

**THE DETERMINANTS OF FERTILITY FOR EACH
POPULATION GROUP IN SOUTH AFRICA**

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DECLARATION

I Bochocho Octavia Molaoa hereby declare that this dissertation, which is submitted to the North-West University (Mafikeng Campus), for the Masters Degree in Social Sciences (Population Studies) is my own work and has not been submitted for a degree at this or any other university. It is entirely my own work in both design and execution. All material used for the study have been duly acknowledged through the use of appropriate referencing.



Bochocho Octavia Molaoa

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Above all, I thank God for giving me strength to successfully undertake my studies.

ABSTRACT

The study aims at examining the relationship between fertility and socio-economic characteristics in the course of which it investigates the determinants or correlates of fertility for each population group (Africans, Coloureds, Whites and Asians) in South Africa.

The main source of data for this study was the 1998 South African Demographic and Health Survey. In terms of statistical analysis, univariate, biivariate and multiple regression analyses were used. Univariate analysis was used to present the background characteristics of the respondents. Multivariate regression analysis was employed to determine the most important determinants of fertility for each population group.

The study established that fertility is highest amongst Africans and lowest among whites. Asians and Coloureds have fertility that is between that of the Africans and Whites. The study also found that for each population group, fertility is measured by the mean number of children ever born which varies by socio-economic characteristics and status. The results of the multivariate regression indicate that proportion of “never married” is the most important determinant of fertility for all population groups. This finding suggests that the changing pattern of marriage in South Africa is the major factor influencing fertility in the country. Further studies should however describe the nature and causes of the changing patterns of marriage in South Africa.

Another finding was that residing in urban areas is associated with lower fertility. This is because urban areas are associated with better services (health, transport, education, recreation, and social services), infrastructure and better living standards. As a result, there is a need to improve services in the rural areas in order to stimulate further decline in fertility in these areas. The other finding was that for Africans, primary education is associated with lower fertility and this was not expected. This therefore calls for further studies on the relationship between fertility and education

for African population. It was also found that Coloureds, Whites and Asians desire additional children whereas the Africans desire to limit childbearing.

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ACRONYMS

AFM:	Age at First Marriage
AIDS:	Acquired Immune Deficiency Syndrome
ASFR:	Age Specific Fertility Rate
CEB:	Children Ever Born
TDT:	Theory of Demographic Transition
DoH:	Department of Health
FS:	Free State
GP:	Gauteng Province
HIV:	Human Immunodeficiency Virus
HSRC	Human Science Research Council
KZN:	Kwa-Zulu Natal
LP:	Limpopo
LSDS:	Living Standards and Development Survey
MP:	Mpumalanga
MRC:	Medical Research Council
NW:	North West
OHS:	October Household Survey
PDP:	Population and Development Programme
PRB:	Population Reference Bureau
SADHS:	South African Demographic Health Survey
SAMRC:	South African Medical Research Council
SD:	Standard Deviation
SSA:	Sub-Saharan Africa
TDT:	Theory of Demographic Transition
TFR:	Total Fertility Rate

CHAPTER 1: INTRODUCTION

1.1 Background of the Study

Fertility refers to the number of children born to women (Weeks, 1999). Fertility is inextricably linked to socio-economic development and it reflects the health and well being of a population. For example, high fertility rates among adolescents have implications, not only for population growth, but also for educational achievement and employment for young mothers (Varga et al., 2003).

A steady decline in fertility in developing nations took place in the late 1980s and 1990s, especially in the regions of Asia and Latin America. In contrast, Africa and particularly sub-Saharan Africa still lags behind in fertility terms (Swartz, 2002). Although most concerns of fertility lies primarily on the total impact of childbearing on a society, we have to recognize that the birth rate is the accumulation of millions of individual decisions to have or not to have children (Weeks, 1999).

The South African fertility rate is significantly lower than that of other countries in Southern and East Africa (Zambia, Tanzania, Malawi, Uganda, Namibia, etc.). South Africa is a country that displays demographic regimes that are typical of both developed and developing worlds due to its socio-economic divisions along racial and urban-rural lines (Swartz, 2002).

South Africa's fertility transition did not attract the attention of many researchers outside the country because of its apartheid policies and, as a result, the decline of fertility in South Africa prior to the end of apartheid is largely unknown. However, since the end of the apartheid era, South Africa's fertility transition has been of much interest to researchers in and outside South Africa. Data on fertility change was somewhat less reliable and largely unavailable. Therefore, there were speculations about what happened in South Africa. Despite the lack of credible data, there is a widespread agreement that fertility began to decline in South Africa prior to the end of apartheid among the four population groups and across all age groups since the 1980s (Sibanda and Zuberi, 1999).

During the apartheid regime, not only fertility had a clear racial difference: socio-economic development and living standards manifested clear racial differentiation. For example, while poverty affects all racial groups, it was particularly concentrated among African population (Swartz, 2003). Fertility then began to decline among all major population groups in South Africa prior to the end of apartheid. It occurred at a much faster level for Whites and Asians as compared to Africans and Coloureds (Swartz, 2003).

It is important to mention that the availability and access to resources such as welfare system, health system, high quality education, formal and informal jobs among others. were specifically designed to benefit the white population. For example, the level of poverty among Africans was about 61% as opposed to 38% for Coloureds, 5% for Asians and 1% for Whites. It is also interesting to note, however, that the very few poor Asians and Whites also seem to be at a considerable distance below the poverty line (Swartz, 2003).

The poverty differential by race also contributed to the distribution of poverty by location since the racial groups were unevenly distributed in the country. The pattern of much high poverty was high among Africans who comprised nearly all the country's poor and they were living in rural areas and in the former homelands and some of these provinces still hold this kind of poor living standards. It is interesting to mention that fertility trends among population groups in South Africa show the same patterns as that of poverty (Swartz, 2003).

Post-Apartheid South Africa has undergone a dramatic political transition in the last decade trying to adjust many of the distortions in poverty and perpetuated inequality. The South African Population policy (Department of Welfare, 1998) argues that the basic demographic factors, fertility, mortality and migration were assessed to reflect the integral part of inequality and poverty prevalence in South Africa. These demographic factors cannot be seen in isolation from social factors such as education, unemployment, place of residence, poor health and housing quality and their interrelationship with poverty (Swartz, 2003). This study therefore focuses on re-examining the determinants of fertility for each population group in South Africa.

1.2 Problem Statement

Fertility is one of the three components of population growth which also include mortality and migration. There are a number of reasons that compel one to study the determinants of fertility in any society. Firstly, in most countries, in the absence of migration, fertility usually exceeds mortality, thus making it the main determinant of population growth in many countries. Secondly, fertility can be controlled and may be influenced by many factors such as level of education, marriage, contraceptive use, employment status and type of place of residence among others. Thirdly, more importantly, unlike mortality, which may occur at any age, women give birth to children only during a comparatively short period of their lives, between the ages of 15 and 49.

