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A tale of two sisters

Investigating the socio-economic outcomes of teen childbearing in South Africa

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ABSTRACT

This mixed methods study attempts to understand the effect of teenage childbearing in determining future socio-economic consequences for teenage mothers. This is accomplished by assessing the effect of a teen birth on outcomes such as educational attainment, employment, welfare and poverty in South Africa by applying a sibling-fixed effects technique. Using the National Income Dynamics Study dataset (2012), the paper compares siblings to control for family background heterogeneity and finds that teenage childbearing has a strong negative relationship with the completion of matric and a positive relationship with employment and welfare. This relationship is underestimated by traditional cross-sectional estimates which points to the importance of controlling for unobserved family heterogeneity. To complement these findings, the study also highlights the role of the family and the school in providing support structures to smoothen the immediate adverse effects of teenage childbearing. These findings indicate that interventions are needed which directly delay childbearing as well as create supportive environments at the family and school level.

Keywords

Teenage childbearing, socio-economic consequences, South Africa, mixed methods.

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Acronyms

CSG	Child Support Grant
DoE	Department of (Basic) Education, Republic of South Africa
LO	Life Orientation
NIDS	National Income Dynamics Study
NLSY	National Longitudinal Survey of Youth
QLFS	Quarterly Labour Force Survey
SALDRU	Southern Africa Labour and Development Research Unit
SHRH	Sexual and Reproductive Health Rights
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WHO	World Health Organization

Introduction

Teenage pregnancy has been highly sensationalised (Chiumia 2014, Ghosh 2012) by the South African media in the past few years. This has contributed to the moral panic associated with a growing culture of young people engaged in pre-marital sex. However, it fails to adequately locate the issue in the current academic debate on whether a causal relationship exists between having a teen birth[1] and dropping out of school or falling into poverty. By applying the human capital lens, this paper contributes to that debate and compares sisters where one gave birth as a teenager and one did not. The study uses the National Income Dynamics Study conducted in 2012 to test this relationship. It also uses qualitative findings derived from semi-structured interviews conducted in Cape Town, South Africa over a period of 5 weeks with key stakeholders.

The study finds that teenage childbearing plays an important role in determining levels of education, access to welfare and employment when sisters are compared. However, it finds no significant effect on poverty and income. These findings contribute to South African research on this issue and can indicate the way forward for the post-2015 agenda specifically for the MDG goals on maternal mortality, HIV rates and girl's education. This is important particularly due to the recent rollout of the National Development Plan in the country. By integrating the qualitative data into the quantitative findings, I find that it is necessary for policies to focus on delaying teenage pregnancy while simultaneously paying adequate attention to parent learners[2] using the schools and welfare systems as agents of support. This two-pronged approach will ensure larger female autonomy that enable young girls to make choices that place them in a stronger and valued position in the labour market in the long-run.

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[1] Teen birth refers to all women who have given a live birth between the ages of 15-19.
[2] Parent learner refers to a student who is also a parent.

I   Background

1.1   Background

While the rates of teen childbearing still remain high at 51 live births per 1000 females between ages 15-19, there has been a consistent decline in the rate over the past three decades. As an upper middle-income country, a rate of 51 live births is considered very high compared to developing countries such as India with 33 live births.

FIGURE 1.0
Number of live births per 1000 females (Age 15-19)
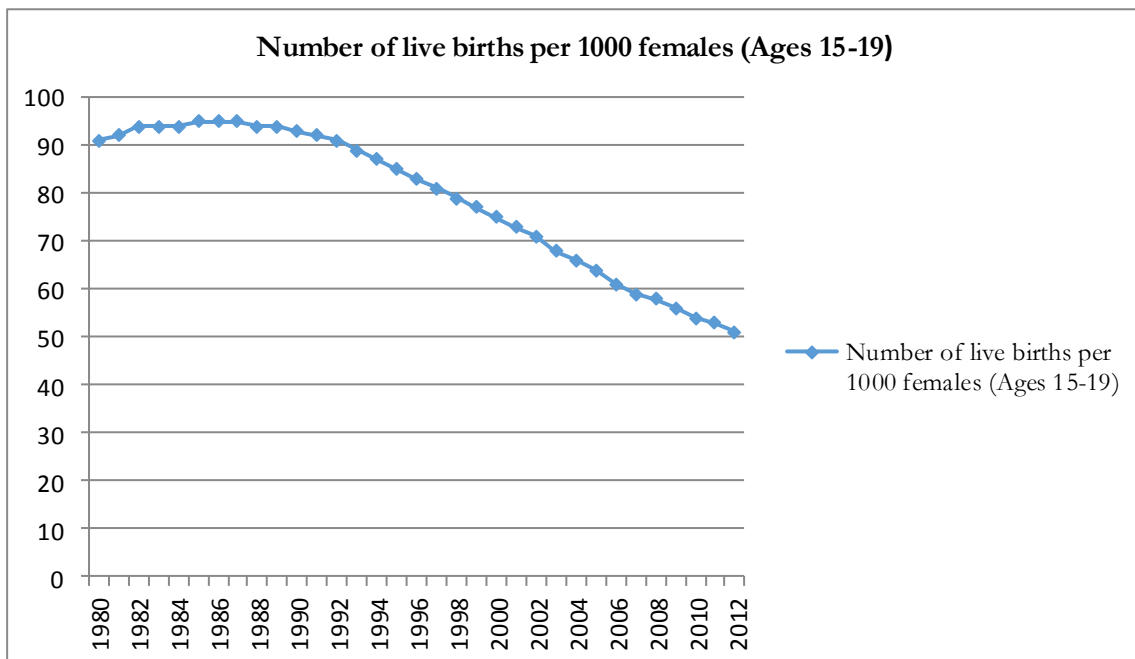
Data: World Development Indicators 2012, World Bank (2012)

While for some young women, pregnancy may be wanted if not necessarily planned, for many it is both unplanned and unintended.[3] Adolescent pregnancies are more likely to occur in poor, uneducated and rural communities (WHO 2014). Karra and Lee (2012) find that South African adolescent mothers are more likely to come from disadvantaged backgrounds with poor access to resources. Despite South Africa having modern birth control techniques[4] and free and legal contraception available; according to extensive research on

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[3] Unintended Birth - Assuming knowledge of contraception, an unintended birth refers to a pregnancy kept to term where in women who are not consciously planning a baby have fallen pregnant since they have avoided the use of contraception for a variety of reasons. Unplanned Birth - An unplanned birth refers to a pregnancy kept to term where the woman had no intent of falling pregnant and did so despite the use of contraception.

[4] Modern techniques: Free contraception in South Africa includes female and male condoms, oral contraceptives and injectables. Recently, the government introduced the implant 'Implanon' which is an insertable etonogestrel contraceptive that prevents pregnancy for up to 3 years.

teenage sexuality, pregnancy is likely to be an outcome of gender inequalities, which manifest in coerced sex and negotiated use of contraception (Wood et al. 1998, Jewkes et al.: 2009, Wood and Jewkes 2006, Jewkes and Wood: 2007).

UNFPA's report on 'Motherhood in Childhood' (2013) emphasises the significant short-term and long-term effects of early motherhood on a girl's well-being. This encompasses adverse effects on her health, education and her labour market value in the future. According to the NIDS, 2010 (SALDRU 2014), 24% of the girls cited pregnancy/giving birth as the reason for dropping out in 2010 in comparison to a negligible amount of boys. This figure may be further underestimated as dropping out of school is often a result of several inter-related factors (Grant and Hallman 2006). Branson et al. (2014) found grade retention to be the primary cause of drop-outs using the NIDS data. In addition, low school quality seems to contribute to this. "Out-of-school factors such as family structure, financial constraints, shocks including loss of employment, death and pregnancy, attitudes regarding the value of matric and lack of information are all posited as causes of dropout" (Branson et al. 2014:116). Teenage childbearing is also highly gendered as it disproportionately affects women and has been found to have a high correlation with the drop-out rate. (Grant and Hallman 2006:4).

Dropping out of school also reveals the inability of young girls to pursue their education and schooling simultaneously due to childcare responsibilities. The South African government has recognized this and has espoused its support for teenage girls to continue schooling despite the pregnancy. In 2007, a policy document released by the government reinforced the 1996 Schools Act Law which "aimed to balance the interests of the mother and her infant; young mothers are debarred from returning to school in the year in which they gave birth" (Timæus and Moultrie 2011: 2). However, this was revoked in July 2013 as it conflicted with the right to girl's education. Nevertheless, the law rightfully politicized the issue of teen mothers as student mothers in the educational policy framework. Through the Child Support Grant, the state is also providing welfare support to teen mothers and additionally child-care centers are available in most regions, thus reflecting the high value placed on education post-apartheid. (Madhavan and Thomas 2005: 454)

Having the lowest fertility rates of the continent, South Africa is immediately compared to developed countries such as the United States and the UK. However, the context of the country is drastically different (Timæus and Moultire 2008). While it is classified as an upper middle-income country, it has still has the historical roots of apartheid pervading in its societal institutions.[5] This is particularly true of the education system, which was racially segregated due to the 1953 Bantu Education Act. The unequal spending on education worsened the situation where R1172 was spent on every white student in 1982 versus an appalling R146 on black students (Equal Education 2011:1). This has contributed to the third highest employment rate in the world of approximately 50% of which 59.3 % of job-seekers do not have a matric. It has also created

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[5] In South Africa, apartheid was a system of discrimination on the social, political, economic and human level on the grounds of race which was ruled by the minority Afrikaner population. It lasted from 1948-1994 after which South Africa became a democracy.

one of the most economically unequal societies in the world as seen by the high 0.70 Gini coefficient (World Bank 2014).

Although the government has taken several steps to reverse these ill-effects of apartheid such as spending 20% of the national budget on education, there is still a long way to go (Timæus and Moultrie 2012). No-fee schools that were established to promote access across all incomes are under- resourced and have low levels of quality (Equal Education 2011: 2). As of 2013, 62.4% of students attend no-fee schools (Statistics South Africa 2014). While 73.9% of students passed the matric i.e. the National Senior Certificate Examination[6] in 2013, it masks the high number of children who dropped out before Grade 12. As of 2009, 60% of learners in South Africa had not continued beyond Grade 9 (DoE 2011: 6). Thus, accounting for the poor state of the educational system and the labour market, it is unclear whether it is teenage childbearing or other factors that could cause lower earnings in the future. This is further explored in the paper particularly in the literature review.

1.2   Relevance

The current relevance of teenage childbearing cannot be understated with the formulation of the post-2015 agenda. Globally, complications during pregnancy and childbirth are the second cause of death for girls between 15-19 years of age (WHO: 2014). This contributes to maternal mortality rates where unwanted pregnancy in adolescents is a specific focus (Burton 2013: 520). South Africa is unlikely to reach its target of reducing maternal mortality by three-quarters (Statistics South Africa 2013). In addition, in a country where 10% of the population is HIV positive, teen girls are also at the risk of contracting the virus (Amnesty International 2013). This is troublesome because 41.4% of maternal mortality rate is attributed to HIV (WHO 2014). The country also falls short on meeting MDG3 on Gender equality, which requires higher number of women to be employed. This indicates that the costs of early childbearing reach far beyond the mother, affecting families, schools and communities at large.

1.3   Central argument: research objective and question

The objective of this paper is to contribute to the mainstream and revisionist debate to understand whether it is the pre-childbearing characteristics of the teen mothers or the occurrence of the birth that contributes to poor future socio- economic outcomes. The use of mixed methods enriches not only the process but also the findings of the research.

This research sets out to explore the aforementioned objectives through the following question: **What is the effect of teen childbearing on future socio-economic outcomes?** Specifically, the outcomes that are looked at are highest grade completed, completion of matric, net income, welfare access, access to Child Support Grant and employment. The outcomes looked at are solely those associated with the mother.

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[6] The National Senior Certificate Examination is the equivalent of completing high school in South Africa, also known locally as the 'matric'.

II   Laying the groundwork

This chapter explores the problematisation of teenage pregnancy and childbearing in South Africa. It lays the theoretical considerations that guide the motivation and analysis of the paper and presents a brief literature review. The literature review highlights the different techniques that have been used to test the relationship between teen childbearing and socio-economic outcomes and moves on to specifically look at research conducted in this area in South Africa.

2.1   Problematizing teenage pregnancy and childbearing in South Africa

Two schools of thought, the 'mainstream' and the 'revisionist' have emerged (originating from the United States) addressing teenage pregnancy. Using the structural functionalist perspective, the mainstream school frames teenage pregnancy as a 'social problem' and directly links it to outcomes of disrupted schooling, poor health, reproductive ignorance and breakdown of tradition. (Macleod and Durrheim 2003:74). Based on conflict theory, Preston- Whyte were the first to refute this claim and to state that pregnancy is in fact a rational choice for young women who would not succeed in other circumstances. This was to gain the status of motherhood[7] due to lack of *lobola* (bride price) coupled with other structural constraints in the community. Thus, "There is little incentive to strive for the achievement of norms and values which are, after all, largely middle-class, and in the South African context, white." (Preston-Whyte and Allen 1992:215 as cited in Macleod and Durrheim 2003: 75).

