Transition to Second Births Among Urban Adolescents in South Africa

This research looks at the effects of education on the timing of second births among young women in South Africa. The work is motivated by a body of research that has identified subsequent childbearing as a key mediator of life course outcomes for young mothers and children. For instance, in the United States 20% of adolescent mothers have their second birth within 2 years (National Center for Health Statistics, 2005); while some investigators have reported rates as high as 30-50% (Rigsby et al., 1998, Black et al, 2006). Mothers with closely spaced second births tend to have poorer educational and economic outcomes than mothers who delay subsequent births (Kalmuss and Namerow, 1994; Spencer and White, 1997; Manlove et al., 2000). Specifically, young mothers with two or more births are less likely to complete high school, and for older adolescents, are more likely to have lower levels of educational attainment than adolescents who have one or no birth (Manlove et al., 1998). These young mothers with multiple births tend to have lower rates of labor force participation, lower earnings, and less prestigious jobs than mother who postpone additional births (Hofferth et al, 1978). Moreover, repeat adolescent births tend to create additional risk of low birth weight (National Health Statistics, 1994). Thus, having a second birth during adolescence tends to heighten the risks of early childbearing for young mothers and their children.

This study extends current research on adolescent fertility in South Africa by exploring the predictors of the timing of second births. In particular, I explore the heterogeneity in the life course experiences of young mothers in urban South Africa, by highlighting schooling factors that are associated with having a closely subsequent birth. I argue that young mothers' schooling

characteristics i) before first birth, ii) at first birth, and iii) after first birth play an important role in their timing of second births. Explicitly, I intend to highlight the impact of the 1998 South African Education Act that encourages young mothers to stay in school.

South Africa is interesting to study here because it records the highest adolescent fertility rates in sub Saharan Africa. For instance, the Department of Health (1999) reported that for women under 20, 35% have been pregnant or have a child. This figure is even higher for Black girls where about 48% of Blacks girls would have their first child by age 20 (Seedat and Swingewood, 1996; Garenne et al., 2000). Another report also showed 71% of girls were pregnant in one school in Soweto, a huge township on the outskirts of Johannesburg (IRIN News, 2007). At the same time, South Africa has experienced one of the fastest fertility transitions in the region. Total fertility rate (TFR) has declined from 6.0 births per woman in the 1970s to a current estimate of 2.9 births per woman at the end of her reproductive period (Garenne et al., 2003). In keeping with the overall decline, the 1998 Demographic and Health Survey indicated that adolescent fertility declined by 35% between late 1980s and late 1990s (Department of Health, 1999). Similarly, census data showed 10% between 1996 (78 per 1000 women aged 15-19) and 2001 (65 per 1000 women) (Moultrie and McGrath, 2007). Other recent studies have also found that young people often want to avoid pregnancy at an early age (Kaufman et al., 2001; Rutenberg et al., 2003). However, contrary to expectation, the mean age at first birth has not increased (Moultrie and McGrath, 2007).

The huge fertility decline in South Africa has been ascribed to large birth intervals between the first birth and the second birth (Garenne et al., 2000). Moultrie (2002) estimated a median birth interval of about 60 months in South Africa. This fertility pattern suggests low contraceptive use before first birth, especially among adolescents, and high contraceptive use thereafter. In addition, Timaeus and Moultrie (2003) argue that the fertility regime in South Africa is characterized by birth intervals far larger than can be accounted for by birth spacing (bearing a subsequent child when the last-born has reached a specified age). Rather, I argue, these birth intervals are a characteristic of opportunities such as school reentry, contraceptive use after first birth and somewhat marriage/steady relationships for young mothers. Therefore, the persistent high adolescent fertility and subsequent births cannot be divorced from the broader trends of declining fertility in South Africa.

Adolescent Fertility in South Africa: Is it a Problem?

Adolescent pregnancy and childbearing emerged as a social problem in research and social policy discussions in the US and the UK in the 1970s (Vinovskis, 1988; Bonell, 2004) and somewhat later in South Africa (Ncayiyana and Ter Haar, 1989; Preston-Whyte et al., 1990). Generally, the South African literature tends to reverberate this view of teenage pregnancy as a 'catastrophe' (De Villiers, 1991: 231), with phrases such as an 'epidemic' of adolescent childbearing and 'children having children' (Boult, 1992: 16) being a common parlance. Indeed, adolescent childbearing is regarded as a social problem because it is considered as an outcome of social forces. Concerns for teenage mothers and their children center around the deleterious consequences of early reproduction. This is partially to do with the 'untimely' nature of the

activity. Adolescent pregnancy and childbearing, arguably, lead to school disruption, and subsequent poor employment and earnings opportunities; poor obstetric outcomes owing to the adolescent's biological immaturity; and inadequate mothering due to the likely relative poverty the child is born into - including neglect, maltreatment and abuse - owing to the mother's emotional immaturity (Macleod, 1999a). However, evidence from the USA and UK indicates that most adolescent pregnancies and births occur among older teenagers, hence there is little evidence of health risks to this group and their children (Macintyre and Cunningham-Burley, 1993; Hoffman 1998, Smith and Pell, 2001). It is further argued that the evidence of harm in terms of low social and economic well-being and prospects for mothers and children is not a direct and inevitable effect; rather, it is contingent on responses by the adolescent mother, her family and the general society via health and social care, education, training and welfare provision (Bonell, 2004). Thus, these concerns are often underpinned by sexual activity among young unmarried people as immoral (Wood, Maepa and Jewkes, 1997). This is supported by evidence that young mothers who marry tend to have more positive economic outcomes (Fursternberg et al, 1987).

However, marriage is relatively late in South Africa, hence most teen births are non-marital. Only 3% of women under 20 years of age were married or cohabiting, yet 35% had been pregnant or have a child (Department of Health, 1999). In spite of this evidence, sexual activity at adolescence is still highly stigmatized. For example, using peer group discussions and in-depth interviews among sexually active teenagers in Kwazulu-Natal, Harrison (2008a) found that both girls and boys regarded sex as wrong, and their romantic relationships were likely to be disapproved by both the family and community. This was depicted in statements such as "I realised that what I was doing was wrong because I was still young" (Harrison, 2008a: 181). As

a result, young people would often hide their relationships until there are prospects of long term engagement. Clearly, these normative values rarely inhibit sexual activity (see Dowsett and Aggleton, 1999). Moreover, hiding relationships make it easy for young people to have multiple partners. It has been reported that many young people tend to have concurrent partners which are distinguished as "primary" and "non-primary" partners (Hunter, 2002; Pettifor at al., 2005; Harrison, 2008b). Primary partners are publicly recognized often with some future expectations, and girls are more likely to conceive with them Jewkes, et al., 2001).