Although a number of studies on fertility have been conducted in South Africa, especially after 1994 by a number of researchers (cf. Moultrie, 2004; Caldwell & Caldwell, 2002) most of these studies have examined national level fertility patterns only, but not racial differences.

Some researchers have noted that there are limited studies in South Africa on the relationship between fertility on the one hand and socio-economic development on the other hand (Swartz, 2002; Varga et al., 2003). Specifically, Varga et al., (2003) argued that “local research needs to address the relationship between fertility and social and economic development”. This dissertation, by adding a specific dimension of racial category of analysis, is a modest response to this concern and attempts to examine the relationship between fertility and socio-economic development for each population group in the country.

1.3 Rationale of the Study

There are substantial differences in the fertility rates among population groups in South Africa. These differences reflect variations in the levels of human development and population change as well as in the value attached to children. This study intends to make an investigation on the socio-economic factors that are most likely to determine the level of fertility of each population group.

One of the objectives of the Population Policy of South Africa which was adopted in 1994 focused on the integration of population issues into the development strategies, decision making, planning, allocation and equal distribution of resources with the goal of meeting the needs of individuals and improving the quality of life for all. Another objective focus was on improving the status of all women in South Africa by addressing the disparities of the past. In order to achieve the above objectives, there is a need to understand the factors affecting fertility in the country. Given that the four population groups have different characteristics, there is a need to determine the factors of fertility for each population group. Therefore, this study intends to make an investigation into the socio-economic factors that are most likely to determine fertility of each population group.

The examination of the determinants of fertility for each population group will be determined by the relationship and the correlates between fertility and the socio-economic characteristics (age, region, type of place of residence, educational level, knowledge of any method of contraception, ever use of any method of contraception, current marital status, have a regular sex partner, desire for more children, attitude towards becoming pregnant and respondent currently working or not), in order to show that there is an effect of racially skewed socio-economic factors on fertility.

1.4 Objectives of the Study

1.4.1 Main Objective

The main objective of this study is to investigate the determinants of fertility for African, White, Coloured and Asian women in South Africa.

1.4.2 Specific Objectives

1. To investigate the determinants or correlates of fertility for each population group (African, White, Coloured and Asian).
2. To examine the relationship between socio-economic characteristics and fertility for each population group (African, White, Coloured and Asian).

1.5 Hypotheses

It has been hypothesized that:

1. The higher the level of education of women the lower the total number of children ever born.
2. The higher the age of a woman the higher the total number of children ever born.
3. The higher the proportion married the higher the total number of children ever born.

1.6 Organisation of the Study

The study is organized into seven chapters. Chapter one is the introduction of the research and it covers the background, statement of the problem, rationale of the study, objectives, hypotheses and definition of concepts. Chapter two presents the literature review. Chapter three presents the methodology. Chapter four presents the background characteristics of the respondents, while chapter five presents the bivariate analysis. Chapter six presents the determinants of fertility and chapter seven presents the conclusion and recommendations.

1.7 Definition of Concepts

1. **Age Specific Fertility Rates (ASFR):** Number of births to women in a particular age group, divided by the number of women in that age group (age group is usually given in 5-year age groups: 15-19, 20-24, 25-29, 30-34, 35-39, 40-44 and 45-49).
2. **Children ever born (CEB):** refers to all children born to a woman, whether in or out of marriage, whether born in a present or previous marriage or union, and whether living or dead at the time of the census. Stillbirths are not included.
3. **Demographic Transition:** is a model that describes population change over time. It is based on an interpretation begun in 1929 by the American demographer Warren Thompson, of the changes, or transitions in birth and death rates in industrialised societies over the past two hundred years or so.
4. **Education:** refers to the highest grade completed at school or the highest post school qualification obtained.
6. **Fertility differentials:** differences in fertility between various categories of people in the population.
7. **Mean Parity:** is the number of children ever born to women.

8. **Population growth:** is the overall change in the size of the population in a geographic area, owing to fertility, mortality and migration (Population policy of South Africa, 1998).
9. **Population Policy:** refers to explicit or implicit measures undertaken by a government to (directly or indirectly) influence the process of fertility, mortality and migration as well as their outcomes such as the growth, distribution, composition, size, and structure of the population. Population policies are often adopted and implemented as integral components of the development strategies of countries (Department of Welfare, 1998).
10. **Total Fertility Rate:** A basic indicator of the level of fertility, calculated by summing age-specific birth rates over all reproductive ages. It may be interpreted as the expected number of children a woman who survives to the end of the reproductive age span will have during her lifetime if she experiences the given age-specific rates.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter presents the review of literature on fertility levels, trends and differentials in South Africa. It also presents socio-economic determinants of fertility in the country.

2.2 The Theory of Demographic Transition (TDT)

Demographic transition theory (TDT) is the principal theory which tries to explain the process of achieving low fertility in different countries. The model suggests that a population's mortality and fertility would decline as a result of social and economic development (Weeks, 1999).

According to the theory of the demographic transition, the shift towards low mortality and fertility rates occurred when there was a process of overall modernization resulting from industrialization, urbanization, education, empowerment of women, and substantial overall socio-economic development. Such a shift would lead initially to a drop in mortality through progress in hygiene and medicine and, subsequently, to a decline in fertility occasioned by economic growth (United Nations, 2001).

Mortality decline as a pre-condition for fertility decline forms the cornerstone of the theory. In this regard, the classical wisdom often describes infant mortality as a decisive factor influencing parents to reduce their fertility (United Nations, 2001).

The relationship between socio-economic development and fertility decline has also been the focus of many discussions. Although the theory has experienced a great deal of critical analysis, it has remained a useful framework for discussing the dynamics of fertility and mortality change in the world. The theory is silent on the role of migration even though the experience of Europe has demonstrated that external migration may have provided a relief for internal population pressure. Europe, which experienced remarkable population growth in the nineteenth century, had the historic

possibility of spilling over its surplus population through migration and transfer to the colonies. Currently, however, with so many restrictions on international migration, the opportunity of spilling over its surplus population to other regions through migration is not available for Africa (United Nations, 2001).

Blacker (1947), cited in United Nations (2001), defined five phases of population growth as follows:

1. A stage of high fertility and high mortality characterized by a low population growth rate;
2. A stage of high fertility and high mortality with mortality beginning to decline and thereby generating increasing population growth rates;
3. A stage of declining fertility but sustained reduction in mortality with the latter declining at a faster rate than that of fertility and causing rapid population growth;
4. A stage of demographic balance between low mortality and low fertility and, with it, a low rate of population growth; and
5. A stage of low fertility and low mortality with the latter becoming higher than the fertility rate, thereby leading to negative natural growth.