This problematization is also located in the competing discourses on sexuality, namely between Victorian and traditional African beliefs. These manifest in the different ways fertility is viewed by communities in the country. According to Preston-Whyte et al. (1990), Black Africans and the Coloureds do not necessarily view it negatively. In particular, the Black African community places high value on fertility unlike the Whites and Asians.

Geronimus sheds light on this problematization while speaking of African-Americans in the United States. She proposed that social inequality facilitates the reproduction of certain mainstream cultures and their cultural goals, thus marginalising any other behaviours which are different as condemnable (2004: 164). Her analysis is valuable in the context of South Africa as she points out that the problematization of teen pregnancy only began and occurs in societies where nuclear family models are the norm. She argues that delayed childbearing in societies which experience different environments, resources and constraints to those common to nuclear family oriented societies, does not necessarily represent optimal behaviour (Branson et al. 2011: 3). Thus, higher fertility is a rational reaction by single, specifically African and Coloured women to "…oppressive and disempowering patriarchal economic, social and cultural systems" (Swartz 2002: 542).

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[7] Motherhood implies the status of an 'adult' and refers to the responsibilities traditionally associated with caregiving and child rearing. In the course of the paper, childbearing and motherhood are used synonymously, unless otherwise mentioned.

2.2   Theoretical considerations

Traditionally, economics has viewed fertility decisions as a rational choice. Determined by supply and demand factors, fertility decisions are driven by costs of childrearing such as foregone wages. However, since a large number of teenage pregnancies are unintended if not unplanned, this may not be entirely applicable (Blunch 2013:3). With respect to schooling, fertility decisions raise the opportunity costs of investing time in schooling and education (Chevalier and Viitanen 2003:324). According to Becker et al., "…higher fertility discourages investments in both human and physical capital. Conversely, higher stocks of capital reduce the demand for children as it raises the cost of time spent on child care" (1994:325). Due to this lower stock of human capital, childbearing has consequent direct and indirect effects on low educational qualifications and wages.

Thus, the opportunity cost or 'what could have been' affects one's stock of human capital. This stock of human capital can be understood in several ways. Becker refers to the concept as direct investments in the production process (1993: 324). Others like Bowles and Gintis (1975) view the process of building human capital as ideological indoctrination to create 'capitalist subjects'. For the purpose of this paper, I refer to the concept as the embodied knowledge and skillset a person gains over a period of time through different means such as training, schooling and working. This is a suitable concept as the stock of human capital that one possesses determines one's labour market value, which has significant effects on one's socio-economic outcomes in the future. It is indicative of one's affordability, accessibility and availability to economic and social resources.

Other economic theories such as household production theory also offer insight into fertility decisions. As per the theory, childcare responsibilities that come with giving birth increase the opportunity cost of labour force participation and hence decrease the probability of continued employment and income. Since 50.9% of women in South Africa are engaged in some form of labour (QLFS: 2014), they are forced to play the dual role of 'working mother', which could imply frequent interruptions to work schedules and a negative impact on quality. This could signify lower 'productivity', possibly stagnating their position in the labour market and adversely affecting income earned. Since caregiving responsibilities decrease as children grow older, women tend to re-join the labour market and this setback could merely be temporary.

The decision to consciously choose to have a baby (or to choose to avoid pregnancy) is also based on perceptions of the future and aspirations. These are indicated not only by family characteristics and neighbourhoods but also individual school performance. If these are poor, then taking on the role of a mother offers direction and a reasonable future. The benefits that come along with being a mother could be psychological and welfare-oriented. These benefits may outweigh the costs i.e. education and labour market possibilities. This points to the fact that labour market expectations could also drive early motherhood as well.

As rational individuals, young girls would choose to continue or drop-out of school by weighing these benefits and costs. The costs of acquiring an education can be compromised by factors such as indirect expenses like transport, school uniforms, psychic losses such as inability to cope with the educational system, shocks such as parental divorce, ill-health, teenage

pregnancy and forgone earnings. In the same light, pre-market labour influences are attributable to social choices such as choice of school and neighbourhood. Furthermore, labour market imperfections are a result of social norms such as race and gender and these greatly influence one's occupational income, status and wages. Thus, all these factors influence future socio economic outcomes. While it may not be possible to take each of these into account in the empirical strategy, it gives a fair idea of the variety of variables that could be included.

It must be noted that as a concept, human capital commodifies individuals and fails to accommodate structural constraints on notions of choice. However, it is indeed a signifier of the kind of resources that would be available to individuals in the future on the basis of their accumulated stock of skills and knowledge.

2.3   Literature review

Teen childbearing has important educational and economic implications on the future of the mother. According to the 'Motherhood in Childhood' Report (UNFPA 2013:18), "the educational impact includes the interruption or termination of formal education and the accompanying lost opportunities to realize one's full potential. Education prepares girls for jobs and livelihoods, raises their self-esteem and their status in their households and communities, and gives them more say in decisions that affect their lives". The economic consequences are very closely related to the educational impact as labour force participation and level of income is both dependant on the individual's education or skills.[8] The report goes on to state, "A pregnancy can have immediate and lasting consequences for a girl's health, education and income-earning potential. And it often alters the course of her entire life" (UNFPA: 2013:4)

While teen childbearing may be associated with low levels of human capital and poor socio-economic outcomes, it is difficult to claim that teen childbearing is in fact the causal factor (Karra and Lee: 2012). The UNFPA also highlighted the challenges in disentangling the relationship between dropping out of school and falling pregnant as a teenager (UNFPA 2012a).

Knowing the sequence of childbearing and dropping out of school is required to design appropriate policy interventions: if these poor consequences are because of other factors such as growing up in a poor neighbourhood, or lack of family support or financial constraints, then policies which aim at reducing teenage motherhood would not be very effective (Chevalier and Viitanen 2003: 324). "The competing demands of education and fertility, therefore, present substantial challenges for young women who may seek social mobility through both educational attainment and early childbearing." (Madhavan and Thomas 2005: 453).

There is however, a 'selection effect'. Teens that became pregnant could have already dropped out of school prior to the conception of the baby. Thus, girls who have a higher probability of getting pregnant may include a disproportionate number of girls who would have had a low probability of matriculating irrespective of their pregnancy status (Timæus and Moultrie 2011: 9). This could be due to observable factors ranging from low income, poor

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[8] In this case, economic consequences are also linked to health-related costs.

schooling facilities, quality of teaching and unobserved factors such as ability or motivation. A negative relationship may exist between poor life-cycle consequences and extra-marital childbearing if unobserved variables are correlated with both factors, despite the occurrence of pregnancy (Bronars and Grogger 1994: 1142).

Hence, we cannot assume that childbearing is not affected by these factors i.e. it is not exogenous in nature. Such an assumption could lead to endogeneity and bias in the estimates. This means that childbearing could be determined by schooling, however schooling could equally be determined by the occurrence of a pregnancy. Endogeneity can also manifest in the form of an omitted variable bias when the relationship between childbearing and schooling is estimated without accounting for all the important factors that could potentially influence the relationship. Lastly, measurement error due to problematic sampling and reporting could lead to endogeneity as well.[9]

To circumvent the above situations, researchers have attempted to use various econometric techniques. This popularly includes the use of instrumental variables which tackle omitted variable bias and measurement error. Natural experiments such as the passing of abortion laws serve as useful instruments as they are random in nature.

Klepinger et al. (1997) use age of menarche as a proxy for age at first sex to estimate the effects of teenage childbearing on human capital and wages in the future. Herrera and San (2013) use access to condoms while studying the relationship between early childbearing and schooling and cognitive skills in adolescents in Madagascar. Angrist and Evans (1996) exploit state-wise abortion reforms as natural experiments to assess the relationship between extra-marital and teen childbearing with labour market outcomes.

In contrast, Hotz et al. (1999) exploit a natural experiment affecting fertility i.e. occurrence of miscarriages and use it as an instrumental variable to understand if teen childbearing affects socio-economic attainment. They find that lifelong earnings of adolescent mothers would reduce if they postponed childbearing. Disputing the popular belief that teen mothers are expensive to society, they proposed that if teen mothers delayed pregnancy "the net annual outlays by government for cash-assistance and in-kind transfers to these women would actually increase by 35%, or $4.0 billion" (1999: 34).

Others have used sibling or twin comparisons to account for family heterogeneity bias. Geronimus and Korenman (1992) compare sisters using a family fixed effects model and find that teenage childbearing does not have a large effect on future socio-economic outcomes. Bronars and Grogger (1994) use the birth of twins as a natural experiment to find small and short-lived effects on unwed mothers (with a higher impact on the blacks). While studying twins in the UK, Hawkes also used within pair estimates[10] and found that after controlling for unobserved family background, the significance of a teen birth fell suggesting that the circumstances leading to a teen birth require attention (Hawkes 2004).

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[9] This is very common particularly in education as grades may not necessarily capture the quality of the teaching.
[10] Within pair estimates assess relationships comparing individuals within a family in this case 'sisters'.

Dropping out of school early could also mean entering the job market early. In the United States, investigators found that the birth of child has an effect by reducing the amount of work experience. They also found that these women actually had higher rates of participation versus those women who gave birth later in life. However, this could be confounded by a 'babysitter effect' where older children act as proxy mothers, thus freeing the mothers to participate in the labour market (Trussell 1976: 186). Effects of adolescent pregnancy translate into wages only indirectly (Klepinger et al. 1997: 10).

2.4   South African research

Teenage pregnancy has been perceived and framed as a negative phenomenon in South Africa (Macleod: 1999) as it is strongly associated with outcomes related to poverty, low socio-economic status and HIV. In addition, HIV rates are highly gendered as 13.9% of girl adolescents are infected versus 3.9% of males as of 2012 (UNICEF 2014). Thus, teenage pregnancy is also framed as a public health issue. Lastly, teenage pregnancy is a gendered problem where direct consequences, socially and financially, are borne by the mother and certain norms in society allow several fathers to leave their responsibilities. This intersectional nature has prompted research in different fields which has added to understanding the complex nature of the phenomenon. Numerous studies of a quantitative nature have been carried out to test the relationship between teen childbearing and socio-economic outcomes and extensive qualitative work has been done mainly around the causes in the country.

Concerns of a growing urban underclass have prompted discussions on the relationship between schooling and early childbearing. "In South Africa, in 2002, 11.8% of teenage girls that were not in an educational institution reported pregnancy as the main reason, rising to 17.4% in 2004 and declining to 13.9% in 2006." (Lehohla 2007).

The Cape Area Panel Study (CAPS) studied the effects of teenage childbearing assessing educational outcomes of the girls (at age 20) as well as the health and educational outcomes of their children in Cape Town. The study found a significant negative relationship between the two variables compared to women who had postponed their first birth. However, it also found that these girls are disproportionately from poor family backgrounds in terms of education and resources (Ranchhod et al.2011).

A study conducted by the Africa Study Centre which focused on human capital outcomes for black teen mothers in rural Kwa-Zulu Natal also found a similar result. In addition, both studies found that the negative effects are higher for younger teen than older teens (18-20) (Ardington et al. 2011). Ardington et al. clarified that according to the NIDS in 2008, only 33.43% attributed leaving school to pregnancy.

Timæus et al. looked at the short term educational effects of a teen birth using the NIDS and found that girls having babies in 2008 (the first wave) were more likely to be enrolled in school in 2010 (second wave) if they resided with their mother or if she was well-educated (Timæus and Moutlrie 2011). However, the study concluded that poverty, early motherhood and low levels of schooling are an outcome of inter-dependant socio-economic factors.

Qualitatively, extensive research has been conducted on causes and factors associated with teenage pregnancy which are closely linked to unsafe sex practices and relationships between adolescents.

Kanku and Mansh studying pregnant and parent adolescent girls and boys in Taung, South Africa concluded that "Most teenagers perceived falling pregnant as a negative event with consequences such as unemployment, loss of a boyfriend, blame from friends and family members, feeling guilty, difficulty at school, complications during pregnancy or delivery, risk of HIV, secondary infertility if an abortion is done and not being prepared for motherhood. A number of teenagers, however, perceived some benefits and saw that it could be a positive event depending on the circumstances." (2010: 563)

Irrespective of the sequences of pregnancy and drop out, one cannot ignore the radical changes that a baby brings to an adolescent's life.

III Methodology

This chapter is divided into three sections. The chapter begins by locating the study in its paradigm of departure and explains the nature of the design. The qualitative section presents information regarding the research site, technique used and gives an overview of the sample. It also outlines limitations and delves into the ethical issues faced by the researcher. The quantitative section begins by providing information about the source of the sample and then outlines the empirical strategy used in the paper. It then outlines and justifies the choice of variables, both outcome and control used in the model specification. It ends by briefly stating how the quantitative sample was constructed on the basis of the empirical strategy.