The negative attitudes toward adolescent sexual activity also tend to inhibit young people from using contraceptives (Chimere-Dan, 1996; Mfono, 1998; Dickson-Tetteh, 2001; Burgard, 2004). Specifically, attitudes by family planning service providers and the general public continue to humiliate and deny young people access to modern contraceptives. For instance, in a qualitative study in South Africa, nurses described girls as "stubborn" as they did not heed admonitions to abstain from sex, while girls reported stigmatization, scolding and harsh treatment by the nurses as barriers to access contraceptives (Wood and Jewkes, 2006). It is, however, imperative to note that male opposition to contraceptive use has been reported in South Africa. Richter (1996) found that fear of losing a partner was the most important barrier to contraceptive use. As a result, the risk of pregnancy is very high among young people. Also important is that South Africa enacted termination of pregnancy law in 1997. However, Jewkes and colleagues (2001) cautioned that many pregnancies are wanted among young people. These pregnancies often occur within a context of long term, strong valued and greater intimacy relationships. In addition, relative to young women who were sexual active, partners of pregnant girls were more

likely to be older and working than partners of women who were not pregnant (Jewkes, et al., 2001). This could suggests that girls tend to conceive with men who are likely to support them and their children.

The HIV/AIDS epidemic has also brought more attention to teenage pregnancy in South Africa. In fact, South Africa has the highest number of HIV infected people in the world, and adolescents are not exception to this deadly epidemic. As an example, the 2003 national HIV and syphilis antenatal sero-prevalence survey showed that 15.8% of women below 20 years of age were infected with HIV (Department of Health, 2004). Using oral fluid samples, a recent national survey of young people reported 15.5% and 4.8% of women and men aged 15-19 years, respectively, were HIV positive (Pettifor et al., 2005). Thus, HIV creates a new imperative to understand fertility and sexual risks among young people.

Another important issue relating adolescent childbearing and HIV infection is the increase in supply and free access of condoms to young people in schools and public spaces. With the advocacy for dual protection of condoms, young people are now more likely to use modern contraception than before because. For example, Maharaj (2006) reported that 64% of young people who were using condoms in Kwazulu-Natal mentioned protection from both pregnancy and HIV as the main reasons for use. In addition, those who viewed pregnancy as highly problematic were more likely to use condoms than those who viewed it as no problem. The Human Sciences Research Council (HSRC (2009)) reported an increase from 46% to 73% in

condom use among young people between 2002 and 2008. This suggests that the increased supply and access of condoms to young people is likely to play an important role in curbing adolescent fertility in South Africa. Nonetheless, there is a common perception that condom use with a trusted partner is unacceptable (Harrison, 2001; Maharaj, 2001; Maharaj and Cleland, 2004; Pettifor et.al, 2005). As a result, unprotected sex is common in these relationships.

Moreover, young people's pattern of contraception is very interesting as they present low use before first birth, and sharp increase thereafter. In a study using demographic surveillance data from 1992 to 1997 in rural South Africa, Garenne and colleagues (2000) found that only 3.6 and 9.7% of young women aged 12-16 and 17-21 years, respectively, used contraceptives before first birth. These figures increased to 39.3% for both groups after giving birth. What is interesting are the reasons behind the high contraceptive use after first birth. With hospital deliveries, adolescent mothers receive family planning advice, including opportunities to use contraceptives (Garenne et al., 2000). Some young mothers mentioned parents taking them for family planning services (Wood and Jewkes, 2006). It could be that after childbirth, adolescent mothers are granted rite of passage to 'adult' services such as family planning.

On the other hand, alternative, positive views of adolescent pregnancy and childbearing in South Africa have been voiced, often in more private settings. For instance, in-depth research has pointed out that many teenagers are encouraged to become pregnant by their parents to prove their love, womanhood and fertility (Preston-Whyte et al., 1990; Varga and Makubalo, 1996;

Richter, 1996; Wood et al., 1997). Grandmothers were also reported to encourage young people to produce a baby for the home, while mothers often indicated that teenage pregnancy is infinitely preferable to the possibility of infertility caused by contraceptive use (Wood et al., 1997). As such, adolescent fertility has become institutionalized and is a fairly typical stage in the domestic life cycle of many families, especially Black families. The baby is usually adopted by the mother's family, given the protection of her ancestors, looked after by elder women and the mother is often able to return to school. This return to school is supported by the National Education Policy Act of 1998 which prohibits expulsion of a student because of pregnancy or refusal to take back the student after childbirth.

Adolescent Childbearing and Schooling

School engagement is often associated with a reduced risk of teen childbirth (Manlove, 1998). This is because school enrollment is viewed as protective, providing a structured setting in which children receive support and develop their capabilities and knowledge. However, adolescent pregnancies and childbearing commonly occur to girls who are still in school in South Africa (Jewkes et al., 2001). This has raised concerns about the impact of this phenomenon on the mother's schooling, future economic prospects, social and economic context of both the mother and father to support the child, impact of the child being born into greater poverty (Kaufman de Wet and Stadler, 2001; Jewkes et al 2001; Macleod, 2001). In keeping with this understanding, a lot of research has shown that early childbearing is a direct cause of truncated education for young parents as young mothers are more likely to drop out of school (Card and Wise, 1978; Klepinger et al., 1995; Buvinic, 1998; Mensch; 2001). In addition, young people who drop out

of school due to pregnancy and childbearing often have a greater difficulty re-entering the educational system and hence are less likely to complete high school and/or attend college (Hofferth et al., 2001). School dropout is associated with higher risk of another birth within a short period of time for young mothers. This typically places young mothers and their children within a circle of reduced occupational opportunities leading to welfare dependence (Taylor, 1990; Buvinic, 1998). Thus, with the birth of a child, the adolescent parent, particularly the mother, negotiates the transition to parenthood, which brings new roles, responsibilities and a dramatically changed lifestyle. This negotiation involves three critical issues: 1) how well the adolescent mother is able to care for her child; 2) ability to continue school and complete one's educational plan; and 3) the role that the family and community will play in providing support for the young mother and child during the transitional process. In a nutshell, school girl pregnancy and childbearing are viewed as social problems particularly as they are considered disruptive to future educational and economic outcomes.