These five phases were subsequently reduced by Thompson to the following three phases:

1. A stage of balance between high and uncontrolled mortality and fertility rates characterized by a low rate of population growth;
2. A stage of low fertility and a sharper decline in the mortality rate leading to rapid population growth; and

3. A stage of balance between mortality and fertility rates maintained at low levels with almost zero population growth.

The theory was later considerably enriched by the demographic transition experiences of developing countries and some European countries during the 1980s. The subsequent stages were revisited by Zarnoun and Tabutin in 1994 and they seem to be best summarized and captured as follows:

1. Pre-transition stage with birth and death rates fluctuating slightly at levels as high as 30-40 per thousand and slight population growth;
2. Beginning of the steady decline of mortality while birth rates remain high resulting in high natural population growth;
3. Beginning of a more or less rapid reduction in the birth rate lagging behind the decline of mortality at a time when the population growth rate is beginning to slow down; and
4. Post-transitional stage where death and birth rates stabilize at levels as low as 10 per thousand with the latter remaining slightly higher than the former and leading to slow population growth.

Many writers have criticized the theory of demographic transition, particularly those aspects which explain the decline of fertility. They indicate that in developing countries reductions in the birth rate are not always predicated upon the reduction of death rates, and that urbanization is not a sufficient condition for the decline of birth rates (United Nations, 2001).

2.3 Fertility transition in Developed Countries

Total fertility rate in developed countries declined from 4.9 in the early 1950s to 2.8 in the year 2000 (United Nation, 2008). In most developed countries the beginning of potential fertility decline may well have existed before the Industrial Revolution which resulted in the rise in the standard of living. Abortion was quite probably also fairly common. Fertility limitation in these countries was widely accepted and practiced, especially through the mechanism of deliberately delayed marriage and through other more direct means as well (Weeks, 1999).

Sobotka (2008) offers three stylized facts about fertility in Europe. The first fact is that fertility rates in Europe are very low and further declining; secondly, current low fertility will necessarily lead to rapid population ageing; and lastly, it is attributable to a decline in population size. These trends constitute serious threats to the economy, labour market and the welfare system. Ideas such as these have served as the justification for many of the present concerns about the longer term consequences of low fertility such as fertility explosion, baby deficit and fears of longer term ongoing population decline.

There is substantial evidence that mortality and fertility were both low in for example, Japan, by world standards as far back as the 17th century. Fertility was apparently kept low by a combination of delayed marriage and abortion. In 1947 the Total Fertility Rate (TFR) in Japan was 4.5 children per woman and by 1957 it was down to 2.0 (Weeks, 1999). TFR was estimated to be 1.50 in the year 2000. Since 1955 the use of contraceptives has increased steadily (although not until 1997 was the pill approved for use by Japanese women) and is currently the major source of maintaining low fertility, along with voluntary sterilization (Weeks, 1999).

2.4 Fertility Transition in Sub-Saharan Countries

High levels of fertility observed in sub-Saharan Africa have more to do with the combination of cultural and socio-economic factors that determine the attitude and behaviour of people towards procreation. The high incidence of fertility usually

reflects a combination of factors such as the onset of reproduction at a young age, the young ages at first marriage and contraceptives not being used in a widespread and effective manner (United Nations, 2001). However, the belated fertility transition in sub-Saharan Africa is now definitely under way not only in Southern Africa but also more widely. By the standards of the rest of the world, fertility is still high. The current Population Reference Bureau (PRB) *Data Sheet* shows only two countries with total fertility rates (TFR) under four, South Africa and Botswana. If the ceiling is lifted to include rates under five, then we can add Ghana, Kenya, Zimbabwe, Lesotho, Cape Verde and southern Nigeria, as well as Gabon where the explanation is sterility (Caldwell and Caldwell, 2002).

In 1976, estimated TFR for Lesotho was standing at 5.5. In a period of twenty years, TFR of Lesotho dropped up to 4.1 (Mturi and Hlabana, 1999). The pace of fertility decline in Lesotho is much slower than that observed in other southern African countries such as Zimbabwe and Botswana in the 1980s (Mturi and Hlabana, 1999).

In Zimbabwe, TFR declined from 6.5 to 5.5 during the period 1984-88, a 15 per cent decline in four years. The decline in fertility in Botswana was even faster during the same period. The TFR was 6.5 in 1984 and it dropped to 5.0 in 1988, a decline of 23 per cent in 4 years. All in all, it can be stated that fertility in southern Africa is the lowest compared with other regions in sub-Saharan Africa. Of all countries in southern Africa (Botswana, Lesotho, Namibia, South Africa, Swaziland and Zimbabwe), it is only Namibia which has a TFR greater than 5 (Mturi & Hlabana, 1999).

In Asian countries, rapid fertility decline has been observed under rapid economic growth. Fertility change in these countries happened against a background of faster socio-economic improvements, higher urbanization, education and industrialization. Fertility decline among Muslim countries in Asia has been associated with a decrease in marital fertility among older women. In Latin American countries, fertility decline started furthermore during a time of economic boom when structural shifts from subsistence agriculture and non-wage labour to modern sector economy began to take place which eliminated the advantages of larger families in parts of the world. In

Egypt as well as in Mauritius, fertility levels followed a route similar to that of Latin America. Increase in the educational level of women, increase in age at marriage are among reasons often stated for fertility decline in most of the developing countries as a whole. An inverse association between parent's education and fertility, for example, is a common finding in fertility studies. The higher the educational level, the lower the fertility rate (Mpezo, 2006).

2.5 Fertility Transition in South Africa

Until 1994, very little was known outside South Africa about the demographic transition that has been underway in this country for most of this century (Oosthuizen, 1999). The first population group to embark on this transition was the Whites. Mortality and fertility among Whites started to decline as early as the first decade of the 21st century (Oosthuizen, 1999). This occurred due to inequalities, disempowerment and many of the apartheid measures including the extensive welfare system which were available to White people, the higher quality of education available to White students and the formal and informal job reservations for Whites (Swartz, 2003).

Fertility decline among the other three population groups started much later – only in the 1950s – but accelerated when the government began to provide strong support for family planning in the 1960's. This support was driven by the fear that rapid population growth would undermine prosperity and economic development. There was also a concern among White political leaders that the fast growing African population would overwhelm the much smaller number of Whites (Swartz, 2003). In 1963, the apartheid government provided substantial funding for private and public family-planning services and provided free contraceptives. In 1974, the South African government launched the well-funded National Family Planning Programme (Swartz, 2003).

Another significant decline took place in the Indian and Coloured populations and they were followed by the African population. The Indian and Coloured populations experienced mortality and fertility declines since the late fifties. The African

population followed in the late sixties – at least two decades before the other forerunners of the demographic transition in sub-Saharan Africa (Kenya, Zimbabwe and Botswana) started their transition (Oosthuizen, 1999).