A. Paradigm and research design

There has been a tendency for research methods to be dichotomised into quantitative as objective and positivist and qualitative as subjective and interpretative. This study distances itself from such labels and views techniques in research methodology as a spectrum, which acknowledges that objectivity is merely a situated knowledge departing from a specific ontology. Thus, locating the methodology and the design of the study in a paradigm is of importance to do justice to the sensitive nature of the subject.

The study is located in a (post)-positivist viewpoint which is derived from a positivist framework. The positivist framework is inadequate for this study as it tends to provide an exclusively etic (outsider) view due to the dualist epistemology and quantitative methodology. It tests certain phenomenon under certain pre-conceived (theoretical) frameworks and includes the verification of a hypothesis. Internal critiques outlined by Guba and Lincoln (1994) are relevant inclusing lack of context, nomothetic findings (inapplicability of general data to individual data), detachment of statistics from meanings and values attributed to certain actions. These have brought forth the need to have a qualitative component to the study, which would ameliorate the above mentioned deficiencies. Thus, a post-positivist framework would aim to bring a holistic view with a more critical construction of reality and a modified epistemology which also privileges methodology that can bring to the table a more emic (insider) view (Guba and Lincoln 1994: 110).

Mixed methods research offers a rich opportunity for such a non-purist

and compatible view combining designs and techniques to understand certain phenomena better and answer the research question (Johnson and Onwuegbuzie 2004: 15) Quantitative data averages out individual experiences, eliminating voices of the teen mothers, leading us to the conclusion that quantitative data on its own is not sufficient. Thus, the paper will integrate the qualitative data with the quantitative data and findings.

I acquired the NIDS data through the government online portal prior to departing for field work. On reaching the field site, Cape Town, where I stayed for 5 weeks, I simultaneously collected qualitative data and organised the quantitative data. I had already conducted a literature review before undertaking field work. The regression specification was finalised on return with the guidance of the qualitative data collected and the literature review. The analysis

was sequential with the qualitative data integrated into the quantitative results. The quantitative framework is dominant in the course of the paper and has more weight attached to it.

B.   Qualitative Data

3.1 Technique: semi-structured interviews

Semi-structured interviews was chosen as a technique as it provides a fine balance between close-ended approaches which narrowly categorize responses and open-ended interviews that would not adequately serve to test a hypothesis (Leech 2002: 665). Semi-structured interviews serve to bring out different themes in a guided manner and provide a balanced approach where the researcher and the participant both feel adequately in control. It framed my identity as the researcher, as an individual who 'knows lesser' than the subject being interviewed. This allowed for a better rapport and two-way communication making the subject an active participant in the interview. Thus, the interviews were largely open-ended but guided. Note-taking and recording were used up- on consent.

3.2 Research site

Although the quantitative analysis is based on national-level data, the site for collecting the qualitative data was the city of Cape Town. Cape Town has a population of approx. 3 million people, of which 42.4% are Coloured (Statistics South Africa 2013). In the past decade there has been an increase in Black Africans in the city which ranks second after the Coloureds.

The city was chosen due to practical reasons of easy access to participants. The diversity present in terms of population groups in Cape Town was useful to organically support the changing needs of the research project. The stories and experiences of the Coloured community were brought to the forefront, a population group which has been insufficiently documented by researchers.

Paarl, a town that has been known to have the highest rate of abortions in the world in the past is situated very close to Cape Town and was also visited to gain perspective. However, this visit was restricted to interviewing one crisis pregnancy centre.

3.3 Sampling methods

The qualitative sample consists of teen mothers and key actors that interact with and/or support them. Overall, th*e* sample includes teen mothers, pregnant learners,[11] teen pregnancy support organisations and schools. The latter two aided me in gaining access to teen mothers. 11 interviews with teen mothers between 21 and 47 years old were conducted. The interviews lasted between 20 to 90 minutes. I framed the research as exploring experiences of young mothers and if applicable in relation to school, so as to not intimidate the girls. Pregnant teens were also interviewed to understand the reactions of the different actors

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[11] Pregnant learner: Refers to a student who is currently pregnant.

involved in their life and gain better insight into the sexual negotiations they ensue.

I interviewed 3 teen mother support organisations. Tracey who is a teen mother herself has been running The Zoe Project since the past 15 years from Retreat Clinic and in collaboration with Hanover Park Clinic. I took the opportunity to visit both the clinics and speak to the doctors. She also connected me to teen mothers who I met over two visits.[12,13] The counsellor Jacobie Muller from Rock Community Care in Paarl was also interviewed. I was able to interview two teen mothers and two pregnant girls at the centre on my second visit. Lastly, I interviewed Rosa Scheepers who works at Options, Ministry of Youth for Christ which assists pregnant women.

TABLE 3.0
Overview of Schools Interviewed

Teacher	School and Location
Ms. Lentz Lentz- Engligh Teacher	St. Andrews High
Cheryl Hamman, LO Teacher	St. Andrews High
Mr. Kagee-Solomon, LO teacher	Claremont High
Laura Collura, Principal and Daryl, School Social Worker	School of Hope
Cheryl Bachman	Manenberg High

The table above presents the teachers and schools that I interviewed. Since St. Andrew's High and Manenberg High are located in the Cape Flats,[14] I visited Claremont High which is located in an area inhabited by middle-class Cape Townians to gain more diversity in the sample.[15] After interviewing Mrs. Kagee-Solomon, I conducted an informal group discussion with 7 girls across different high school grades at the school. I also interviewed the Deputy Principal who herself had given birth to her first child at 17. I visited School of Hope[16] and after interviewing the Ms.Collura and Ms. Daryl, I attended a Life Orientation class conducted by Ms.Collura.[17] A resident where I was staying connected me to her cousin Cheney (21), who also gave birth as a teenager. Rosa from Options put me in touch with her cousin Hille Schultz who is a teacher and now an employee of the Western Cape Education Department via email.

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[12] Tracey selected these young women for me to talk to as she wanted me to have a perspective across population groups. Unfortunately, the white teen mother could not make it due to bad weather in Cape Town that day.

[13] Coleen and Codona's visit was merged into a counselling session with Tracey.

[14] The Cape Flats is an expansive poorly resourced region that was historically assigned to the Coloured population under the Group Areas Act during Apartheid.

[15] Mrs. Kagee-Solomon, however described the school as catering to disadvantaged students.

[16] School of Hope is a registered special needs school which specifically caters to at risk youth in Mowbray, Cape Town.

[17] I also interviewed the only teen father I had met at her office.

Details of the teen mothers which are most used in the paper are given in table 3.1.[18] An overview of all participants interviewed is present in the Appendix A.

TABLE 3.1
Sampling details of teen mothers (part) of the qualitative sample

Subject	Location	Connected by	Points to note	Sampling method
Fatema (21)	Principal's office	School of Hope	Presence of the principal At-risk youth	Recording with consent
Jovena (29)	The Zoe Project Office, Retreat Clinic	The Zoe Project	Presence of Tracey Drug abuser	Note-taking with consent
Thandeka (28)	Thandeka's Home	The Zoe Project	Presence of Tracey Trauma due to loss of first born and adoption of the second-born	Note-taking with consent
Codona (28)	The Zoe Project Office, Retreat Clinic	The Zoe Project	Presence of Tracey Drug abuser	Recording with consent
Colene (22)	The Zoe Project Office, Retreat Clinic	The Zoe Project	Presence of Tracey Pregnancy as a result of rape by her uncle Baby given up for adoption	Recording with consent
Mrs. Moyce (47)	Her office, Claremont High	Claremont High	Interviewed Alone Currently married	Recording with consent

Although there is large diversity and variation within the qualitative data, the objective of the field work was to gain a broader context of the topic at hand.

3.4 Limitations

The location and the presence of authority figures such as the teachers or counsellors could have affected the answers of the girls. Since the girls were specifically selected by the organisation and the teachers, they may have felt obligated to reveal certain information to me. In addition, they could have also been selected because of certain reasons such as doing well in school.

A concern is that the quantitative results will yield outcomes mainly for the black South African population, whereas a large part of the qualitative research done is for the Coloured community. However, I have attempted to capture a general overview in spite of this by speaking to various stakeholders regarding the overall trends they have seen. This is also true for schooling. Since school

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[18] Teen mothers who I met through the Tracey Project are used more extensively as they are now in their late 20s. This means that sufficient time has passed from the time they have birth.

characteristics are not present in the data, I have attempted to capture the role of the schools in affecting the education of young mothers through the qualitative work.

3.5 Ethical issues and dilemmas

Qualitative research encourages negotiating the relationship between researcher and participant in a more flexible way instead of traditionally maintaining an emotional distance. I encountered a number of situations where I would be asked to or would voluntarily reveal personal standpoints and opinions regarding contraception and abortion to build rapport with the girls as well as organisations I interviewed. This was an uncomfortable process in case of the organisations and some schools as they were either run on Christian beliefs or staffed by Christians.[19] While the girls shared their stories with me about relationships and their life-course pre and post-birth, instances of rape and sexual abuse, emotional and physical abuse as well as drug abuse came up frequently. This placed me in a questionable position as to what my legal and moral obligations after hearing these instances of violence. I was confronted with my inability to be of financial help as well. The support of the organisations I worked with enabled me to navigate these dilemmas in a better fashion as they had support structures in place for this.

Personal position

I wanted to veer away from assuming that teenage pregnancy and childbearing is bad since the idea of 'early' childbearing is a function of the level of schooling considered necessary by a society. Furthermore, it can have cultural value with motherhood as natural initiation into the adult world. However, during fieldwork I noticed that most of these pregnancies were indeed unplanned but not unintended indicating that the choices that these girls were making to have a baby were not informed and were structurally constrained.

Identity of the researcher

Since this study was a cross-national research, my position as a researcher was influenced by my identity in terms of citizenship, my current location of residence and my presence as a researcher in a country different from the above two. I found that there was a certain reassurance for the participants when I mentioned that I grew up in a country similar to theirs, rather than their assumption of my identity being Dutch. Revealing my age enabled me to establish an equal ground for both parties and aided me to build a rapport with the teen mothers and pregnant girls. Power symmetries are unavoidable in research and in many cases were tilted in my favour as schools and organisations had arranged for girls to specifically help me. The issue of being a voyeur and delving into people's lives was also problematic. I felt uncomfortable merely having a once-off meeting with the mothers and the organisation and I endeavoured to meet them at least twice and keep them

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[19] Christians form majority of the population and pregnancy crisis centres are often funded by the Church. Religious Affiliation by population is given in *Fig*.3.2.

updated via email and phone about my progress whilst in South Africa. This communication has still continued on my return and I have committed to passing on a summary of the paper.

C. Quantitative

3.6 Source of sample

The quantitative sample is derived from the South African Panel Dataset 'The National Income Dynamics Study', which studied individuals over 3 waves and 5 years (2008-2013) including 7300 households. The survey has information across 777 variables ranging from themes of education, poverty and income. It has information at the household and individual levels, taking into account both the children and adults in the household. The Southern Africa Labour and Development Research Unit (SALDRU) at the University of Cape Town has been sanctioned by the government of South Africa to conduct this survey.

3.7 Empirical strategy

In order to apply this larger framework to examine teen motherhood, multiple univariate proxies are used to represent the socio-economic outcomes of teen mothers later in life. The role of strong primary influencers is controlled for such as the family. The aim of the empirical work is get a sense of the differential between two sisters (mothers), similar in circumstances on average in all aspects excluding the fact that one of them gave birth as a teen. I test the effects of a teen birth on various outcomes such as income, welfare, employment, and schooling, including both the completion of matric and highest grade completed.

I use matched pairs samples which is a cross-sectional sample arranged by cluster with each family as the cluster unit and pairs of sisters as observations within each cluster. I first run OLS regressions to test what role having a teen birth plays on future socio-economic outcomes. I run two regressions denoted by equation (1) and (2) with the former excluding family characteristics and the latter including them. Differences between the estimates of specification (1) and (2) would reveal the role of family controls.

$$Outcome_{fs} = \beta_0 + \beta_1 Teenbirth_{fs} + \beta_2 IndividualCharacteristics_{fs} + a_f + u_{fs} \tag{1}$$

$$Outcome_{fs} = \beta_0 + \beta_1 Teenbirth_{fs} + \beta_2 IndividualCharacteristics_{fs} + \beta_2 FamilyCharacteristics_s + a_f + u_{fs} \tag{2}$$

f denotes the family unit and s indicates the sister in the family. Individual characteristics that are controlled for include province of residence, current age, age at first birth and religious affiliation. Family characteristics that are added on include parental education and number of siblings.