However, some have argued that it is not necessarily early childbearing itself that is the primary cause of adverse social and economic outcomes; rather, it is the relative disadvantaged backgrounds of young parents that lead to those outcomes (Geronimus, 1991; 1992). Adolescents who become pregnant and give birth often have a complex array of emotional, social, economic and educational vulnerabilities that predate their pregnancies. Accounting for exogenous characteristics (personal, family and community), Kleinger and colleagues (1995) still found that early childbearing reduces the educational attainment of young women by one to three years in the United States. Nonetheless, family and community backgrounds are still important factors to be considered.

Some evidence from sub-Saharan Africa also supports the idea that childbearing impedes young mothers' educational progress (Mensch et al., 2001). However, contrary to these findings, South African research shows that this is not necessarily the case. Maharaj, Kaufman and Richter (2000) found that approximately 35% of African girls aged 19 and younger who had given birth were currently attending school; whilst Hallman and Grant (2003) stated that in KwaZulu-Natal - a province with the highest teenage births - 32% of 14-19 year olds mothers were currently attending schools. This evidence suggests that adolescent childbearing may not necessarily retard schooling for young mothers in South Africa.

Contrary to many sub-Saharan African countries, girls in South Africa may not be expelled from school if they become pregnant[1]. The 1998 South African Schools Act Section 3.9 states "A learner who falls pregnant may not be prevented from attending school. A pregnant girl may be referred to a hospital school for pregnant girls." Although this is a little unclear, Kaufman, de Wet and Stadler (2001) add that young mothers are allowed to resume their studies once the baby is born. Thus, as alluded to earlier, returns to school by teenage mothers could play an important role in explaining the timing of second births in South Africa, as possibility of returning to school may lead young mothers to postpone additional births.

[1] In many sub-Saharan African countries more and more young mothers are going back to school hence there is a likely significant change in education to be observed.

Indeed South Africa has one of the highest levels of school enrollment in sub-Saharan Africa, with a majority of 15-19 year old males and females enrolled in school (approximately 85 and 79 percent respectively in 1998 (NRC-IOM, 2005)). In light of the high levels of school participation, the 'disruptive role' of school girl pregnancy and parenting assumes particular salience. Although a large proportion of the girls continue their education following first birth, many do not. Kaufman and colleagues (2001) have also shown that many young mothers who do give birth during their schooling career tend not to return to school due to childcare responsibilities. Thus household and family characteristics that facilitate access to childcare and economic support of an additional child are important in determining the return to school by young mothers (Grant and Hallman, 2006). Furthermore, those who do return to school tend to have high absenteeism rates, which leads to poor educational outcomes (Kaufman et al., 2001). Based on these findings, it can be argued that despite permission to return to school after childbirth, schooling continues to compete with childbearing for many young mothers. On the other hand, Grant and Hallman (2006) argue that prior poor school performance such as grade repetition and school absence, are strongly associated with young women's likelihood of becoming pregnant while enrolled in school, dropping out as well as not returning to school in South Africa. This suggests that there is some sequencing of events that prelude young people's transition to adulthood. These same factors are likely to play an important role in determining the timing of second births for young mothers in South Africa. Using data from Cameroon, Johnson-Hanks (2002) argued that in contexts of high teenage fertility where education attainment is high, second births may represent the transition to adulthood, more classically associated with first births. Thus second births may constitute significant moments in the life

course of young mothers, moments when futures that are imaginable or viable are transformed or sedimented.

Conceptual Framework

A life-course perspective provides a critical approach in understanding factors associated with adolescent motherhood. Particularly, transition to adulthood represents a process that may include school completion, entering the labor force, relationship formation, and parenthood. This approach explores the timing and relative sequencing of transitions to adulthood which in turn influence later life outcomes (Hogan and Astone, 1986). Elder (1998) indicated that life course transitions are age-graded and identified as either early, on-time, or late, and these are culturally embedded (Hagestad, 1990). Nonetheless, transition to parenthood for adolescents is perceived as an off-time transition, and can negatively influence outcomes for both mothers and children.

At the same time, the transition to parenthood is heterogeneous and can differ by sub-groups such as race and socioeconomic status. For instance, Blacks adolescents and adolescents from poor backgrounds tend to exhibit an earlier transition to parenthood than other adolescents in South Africa (Garenne, et al, 2000). Although this tendency might reflect different normative timetables for different groups in South Africa as Preston-Whyte and Zondi (1991) argued, some have argued that teenagers from families with higher socioeconomic resources tend to be less vulnerable to the risk of giving birth due to longer periods of educational attainment.

On the other hand, life course transitions are linked, such that the timing of one might influence the likelihood and timing of subsequent transition (Hogan and Astone, 1986). Some research suggests that there is a strong normative pressure to have a second child within a specified period after the first birth, regardless of age of the mother (David and Sanderson, 1987). Other have shown strong connection between the timing of relationship formation, such as marriage, and the transition to a first birth (Moore, Miller et al., 1995). Thus the relative sequencing of life transitions might have an effect on the timing of second births.

In addition, Bengston and Allen (1993) stressed the importance of understanding life course transitions within the context of the system of institutions and relationships in which adolescents live. In particular, family, the school and place of residence are primary social settings for adolescents. These factors offer protection, resources and social support that young mothers might need to adapt to an off time transition, hence are likely to influence subsequent births.

5. Data and Methods

The Cape Area Panel Study (CAPS) is a longitudinal study of youth and their families in Cape Town metropolitan, the second largest city in South Africa. This is a collaborative project of the University of Cape Town and the University of Michigan. The study focuses on a wide range of issues affecting young adults and their households as they undergo the multiple transitions from adolescence to adulthood. This paper will use the first wave of the survey, which was conducted

in the second half of 2002. The data set contains two major sources of data. First, the survey includes a household questionnaire, in which demographic data on the entire household is collected. Second, the survey includes a detailed young adult questionnaire, which collects event history calendar data on living arrangements, schooling, employment, and fertility of household members between the ages of 14 and 22. A basic numeracy and literacy skills test was also administered to each youth respondent.