According to the 1998 SADHS, adequate historical demographic statistics are not available for all sections of the population. For the White population, birth statistics are available from 1910 and for the Indian and Coloured population from about the 1940s. For the African population, incomplete birth registration statistics created a vacuum in the knowledge of demographic trends. Fertility rates for the African population were calculated with the aid of census statistics. In addition, the Human Sciences Research Council (HSRC) conducted a number of small-scale surveys from the 1960s to the 1980s, the results of which were used to estimate fertility levels. Probably the most comprehensive source of information on fertility patterns before the 1998 SADHS was a large DHS-type survey which was conducted in 1987-1989 and this collection of vital statistics, analytical work and surveys, provided reasonably accurate pointers to historical fertility trends for different population groups in South Africa.

2.6 Fertility Levels, Trends and Differentials in South Africa by Population group

The Total Fertility Rate (TFR) and Age Specific Fertility Rate (ASFR) are the common measures of recent fertility (SADHS, 1998). The TFR for the South African population is currently the lowest in sub-Saharan Africa. The level and trends of fertility and mortality in South Africa using information from the 1995 October Household Survey (OHS) were estimated by Udjo (1997) and the results indicated that fertility declined from 4.2 in 1980 to 3.5 in 1985 and 3.3 in 1990. Although the fertility transition has not yet been completed among all population groups in South Africa, the pace of decline has accelerated remarkably during the last decade.

In South Africa, the level of fertility has consistently been highest, not surprisingly, among Africans, and lowest among Whites at any given time period. Coloureds and

Asians have a level in between those of Africans and Whites, although Coloureds have a higher level than Asians (Udjo et al., (2005).

According to Oosthuizen (1999), the fertility of the African population has shown a steady declining trend during the second half of this century. This trend sharply deviates from the general trend in Sub-Saharan Africa where fertility generally remained at very high levels. The fertility decline among African population, however, was much slower than among the other three population groups. That is, Africans experienced the highest fertility levels, followed by Coloureds, and then Asians and Whites. There are several explanations for this and some explanations are mentioned below. Although South Africa was developing much faster than the other sub-Saharan Africa countries, the restrictions that were placed on immigration to the cities forced the majority of African women to live in rural areas. Thousands of African women therefore had to raise their children in a very traditional environment where women still had a very low status and high fertility norms prevailed. The rising levels of social and economic development in South Africa have led urban African women to adopt more modern attitudes towards fertility, but the proportion of women residing in the cities was still too small to cause a rapid fertility decline among the African population as a whole. Most African women lived in the homelands where contraceptives were not always readily available and fertility of Africans remained relatively high as compared to fertility of the other three population groups, that is, TFR in 1995 was 3.6 for Africans as compared to 2.5 for Coloureds, 2.1 for Asians and 1.5 for Whites (Oosthuizen, 1999).

The decline in Coloured fertility only started after 1960. The baby boom after the Second World War was much more persistent among the Coloureds than among the Asians and the Whites. Factors responsible for the rise in Coloured fertility between 1945 and 1960 from 6.2 to 6.5 were the following; rapid urbanization which led to a general improvement in the living conditions and health of Coloured people; large numbers of Coloured women entered the labour market, thus causing a shortening of breast-feeding and post partum abstinence; rapid urbanization of the Coloured population also led to an increase in premarital sex, especially among teenagers. However, psychologically, the modernizing Coloured population, which was mainly

concentrated in the Cape Peninsula, was ready to turn to modern contraceptives when they became available. This explains the very rapid decline in Coloured fertility after 1960 from 6.5 to 3.3 in the 1990s (Oosthuizen, 1999). Sibanda and Zuberi (1999) also reported that fertility of the Coloureds began to decline in the 1960s from TFR of 6.5 to TFR of 3.0 in the 1980s.

Whites have experienced a long and sustained decline in fertility prior to the beginning of the twentieth century. That is, fertility declined from a high of seven (7) births per women (married) in the late nineteenth century to about four (4) births per woman at the turn of the twentieth century. By the mid 1950s, the total fertility rate for Whites had dropped to about 3.5 and in 1989 some studies indicated that Whites in South Africa had attained below replacement fertility, with a TFR of 1.9 (Chimere – Dan 1993 cited by Sibanda et al., 1999). Since then the TFR for the White population has remained unchanged. The nature and pattern of fertility transition for the White population in South Africa resembles the European fertility transition (Oosthuizen, 1999). This is further emphasized by the 1998 SADHS which also indicated that the fertility for the White population in South Africa mirrors fertility trends in the more developed world, where the transition from high to low fertility has been completed.

The first of the three non-White population groups to experience a significant fertility decline was the Asians. Asian fertility declined rapidly during the second half of this century, as also happened in the newly industrialized countries in Asia. Initially the most important reason for this fertility decline among South African Asians was the rise in age at first marriage. This decline was amplified by the strong cultural taboo on premarital sexual intercourse among Asians. Since the early 1960s when TFR was at 4.7, the use of modern contraceptives had made the most important contribution towards the lowering of Asian fertility in South Africa. In the 1970s TFR for Asians was at 3.6, it then dropped to 2.3 in the 1990s (Oosthuizen, 1999).

Sibanda and Zuberi (1999) reported that for Asians, a steady decline in fertility began in the mid-1950s from a high of about 6.7 births per woman, reaching a low of about 2.5 in the late 1980s.

Fertility among all four population groups in South Africa continued to fall and the national level of fertility is now below three children per woman. The rate of decline indicated by the estimated levels of fertility is a continuation of the long trend of gradually declining fertility (Moultrie and Anderson, 2004).

In his doctoral thesis, Moultrie (2002) used data from 1970 and 1996 censuses and the 1998 SADHS to assess the trends in South African fertility over an extended period of time, and sought to explain the particular pattern of slow and gradual decline in fertility by reference to social, economic and institutional effects and legacies of apartheid policies.

Comparisons from the rates from 2001 with those from 1996 show a rapid decline in fertility in all population groups in the five year period between the 1996 and 2001 censuses. The level of fertility among Asians is estimated to have fallen by almost 20 per cent in this period. African fertility has fallen by 12.9 per cent, Whites fertility by 10.3 per cent, and among Coloureds by 8.6 per cent. In two of the four population groups (Whites and Asians), fertility levels are below 2.1 children per woman. The levels of Coloured fertility continue to fall and are only slightly above replacement level, while fertility among African women is close to three children per woman.

Differential fertility between women of different population groups or between women of different language groups of the same population group is accounted for largely by underlying socio-economic factors. In a study conducted by (Moultrie and Timaeus, 2001) a factor which was investigated was the impact of household structure on fertility in South Africa among African women. The study used the 1993 South Africa Living Standards and Development Study. Household structure was examined focusing on whether women lived with a husband or with relatives of their parents' generation, or with relatives of their own generation. Focus was on women over twenty years of age and who are already mothers. Findings were that living arrangements mediate between socio-economic and cultural characteristics and the number of children that they have borne. Living with relatives from the previous generation is found to have a negligible net impact on the life fertility of mothers. However, women who lived with relatives from their own generation have borne about a fifth fewer children than other women of the same age after controlling for the

impact of household income, the woman's schooling, regional differentials and urban-rural residence (Moultrie and Timaeus, 2001).