However, these cross-sectional estimates may suffer from omitted variable bias as unobserved family characteristics such as parent's motivation and interest in their child etc. may confound the estimates. Hence, I use a dummy

variable regression to obtain a fixed-effects estimator, which, would account for these unobserved factors.[20] Variables that do not vary, such as race, gender, parental education etc. will drop out and a dummy for each family will be added to the equation $(a_1 - a_n)$ along with intercepts for both sisters (β_0 and $\beta_{0+}\delta_0$).

Here, the error term is decomposed into two components viz. a_f which is the unobserved family effect[21] across all units which are constant across all members of the family and u_{fs} which is a random error term.

The specification would look like:

$$Outcome_{fs} = \beta_0 + \beta_1' \text{Teenbirth}_{fs1} + \beta_2 Age_{fs2} + \alpha_1 d_{1fs} + \alpha_2 d_{2fs} + \ldots + \alpha_n d_{nfs} + u_{fs} \qquad (3)$$

Fixed effects would hold the average effects (differences) of families constant, both observed and unobserved characteristics. Fixed effects models allow for arbitrary correlation between a_f the unobserved family effect and the explanatory variables. Differencing across sisters will eliminate this common effect (as race, sex and unchanging factors drop out). This is practical and realistic. The identifying assumption is that the socio-economic outcomes of one sibling are exogenous to the occurrence of a teen birth in the other.

3.8 Choice of variables: defining socio-economic outcomes

The following socio-economic outcomes may be affected with the unintended birth of a child.

Completion of Matric

FIGURE 1
Broad unemployment rate for youth (25-25)
by highest level of educational attainment
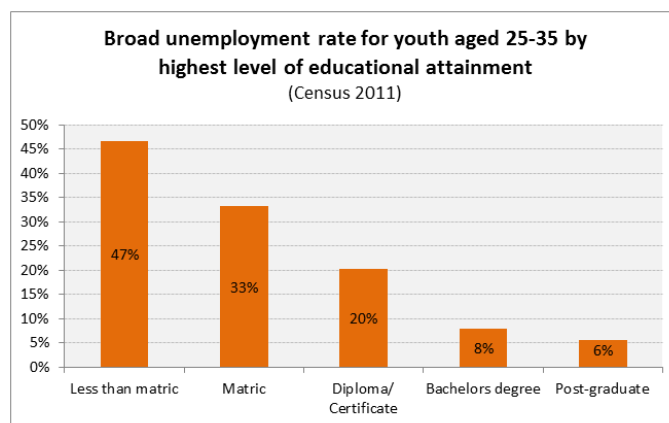
Source: Census 2011, Statistics South Africa

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[20] Family-fixed models have been previously used to estimate the consequences of teenage childbearing by Geronimus & Korenman (1992) & Bronars & Grogger (1994).
[21] Unobserved family effects could include variables such as attention given by parents to each child.

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Having an education level below matric results in a large unemployment rate of 47%.

Thus, education levels could be a major signal for employers in the labour market. Having a matric certificate is key to employment outcomes and improves the likelihood of successfully accessing the job market (Branson et al. 2014). This rises as post-secondary education increases. However, recently, there has been a trend where earnings contingent on the completion of matric have stagnated. This could be because post-secondary qualifications are increasingly growing, further widening the gap (Branson et al. 2014), leading to large educational and economic inequality. Higher education, as mentioned, is inaccessible due to the high financial costs or high academic mark ups. According to Ms. Lentz, English teacher at St. Andrew's High at Elysies River, perhaps 3 of 120 matriculants would have the opportunity to pursue high education (Lentz: 2014).

Employment and income

When asked about the common trajectories students take after leaving school, Ms. Lentz explained that while the matric certificate may help them to find a job to some extent, they largely end up in the same jobs as shop assistants, or in factories as any of their other classmates (who may have not finished school).

Discrimination on the basis of gender and race worsen the situation and influence returns on education in the job market. The documentation of a gender wage gap in South Africa should not come as a surprise. Gender discrimination particularly in the South African labour market has not been extensively documented due to the large shadow of racial inequality. Although the government has taken measures with affirmative action policies such as Employment Equity Act (1998), a gender wage gap still exists. The April-June 2014 quarter, QLFS reported an unemployment rate of 27.5 % for females (versus a 23.8 % for males) (Statistics South Africa: 2014). Across all races, income earned by South African females accounts for 71% of male earnings. Racial inequality persists as black women earn far lesser than black men who in turn earn lesser than white women and men. (Aardt and Coetzee 2010)

Ntuli (2007: 13) found that this gap in the formal labour market took shape of a 'sticky floor' with higher inequality in the bottom ladder of the wage discrimination. In addition to this, teen mothers face double discrimination in the labour market as they are women, young, single and out of school.

Welfare and Child Support Grant (CSG)

The panic regarding dependency on welfare came from the United States in the 1950s led by the conservatives. Educating young people was the proposed solution as it would facilitate the eventual phasing out and diversion of state resources from providing safety nets to other activities that build human capacities (World Bank 1993). Welfare has played a major role in smoothening interruptions in the formation of human capital.

Ms. Bachman, the Math teacher at Manenberg High, shared that the extra financial support required for an unintended baby is often met by the grandparent's state pension money (Bachman 2014). To understand the role of welfare is crucial particularly because of the controversial Child Support Grant

which was introduced in 1998 and has been popularly declared as an incentive for young girls to reproduce (Ghosh 2012).[22]

Charles, a community HIV/AIDS worker at Retreat and Lavender Hills explained that the CSG acts as a pre-emptive incentive to have a baby as it provides 310R per month per baby until the child grows to be 18 years of age (Charles 2014).[23] The instant gratification provided by what seems like a large sum of money in the short term is soon found to be a very small sum that is insufficient to even buy nappies for the girls. This is unfortunately only discovered in retrospect (Charles 2014). Despite much popular opinion supporting this view, there is little evidence to support this claim. Makiwane et al. find the uptake of the CSG disproportionately lower than the fertility rate in data between 1998 and 2005 (Makiwane et al. 2010: 202). This label of welfare dependency has negative connotations, which further marginalises groups in society.

Poverty

During apartheid, income earned by women was usually in the form of remittances sent back by men (Department of Social Development 2012: 23). The negative effects of gendered division of labour driven by patriarchal norms is seen in the time-use survey conducted in 2000 which reveals the large amounts of time women spent on household responsibilities (Budlender et al. 2001). The ability of the woman to substitute time at work for time spent at home along with expected wages drives the positive correlation that translates level of schooling into labour force participation (Trussell 1976: 186). As of 2011, 47.1% of the poverty headcount was female (Statistics South Africa 2014: 27). Patterns of nuptuality have resulted in more than 40% of all households being single-parent households which also places a burden on the household head. In urban areas, these single-parent homes are most likely to be female headed, black and between ages 25-34 (Holborn and Eddy 2011:3).

3.9 Choice of explanatory variables: laying out controls

Individual characteristics

The specification controls for individual characteristics such as age, religious affiliation and province of residence.

Age: It would be reasonable to assume that, as the girl grows older; the likelihood of engaging in sexual activity increases, thus increasing the chances of falling pregnant. According to Statistics South Africa (2014), in 2013, 19 year olds were more likely to fall pregnant than 13 year olds (12.1% versus 0.7%). This trend has been increasing since 2009.

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[22] *Teens fall pregnant for Grants'*, News 24:
http://www.news24.com/SouthAfrica/Politics/Teens-fall-pregnant-for-grants-Survey-20121211
[23] CSG coverage was extended to all children until the age 18 and the grant amount was raised to 310R in 2014. More information is available as:
http://www.gov.za/services/child-care-social-benefits/child-support-grant

FIGURE 3.1
Percentage of females (age 14-19)
who were pregnant the year preceding the survey
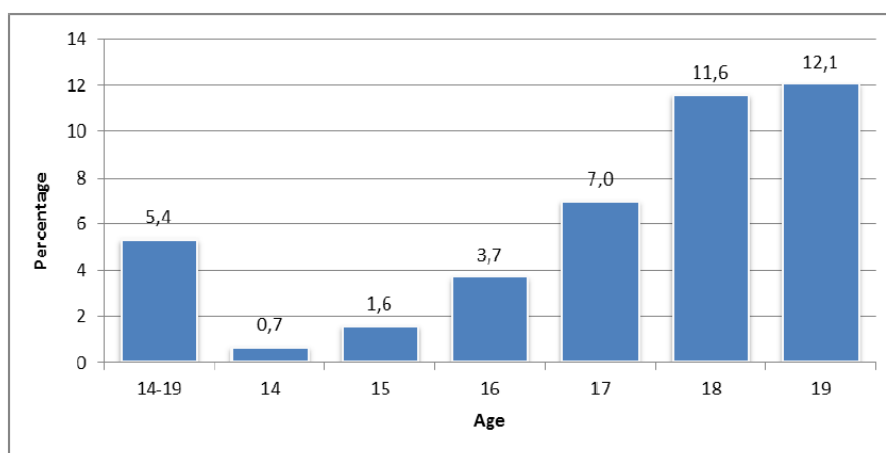
Source: General Household Survey, South Africa, 2013

Religion: While teenage pregnancy may occur across all groups of women in South Africa, religious beliefs tend to play an important role in deciding whether or not to keep the baby. I found that many pro-life sentiments of all actors involved were rooted in religious beliefs. This was particularly strong in case of teachers, church-related counsellors and help groups. This was evident and subtly implied in most interviews. Abortion laws were liberalised in 1997 but moral and religious attitudes conflict with the law. However, young women and men have a 'relative morality' towards the issue in order to negotiate future financial difficulties and to safeguard their educational goals (Panday et al. 2009: 44). Due to the inextricable link between culture and religion, it is believed that traditional African beliefs place much value on fertility and motherhood which could encourage early childbearing.

TABLE 3.2
Religious Affiliation of Population (in percentage)

Religion	Population (%)
Christian	85.6
Muslim	2
Hindu	1
African Traditional	5
No Religion	5.6

Source: General Household Survey, Statistics South Africa, 2013

Province: The rates of teen pregnancy also differs by province with the highest proportion in Eastern Cape according to the Second South African Youth Risk Behaviour Survey (2008) followed by Limpopo, Mpumalanga and KwaZulu-Natal, with Western Cape and North West standing last. Furthermore, the demographics of each province are very different in terms of religion and service delivery.

Family characteristics

The family plays a major role in determining the life trajectory of the girls. As a crucial part of the girl's micro-system, it can operate with a strong influence by offering adequate emotional support, acceptance and financial backing. Parental education and number of siblings is used to denote family beliefs and structure respectively. More educated parents are more likely to give higher importance to education of their children.

It also reflects that these parents would be better informed about various other aspects ranging from health to school and neighbourhood choices. (Taylor and Yu 2009:6)

Although family size is a popular proxy to signify family structure, this paper uses number of siblings. This is due to data restrictions as the 2012 wave has information about the current family size of households and not that when the women were in their teen years. This could have changed in terms of extended relations such as grandparents. For this, reason, number of siblings would serve as a more accurate indicator to represent fertility attitudes of the household.

3.10 Construction of the dataset

The specifications outlined in the empirical strategy require two samples. The 'full sample' is required for the cross-sectional analysis to understand the effect of a teen birth across mothers who gave birth at different points in time. This analysis is based on comparing teen versus non-teen mothers and compares mothers *across* households. The OLS regressions will be conducted on this sample. Comparing sisters who gave birth at different times i.e. before 19 and after 19 will isolate the 'true' effect of a teen birth as it compares mothers *within* the household. This effect will be estimated using a fixed-effects estimator.

Thus, the 'full sample' includes 508 mothers in the sample, of which 157 are teen mothers and 351 are non-teen mothers. This sample consists of pairs of sisters that give birth in different combinations regarding their age at first birth. This could include sister pairs who both gave birth after 19, who both gave birth before 19 or where one gave birth before and after 19. Since the 'sister subsample' (to compare sisters) requires sisters who have given birth at different times, the sample size considerably reduces. This subsample is derived from the 'full sample'. It consists of 202 mothers, i.e. 101 pairs of sisters where one has given birth before 19 (teen birth) and one has given birth after 19 (non-teen birth).

An overview of how the outcome variables were constructed is given in Table 2.3.