CAPS was designed using a two-stage probability sample of households. The first stage sampled 440 Census Enumeration Areas (EAs) and the second stage sampled 25 households (in both formal and informal housing areas) within each selected EA. Cape Town has three predominant population groups – black, which are about 27% of the population, coloured[2] (about 50%), and White (about 22%). However, the black and White households were oversampled with the goal of obtaining roughly equal numbers of black, coloured, and White youth. Upon recruitment into the survey, the household questionnaire was administered to the person most knowledgeable about the household. Full-length youth questionnaires were given separately to up to three young people (ages 14 to 22) in each household. The baseline wave of CAPS provides data on roughly 5,000 households containing 22,631 residents (42.3% black, 43.7% coloured, and 14.1% White). Detailed interviews were conducted with 4,752 young people (44.7% black, 39.5% coloured, and 15.7% White). The response rates for the youth questionnaire (conditional on household participation) were high for all racial groups, ranging from 93.0% for blacks to 86.0% for Whites.

[2] Coloured population is the bi-racial group in South Africa.

Sample

The analysis of this research will be restricted to young female adults who have experienced at least one birth. Of the 2, 282 female respondents aged 14-22, 382 (17%) had given birth. The mean age at first birth was 18 years. Of these young mothers, only 13% were married and 36% were enrolled in school the year after the first birth. However, since there were only 2 White mothers in the data, this analysis will only include Black and Coloured mothers, yielding a sample of 380 mothers.

Measurement of Key Variables

Individual Characteristics

Race – Only Black and Coloured young mothers are used in this analysis. Race will be a dummy variable with Black as a reference category.

Age at first birth – This is reported as age on last birthday at time of first birth. Previous research indicates that adolescents who are younger when they have their first birth were more likely than older adolescents to have a second birth in the Unites States (Rigsby et al., 1998; Sims and Luster, 202). Accordingly, I expect a positive relationship between timing of first birth and second birth among young women in South Africa.

Married/Cohabiting at First Birth – Scholars have highlighted that most teenage pregnancies in South Africa are non-marital and unintended (Nash, 1990; Preston-Whyte, 1993). In focus group discussions with young people, marriage was highlighted as a reason why adolescents should

delay childbearing (Kaufman et al., 2001). This suggests that childbearing in marriage is still "normalized" hence young mother who are married are likely to transition into second births much sooner than mother who are not married. In addition, Udjo (2001) has shown that the TFR differences between married and non-married women were inflated by high rates of childbearing in cohabiting unions. Therefore this research uses a dummy variable representing young mothers who were either married or cohabiting at time of first birth.

Schooling

Highest Educational level Attainment at first birth - This is a continuous variable measured as the number of schooling years completed at first birth.

In school at time of first birth - This is a dummy variable of Yes/No, with No as a reference category

Returned to school after second birth – This is a dummy variable, with 1 representing young mothers who returned, and 0 represents mothers who did not return to school.

Years in School After Second Birth – This is a continuous variable representing the number of years young mothers spent in school after first birth.

Parental SES

Mother's Education - This is measured as continuous variable of the number of schooling years completed by the mother.

Mother's Education Missing - Unfortunately, about 68% of the sample did not report on their mother's education so a dummy variable for those who did not know the number of schooling years completed is used.

Father's Education - This is measured as continuous variable of the number of schooling years completed by the father.

Father's Education Missing - Unfortunately, about 71% of the young mothers did not report on their father's education so a dummy variable for those who did not know the number of schooling years completed is used.

Mother Works – This is a dummy variable representing current employment status of the mothers of young mothers: 1 employed 0 not employed

Father Works – This is a dummy variable representing current employment status of fathers of young mothers: 1 employed 0 not employed

Living Arrangements

Lived with mother - A dummy variable of whether respondent lived with mother in the year of first birth

Lived with Father - A dummy variable of whether respondent lived with father in the year of first birth

Lived with grandparents - A dummy variable of whether respondent lived with grandparents in the year of first birth

Community Factors

Residential segregation in South Africa not only represents racial differences, but difference in socio-economic status hence disparities in access and type of services within in the neighborhoods. In particular, there are stark differences in school type in these neighborhoods.

In particular, the White dominated residences are more affluent, while the Coloured population tend to live in the famous Cape Flats which are associated with high crime and drug use. Blacks on the other hand tend to live in the townships which are largely poor. Therefore, this research uses three residency dummy variables:

Lives in an African neighborhood – A dummy variable of whether respondent lived in a predominantly African neighborhood

Lived in a Coloured neighborhood – A dummy variable representing whether respondent lived in a predominantly Coloured neighborhood

Lives in White neighborhoods will be used as reference category

Method of Analysis

The research uses a Cox Proportional Hazard regression model to analyze the effects of schooling and other control variables on the timing of second births among young mothers in urban South Africa. The year after the first birth represents the beginning of the risk period, which ends the year a second birth occurs, otherwise the mothers would be right censored. Thus, time is measured in person years. This hazard is modeled as:

$$H(t) = H_0(t) \exp(b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_kX_k$$

Where $X_1 \ldots X_k$ are predictor variables referred to above and $H_0(t)$ is the baseline hazard at time t, representing the hazard for a young mother with the value of 0 for all the predictor variables.

When dividing both sides of the hazard model by the baseline hazard $H_0(t)$ and taking the logarithms, we obtain:

$$\ln (H(t)/H_0(t)) = b_1X_1 + b_2X_2 + b_3X_3 + \ldots + b_kX_k$$

$H(t)/H_0(t)$ is the hazard ratio, and the coefficients $b_1 \ldots b_k$ will be estimated by the Cox model representing the relative risk of a second birth at any time for young mothers.

Results and Analysis

As indicated in table 1 below, there was somewhat similar experience of motherhood between African and Coloured young adults in Cape Town. In addition, there was less than a year difference in mean age at first birth between these two groups, with Africans transitioning into motherhood as early as age 12 compared to age 13 for Coloureds. The mean age at first birth was estimated at 17 years for these young adult mothers. These results highlight the high risk of teenage pregnancy in urban South Africa.