2.7 Age Specific Fertility Rates by Population Groups in South Africa

According to Sibanda and Zuberi, (1999), South Africa's age specific fertility patterns were different from those observed in most of sub-Saharan Africa. For instance, the rate at age 25-29 was consistently higher than at 20-24 and more importantly, the rate at age 30-34 was also higher than the rate at age 20-24. According to the 1998 SADHS, peak childbearing occurs between the ages of 20 and 34.

Results of a survey in some urban areas in the Pretoria-Witwatersrand-Vereeniging region showed that timing of starting and ending of childbearing and the reproductive behaviour of women who have never been married account for the major differences in fertility levels of South Africa. White women confine their childbearing career to the 20-39 age range, while African women utilize the entire 15-49 age range (Chimere-Dan, 1992).

In a pilot survey conducted among 379 Black women from Soweto and Mamelodi and 270 White women from Parktown, Westcliff and Orange Grove and racially-mixed population in the Pretoria-Witwatersrand region of South Africa, findings indicated that the peak childbearing age was 30-34 years for Whites and 25-29 years for Africans, and childbearing ceased at 40 years for Whites and continued for Blacks into the late 40s (Chimere-Dan, 1992).

Women aged 25-29 have contributed most to period total fertility among Africans. However, the gap that existed between the 25-29 and 30-34 age groups in the 1980s is now disappearing as indicated by the post-1993 convergence of fertility trends. This is probably indicative of the growing importance of late fertility among Africans. On the other hand, the fertility trends for women aged 15-19 and 20-24 have also been consistently declining over the years, probably reflecting declining rates of early marriage and early childbearing. On the whole, the overall picture among Africans is not very different from the national trends (Sibanda and Zuberi, 1999). Age-specific

fertility rates among the Coloured population declined across all age groups. Over the entire period, the percentage of decline was greatest among women in their twenties and smaller among women in their forties. The practice of birth spacing among women of prime childbearing age has been spreading remarkably, possibly as a result of more young women adopting contraceptives for spacing purposes. Among 15-19 year olds, it is evident that the practice of early childbearing has also been waning over the years (Sibanda and Zuberi, 1999).

For the Whites, a substantial decrease occurred in the fertility rates at ages 20-24 and 25-29 although the selfsame age groups are responsible for a substantial number of total births each year. It is therefore expected that in the course of a future fertility decline among Whites, the decrease in the fertility rates at these ages will account for the greatest reduction of fertility (Sibanda and Zuberi, 1999).

Between 1981 and 1996, the fertility rates for all age groups among the Asian population decreased significantly. The biggest percentage drop occurred at ages 20-24 and 25-29. On time fertility is still important among Asians and Asian women aged 30-34 show no signs of moving towards late fertility. From 1981 to 1996, the fertility rates for women aged 15-19 have declined, possibly indicating a continued rise in age at first marriage and birth. For the Asians, the least reduction in age-specific fertility occurred in the least fertile age groups, that is among 40-44 and 45-49 year old women (Sibanda and Zuberi, 1999).

According to the 1998 SADHS, most women have had at least one birth by age 35. Women in their late thirties have given birth to an average of 3.2 children. 5 percent of women in the age group 45-49 have never given birth, while a quarter of women in this age group have given birth to 6 children or more. In the age group 45-49 the mean number of children ever born is 4.0; of whom 3.6 are still living.

2.8 The Relationship between Fertility and Socio-Economic Factors

Studies on fertility differentials have been carried out since the nineteenth century and the assumption behind this is that differences in socio-economic status lead to a difference in fertility in all societies (Mpezo, 2006). There are also substantial differences in the fertility rates between the various sub-groups of the population, essentially differences in the levels of human development, as well as in the cultural values attached to children. Below is a discussion on the socio-economic factors that influence fertility. Some of the factors discussed are: marriage, contraceptive use, education, region/province of usual residence, economic status of women as well as type of place of residence.

2.8.1 Fertility and Marriage

Trends in fertility rates are also affected by marital status of mothers. While information is sparse, in most countries married women have a higher fertility rate than unmarried women. As the share of women that are unmarried has increased over time, this may be expected to have depressed total fertility rates. However childbearing patterns of non-married women have also changed significantly over time (d'Addio and d'Ercole, 2005).

The exposure to the risk of childbearing in any population is determined by marital stability and dissolution as well as the age at onset of sexual relations. According to Swartz (2003), marriage and contraceptive use are two of the most powerful determinant of fertility. In most populations, fertility is directly related to marriage as married women generally have more children than unmarried women of the same age. Traditionally, births to unmarried women were not accepted in most societies, thus women began bearing children after marriage and continued throughout their reproductive lifetime as long as they remained married. In Africa, marriage used to be almost universal and marital fertility was high, while non-marital fertility was very low. However, it appears that marriage is becoming less of a social requirement for childbearing.

In his analysis of the South African 1996 Census, Chimere-Dan (1999) discovered differences in fertility according to marital status of women. The researcher found that the average TFR for African women who were never married or who were cohabiting was low (3.9), while the average TFR of married ones was about (4.3) high.

Marriage at later ages allow women to prolong their education and delay first births, as a result, such women tend to have fewer families (Udjo,1999). In South Africa, areas with incidence of early marriage have a high fertility, and those with late marriage have just started the transition. From the socio-economic point of view, education of women, health development and urbanization explain the fertility decline and its speed. In fact, education, especially of women, delays marriage and changes reproductive behaviour by providing knowledge about contraceptive use, increasing female participation in family decision-making and improving children's health (Be-Ofuriyua, 2002).

Fertility also varies by marital status. In a study conducted in the Mmabatho area of Mafikeng, findings were that single and never married women had the fewest number of children ever born followed by those who were cohabiting. Women who were widowed had the highest mean number of children ever born (3.50), followed by women currently in their first marriages (2.83) and those who were remarried (2.75) (Amoateng, 1994).

In a survey conducted in some urban areas in the Pretoria-Witwatersrand-Vereeniging region, results have shown that fertility level is quite high among black women who have never been married in contrast to never married white women (Chimere-Dan, 1992).

In addition, a study conducted in Transkei between 1990 and 1994 shows a different pattern of fertility between married and never married women was found. According to the study, married women had a TFR of 5.8 which was greater than that of never married with a TFR of 3.3 children per woman (Mpezo, 2006).

In another study conducted by the Population division in Zambia (2000), results showed that married women had a higher fertility with TFR of 6.4, compared to 5.1 for separated, 4.9 for divorced, 4.8 for widowed, 4.7 for living together (co-habiting) and 2.3 for never married.

