaviour; with family playing a significant role in identity formation and decision making. Family structure and characteristics play an important role in understanding and determining teenage sexual behaviour including pregnancy (Panday et al., 2009)

### 5.2.2 Family Structure and Parental Education

Individuals that interact with young people at a personal level have been observed to influence their behaviour and identity. A family is a vital component in a young person's life, it shapes their behaviour, social practices and how they interact with the environment they live in (Nyakubega, 2009: Panday et al., 2009). Family can determine a few noticeable characteristics, namely: the usage of contraceptives among females, socio-economic factors such as poverty, educational attainment and unemployment particularly in the Black and Coloured communities in South Africa (Panday et. al, 2009; Madigan et. al, 2014). Schwarzwalder and Tax (2015) justified family support works as a protective effect on risky sexual behaviours and is usually associated with a delay in sexual debut.

In this study, at a cross-sectional analysis in 2008, more pregnancies were reported among youth that did not know their biological father's residential status and youth with co-residing mothers. There may be numerous reasons behind that, a more recent study, indicated that having co-residing mothers does not protect youth from childbearing (Timeaus and Moultier, 2013). At a cross-sectional level, Mollborn et. al., (2014) reported that an in-depth research has indicated that, many teenagers give birth because their babies are accepted into the mother's family, given the protection of the maternal ancestors and looked after by elderly women and possibly the maternal grandmother. This has somewhat created a level of co-residing mothers accepting or tolerating early teenage pregnancy (Mollborn et al., 2014). For this study, having a co-residing mother as a female youth did not necessarily protect them from early childbearing. In a previous study, Panday et al. 2009, had reported that young people with both parents residing in the same household as their children particularly the mother have a decreased risk of early childbearing. This notion has been changing in other parts of Africa including Ethiopia, where youth with co-residing mother have been observed to have higher frequencies of childbearing (Ayele, 2014).

In relation to paternal residential status, it is observed in studies all around the world that youth that grew up in single-mother-headed households are more likely to have a child or become pregnant. The most important protective factor in the household is the presence of the girl's father as she transitions into womanhood (Vundule et al., 2010). The role of a father in a young girl's life can be a protective factor to early sexual debut and other behavioural problems. Having a co-residing father influences the relationship young people have with either friends, lovers or spouses, thus, girls who are well-bonded and loved by their involved fathers tend to

have less behavioural problems (Schwarzwalder and Tax, 2015). Absent fathers have been an ongoing norm in South Africa, from the labour market system to some ethnic culture that prohibits fathers to have a relationship with their children until customary damages are paid (if the child was born out of wedlock (Eddy et al.2013)).

The longitudinal analysis of parental residential status indicates a different story from what has been observed at a  cross-sectional analysis of this study and many other studies. In 2012, youth with a deceased fathers had higher reporting of youth childbearing, and youth with a deceased mothers had the highest reporting of incidences of pregnancy and childbearing in 2012. Meaning, youth with either a deceased mother or father prior to pregnancy and childbearing were more likely to report youth childbearing or pregnancy later in life. In this sample, female girls are old enough to understand death is universal and irreversible and that can affect their behaviour. Silverman (2010) reported that adolescence is a stage where there is a new understanding of what death is and what it means, putting them at a greater risk of poor grief management given their age. Youth are reported to deal differently to a loss of a parent than adults, and this can change their behaviour into substance abuse, acting out, and early sexual debut putting them at a greater risk early childbearing (Silverman, 2010). To add more, any kind of disruption within this 'protective factor-family' either through a divorce, death, and separation leads to behavioural problems among youth. In support, Nyakubenga (2009) reported that, in areas where family instabilities were reported, youth childbearing and pregnancy rates were higher (Nyakubenga, 2009).

Furthermore, Tomby and Sennott (2012) reported that single-parent households are associated with poor academic outcomes, poor educational attainment, unemployment, and poverty. Parental education is one of the protective factors of youth childbearing. Mooyaart (2016) reported that family background, family formation and educational attainment of parents' shapes young people's decisions in their transition into adulthood, thus, outcomes of those decisions lay a foundation of their subsequent life.