Since this research is interested in the relationship between schooling and transition to second births, various schooling variables were assessed. Table 1 shows that 37% of the young mothers in Cape Town were in school at the time of their first birth. Given the mean age first birth, this

suggests that many young women are out of school early in South Africa. When asked if they passed the grade they were in at time of first birth, less than 50% passed, 15% failed, while the remaining 35% had dropped out during the course of the year. Although it is not clear whether those who dropped out, left school because of the pregnancy or child birth, it is can be deduced that despite the 1998 South African Schools Act that supports young mothers to be in school, pregnancy and childbearing continues to threaten young women's education. Specifically, only 12% of these young mothers had completed high school (grade 12) at time of first birth. Moreover, only 28% reported to have gone back to school after the first birth.

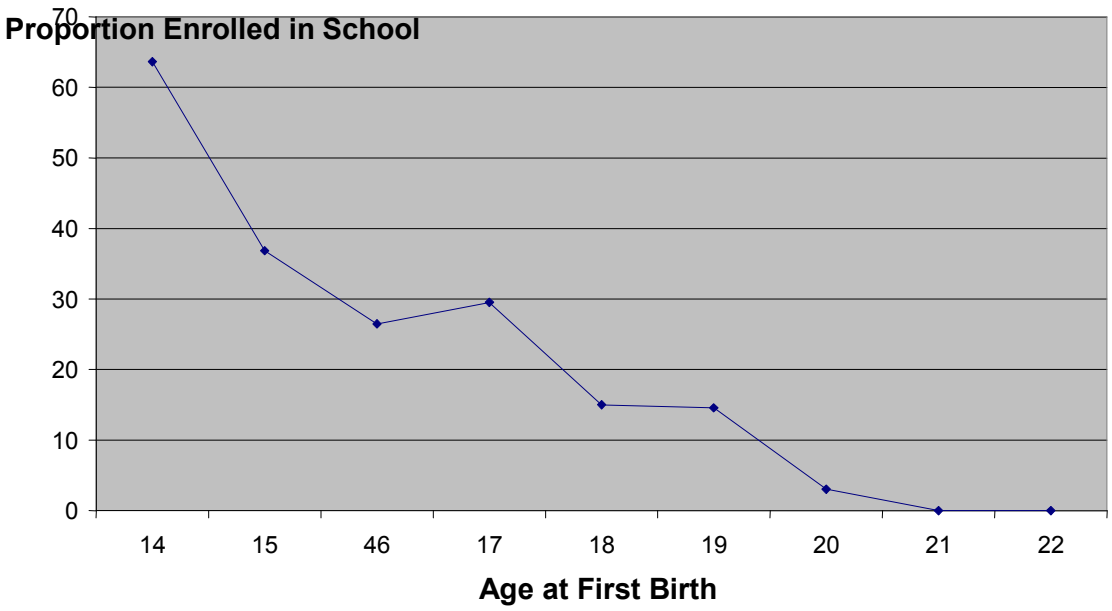
Table 1. Descriptive Statistics of Young Mothers, 12-22 years old Cape Town, CAPS 2002

N = 380

Characteristics	Frequency	Percentage
Race		
African	195	51
Coulored	185	49
Age at 1st Birth	(Mean = 17.4, SD = 1.97)	
Had a 2nd Birth	43	11
Schooling		
In school at 1st Birth	141	37
Passed Grade	68	48
Highest Education attainment at 1st Birth		
Grade 0-7	96	25
Grade 8-10	195	51
Grade 11-12	89	23
Went Back to School After 1st Birth*	99	28
Marital Status		
Not Married	344	91
Married and Cohabiting	36	9
Living Arrangements at First Birth		
Living with Mother	280	74
Living with Father	140	37
Lived with Both Parents	127	33
Living with Grandparents	39	10
Parental SES		
Mother's Education		
No Education	16	4
Primary School	43	11
High school	66	17
Missing	258	67
Father's Education		0
No Education	12	3
Primary School	45	12
High School	58	15
Missing	268	70
Mother Works	46	12
Father Works	87	23
Community Factors		
Lived in African Neighborhood	170	45
Lived in Coloured Neighborhood	192	51
Lived in White Neighborhood	18	5

Furthermore, as shown in figure 1 below, the proportion of young women enrolled in school after first births in figure 5 shows diminishing likelihood of going back to school by age of first birth. Here, more than three out of five young mothers who gave birth at age 14 went back to school. However, less than 5% of those who gave birth at age 20 went back. While this makes is very comprehensible in that age at first birth increases with both age and highest educational attainment, it also suggests that older mothers are less likely to advance their education than younger mothers.

Figure 1. Age at First Birth and Proportion Enrolled in School After Birth



Since childbearing in a marriage is often expected, it is important to look at the marital status of the young mothers in Cape Town. At the time of the first birth, only 5% of the mothers were married, with a similar percentage living with their partners (see table 1). This highlights the

prevalence of premarital births in South Africa, a feature that has characterized South African fertility as distinct from other African countries (see Preston-Whyte, 1978; 1993).

Another important feature was the young mother's living arrangements. Only 33% lived with both parents, with absent fathers as a common features in these households (see Table 1). While some fathers could be absent due to employment opportunities far from home, father absence is also a result of non-marriage that has been reference earlier. It is therefore not surprising that many young mothers (70%) did not report their father's educational attainment. At the same time, about a similar number did not report their mother's educational attainment. For those who reported the educational attainment of the parents, the parents' education was very limited, with only 15% and 17% of the fathers and mothers, respectively, having been to high school. In addition, 23% of the fathers worked and 12% of the mother worked. While this suggests vulnerability of young mothers in Cape Town, it is also in line with previous research that teenage mothers are often from disadvantaged backgrounds ((Geronimus, 1991; 1992). It is therefore not surprising that 96% of these young mothers come from neighborhoods that are often dominated with crime and poverty.