2.8.2 Fertility and Contraceptive Use

Contraceptive use, just like marriage, is one of the most powerful determinants of fertility (Swartz, 2002). According to Ngalinda (1998) any deliberate practice undertaken to reduce the risk of conception by sexually active women is considered as contraception. Most women in sexual unions are now regular users of contraceptives and the number of children they desire are below three. The impact of the South African family planning program (use of contraceptives) on the demographic transition in this country can hardly be underestimated (Oosthuizen, 1999).

According to Moultrie and Timaeus (2002), in their analysis of the 1996 Census and the 1998 SADHS, contraceptive availability and use were high in 1998, while contraceptives were neither readily nor cheaply available in 1970.

South Africa has a history of widely accessible family-planning services that are well established relative to the situation in the rest of sub-Saharan Africa and the low fertility rate can be explained by the high use of contraception. The research done by the SADHS Project Team 1998 found that there is a universal knowledge of at least one contraceptive method. It was also found that three-quarters of all women interviewed during that research indicated that they had used a contraceptive method at some stage during their lives, while 61.9% of sexually active women reported that they were currently using contraception (Swartz, 2003).

The comparison of contraceptive use by racial group shows that between 1990 and 1998, there was an increase in contraceptive prevalence among Asians, Coloureds and Africans except for the Whites. With regard to contraceptive preference, some women are more likely to use contraceptives than others and the type of contraceptives used also differ. Choice of contraceptive method in South Africa also

follows racial stratification. Whites, who make the least use of public family-planning services, choose from a wider range of contraceptive methods. Africans and Coloureds, who constitute the bulk of clients of organized public family-planning services, tend to use the contraceptive injection predominantly, 35 per cent and 27 per cent respectively (Swartz, 2003).

In analyzing the usage of contraception in Transkei (Mpezo, 2006) discovered that unmarried women are likely to use contraceptives than married ones. In addition, the contribution of contraception to fertility reduction was significantly higher in urban areas than in rural areas.

2.8.3 Fertility and Education

Women in many developed and developing countries are today much more educated than those in previous generations. Longer periods of education have increased the mean age of women at first childbirth and reduced the number of years in which they can have additional children. In addition, higher educational achievement has contributed to higher female labour force participation, changed their desires for children as compared to other goals, and provided them with greater autonomy in many spheres of life. Better educated women are also more aware of health problems and contraception technologies and thereby more capable of avoiding undesired pregnancies and births. Also, the delay of motherhood due to longer periods in schooling is an important concern in countries like Japan where the link between marriage and childbearing is strong as educational attainment increases. Women will enter marriage later, with a knock-on effect on the timing of childbirth (d'Addio and d'Ercole, 2005).

Attainment of high education and employment levels by women, and changes in patterns of family formation and shifting values of younger women towards a less traditional role of women within family and society have contributed to current fertility trends. Women with paid jobs, with higher education and income, and who are not married have lower births than other women.

One of the socio cultural factors impacting on fertility behaviour in some societies is that children are valued as a source of prestige to women who have children and childless women are stigmatized. The reasons for which children are valued were found to vary according to educational level. In a study conducted in Nigeria among the Yoruba, 77 per cent of women with no education compared with 41 per cent of those with high levels of education valued children as a source of caretaking in old age. In contrast, 44 per cent of highly educated women versus 11 per cent of uneducated women valued children as a source of joy (Akande, 1989).

The spread of education and literacy among women is believed to be important to changes in reproductive behaviour. Education is positively associated with improved health, lower levels of infertility, abandonment of traditional constraints upon sexual behaviour and the practice of breastfeeding which are known to raise fertility levels. Literacy can delay first sexual intercourse among women. The reason for literate women not to engage in sexual activities might be fear of becoming pregnant (Ngalinda, 1998).

As the educational level increases, marriage tends to be postponed which causes a negative effect on fertility and counteracts the initial effects of fertility increase. Moreover, educated women desire relatively fewer children. They have high contraceptive prevalence and a high chance of working outside their homes. All of these factors are known to lower the fertility levels.

According to the 1998 SADHS, fertility is higher among those with no education, followed by those with primary education, then those with secondary education and lowest among those with tertiary education. The 1998 SADHS data indicated a strong negative linear association between fertility and education. Women with no education had a TFR of 4.5 and those who have completed Standard 10 have 2.2 children on average.

In a study conducted in Zambia by the Population division (2000), it was found that women with tertiary education have lower fertility than women in other categories of

education. For instance, women with tertiary education have a TFR of 3.9 compared with a TFR of 6.1 for women without schooling.

2.8.4 Fertility by Province/Region of Usual Residence

Fertility also varies by region or province of residence. Variations in fertility have been observed in different regions or provinces of same countries. For South Africa, fertility is high in less developed provinces (especially those that contain the former homelands). Such variations are, however, reflections of differences, or imbalances in social, economic and cultural development, which express themselves in the different levels (and quality) of education, urbanization, industrialization, employment, and access to health facilities and family planning services including abortion services among others (Palamuleni et al., 2007).

The Limpopo Province has the highest TFR (3.9), while the Free State has the lowest (2.2). The TFR for African women is 3.1, for Coloured women 2.5 and 1.9 for White women (SADHS, 1998).

2.8.5 Fertility and Economic Status of Women

Many studies have found working women to experience lower fertility than their counterparts who are not working. For instance, the 1998 SADHS indicated that TFR for women who are working is 2.2 children per woman whereas TFR for women who are not working is 3.3 children per woman. 'Role Conflict' theory is often advanced as the basis for differences in fertility of women who are in the workforce and those who are not. Working women, especially those engaged in non-domestic enterprises, have a conflict between work and reproduction. They find the care of children more difficult than those women who are not working and hence tend to have fewer children than the latter group. Even among the employed group there are substantial differentials by occupational groups. From the experience of contemporary rich nations, women engaged in agricultural pursuits tend to have higher fertility than those engaged in non-farm enterprise (Palamuleni et al., 2007).

In addition to that, a study conducted in Zambia by Population division found that women who were classified as working had a lower TFR of 5.8 compared to 6.2 of those classified as not working (Population division of Zambia, 2000).

The other two important factors that relate to structural changes in the economy are the decline in agricultural employment and the maturing of pensions systems. The two factors have reduced the need by parents for offspring and have weakened the economic benefits provided by larger families that characterize more traditional societies and increased the importance of cultural values and costs considerations for decisions to have children (d'Addio and d'Ercole, 2005).

2.8.6 Fertility and Type of Place of Residence

Studies have shown that rural fertility is substantially higher than urban fertility in all African Countries. The 1998 SADHS indicated that TFR in urban areas was 2.3 compared to 3.9 in rural areas (Department of Health, 2000). The South African population was more urbanized in 1998 than it was before (Moultrie and Timaeus, 2002).