Parental education especially of the mother is an important correlate of adolescent pregnancy globally (Lee, 2001). Teenage mothers in South Africa are likely to be from single mother households and parents with low educational attainment (Panday et al. 2009). For this study, maternal education was a determinant of youth childbearing in both the cohort level and cross-sectional level, indicating that, maternal education is indeed a determinant of

childbearing in South Africa. In 2012 at the cohort level, youth with mothers who had no schooling were more likely to fall pregnant or to give birth.

Paternal education was only statistically significant in the 2008 cross-sectional analysis, with youth with the paternal education of Matric reporting the highest percentages of pregnancy and childbearing (45%). Among this 45 %, only 5.9% were co-residing fathers. Having an educated mother means a higher income quintile for the family as education comes with a better income. More income generally leads to better schooling and health care services for children, it additionally creates a protective culture to teenage pregnancy known as the cultural capital (Harding, 2003: Schwarzwalder and Tax, 2015). Cultural capital is referred to as the revolution of preference and behaviour that is relevant to the educational success of both the parent and the children (Harding, 2003). Low educational attainment in South Africa is one of the apartheid footprints mostly among the coloured and black population. Apartheid education influenced the current low educational attainment status among the older generation (SAHO, 2017), hence low educational attainment among both mothers and fathers of the young women in this study. It was not only about segregation of schools by colour but it patent inequalities in educational provisions and banned educational organization and information among Black South Africans (SAHO, 2017).

### 5.2.3   Urbanization

In South Africa, fertility declines began in urban areas due to economic development and increased access to education and contraceptive usage in these areas and it later moved to rural areas (Panday et al., 2009). Notably, for South Africa, there is no standard definition of urban and rural (Laldaparsad, 2011). With this inconsistency in the definition of rural-urban comparison between the two becomes difficult (Panday et al., 2009). However, what was reported is that, from 1998 until 2001, youth childbearing has doubled in rural areas than in other geographic locations (Panday et al., 2009). Additionally, teenage pregnancy hotspots in South Africa are observed to be in the townships and rural areas (Dommisse, 2007). Results from this study at a cross-sectional level were similar to the literature, more youth from rural formal areas had given birth in comparison to other geographic types. In this analysis, the geographic type was statistically significant as a determinant of youth childbearing in 2008

At a longitudinal data analysis, Timeaus and Moultier (2013) reported that there is no difference in fertility among young people in both rural and urban areas because the higher incidences of conception in urban areas are offset by higher levels of pregnancy terminations. On the other hand, at a cohort analysis level for this study, in 2012, there were higher incidences of pregnancy and childbearing among youth from urban informal areas. This shows an evolution from higher incidences observed among female youth from rural areas. Medani (2016) reported that the spatial data of South Africa shows that, recently due to rapid urbanization, there is a spread out over existing urban area, or settlements that are rapidly spreading creating larger villages with no proper administration and opportunities required for towns. The population in this informal settlement is predominantly a disadvantaged sector of society that moves to the fringes of urban areas for opportunities-which mostly are young people (Panday et al., 2009). Therefore, even though the geographic location was not a determinant of youth childbearing in 2012, it supports the previous reports on the expected higher levels of teenage pregnancy in urban informal areas. Panday et al. (2009) reported that, there has been higher mobility of younger people to get closer to schools and the previously observed higher prevalence of HIV among younger people residing in informal settlements. Therefore, given the common antecedents of HIV and pregnancy, there is a possibility of higher pregnancy levels too.

### 5.2.4   Socio- economic Conditions

Timeaus and Moutler (2013) reported that girls living in households that are part of the wealthiest quintile in terms of income have a lesser likelihood of early childbearing than those in the poorer 60% of the households. Youth from this best-fifth income households are mostly whites and Asians/Indians. In 2008 at a cross-sectional level when income was a determinant of youth childbearing, youth from Quintile 1, 2 and 4 were more likely to be youth mothers than the rest of the other girls. However, at a cohort level (2012), more incidences of birth and pregnancy were reported among female youth from the middle quintile (45.7%) (Quintile 3), but Quintile 1 was 45% and Quintile 2 was (45.4%). Meaning there was a slight difference between the incidences of youth childbearing and pregnancy in 2012 between Quintile 1 to 3. However, Quintile 3 had one of the lower percentages at a cross-sectional level (2008). Household income per captia was not observed as a significant indicator of youth childbearing

in South Africa in 2012, it was correlated to youth childbearing and pregnancy in other models but changed to insignificant when race was added in the final model at a cohort analysis.