The research went further to look at other support structures for the young mothers. As shown in table 2 below, more than 4 out of 5 mothers lived with their first child and more than half reported to be primary caregivers of the child. It was interesting that grandparents were reported to play a higher role than the parents in terms of primary care giving of the young mothers' children. This could be due to availability of the grandparents since they are often left at home to care for the children while the parents are working. In addition, South Africa is still a rare

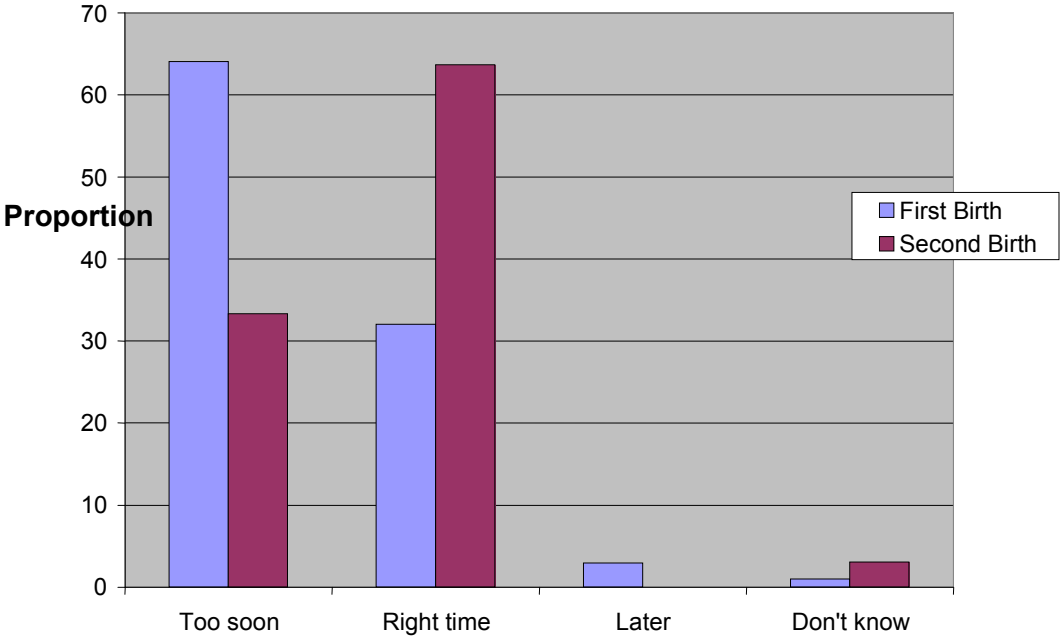
case in Africa to offer child grant support to mothers who are not economically able to care for their children (determined through means testing). Thirty eight percent of the young mothers in Cape Town were receiving this grant. Moreover, South Africa enforces child support from the fathers. However, only 48% of the mothers were receiving this support.

Table 2. Responsibility for First Child

Responsibility	Frequency	Percentage
Living with 1st child	319	84
Primary Caregiver of 1st child	206	55
Grandparents as Primary Caregiver of 1st Child	147	23
Receive Support from Father of 1st Child	184	48
Receive Government Child Grant	147	38

As mentioned earlier, 11% of the young mothers in the data set had a second birth. Looking at transition to second births, figure 2 also offers an understanding of young mother's description of the timing of both the first and second births. More than 60% of the mothers thought their first birth came too soon. However, this figured fell by half for second births. In fact, about 60% of the mothers said the second birth came at the right time compared to only 30% regarding the fist birth. These descriptions suggests that the young mothers regarded the timing of their second births more positively, with somewhat planning on their part.

Figure 2. Describe Timing of Birth



The Kaplan Meier graph in figure 3 below models the survival to second birth analysis of the young mothers in South Africa. Since the major interest of this paper is the effect of going back to school after birth of first child, the log rank test for trend shows very strong significant differences in the survival curves of young mothers who go back to school versus those who do not go back to school. In support of the hypothesis put forth here, young mothers who go back to school have a higher survival period to second birth than mothers who do not go back to school. This is further emphasized by the smoothed hazard estimates graph in figure 4, which shows a high and sharp hazard curve of second birth for mothers who are not in school compared to a low and flat hazard curve of mothers who are in school after first birth.