Completion of matric along with highest grade completed represents educational outcomes. The variable employment includes any wage or salaried job, part-time or full-time as well as those who have stated that they are self-employed.[24] The income variable was represented in the NIDS data in two ways. The first could be constructed as an aggregate of various income generating activities and second, as a one-shot income related question. The

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[24] Casual employment stints were not reported by any of the women and their exclusion seemed fit since they may not signify job stability.

latter was used and the values to determine total net monthly income were solely occupational and did not include remittances or inheritances. To determine the poverty line, South Africa's national use of 524R per month was used. This was calculated through the income variable. The welfare variable is coded 1 if the individual is accessing the CSG, Foster, Care dependency, unemployment insurance, disability grant or state pension. The effect of Child Support Grant has been isolated.[25]

TABLE 3.3
Defining the outcome variables

Outcome Variables	Definition
Completion of Matric	>=Grade 12
Highest Grade Completed	Ranging from No schooling to Grade 12+
Income (Monthly Net)	Occupational Income (primary+secondary) net income earned in the month preceding the survey
Poverty Status	<=R524 (National Poverty Line)
Employment	Includes part-time/full-time salaried wage employment + self-employment
Welfare	Includes CSG, Foster, Care dependency, unemployment insurance, disability grant and state pension
CSG	Accesses the Child Support Grant

For the cross-sectional analysis, OLS estimation is carried out for non-binary variables and marginal effects of the logit estimates are presented for the dichotomous outcomes. For the fixed-effects, a dummy variable regression is conducted. OLS fixed-effect estimates are presented for the continuous variables and marginal effects of the logit fixed effects estimates are presented for the dichotomous variables.

3.11 Econometric concerns

As attractive as the fixed effects estimator may be, there are a variety of concerns that emerge.

Unobserved heterogeneity may exist within families as well. While the family may be considered a 'source of equality' (Griliches: 1979) who level the playing field for their children, this is not always the case. Since sisters share a similar genetic make-up and environment while growing up, they often have similar access to resources, influences from the community, neighbours, peers etc. The probability that this will continue into adulthood is also high. These differences in environmental influences are contingent on the age difference between them and the changes in the family circumstances of their life course. This is not to state that ability is exclusive and static, but that interactions with environmental factors can tap into or stunt innate abilities. The gender of the child also plays a role. Thus, while measuring long-term socio-economic

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[25] The CSG became available only in 1998. 168 of the mothers in the entire subsample gave birth before 1998 and may not have had access to the CSG.

outcomes, there tends to be a high correlation between siblings due to these shared characteristics. However, these differences are often a source of bias and concerns surround capturing ability effectively and the possibility of a differing within-family environment.

The family fixed effect model assumes that the socio-economic outcomes of one sister are independent from the occurrence of a teen birth to the sibling (after controlling for family heterogeneity). Hence, this does not account for any spillover from one sibling to the other. This could mean that parents could change their behaviour with the second-born if their first daughter has had a teen birth reinforcing stricter rules such as curfew etc.

It does not adequately control for individual person-specific omitted variables (such as ability have sexual autonomy) or the endogenous nature of fertility. An IV method could have been a potential solution to address this but no appropriate instrumental variable was found which was not correlated with unmeasured variables of socio-economic consequences.

Due to the nature of the NIDS, school characteristics, which play an important role in determining educational attainment could not be included. However, the paper has tried to capture these though qualitative work as well as previous studies/secondary sources. Due to lack of information and hence controls in the regression equation, the results could overestimate the effects of the family as an institution. This over-attributes causation and in turn fails to account for interactions in resources across institutions (Parcel et al. 2010:

832).

Data is often measured with reporting and/or coding error. If this error is within the independent variable, it can cause endogeneity. Thus, any error in measuring teen birth would lead to a downward bias. Furthermore, transforming the data with a fixed effects model could elevate this. These could lead to a potential underestimation in the estimates. Since most of the across-family variation is eliminated, the estimates are less precise.

Different outcomes between sisters are needed for the likelihood function of sibling fixed effects and this largely reduces sample sizes. In comparison to the sample size of Geronimus and Korenman (1992) of only 50-125 sisters across three datasets, 101 pairs of sisters used in this paper seems to be in a similar range. However Bronars and Grogger (1994) use 289 twin mothers across population groups and Ribar uses 634 sister pairs to estimate family-fixed effects using the NLSY in the United States (1999). These would not overestimate the effects of a teen birth as much as a smaller sample such as one of 101 pairs.

IV   Data, findings and analysis

This chapter provides an overview of the data and presents the findings of the regression. The analysis on educational, employment and welfare-related outcomes follow with the qualitative data being used to enrich the findings.

4.1 Descriptive statistics: describing the sample

TABLE 4.0
Family background and individual characteristics
of full sample and sister subsample (by age at first birth)

Cross-sectional and 'Within-Family' Sample Means	Cross section (Full Sample)		Within Family (Sisters Subsample)	
	Teen	Non-teen	Teen	Non teen
Individual Characteristics				
Age	33.92	35.05	34.82	36.42
	(8.57)	(8.92)	(9.07)	(9.92)
Age at First Birth	17.78	24.25	17.89	24.47
	(1.22)	(4.10)	(1.23)	(4.41)
Population Group				
Black	0.86	0.89	0.89	0.89
	(0.34)	(0.30)	(0.31)	(0.31)
Coloured	0.13	0.09	0.10	0.10
	(0.34)	(0.30)	(0.31)	(0.31)
Asian/Indian	0	0.005	0	0
		(0.07)		
Religion				
Christianity	0.82	0.85	0.81	0.81
	(0.37)	(0.35)	(0.39)	(0.39)
Traditional African Beliefs	0.095	0.096	0.10	0.13
	(0.29)	(0.29)	(0.31)	(0.34)
No Religion	0.076	0.051	0.07	0.04
	(0.26)	(0.22)	(0.27)	(0.21)
Family Characteristics				
Mother's education				
Less than High School	0.17	0.13	0.13	0.11
	(0.37)	(0.34)	(0.34)	(0.32)
HS/More than High School	0.42	0.53	0.46	0.48
	(0.49)	(0.49)	(0.50)	(0.50)
No Schooling	0.31	0.22	0.35	0.28
	(0.46)	(0.42)	(0.48)	(0.45)
Don't know	0.09	0.10	0.03	0.10
	(0.29)	(0.30)	(0.19)	(0.31)
Father's education				
Less than High School	0.17	0.18	0.18	0.14
	(0.37)	(0.38)	(0.39)	(0.35)

HS/More than High School	0.22	0.20	0.24	0.24
	(0.42)	(0.40)	(0.43)	(0.43)
No Schooling	0.27	0.28	0.28	0.28
	(0.44)	(0.45)	(0.45)	(0.45)
Don't know	0.32	0.32	0.27	0.31
	(0.46)	(0.46)	(0.44)	(0.46)
Number of Siblings	3.24	3.50	3.29	3.29
	(1.49)	(1.78)	(1.52)	(1.52)
Outcomes				
Graduated High School	0.25	0.36	0.26	0.33
	(0.43)	(0.48)	(0.44)	(0.47)
Highest Grade Completed	8.89	9.43	8.91	8.96
	(3.36)	(3.35)	(3.32)	(3.56)
Employed	0.32	0.32	0.35	0.28
	(0.46)	(0.46)	(0.48)	(0.45)
Welfare	0.64	0.68	0.65	0.69
	(0.47)	(0.46)	(0.47)	(0.46)
CSG	0.60	0.62	0.60	0.61
	(0.49)	(0.48)	(0.49)	(0.48)
In Poverty (with 0s)	0.74	0.71	0.74	0.73
	(0.43)	(0.45)	(0.43)	(0.44)
Net Income	609.65	785.20	586.71	676.95
	(1578.31)	(1747.22)	(1420.28)	(1377.74)
Observations N	157	351	101	101
TOTAL	508		202	

The table presents figures on individual characteristics of the women including their age at the time of the survey i.e. in 2012. Figures are classified according to mother's age at first birth. A glance at the full sample shows the average age of the women in 2012 as approximately 35 years old with the average age at the time of the first birth as 22. In terms of population groups, 450 are what the government classifies as (Black) African,[26] 56 are Coloured and 2 are Asian/Indian. Both mother's and father's education is also presented. Four dummy variables are used to capture the different levels.

The differences between the estimates in Column 2 seem to be much smaller than the full sample means in Column 1. Teen mothers are much more disadvantaged with respect to parental education and completion of high school; yet, they seem to have lower welfare dependency but higher employment rates.

Girls who give birth later in life tend to have mothers with higher education while those who have teen births have a high proportion of mothers who have had no schooling. In the case of father's education, teen mothers are more likely to have fathers with an education level lower than matric.

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[26] The South African government uses these to classify population groups. The word 'African' to signify only the black population group is controversial.

However, the large unknowns for father's education may reflect that these women were raised in female-headed households. Comparing sisters from the same family where one is a teen mother and the other gave birth after age 19, confirms the trend in mother's education present in the full sample.

The full sample means suggest that only 25% of teen mothers as compared to 36% of non-teen mothers were able to matriculate. When compared to the sister's subsample means, the mean on non-teen mothers is higher with 33% as compared to a 26% of teen mothers, but still lower than the full sample means. There isn't a large difference between the grade level of teen and non-teen mothers. In the full sample, on average teen mothers complete their grade 8 while late mothers finish one grade more. The sister sub-sample however, reflects that the grade level completed is practically the same with grade 8 being the across-average. While the level of schooling is low on average due to the effects of apartheid, this reflects the recent efforts to make the South African School's re-entry friendly for student mothers.

While the full sample shows an equal amount of mothers who are employed, the sister subsample figures show a considerably larger proportion of teen mothers as currently employed. This may be because many young mothers are prompted to start working, often earlier than others in order to raise their children.

In alignment with previous research, in this sample, late mothers are on some form of welfare grant both in the full and sisters subsample. This is true of the CSG although the incremental difference in comparison to welfare is smaller between teen and non-teen mothers. Teen mothers seem to be poorer although the difference is small when compared to that of sisters. There is approximately a 173R difference between the income of non-teen and teen mothers. This difference is considerably reduced almost by half comparing sisters. This is also interesting to note in contrast to more teen mothers being employed than non-teen mothers. This could suggest that non-teen mothers, who are better qualified (although marginally in this sample) get paid better wages then teen mothers.

4.2 Results

TABLE 4.1
Cross-sectional and within-family (fixed effects) estimates of the effects of a teen birth on socio-economic outcomes of mothers

	TEEN BIRTH		
	(1)	**(2)**	**(3)**
VARIABLES	Full Sample Cross-section	Full Sample Cross-section	Full Sample Cross-section
Graduated high school or not+	-0.106** (0.04)	-0.105** (0.04)	-0.551*** (0.16)
Highest Grade Completed	-0.573** (0.27)	-0.564** (0.27)	-0.347 (0.26)
Employed+[27]	0.004 (0.04)	-0.004 (0.04)	0.238** (0.11)
Welfare+	-0.034 (0.04)	-0.006 (0.04)	0.182* (0.10)
CSG+	-0.034 (0.04)	-0.007 (0.05)	0.289*** (0.10)
In poverty+	0.035 (0.04)	0.043 (0.04)	-0.089 (0.13)
Ln Net income[28]	-0.290 (0.32)	-0.343 (0.32)	-0.038 (0.40)
Observations *N*	508	508	202

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
+ Refers to all dichotomous variables

Column 1 includes the results of an OLS regression conducted excluding family characteristics while Column 2 shows the results including family characteristics. Column 3 includes results of the within-family fixed effects estimates.

When family characteristics are included in the specification, we see that the completion of matric and highest grade completed remain significant at the 0.05% level and have a negative relationship with teen childbearing. The probability of completing matric decreases by 10 percentage points on average if the girl is a teen mother and the likelihood of moving up a grade decreases as well. This indicates that highest grade completed may better represent educational attainment since a number of students drop-out before reaching

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[27] The significance of teen birth in the case of employment for the fixed effects estimates seem to be sensitive to the inclusion of the 16 self-employed individuals. Exclusion of these 16 individuals results in dropping of the significance.

[28] This variable was a summation of the net income of the primary occupation and secondary occupation of the individual. 16 individuals reported to be self-employed however reported no income. So as to not compromise the sample size, 716R – the mean of the sample was used for these 16 individuals.

matric. On comparing sisters, completion of matric retains significance while highest grade completed does not.

In terms of employment, when family background is included, the size of the estimate remains small but the sign changes. The estimates are not significant though. However, the estimates in Column 3 show that there is a positive and significant relationship between giving birth as a teenager and being employed. A teen mother is 23 percentage points more likely to be employed.

Teen mothers are less likely to be on welfare or the Child Support Grant. This effect is small and further decreases when family background is controlled for. In Column (3), we see that the sign, significance and the size of the effect changes for both the variables. Teen mothers are more likely to access welfare by 18 percentage points and the Child Support Grant by 28 percentage points.

With respect to poverty, the relationship is positive, however the effect is small and is not significant. In Column (1) and Column (2), we see that the sign of the relationship changes on comparing sisters, although there is no statistical significance.

With or without controlling for family background, the relationship between net monthly income earned and being a teen mother is negative. The size increases from 29 percentage points to 34 percentage points on including family background controls. The estimates are however, not statistically significant. In Column 3 though, the size drops considerably and retains the lack of significance and negative sign.

The full sample cross-sectional results indicate there are other factors such as pre-childbearing characteristics that affect future socio-economic outcomes. However, the fixed-effects estimates for the sister subsample indicate that teen childbearing does play a significant role in determining certain future socio-economic outcomes. This is further deliberated on in the next section.