At a cross-sectional level, it is in line to the observations done by Timeaus and Moutler (2013, pg. 11) that, "the important factors determining teenage pregnancy, in middle-class South Africa, is not that she is African, but that she is middle-class". At a cohort level, the outcomes of a middle-class girl are slightly different from the previous observation. The determinant of incidences of youth childbearing is the fact that population group particularly being African still has a higher influence on youth childbearing than household income. In justification, in 2012, more African girls in Quintile 3 had reported incidences of youth childbearing than other population groups in the same Quintile.

The analogy of "her being a youth mother is determined by that she is African than the level of household income" is attributed mainly to the historical racial classification of South Africa, where there was legalized segregation in public services, different geographic locations based on racial categories. Race was used for political, social and economic purposes. However, the dynamics of household incomes in South Africa have been evolving throughout the years.

### 5.2.5   Educational Progress

Education has been a tool for development globally. The motive behind pursuing any kind of formal education is because education gives young people a chance to informed decision-making and eventually when the whole cycle of education is complete (from the foundation phase to tertiary) an opportunity to have a formal job that comes with a better income, to eradicate poverty. It is also used as a protective factor for young girls from teenage pregnancy or any other behavioural problems. Several developmental policies have been in place to ensure education is for all and it addresses the gender parity. Historically, education in South Africa was central to racial segregation (Statssa, 2012). Nonetheless, numerous developmental programs post-apartheid have enhanced equality in education (Statssa, 2012,Timeaus and Moultire, 2013).  These programs are the reason behind the mass enrolment and expansion in secondary schooling particularly for young black South Africans and Coloured (Statssa, 2012), together with the decline in teenage pregnancies in some areas and population groups (Panday et al., 2009). Despite South Africa having to spend the majority of its gross domestic product on education than any other country in Africa (Unicef, 2017), there is serious challenges regarding the effectiveness of the educational system (Timeaus and Moultrie, 2013) and these

has been stumbling blocks in achieving transformation and effectively reducing youth childbearing nationwide.

The South African educational system has been reported to accommodate traditional teenage pregnancies due to high rates of retention, drop-outs, late entry, and re-enrolling within the educational system (Panday et al., 2009). These high rates of grade retention mean that youth well past puberty may still be enrolled in lower grades putting them at a higher risk of pregnancy than their counterparts that never repeated a grade (Panday et al., 2009). In this study, youth that repeated a grade between 2008 and 2012 were 72% more likely to give birth or to fall pregnant than their counterparts. Among youth that gave birth in 2012 and were also pregnant, 57.2% reported having repeated a grade sometime in their life before 2012, where 34.5% reported a grade before 2008 only. Using the age statistical norm of grade calculation, all those that repeated a grade before 2008 reported any other grade before Grade 9 to Matric, that is they repeated some grades from the Foundation Phase (Grade R to Grade 3), Intermediate Phase (Grade 4 to 6) and Senior phase (Grade 7-8). For grade retention in this study, there is youth that repeated a grade more than once between 2008 and within the years of the study. Meaning, in South Africa, it is possible to repeat a grade more than once in a lifetime of a young female.

The South African educational system is reported to serve two totally different sub-systems, the first system serves the historically disadvantaged people being the coloured population and Africans, the second system serves mainly Indians/Asians, whites and the Africans and coloureds middle class (van der Berg et al.,2011). In this study, the historically disadvantaged female youth (Africans and Coloured) reported having repeated a grade either before 2008 or between 2008 and 2010 than other population groups. This is observed because the quality of education is relatively low in those areas. In an assessment made on some Grade 6 learners in some parts of South Africa gave very unsatisfactory results. These young leaners had not mastered basic reading and numeracy skills (van der Berg et al., 2011). Majority of those students had low proficiency in reading, writing, and numerical skills are at a higher risk of repeating a grade (van der Berg et al., 2011), and this mostly happens in Tribal Authority areas according to the data used for this study.

## 5.3  Recommendations and future research

Parental residential status has been observed to be significantly important among young people, it shapes their behaviour and the way they interact with the social environment around them. In this study as the most significant parental status was having a deceased parent.  Parents in most cases create a sense of security and assuredly for young people. Communities can use this as a start to have non-discriminatory peer-support groups to address the importance of psychological counselling and guidance on how young people should deal with a death of a parent. Moreover, the other significant reason behind the determinants of youth childbearing was a non-co-residing mother, in the context of South Africa mother leave their household to work in other locations of the country. Decentralization of services can help prevent the intra-migration of mothers, thus reducing numbers of mother that leave families to work elsewhere. However, this might also be affected by the low levels of parental educational attainment.