Figure 3. Kaplan-Meier survival estimates by Schooling After 1st Birth

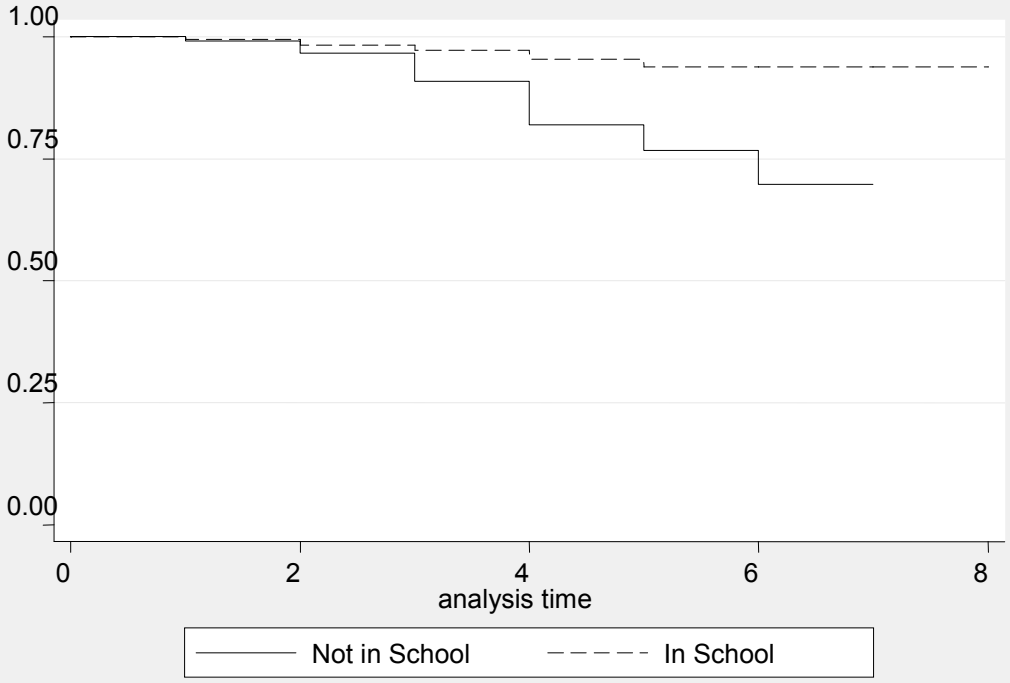
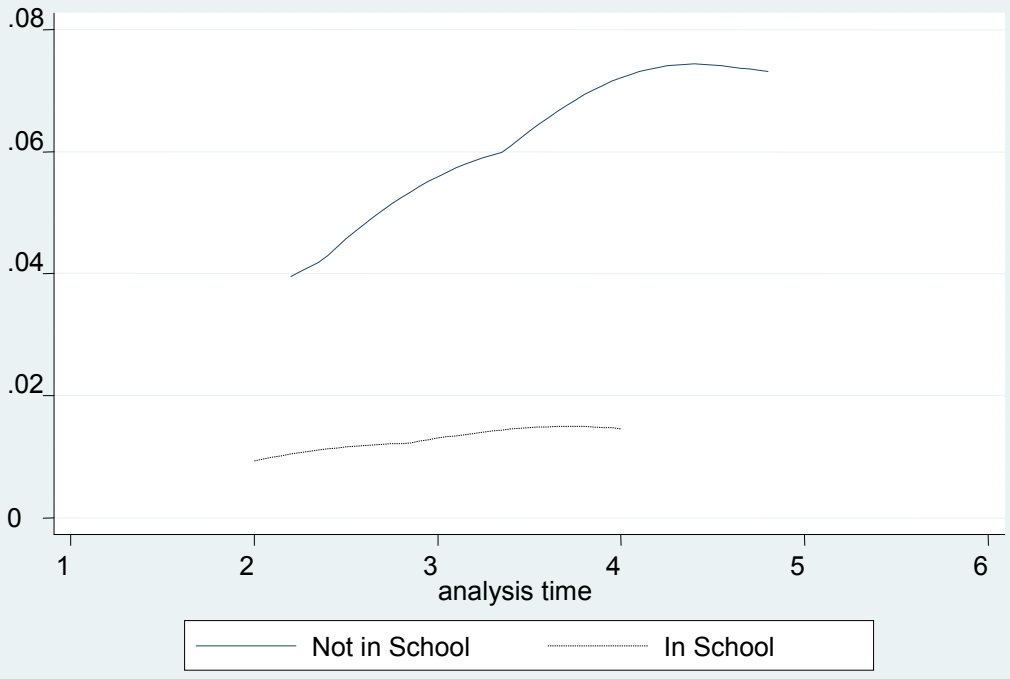


Figure 4. Smoothed hazard estimates by Schooling After 1st Birth



Multivariate Analyses

Table 3 below are the results from Cox Proportional model representing the relative risk of a second birth among young mothers in Cape Town. Controlling for age at first birth and marriage/cohabitation, in the first model, living in Coloured dominated neighborhoods tends to accelerate transition to a second birth among these young mothers. As expected, marriage or living together with a partner also speeds up the transition to subsequent birth.

The second model adds the schooling variables which are the crux of this research. Relative to young mothers who were not in school at first birth, being in school at first birth seems to increase the likelihood of having a second in Cape Town. This is contrary to other research findings which suggests that schools offer a protective environment for 'problem' behaviors. This could be that teenage childbearing in this environment is indeed normalized, hence no need for protection. However, as per research hypothesis, going back to school after giving birth does reduce the hazard of having a second birth. These results suggest that schooling tends to provide protection from subsequent births, but not first births. Although the results need further exploration, I believe these young mother begin to realize the value of furthering their education versus having subsequent births, especially those who have the opportunity of going back to school.

Models 3 to 5 aim at exploring the impact of support mechanisms to young mothers on the timing of second births. Neither living arrangements with parents nor grandparents have a

significant impact on the timing of second births for these young mothers. Parental educational attainment and working did not have a significant effect either. Interestingly, support from the father of the first child tends to significantly deter the young mothers from subsequent births. Contrary to allegations that government child grants are associated with South African women having more children, the results from this study suggests no effect.

Table 3. Cox Proportional Model Representing the Relative Risk of Second Birth Among Young Women in Cape Town, South Africa

Variables	Hazard Ratios				
Demographic	1	2	3	4	5
Age at First Birth	1.1487	1.2127	1.2202	1.1832	1.2154
Live in Coloured Neighborhood	4.4559**	2.4069	2.4091	2.2731	3.1252
Married or Cohabiting	2.7825** *	2.5629**	2.417**	2.9852**	3.1915**
Schooling					
In School at 1st Birth		3.7857** *	3.5645** *	3.4861** *	3.5916** *
Highest Grade at 1st Birth		0.9732	0.9775	0.9818	0.9545
Passed Grade at 1st Birth		0.5575	0.5691	0.5370	0.5717
Went Back to School After 1st Birth		0.2301** *	0.2604** *	0.2510** *	0.2773** *
Living Arrangements at 1st Birth					
Lived with Mother			0.7067		
Lived with Father			1.2649		
Lived with Grandparents			0.6746		
Parental SES					
Mother's Education Missing				1.2940	
Father's Education Missing				1.2899	
Mother Works				1.7385	1.1272
Father Works				0.7564	1.2543
Other Support					
Receive Support from 1st child Father					0.4149**
Receive Government Child Grant					0.9752

Significance Levels: * .10, ** .05, *** .01 Using Wald Test Statistics

This study set out to explore the impact of education on the timing of second births in South Africa. In particular, the study argued that going back to school after first birth is likely to deter young mothers from transitioning into a second birth early. Indeed the results support the government education act to keep young mothers in school. However, many young mothers do

not go back to school, hence it is important to explore the factors that inhibit young mothers from going back to school after first birth as this influences early transition to subsequent births in South Africa.

References

Bonell, C. 2004. "Why is teenage pregnancy conceptualized as a social problem? A review of quantitative research from the USA and UK**." Culture, Health and Sexuality**, 16(3): 255-272.

Boult, B.E. 1992. "Children having Children: Black Adolescent Multiparas." **Salus** 14: 16, 17, 23.

Burgard S. "Factors associated with contraceptive use in late or post-apartheid South Africa." **Studies in Family Planning**, 2004;35(2):91–104.