Discussion: role of unobserved family heterogeneity

With respect to the sibling estimates, welfare, CSG, completion of matric and employment are significant. While one would presume that differences in unobservable family effects would be lesser between-families compared to within families (since part of the unobservable factors are shared between siblings), the results say so differently. Inclusion of family fixed effects eliminates family-related bias and also absorbs individual-specific factors, which are directly related to family background. This means that only heterogeneity within the family remains and this shift in the significance is due to *unobserved family effects*.

From the full sample cross-sectional estimates, we could conclude that it is not teen childbearing but pre-childbearing characteristics that play a major role in future socio-economic outcomes. This conclusion would be pre-mature. The sibling estimates paint a considerably different picture indicating that it is the occurrence of a teen birth that greatly influences future outcomes. This shows that traditional cross-sectional estimates understate the impact of teen births as they do not control for unobserved family-related variables.

Although the fixed effects estimates account for heterogeneity bias, the small sample size is of definite concern as it overestimates the effect of the teen birth. Overall, the quantitative results give us a clue regarding the role of teen

childbearing, but the specifications fail to accommodate life-cycle changes in the life course of the teen mother which could have affected her outcomes. Since, this limitation is relevant to both the cross-section and fixed effects estimates, it does not step on the significance of accounting for family effects bias.

Hence, we find that teen birth does not play a major role in determining socio-economic outcomes for the full sample but plays a strong role for the sister's subsample. This shows that ignoring family heterogeneity would be misleading and should be given careful thought.

4.3 Analysis

This section examines the three main significant outcomes of educational attainment, employment and welfare found in the regression. First, the complexities in the negative relationship between schooling and teenage childbearing are explored. Here, the qualitative data enhances the analysis by highlighting the role of support structures. It also reflects on the positive estimate on employment and on welfare.

Schooling

"If I hadn't fallen pregnant, compared to my friends who are higher-up, things would have been different" (Thandeka reflecting on her lack of schooling; Thandeka 2014).

The strong negative relationship between completion of matric and giving birth as a teenager must be interpreted with caution. This is because the empirical framework does not entirely account for endogenity bias if fertility and education are jointly determined. Since the overall level of schooling seems to be low in the descriptive statistics, this could indicate that many of the girls could have dropped out of school prior to falling pregnant.

Through the qualitative data, I find that with the exception of Fatema, all the girls had fallen pregnant while in school. Although they all expressed similar thoughts as Thandeka, they all cited the role of the school and/or the family in extending support and making the transition to being a parent learner easier. These recurrent themes indicate that the relationship between schooling and giving birth could be mainly influenced by three factors. I found that young mothers rely heavily on the family support, school support and are greatly influenced by aspirations and perceptions of future outcomes.

Family support

Family support can strongly affect a girl's ability to continue schooling after giving birth. Mrs. Moyce's mother baby-sat her granddaughter while Mrs. Moyce got a retail job at a supermarket to support her family. On the other hand, for Toni, a 17 year old mother form Paarl with a baby of 2, her grand-mother refused to let her continue schooling when she got pregnant due to fear of gossip. Although she let her return the following year to pursue Grade 11, for many girls this is not possible and they never return to finish their schooling. According to Mrs. Kagee-Solomon, many are even 'punished' and pushed into getting jobs to repent for their 'mistake' of falling pregnant despite being warned – *"Don't fall pregnant and come home"* (Kagee-Solomon 2014). The role of family support was confirmed by high school authorities in regards to the range of different cases of pregnant learners they had seen. This confirms

previous work (Grant and Hallman 2006, Jewkes et al. 2009; Panday et al. 2009; Morrell et al. 2012, Jewkes et al.: 2001) that family support can indeed play a critical role, acting as a fallback for the mother in terms of resources and emotional support.

School support

Despite the School's act being enacted in 1996, it's perplexing that drop-outs continue. In this light, school support plays a huge role in determining this relationship. The subjective experiences of pregnant and parent learners is shaped by the moralities and beliefs of the actors involved while interacting with them in their daily life. This includes school teachers, peers and family (Morrell et al.: 2012:4).[29, 30] Furthermore the ambiguity of the law in stating the amount of leave a pregnant learner should take resulted in school authorities exploiting the state-given discretion and expelling pregnant leaners.

Although the cohort of women in the quantitative sample were in school a few years preceding the last wave of the survey in 2012, current information and experiences have been included to understand the trend today. Ms. Bachman from Manenberg High explained that girls would often return to school and were well aware of the leave they could take. She recounted numerous instances where girls wanted to continue schooling even after the 7th month and they would take it upon themselves to write the matric despite having just given birth (Bachman 2014).[31]

For Claremont High however, Mrs. Kagee-Solomon explained with very strong assertion repeatedly that for the pregnant students, completing their education was made a top priority (Kagee-Solomon 2014). Perhaps this difference in tone, which was almost an imposition, was due to the relatively recent occurrence of teenage pregnancies in the school and its elite demographic suburban population.

The incidents recounted by the teachers regarding the frequent return of learners also shows that these young girls recognise the importance of schooling. Fatema, a learner who had dropped out decided to return to school once she found out she had fallen pregnant. She elaborated, *"I need to have a good education to support my child and without education, you get nowhere"* (Fatema 2014). This reflects a tendency for education to often be considered an obligation of a teen mother, more so since she has fallen pregnant by making the 'wrong choices'. According to Pillow, education comes to be seen as the responsibility of teen mothers where they are deemed to compulsorily fulfil their role as children (to be productive citizens in the future) despite bearing a child in order to negate the negative effects they would burden society with -such as welfare dependency. This is framed as something they owe ordinary citizens and taxpayers (2004: 71). This represents the tensions that exist for young mothers

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[29] To read more about how peer and teacher attitudes affect pregnant and parent-learners, see: Morrell. R, D. Bhana and T. Shefer (2012) *Books and Babies: Pregnancy and Young Parents in Schools*, HSRC Press, South Africa, 2012

[30] It is important to mention that often teachers are engaged in sexual relationships with young girls.

[31] A learner in the school gave birth on a Saturday and wrote the matric exam on Monday, another one delivered her baby at 5 in the morning and was in school writing the matric exam at 8am. Stories from St. Andrew's High were very similar as well.

in wanting to continue their education but being constrained due to financial circumstances.

The high rate of teenage pregnancy is also affecting schools in the roles they play. Teen mothers could be integrated into the classroom with other students or could be considered learners with special needs. While they are not allowed to expel pregnant learners by law, a number of schools have been known to make the stay of pregnant and parent learners uncomfortable.

Firstly, there has been a blurring of lines where teachers are slowly moving into the role of being a counsellor for many girls. While Ms. Bachman has been teaching Math for 15 years, she is also the de facto counsellor regarding pregnancies, contraception etc.[32] Despite her efforts to maintain a professional distance, she has accompanied some of her students to the clinic for abortions as they seek her help. This is necessary as there is only one government counsellor assigned to every 50 schools in the region, also revealing the severely under-resourced nature of the schools. Furthermore, as Ms. Lentz mentioned, *"Pregnancies are not the most severe of traumatic experiences learners go through. Parents are killed in front of them, they are sexually abused… so pregnancy is not the top priority exactly"* (Lentz 2014).

Ms. Hamman, LO teacher at St. Andrews also expressed her concern regarding the multiple roles expected of a teacher. She referred to an incident where her student went into labour during class and expressed in discomfort, *"We are not trained in childbirth, we are just teachers"* (Hamman 2014).[33]

Secondly, a moral panic surrounds the identity of a parent or pregnant learner in the classroom. They are perceived as symbols of encouraging sex and young motherhood. In fact, Claremont High strongly advised the pregnant learner to change her movements in the school. This included staying put in the shelter of the classroom under the pretext of safety. She was also asked not to wear her uniform during her pregnancy as it was too tight on her; thus not only sexualising her but also alienating her from her classmates. This influences interaction with peers. Thandeka explained that her entire set of friends at school had changed as now a core part of her identity was not common with them. Hence, she would draw support from other teen mothers. Hiding the pregnancy and the growing belly through oversized clothes and uniforms are a common way of girls to negotiate their new identity as mothers. In this way they can avoid being 'othered' and can avoid the consequences of their two identities of student and mother being mixed. (Chigona and Chetty: 2008:278)

Thirdly, due to religious factions in school staff as well as parents, LO is coming under scrutiny for being pro pre-marital sex. Any additional steps being taken by schools such as St. Andrews who wanted to bring in a nurse for SRHR, is being met with backlash.

Lastly, schools are poorly resourced. While they are obligated to send homework to the pregnant student when she is at home, this is not always possible. Low public funds make it impossible for schools to take a concerted

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[32] When the interview was scheduled with the school, the principal even asked her to represent the school.
[33] SABC News 'Teachers are not mid-wives', 10 September 2013
Accessed on 10 November 2014
http://www.sabc.co.za/news/a/4d853980410b7a5f96a0b7434f2981a1/Teachers -are-not-midwives:-Creecy-20131009

effort to follow up after a teen mom has decided to drop out. Ms. Lentz highlighted this by pointing out the lack of a working telephone line in the school.

Considering the unfavourable home and community environments, students look to the schools for support. Schools are unable to fill this gap as they are fairly under resourced themselves. While schools are slowly becoming respectful of the law to keep pregnant learners in school, resources in the form of higher salaries and funds need to be directed to facilitate continued support to pregnant and parent learners.

Role models and aspirations

Young mothers negotiate their choices contingent on a variety of factors including the future they see for themselves. This is indeed very much connected to their aspirations and dreams. Tracey reiterated these concerns and attributed poor socio-economic circumstances, tragic life-events such as abuse, death, drugs and HIV to the lack of aspirations she saw in her clients. Codona said that her dream was to become an air force pilot and she never made it due to the teen pregnancy and drug abuse that followed (Codona 2014). While others who are still in school such as Fatema, expressed that she wanted to work in the tourism industry (Fatema 2014).

This has been supported by previous research. Grant and Hallman state that student involvement depends largely on perceptions of future opportunities and returns of education (2006). Jewkes and Christofides (2008) also found that low ambition, hopes and expectations of future success play a major role in determining how far young girls would go to avoid pregnancy.

The segregated nature of communities in Cape Town due to the negative effects of the Group Areas Act play a major role in the role models it provides. This also emerged in conversations with students of Claremont High. One of the black African students was quick to point out the different perceptions of a teen mother in townships versus other areas in Cape Town. She related an incident where mothers would compete for the best baby blanket and explained that having a baby was a source of pride.

This creates a norm of acceptance and can act as subtle encouragement for teen motherhood to be a coveted goal. In the Cape Flats, a dominantly coloured area, the dynamics were similar as Ms. Bachman explained the common nature of falling pregnant. Coupled with absence of any regulation at home, children develop their identity and find belonging by interacting with other kids in the neighbourhood. Gangs are also a prominent outcome of the same. In Tracey's perspective, this belonging is consequently found in a child with the objective of merely gaining love and acceptance.

The existence of these factors in different combinations also affects how smooth the experience of being a young mother can be. If there are contradictory understandings of what pathway to and from school the young mother should take, this might adversely impact her chances of finishing schooling. While the direction between teen motherhood and pregnancy with schooling is debatable, the occurrence of a teen birth indeed changes dynamics and announce new challenges.

Employment

The positive estimate on employment in relation to teenage childbearing is counter-intuitive. On average, the probability that teen mothers are more likely to be employed could be due to a number of reasons and the qualitative work sheds some light on this. Keeping in mind that this study looks at the long-term consequences, this could plausibly be because teen mothers are forced to enter the labour market earlier and this enables them to accumulate a larger amount of work experience. It could also be determined by the presence and responsibility of an additional dependant. This is contingent on both lack of family support and lack of a partner.

In financial terms, I found that in my qualitative sample, the families of the girls were short on resources and were unable to make ends meet particularly with the arrival of a new member. However, family members provided support in the form of baby-sitting. This enabled young mothers to continue schooling or to take on a part-time or full-time job to earn extra income for the household.[34] Hence, family structure can influence this decision. Of 15 women that were interviewed, only 2 were married of which 1 was in a stable union. She is now the Deputy Principal of Claremont High. A stable partner of any kind who could provide support financially and participate actively in the child's life could contribute to an increased family income to care for the baby.

While teen mothers are thought to be unproductive and economic burdens, this result shows that they form part of the labour force, contributing to the economy. However, we find that although they are employed, their welfare access is high.

While defining unemployment, the regression does not distinguish between those women who are not seeking a job and those who are unable to find one. If the former is the case, it implies that they can 'afford' to be unemployed, perhaps due to financial support from other family sources or a partner. Timing their birth at a later stage could allow them to conceive with a stable partner and stay at home to take on traditional household responsibilities. If the latter is the case, then it would be very surprising as one would presume that with higher schooling, non-teen mothers have better chances of getting employed. This could suggest two possibilities.