In a study conducted in Zambia it was found that the decline in fertility seems to be concentrated in urban areas, while fertility in rural areas has remained almost constant. It was further mentioned that this could point to the fact that urban areas have the socio-economic conditions necessary for fertility decline such as access to reproductive health services, better and enhanced access to education by both girls and boys as opposed to the conditions prevailing in rural areas. Furthermore, the reduction in rural to urban migration between 1980 and 2000 could indirectly have an effect on lower fertility levels in urban areas as most migrants tend to be people in the prime of their productive and reproductive years (Population Division of Zambia, 2000).

According to Palamuleni et al., (2007), higher levels of education, occupation, a more modern environment and aspirations for higher levels of living are among the factors that can cause fertility among urban women to be lower than among rural women.

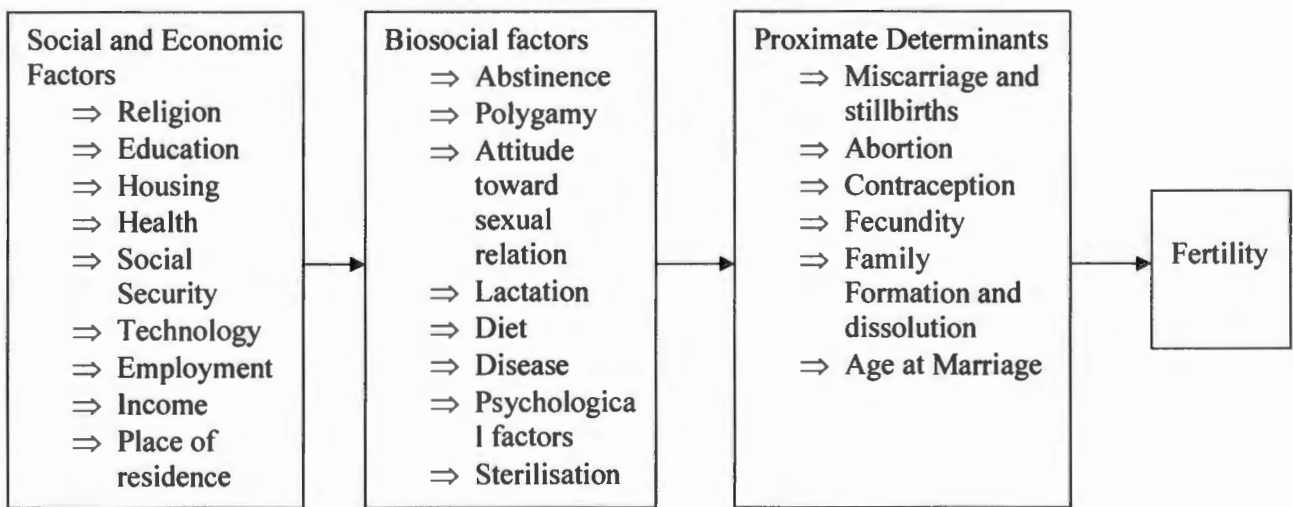
Also, it is assumed that urban women have a better knowledge of and access to modern contraception than women in rural areas.

According to Swartz (2003), the South African national average level of contraceptive use was higher in urban areas (66%) than in rural areas (52.7%) which also influences fertility levels. According to the SADHS (1998), rural women continue to bear children at later ages than urban women.

2.9 Conceptual Framework

The following conceptual framework was used.

Figure 1: Linkages between Fertility and the socio-economic and cultural system through bio-social and proximate determinates



Factors influencing fertility can be classified into three groups as indicated on the conceptual framework above. These classifications are the social and economic factors, the biosocial factors and the proximate determinants. Davis and Blake (1956) developed a set of indirect determinants of fertility that are socio-economic in nature. These indirect determinants of fertility include factors such as employment, education, income, place of residence and social security among others. The indirect determinants influence the biosocial factors such as abstinence, attitude towards sexual relations and sterilisation. The biosocial factors also influences the proximate

determinants of fertility. The proximate determinants of fertility include factors such as contraceptive use, marital status, age at marriage and abortion among others. Later, the analytical framework of the proximate determinants developed by Bongaarts (1978, 1985) provided us with a much deeper understanding of how socio-economic, biosocial and cultural factors affect fertility. This study shows that social and economic factors have an impact on the biosocial factors which also have an impact on the proximate determinants which affect fertility directly.

2.10 Summary

Fertility levels and patterns mirror the socio-economic development in societies. Slow fertility decline in Africa in general and South Africa in particular is indicative of the general slow socio-economic development.

CHAPTER 3: METHODOLOGY

3.1 Introduction

The aim of this chapter is to describe the sources of data used in this study and the methods of analysis applied to the data. The following statistical methods were applied: univariate, bivariate and the multivariate analyses. These methods were used to examine the relationship between socio-economic characteristics and fertility and to investigate the most important determinants of fertility for each population group.

3.2 Data source

The major data source used in this study is the South African Demographic and Health Survey (SADHS) which was conducted in 1998 on behalf of the government of South Africa by the Medical Research Council (MRC) of South Africa in collaboration with Macro International (DoH, 1998). The 1998 SADHS involved the use of three basic questionnaires. The first questionnaire on households recorded information on all household members. The second questionnaire recorded detailed information on eligible women who were identified from the household questionnaire. A total of 11 735 women were interviewed using individual questionnaire. The questionnaire collected information on the respondent's background characteristics, reproductive history, knowledge and practice of family planning, breastfeeding practices, marriage, fertility preference and so on, as well as information about women's husbands background characteristics. The third questionnaire was administered to adults in every second household and a total of 8 156 women and 5 735 men were interviewed using this questionnaire. The analysis in this study will use data from the individual questionnaire where women between age 15-49 were interviewed on fertility issues, health issues and other issues such as women's background characteristics.

The objective of 1998 SADHS was to collect information on a variety of demographic and health indicators to improve health information for planning of services and monitoring of programmes.

3.3 Methods of Analysis

Univariate analysis was used to present the background characteristics of respondents for each population group. The bivariate analysis was used to examine the relationship between socio-economic characteristics and fertility for each population group whereas the multivariate analysis together with stepwise regression were also employed to determine the most important determinants of fertility for each population group. Multiple regression of the following form was used:

$$CEB = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7$$

where CEB is total number of children ever born for each population group, α is the constant, β_1, β_2 etc, are the regression coefficients and X_1, X_2 etc are the independent variables.

Most of the variables considered in the multiple regression analysis are categorical. As a consequence of this, it was not easy to interpret the meaning of the regression coefficients. Since one of the objectives of this study is to examine the relationship between woman's socio-economic background and fertility, the independent variables may be conceptualised as single nominal variables with numerous categories that are mutually exclusive and exhaustive. As such a two step regression analyses was performed.