Low parental educational attainment in South Africa has been happening generation after generation pre-apartheid. Post-apartheid has brought several policies that encourage young people to stay in school and will bring a change in the generational low parental educational attainment and hopefully reduce the incidences of youth childbearing. These change in South Africa has a possibility to happen 10 years from now. However, in the meantime, the government can raise awareness in the policy on adult education and the importance of adults and parents to get an education, not only to reduce the high levels of teenage pregnancy but to help improve family socio-economic statuses.  This adult educational classes could run in the afternoons and weekends to help a consistent student and teacher discussions considering the issue of cultural shock after years of not studying. Intra-migration in South Africa has also played part in the incidences of youth childbearing.

There has been a noticeable push and pull factors in South Africa, where people move from rural areas and townships for urban informal areas. Urban informal areas are closer to urban areas and are commonly known for poor health services, crime, vulnerability, no resilience strategies, high HIV/AIDS provenances and other diseases, thus putting young people at a higher risk of early childbearing. Families move from their original places of residence to get closer to services in urban areas. Further investigation is needed on the reasons why young people move from their places of origin to urban informal areas and their understanding of the risks associated with early childbearing in urban informal areas. Intra-migration at this point seems inevitable because the quality of education in rural areas has been

described as deteriorating in the recent years leaving students poor quality education and lesser chances to leave the poverty trap.

Great retention is one of the reasons behind high levels of youth childbearing and teenage pregnancy in South Africa. Youth that have repeated a grade have been observed to have a higher likelihood to be youth mothers. Apart from grade retention, there is slow progress, high dropout rates, lesser re-enrolment rates than the dropouts and a lesser percentage that gets a tertiary education. Acquiring a formal education is indeed important and can work as a protective factor for young people. However, South African schools have not implemented having a psychologist within the school to help students with negative pass rates. Psychologist sessions need to be given to youth that has repeated a grade and those with a likelihood of dropping out of school. In support, peer mentorship can be implemented in schools to help students with all the necessary skills they need to perform well and avoid "weeding" in schools such as time management, social development, reading skills and emotional management skills. An additional qualitative study with an intensive interaction is needed to understand in-depth what leads to youth childbearing after grade retention.

## 5.4  Conclusion

The socio-political history of South Africa still is the epitome of the majority of the factors determining youth childbearing explored in this study.  Although slow progress has been made through the implementation of the developmental resolutions to address among other developmental problem- early childbearing, it might take time for South Africa to have lower incidences of youth childbearing that reflect the economic development of the country. The resolution of quality education for all has been a constant downfall for the South African government, leading to having two different sub-educational systems in the country, with on better quality of education serving the upper-income quintile and the majority of certain population groups. The disadvantaged severs the lower income quintile and the majority of the South African population is the coloured and Africans. Hence, the high likelihood of youth childbearing within the population groups. These have been happening generation after generation, thus disadvantaging young people to develop and break the poverty trap

Indeed, education in South Africa is a protective factor to early childbearing. However, social environment young people live in making it hard to aspire and be attached to school.

Educational attainment and school attachment are affected by the social environment young people reside and interact with daily such as family formation, socio-economic status, parental residential status and low paternal educational attainment leading to lack of parental educational support. These factors affect young females personally and reflect in their school attachment and aspiration thus leading to the high incidences of youth childbearing. Although South Africa has implemented Life Orientation Skills in schools, this program has not been effective in the purpose of its implementation, given the family formation majority of these young females are from, together with the socio-economic status, and personal emotions they deal with, it is important to deal with the underlying personal situations before preparing them for the future.

The socio-economic factors that were also observed to be determinants of youth childbearing are also some of the determining factors of poor performance seen among young females in the country. The poor academic performance is observed in the slow progress, low educational attainment and high-grade retentions. Close to half of the girls that gave birth in 2012 had reported grade retention, some repeated a grade more than once. With this said, scholastic progress is indeed a major determinant of youth childbearing in South Africa more than other demographic and socio-economic factors.

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