Firstly, there are not enough jobs which match their qualifications, implying that only elementary jobs are available which non-teen mothers do not want to engage in. This refers to a problem in the demand-side of the labour market. According to a report published by the HSRC, education and skill building must be supported by the ability of the market or state interventions to absorb the added skilled labour force (2014:60).

Secondly, it could mean that it is not schooling but work experience that is more valued in the labour market. This leads us to question the causal relationship between educational attainment and future employment.

Imperfections of labour markets could be an outcome of a gendered division of labour. According to the Gender Statistics Report (2011), 35.4% of

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[34] As mentioned earlier, fathers play an ambiguous role in this. While some disappear, some continue to be in regular touch even if they have stopped dating. There is lack of research in this area to make any substantial claim.

South African working women are engaged in unskilled occupations followed by 20.8% in elementary jobs and 14.6% in domestic work.

Laws such as Black Economic Empowerment Act are also playing a positive role in promoting racial equality. This has worked in the favour of women as well. This finding confirms Trussell's work based on data from the United States (1976) where a babysitter effect was found. Younger siblings would take care of the baby freeing up the older sibling to go work. Future research could investigate the existence of such a confounding effect and assess whether there is a babysitter effect in the case of South Africa.

Welfare

Teen mothers are, on average more likely to access welfare by 18 percentage points and the CSG by 28 percentage points. This is surprising since previous research shows a very low uptake of the CSG by teen mothers (Makiwane 2006). An increased awareness regarding the CSG could explain this higher uptake (Panday et al. 2009:1040). Keeping aside issues of documentation that can often hinder the process; the grant improves the fallback position of mothers, (just as having family support does) fulfilling the government's objective of reducing child poverty through the grant.

Different populations perceive the grant differently. For Fatema, the grant is only for those teen mothers who have no support structure (indicating a class-driven perception of the grant). Her slightly defensive tone revealed her attempt to move away from the stereotype and position herself as someone who is independent and has resources. On the other hand, for Jovena, the grant gives her financial freedom to assert her independence, so that she can stop depending on her unsupportive and violent family - giving her a second chance. Although the paper does not investigate this further, the grants could also cause tension at the intra-household level. Control of the grant is negotiated between members and this could have adverse effects. Considering the low level of schooling and low income, taking support from the social assistance system seems to be a reasonable response.

The analysis points to the tensions faced by the mothers in fulfilling multiple roles as students and mothers. Schools and the family can play a major role by providing a strong support structure to smoothen the immediate consequences of teen childbearing. This would serve to translate into improved long-term socio-economic consequences.

4.4 Concerns and future directions

While the concept of human capital has been the guiding tool for the analysis, its inability to account for the idea of constrained choice must be outlined. This is particularly relevant as no direct or proxy variable on female autonomy was tested. The level of autonomy that young girls in South Africa possess emerged as a constant theme in all interviews and conversations. The sexual bargaining that ensues in negotiating contraception is a testament to the same.[35] Alleged

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[35] In the case of Thandeka, she urged the boy to wear a condom, however he refused and convinced her that he was serious about her and wished for them to 'trust' each other. After she broke the news of the pregnancy, he disappeared and had instead given her HIV.

commitment is often used to have unprotected sex and the age of the father plays a role in the negotiating the power balance. Such provider love (Hunter 2010) is also framed as transactional sex between young girls and older men ('sugar daddies'). Both the staff at Manenberg High and St. Andrew's High School emphasized this.

Secondly, the birth order plays a significant role. Ms. Lentz emphasised the resource constraints faced by most households in South Africa as they are single-headed. She pointed out that many of her students come to class tired and sleepy with incomplete homework. They explain this as a result of caring for their siblings in the absence of their parents. This is applicable in case of the older sibling giving birth as a teenager. It would have different effects on the younger sibling and vice versa.

The unique nature of the neighbourhoods in South Africa, characterised by a high incidence of gang violence can leave lasting impressions on students. Neighbourhood characteristics, which were not adequately explored in the regression, are a potential source of bias that have much scope for future research. According to Branson et al. (2014), since most learners attend schools that are in their neighbourhoods, those residing in poor neighbourhoods will also be more likely to attend poorly resourced schools.

While this paper only explores first birth, trends in subsequent births would shed light on whether schooling delays the second birth. Kaufman et al. find that returning to school may prompt young girls to delay their second birth (2001).

Lastly, much econometric research and qualitative research has focussed on teen mothers so far. However, life trajectories and socio-economic outcomes of teen fathers have not been adequately explored. The patriarchal structure in South Africa negatively affects them in different ways as well. This is a promising area of research, which would complement findings related to teen mothers and contribute to a holistic policy, which engages men equally.

V Conclusion and final thoughts

Using sibling fixed-effects, the paper found that teen childbearing is significant in determining future socio-economic outcomes and that the exclusion of unobserved family heterogeneity could be severely problematic. I find that while teen childbearing reduces the probability of completing matric by half, teen mothers are more likely to be employed and access welfare. These findings add to the mainstream school of thought. The qualitative data also developed these findings by throwing light on the complex relationships between these variables. School support and family support are key in enabling young girls to continue schooling and play an active role in the labour force.

Together, these results indicate that policies which delay childbearing as well as address the needs of pregnant and parent learners are needed in order to ensure the smooth process of acquiring human capital and building skillsets. Specifically, this will ensure a smooth educational trajectory for girls, which, as seen throughout the paper plays a role in expanding future opportunities. In addition, the welfare system provides a much-needed safety net and strengthens the bargaining power of the young mother, providing her with a fallback position. The current change in the CSG's coverage extending it to all children until 18 years and increasing the grant amount is a bold and supportive move by

the Government. While the negative effects of apartheid are still rooted in the system, the introduction of LO, the expansion of the Child Support Grant together with the reinforcement on the Schools Act, 1996 is a good beginning to pave a way that both promotes protected sex and is sensitive to the needs of parent learners.

References

Aardt van C.J. and M.C. Coetzee (2010) 'Personal income estimates for South Africa', Bureau of Market Research, University of South Africa.

Amnesty International (2014) 'Struggle for Maternal Health Barriers to Antenatal Care in South Africa', Amnesty International, United Kingdom.

Becker, G.S. and National Bureau of Economic Research (1993) Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. Chicago [etc.]: University of Chicago Press.

Angrist, J.D. (1996) Schooling and Labor Market Consequences of the 1970 State Abortion Reforms: Joshua D. Angrist, William N. Evans. Vol. 5406. Cambridge, MA: National Bureau of Economic Research.

Ardington, C., A. Menendez and T. Mutevedzi (2011) 'Early Childbearing, Human Capital Attainment and Mortality Risk', A Southern Africa Labour and Development Research Unit Working Paper Number 56. Cape Town: SALDRU, University of Cape Town.

Blunch, N. (2011), 'Skills, Schooling and Non-Marital Teenage Pregnancy in Ghana', Washington and Lee University & IZA.

Bowles, S. and H. Gintis (1975) 'The Problem with Human Capital Theory--A Marxian Critique', *The American Economic Review* 65(2): 74-82.

Branson, N., C. Hofmeyr and D. Lam (2014) 'Progress through School and the Determinants of School Dropout in South Africa', *Development Southern Africa* 31(1): 106-12.

Branson, N., C.Ardington and M. Leibbrandt (2011) 'Outcomes for children born to teen mothers in South Africa' A Southern Africa Labour and Development Research Unit Working PaperNumber 55. Cape Town: SALDRU, University of Cape Town.

Bronars, S.G. and J. Grogger (1994) 'The Economic Consequences of Unwed Motherhood: Using Twin Births as a Natural Experiment', *The American Economic Review* : 1141-1156.

Budlender et al. (2001), 'A Survey of Time-Use: How South African men and women spend their time', Statistics South Africa, Pretoria <beta2.statssa.gov.za/publications/Report-02-02.../Report-02-02- 002010.pdf>

Burton, R. (2013) 'Maternal Health: There is Cause for Optimism', *South African Medical Journal* 103(8).

Chevalier, A. and T.K. Viitanen (2003) 'The Long-Run Labour Market Consequences of Teenage Motherhood in Britain', *Journal of population economics* 16(2): 323-343.

Chigona, A. and R. Chetty (2008) 'Teen Mothers and Schooling: Lacunae and Challenges', *South African Journal of Education* 28(2): 261-281.

Chiumia, S. (2014) 'Do a third of SA women have a baby by 19?', *Mail & Guardian*, 9 August, Accessed on 9 November 2014 < http://mg.co.za/article/2014-08-09-do-a-third-of-sa-women-have-a-baby-by-19>

Department of Basic Education (DoE) (2011) 'Report on Dropout and Learner Retention Strategy', Portfolio Committee on Education, Accessed on 6 November 2014 < www.education.gov.za>

Department of Labour (2013), 'Job opportunities and Unemployment in the South African Labour Market, 2012 – 2013', Department of Labour, Republic of South Africa.

Department of Social Development (2012) 'White Paper on Families', Republic of South Africa.

Equal Education (2011) 'Unequal Schools, Unequal Outcomes', Youth Group Fact Sheet 1, Cape Town, South Africa.

Geronimus, A.T. (2004) 'Teenage Childbearing as Cultural Prism', *British medical bulletin* 69: 155-166.

Geronimus, A.T. and S. Korenman (1992) 'The Socioeconomic Consequences of Teen Childbearing Reconsidered', *The Quarterly Journal of Economics* 107(4): 1187-1214.

Ghosh, P. (2013) 'Babies Having Babies: Teenage Pregnancies Destroying Lives And Futures Of South African Girls', International Business Times 5 September Accessed on 9 November 2014 <http://www.ibtimes.com/babies-having-babies-teenage-pregnancies-destroying-lives-futures-south-african-girls- 1402739>

Grant, M. and K. Hallman (2006) Pregnancy-Related School Dropout and Prior School Performance in South Africa. Population Council New York.

Griliches, Z. (1979) 'Sibling Models and Data in Economics: Beginnings of a Survey', *The Journal of Political Economy* 87(5): S37-S64

Guba, E.G. and Y.S. Lincoln (1994) 'Competing Paradigms in Qualitative Research', Handbook of qualitative research 2: 163-194.

Hawkes, D. (2004) 'The socio-economic consequences of early child bearing: evidence from a sample of UK female twins', Centre for Longitudinal Studies, Institute of Education, University of London.

Herrera, C. and D. Sahn (2013) 'The Impact of Early Childbearing on Schooling and Cognitive Skills among Young Women in Madagascar', Cornell University Food and Nutrition Policy Program Working Paper (247).

Holborn, L. and G. Eddy (2011), 'First Steps to Healing the South African Family' South African Institute of Race Relations, Johannesburg.

Hotz, V.J., S.W. MacElroy and S.G. Sanders (1999) Teenage Childbearing and its Life Cycle Consequences: Exploiting a Natural Experiment. Cambridge, MA: National Bureau of Economic Research.

Human Sciences Research Council (2014) 'State of Poverty and its Manifestation in the Nine Provinces of South Africa', Economic Performance and Development, Human Sciences Research Council, South Africa.

Hunter, M. (2010) Love in the Time of AIDS: Inequality, Gender, and Rights in South Africa. Indiana University Press.

Jewkes, R., C. Vundule, F. Maforah and E. Jordaan (2001) 'Relationship Dynamics and Teenage Pregnancy in South Africa', *Social science & medicine* 52(5): 733-744.

Jewkes. R and N. Christophides (2008) 'Teenage pregnancy: Rethinking Prevention', Keynote Address-5th Policy Youth Initiative Roundtable on Teenage Pregnancy, 1-14

Jewkes, R., R. Morrell and N. Christofides (2009) 'Empowering Teenagers to Prevent Pregnancy: Lessons from South Africa', *Culture, Health & Sexuality* 11(7): 675-688.

Johnson, R.B. and A.J. Onwuegbuzie (2004) 'Mixed Methods Research: A Research Paradigm Whose Time has Come', *Educational Researcher* 33(7): 14.

Kanku, T. (2010) 'Attitudes, Perceptions and Understanding Amongst Teenagers regarding Teenage Pregnancy, Sexuality and Contraception in Taung', *South African Family Practice* 52(6): 563-572.

Karra, M. and M. Lee (2012) 'Human Capital Consequences of Teenage Childbearing in South Africa', Population Reference Bureau, Washington D.C.

Kaufman, C.E., T. de Wet and J. Stadler (2001) 'Adolescent Pregnancy and Parenthood in South Africa', *Studies in Family Planning* 32(2): 147-160.

Klepinger, D., S. Lundberg and R. Plotnick (1997) 'How does Adolescent Fertility Affect the Human Capital and Wages of Young Women?'.

Leech, B.L. (2002) 'Asking Questions: Techniques for Semistructured Interviews', *Political Science & Politics* 35(04): 665-668.