Chimere-Dan O. "Contraceptive prevalence in South Africa." **International Family Planning Perspectives** 1996;22(1):4–9.

De Villier, V.P. 1991. "Seksonderrig onder tieners in die paarl." **South African Medical Journal** 80: 231-2.

Department of Health. 2004. **National HIV and Syphilis Antenatal Sero-prevalence Survey, South Africa 2003**. Pretoria: Health Systems Research and Epidemiology, Department of Health.

Dickson-Tetteh K, Pettifor A, Moleko W. "Working with public-sector clinics to provide adolescent-friendly services in South Africa." **Reproductive Health Matters** 2001;9(17):160–69.

Dowsett, G. and Aggleton, P. (1999) "Young people and risk-taking in sexual relations." In P. Aggleton, G. Dowsett, K. Rivers and I. Warwick (eds) **Sex and youth. Contextual factors affecting risk for HIV/AIDS: Acomparative analysis of multi-site studies in developing countries, Part I** (Geneva: UNAIDS). Available at www.unaids.org/html/publications/irc-pub01/jc096-sex_youth_en_pdf.pdf (accessed 06/20/09).

Harrison A, Cleland J, Frohlich J. Young People's Sexual Partnerships in KwaZulu/Natal, South Africa: Patterns, Contextual Influences, and HIV Risk. **Studies in Family Planning** 2008; 39(4).

Harrison A. Hidden Love: Sexual Ideologies and Relationship Ideals among Rural South African Adolescents in the Context of HIV/AIDS. **Culture, Health and Sexuality**, 2008; 10(2): 175-89.

Hoffman, S. D. 1998."Teenage childbearing is not so bad after all … or is it? A review of the new literature." **Family Planning Perspectives**, 30, 236–239.

Hogan, D. P., Sun, R. and Cornwell, G. T. (2000) "Sexual and fertility behaviors of American females aged 15–19 years: 1985, 1990, and 1995". **American Journal of Public Health,** 90, 1421–1425.

Human Sciences Research Council 2009. **South African National HIV Prevalence, Incidence, Behaviour and Communication Survey, 2008: A Turning Tide Among Teenagers.** Cape Town: HSRC.

Hunter, Mark. 2002. "The materiality of everyday sex: Thinking beyond 'prostitution'." **African Studies** 61(1): 99–120.

Kaufman, C et al. 2001. "Adolescent Pregnancy and Parenthood in South Africa." **Studies in Family Planning**, 32(2): 147-160.

Macintyre, S. and Cunningham-Burley, S. (1993) "Teenage pregnancy as a social problem." In A. Lawson and D. L. Rhode (eds.) **The Politics of Pregnancy: Adolescent Pregnancy and Public Policy** (New Haven, CN: Yale University Press), pp. 59–73.

Macleod, C. 1999a. "Teenage Pregnancy and its "Negative" Consequences: Review of South African Research – Part 1." **South African Journal of Psychology** 29 (1): 1-7.

Macleod, C. 1999b. "The "Causes" of Teenage Pregnancy: Review of South African Research – Part 2." **South African Journal of Psychology** 29(1): 8-16.

Maharaj P (2004) Perception of risk of HIV infection in marital and cohabiting partnerships. **African Journal of AIDS Research**, 3 (2), p131-13.

Maharaj, P. (2001). "Obstacles to negotiating dual protection: perspectives of men and women." **African Journal of Reproductive Health**, 5(3), p.150-161.

Maharaj, P. 2006. "Reasons for Condom Use Among Young People in Kwazulu-Nata.: Prevention of HIV, Pregnancy or Both." **International Family Planning Perspectives**, 32(1).

Mfono Z. "Adolescent contraceptive needs in urban South Africa: a case study." **International Family Planning Perspectives** 1998;24(4):180–83.

Nash, E.S. 1990. "Teenage Pregnancy- Need a child bear a child?" **South African Medical Research Journal**, 77(3): 147-151.

National Education Policy Act. 1996. No. 27. **South African Government.** Cape Town.

Ncayiyana, D.J. and Ter Haar, G. 1989. "Pregnant Adolescents in rural Transkei." **South African Medical Journal**, 75(4): 231-232.

Pettifor, A., Rees, H., Kleinschmidt, I., Steffenson, A., MacPhail, C.,Hlongwa-Madikizela, L., et al. (2005) "Young people's sexual health in South Africa: HIV prevalence and sexual behaviours from a nationally representative household survey." **AIDS**, 19, 1525–1534.

Pettifor, A.E., Rees, H.V., Kleinschmidt, I., Steffenson, A.E., MacPhail, C., Hlongwa-Madikizela, L., Vermaak, K., and Padian, N.S. 2005. "Young People's Sexual Health in South Africa: HIV Prevalence and Sexual Behaviors from a Nationally Representative Household Survey." **AIDS** 19(14): 1525-1534.

Preston-Whyte, E., Zondi, M., Mavundla, G. and Gumede, H. 1990. "Teenage Pregnancy, Whose Problem? Realities and Prospects for Action in Kwazulu-Natal." **South African Journal of Demography**, 3: 11-20.

Richter, L. 1996. **A Survey of Reproductive Issues Among Urban Black Youth in South Africa.** Pretoria: Medical Research Council.

Rutenburg, N. 2003. "Pregnant or Positive: Adolescent Childbearing and HIV risk in Kwazulu-Natal, South Africa." **Reproductive Health Matters**, 11(22): 122-133.

Smith, G. C. S. and Pell, J. P. (2001) Teenage pregnancy and risk of adverse perinatal outcomes associated with first and second births: population based retrospective cohort study. **British Medical Journal**, 3(23): 476.

Varga, C. and Makubalo, L. 1996. "Sexual (non) Negotiation Among Black African Teenagers in Durban." **Agenda** 28: 31-38.

Vinovskis, M.A. 1988. **An "Epidemic' of Adolescent Pregnancy: Some Historical and Policy Considerations'**. New York: Oxford University Press.

Wood, K., Maepa, J., and Jewkes, R. 1997. **Adolescent Sex and Contraceptive Experiences: Perspectives of Teenagers and Clinic Nurses in the Northern Province**. Pretoria: MRC Technical Report.