Lehohla, P. 2007. Women's month reminds us of struggles past, and future challenges. Statistics South Africa Accessed on 18 May 2014 <http://www.statssa.gov.za/news_archive/23August2007_1.asp>

Macleod, C. (1999) 'Teenage Pregnancy and its 'negative' consequences: Review of South African research—Part 1', *South African Journal of Psychology* 29(1): 1-7.

Macleod, C. (2003) 'Teenage Pregnancy and the Construction of Adolescence: Scientific Literature in South Africa', *Childhood* 10(4): 419-437.

MacLeod, C. and K. Durrheim (2003) 'Psycho-Medical Discourse in South African Research on Teenage Pregnancy', *Transformation: Critical Perspectives on Southern Africa* 51(1): 74-100.

Madhavan, S. and K.J. Thomas (2005) 'Childbearing and Schooling: New Evidence from South Africa', *Comparative Education Review* 49(4): 452-467.

Makiwane, M. (2006) 'Is the Child Support Grant Associated with an Increase in Teenage Fertility in South Africa? Evidence from National Surveys and Administrative Data'.

Makiwane, M. (2010) 'The Child Support Grant and Teenage Childbearing in South Africa', *Development Southern Africa* 27(2): 193-204

Morrell. R, D. Bhana and T. Shefer (2012) 'Books and Babies: Pregnancy and Young Parents in Schools', HSRC Press, South Africa, 2012.

News 24 (2012) 'Teens fall pregnant for Grants', 11 December http://www.news24.com/SouthAfrica/Politics/Teens-fall-pregnant-for- grants-Survey-20121211

Ntuli, M. (2007). Exploring Gender Wage "Discrimination" in South Africa, 1995-2004: A Quantile Regression Approach, International Policy Center, University of Michigan, IPC Working Paper Series Number 56.

Panday, S., M. Makiwane, C. Ranchod, and T. Letsoalo, (2009) 'Teenage pregnancy in South Africa - with a specific focus on school-going learners' Child, Youth, Family and Social Development, Human Sciences Research Council, Pretoria: Department of Basic Education.

Parcel, T.L., M.J. Dufur and R.C. Zito (2010) 'Capital at Home and at School: A Review and Synthesis', *Journal of Marriage and Family* 72(4): 828-846

Pillow, W. S. (2004) 'Unfit Subjects: Educational Policy and the Teen Mother. Psychology Press.

Preston-Whyte, E., M. Zondi, G. Mavundla and H. Gumede (1990) 'Teenage Pregnancy, Whose Problem? Realities and Prospects for Action in KwaZulu/Natal', *Southern African Journal of Demography* 3: 11-20.

Ranchhod, V., D. Lam, M. Leibbrandt and L. Marteleto (2011) 'Estimating the

Effect of Adolescent Fertility on Educational Attainment in Cape Town using a Propensity Score Weighted Regression'.

Ribar, D.C. (1999) 'The Socioeconomic Consequences of Young Women's Childbearing: Reconciling Disparate Evidence', *Journal of Population Economics* 12(4): 547-565.

SABC News 'Teachers are not mid-wives', 10 September 2013 Accessed on 10 November 2014 http://www.sabc.co.za/news/a/4d853980410b7a5f96a0b7434f2981a1/T eachers-are-not-midwives:-Creecy-20131009

'Second South African National Youth Risk Behaviour Survey 2008 Report',

Health Promotion Research and Development Unit of the Medical Research Council, South Africa.

Southern Africa Labour and Development Research Unit (2014) 'National Income Dynamics Study 2012, Wave 3' Version 1.2, Southern Africa Labour and Development Research Unit, Cape Town: DataFirst, 2014

Southern Africa Labour and Development Research Unit (2014) 'National Income Dynamics Study 2010-2011, Wave 2' Version 2.2, Southern Africa Labour and Development Research Unit, Cape Town: DataFirst, 2014.

Statistics South Africa (2013) 'Gender Statistics Report, 2011' Statistics South Africa, Pretoria.

Statistics South Africa (2013) 'Millennium Development Goals Country Report 2013', Statistics South Africa, Pretoria.

Statistics South Africa (2013) 'Quarterly Labour Force Survey, Quarter 1, 2013' Statistics South Africa, Pretoria.

Statistics South Africa (2014) 'Quarterly Labour Force Survey, Quarter 2, 2014' Statistics South Africa, Pretoria.

Statistics South Africa (2014) 'General Household Survey' Statistics of South Africa, Pretoria.

Statistics South Africa (2014) 'Poverty Trends in South Africa: An examination of absolute poverty between 2006 and 2011', Statistics South Africa, Pretoria.

Swartz (2002), Conference on 'Fertility and the Current South African Issues of Poverty, HIV/AIDS and Youth' Department of Social Development, South Africa & Human Sciences Research Council.

Taylor, S.G.S. and D. Yu (2009) 'The Importance of Socio-economic Status in determining Educational achievement in South Africa' (No. 01/2009), Stellenbosch University, Department of Economics.

Timæus, I.M. and T.A. Moultrie (2011) 'Teenage Childbearing and Dropout from School in South Africa: Evidence from a Household Panel'.

Timæus, I.M., S. Simelane and T. Letsoalo (2013) 'Poverty, Race, and Children's Progress at School in South Africa', *The Journal of Development Studies* 49(2): 270-284

Trussell, T.J. (1976) 'Economic Consequences of Teenage Childbearing', *Family planning perspectives*: 184-190

UNICEF (2014), 'UNICEF Statistics- South Africa' Accessed on 8 November 2014 <http://www.unicef.org/infobycountry/southafrica_statistics.html>

UNFPA (2013), 'Motherhood in Childhood', State of World Population 2013, Information and External Relations Division of UNFPA, the United Nations Population Fund.

WHO (2014) 'Adolescent Pregnancy: Fact Sheet', September 2014 Accessed 29 September 2014 <http://www.who.int/mediacentre/factsheets/fs364/en/>

Wood, K. and R. Jewkes (2006) 'Blood Blockages and Scolding Nurses: Barriers to Adolescent Contraceptive use in South Africa', *Reproductive Health Matters* 14(27): 109-118

Wood, K., F. Maforah and R. Jewkes (1998) '"He Forced Me to Love Him": Putting Violence on Adolescent Sexual Health Agendas', *Social Science & Medicine* 47(2): 233-242.

World Bank (1993) World Development Report 1993: Investing in Health, Volume1. Accessed on 10 November < http://go.worldbank.org/6R5DC7G090>

World Bank (2014) 'World Development Indicators', World Development Indicators Online (WDI) database Accessed on 5 November 201<http://data.worldbank.org/data-catalog/world-development-indicators>

World Economic Forum (2014), 'Global Risk Report', World Economic Forum, Geneva.

APPENDICES

APPENDIX A: Qualitative Sample

Table A.1
Sampling details of teen mothers in qualitative sample

Subject	Technique	Location	Connected by	Points to note	Sampling method
Fatema	Semi-structured Interview	Principal's office	School of Hope	Presence of the principal	Recording with consent
Jovena	Semi-structured Interview	The Zoe Project Office, Retreat Clinic	The Zoe Project	Presence of Tracey	Note-taking with consent
Thandeka	Semi-structured Interview	Thandeka's Home	The Zoe Project	Presence of Tracey	Note-taking with consent
Codona	Semi-structured Interview	The Zoe Project Office, Retreat Clinic	The Zoe Project	Presence of Tracey	Recording with consent
Colene	Semi-structured Interview	The Zoe Project Office, Retreat Clinic	The Zoe Project	Presence of Tracey	Recording with consent
Brigette	Semi-structured Interview	Rock Care Community Centre	Rock Care Community Centre	Interviewed alone	Recording with consent
Toni	Semi-structured Interview	Rock Care Community Centre	Rock Care Community Centre	Interviewed alone	Recording with consent
Mallishka	Semi-structured Interview	At the school premises	St. Andrews	Presence of 3 girls Selected to interview by the school staff	Recording with consent
Jordan	Semi-structured Interview	At the school premises	St. Andrews	Presence of 3 girls Selected to interview by the school staff	Recording with consent
Mrs. Moyce	Semi-Structured Interview	Her office, Claremont High	Claremont High	Interviewed Alone Is Married	Recording with consent
Cheney	Semi-Structured Interview	Her cousin's home	Through resident at YWCA	Interviewed Alone Is Married	Recording with consent

Table A.2
Sampling details for pregnant teens in qualitative sample

Subject	Technique	Location	Connected by	Points to note	Sampling method
Simone	Semi-Structured Interview	At the school premises	At the school premises	Presence of 3 girls other Selected to interview by the school staff	Recording with consent
Perinese	Semi-Structured Interview	At the school premises	At the school premises	Presence of 3 girls other Selected to interview by the school staff	Recording with consent
Bernerlee	Semi-Structured Interview	Rock Care Community Centre	Rock Care Community Centre	Alone	Recording with consent
Juanita	Semi-Structured Interview	Rock Care Community Centre	Rock Care Community Centre	Alone	Recording with consent

Table A.3
Sampling details for teen pregnancy & teen mother support organisations in qualitative sample

Subject	Technique	Location	Connected by	Points to note	Sampling method
The Zoe Project (Tracey)	Semi-Structured Interview	The Zoe Project Office	Internet	Alone	Recording with consent
Options (Rosa Scheepers)	Semi-Structured Interview	N1 Goodwood Mall	Internet	Alone	Recording with consent
Rock Care Community Centre (Jacobie Muller)	Semi-Structured Interview	Rock Care Community Centre	Internet	Alone	Recording with consent

Table A.4
Sampling details for miscellaneous actors in qualitative sample

Subject	Technique	Location	Connected by	Points to note	Sampling method
WCED official Hillie Schultz	Email Interview	NA	Referred by Rosa Scheepers (Options)		Email
7 High School Girl Students	Group Discussion	Classroom in Claremont High during their recess	Claremont High	Exploratory in nature	Recording with consent
Brian (Teen Father)	Semi-Structured Interview	Principal's Office	School of Hope	Presence of Laura Collura	Recording with consent
Hanover Park and Retreat Clinic	Visits	NA		Accompanied by Tracey	Observation

APPENDIX B: Quantitative Sample

Table B.1
Broad restrictions on the sample: constructing full sample & sister subsample

NIDS Wave III 42,230 observations (adults), 777 Variables, 2012
FULL SAMPLE
(1)*Narrowing down on the basis of subject being a son/daughter to the household head

* Excluding Single-Child Households
* Restricting to only women in the sample

*Keeping those who were successfully interviewed

*Excluding all those women who do not have a sister

*Excluding those women who have never given birth

*Keeping the oldest two siblings

(2) * Narrowing down on the basis of subject being a brother/sister to the household head & the household head

* Restricting to only women in the sample

* Keeping those who were successful interviewed

* Excluding single-child households

* Excluding those women who have never given birth

* Keeping the oldest two siblings

*Merging the two datasets (1) & (2)

* Dropping those where both siblings have never given birth

*Excluding those who have given birth before age 15 and their sisters

* Keeping those who have given birth at different times (Non-teen-Non-teen, Teen-Teen, Teen-Non-teen)

* Dropping pairs which include a mother who is below age 24 as of 2012

SISTER SUBSAMPLE
*Exclude those sisters who have given birth at different times (Before 19 and After 19)

The broad restrictions applied to both samples are given in above table.
The sample is restricted to women who were above the age of 23 in 2012 in order to accommodate the _future' aspect of the outcomes. Although these terms are relative, the cut-off of 24 was decided as it gives teenage mothers a few years to over-come the immediate adverse effects of the having the baby. This would also imply

that most of the sample is largely done with school and is now in the labour force. Both the full sample and the sister sub-sample does not include those mothers who have a sister who has not given birth as it formed a relatively small group.

Table B.2
Sample size: number of sister pairs for each Outcome (fixed effects & cross-section)

VARIABLES	FIXED EFFECTS (1) Number of Observations	(2) Number of Sister Pairs	CROSS SECTION (1) Number of Observations
Graduated high school or not?	58	29	508
Highest Grade Completed	202	101	508
Employed?	74	37	462
Welfare?	92	46	508
CSG	90	45	508
Poverty	66	33	508
Ln Net Income	202	101	508
TOTAL	202	101	508

APPENDIX C

HELPLINES FOR PREGNANT AND PARENT TEENS:

- The Zoe Project: +270731741992 (Tracey) - works out of Retreat Clinic (Provides baby and mother packs for the pregnancy for the patients)
- Rock Community Care (Paarl): 0218728716 (Jacobie) - A Crisis Pregnancy Centre works out of Paarl (provides baby and mother packs)
- Options: +270840773040 (Rosa) - Crisis Pregnancy Centre
- St. Anne's Shelter: +27 21 448 6792 / +27 21 488 8513. (A very nice and warm shelter for young mothers)
- Mater Domini: 021 6716008 (Shelter)
- Sister's Incorporated: 021 797 4190 (Shelter)
- Procare: 0861 776 2273 (Centre for young women to reside during the 9 months of pregnancy)