As a first step, a 0-1 dummy variable for each of the categories was constructed in which a 1 indicated, for example, one sub category and a 0 indicated the remaining other categories. For instance, the variable "type of place of residence" was divided into two variables urban and rural. For the variable urban 0 indicated residing in the urban area and a 1 indicated residing in the rural area. This was done for all categorical variables.

The regression coefficients for each single variable, therefore, take on meaning relative to the missing dummy category. Positive b coefficients indicate higher fertility while negative b coefficients indicate lower fertility relative to the reference category. In other words, the b coefficients show the differences in children ever born of women in the reference category and those in other categories.

3.4 Definition of Variables used in this study

The dependent variable used in this study is the cumulative fertility of respondents measured by the Total Number of Children Ever Born (CEB). This is the most frequently used dependent variable in fertility analyses. The independent variables used are Age of the respondent, Region or Province, Type of Place of Residence, Educational Level, Knowledge of Any Contraceptive Method, Ever Use of Any Method, Current Marital Status, Have a Regular Sex Partner, Desire for More Children, Attitude Towards Becoming Pregnant and Respondent Currently Working or not. These variables were selected because of the important role that they play on fertility.

Age of the respondent. Age of the respondent is measured as at the last birthday of the respondent at the time of the interview. Age was categorised into 5-year age groups (15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49)

Province. The nine categories are Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu Natal, North West, Gauteng, Mpumalanga and Limpopo respectively.

Type of place of residence. The two categories of place of residence are urban and rural areas. These are coded as “1” for urban areas and “2” for rural areas.

Educational level. For respondents’ education, we have four categories as follows: 1 for no education, 2 for primary education and 3 for secondary education.

Knowledge of any method. This variable is defined as whether or not a woman knows any method of preventing pregnancy and is coded as “0” for women who do not know a method and “1” for women who know a method.

Ever use of any method. We have used “ever use” of contraceptives as a measure of fertility limitation. This is simply the percent of women who said they used a modern method of contraception. This variable is classified as whether or not a woman has ever used any contraceptive method and is coded as “0” for never used and “1” for ever used.

Current marital status. Never married, married, living together, widowed, divorced, not living together.

Have a regular sex partner. Is about whether the respondent, who is not currently married or living with a man, has a regular sex partner, an occasional sex partner, or no sexual partner.

Desire for more children. The three categories of desire for children are “wants”, “wants no more” and “sterilized”. These categories are coded as “1” for wants, “2” for wants no more and “3” for sterilized.

Attitude towards becoming pregnant. Respondents should not be pregnant or sterilized and they should respond by happy, unhappy or would not matter. These categories are coded as “1” for happy, “2” for unhappy and “3” would not matter.

Respondent currently working or not. This variable is about whether the respondent is currently working or not. The respondent will respond by no or yes. These are coded as “0” for no and “1” for yes.

Table 3.1: Description of variables used in the Regression analysis in a form of a Model

Characteristics	Coding Scheme	Variable	Description of variables
Age	15-19	X ₁	1 = age group 15-19, 0 = other
	20-24	X ₂	1 = age group 20-24, 0 = other
	25-29	X ₃	1 = age group 25-29, 0 = other
	30-34	X ₄	1 = age group 30-34, 0 = other
	35-39	X ₅	1 = age group 35-39, 0 = other
	40-44	X ₆	1 = age group 40-44, 0 = other
	45-49	X ₇	1 = age group 45-49, 0 = other
Region/Province	Western Cape	X ₈	1 = living in Western Cape, 0 = living in another province
	Eastern Cape	X ₉	1 = living in Eastern Cape, 0 = living in another province
	Northern Cape	X ₁₀	1 = living in Northern Cape, 0 = living in another province
	Free State	X ₁₁	1 = living in the Free State, 0 = living in another
	KwaZulu Natal	X ₁₂	1 = living in Kwazulu Natal, 0 = living in another province
	North West	X ₁₃	1 = living in North West, 0 = living in another province
	Gauteng	X ₁₄	1 = living in Gauteng, 0 = living in another province
	Mpumalanga	X ₁₅	1 = living in Mpumalanga, 0 = living in another province
Limpopo	X ₁₆	1 = living in Limpopo, 0 = living in another province	
Type of place of residence	Urban	X ₁₇	1 = urban, 0 = rural
	Rural	X ₁₈	1 = rural, 0 = urban
Educational Level	No education	X ₁₉	1 = those with no education, 0 = those with other educational level
	Primary education	X ₂₀	1 = those with primary education, 0 = those with other educational level
	Secondary education	X ₂₁	1 = those with secondary education, 0 = those with other educational level
	Higher education	X ₂₂	1 = those with higher education, 0 = those with other educational level
Knowledge of any method	Knows no method	X ₂₃	1 = knows no method, 0 = knows any method
	Knows any method	X ₂₄	1 = knows any method, 0 = knows other
Ever use of any method	Never used	X ₂₅	1 = never used, 0 = used other
	Used modern method	X ₂₆	1 = used modern method, 0 = used other
Current marital status	Never married	X ₂₇	1 = never married, 0 = other type of marital status
	Married	X ₂₈	1 = married, 0 = other type of marital status
	Living together	X ₂₉	1 = living together, 0 = other type of marital status
	Widowed	X ₃₀	1 = widowed, 0 = other type of marital status

	Divorced	X ₃₁	1= divorced, 0 = other type of marital status
	Not living together	X ₃₂	1= not living together, 0 = other type of marital status
Have a regular sex partner	No sexual partner	X ₃₃	1= have no sexual partner, 0 = other
	Regular sex partner	X ₃₄	1= have a regular sex partner, 0 = other
	Occasional sex partner	X ₃₅	1= have an occasional sex partner, 0 = other
Desire for more children	Wants	X ₃₆	1= wants, 0 = other
	Wants no more	X ₃₇	1= wants no more, 0 = other
	Sterilised	X ₃₈	1= sterilised / declared in fecund, 0 = other
Attitude towards becoming pregnant	Happy	X ₃₉	1= happy, 0 = other
	Unhappy	X ₄₀	1= unhappy, 0 = other
	Would not matter	X ₄₁	1= would not matter, 0 = other
Respondent currently working	Working	X ₄₂	1 = working, 0 = not working
	Not working	X ₄₃	1 = not working, 0 = working

3.5 Limitations of the Study

The study was limited by the inaccuracy of data due to under-reporting of births for the children who died in the early infancy. Again, the 1998 SADHS was conducted 12 years ago and as a result, findings may not be relevant enough. There was no variable on cultural events like attending initiation school as it prepares women for marriage.

CHAPTER 4 BACKGROUND CHARACTERISTICS OF RESPONDENTS

4.1 Introduction

This chapter presents the background characteristics of each population group in South Africa based on the 1998 SADHS.

4.2 Characteristics of the Respondents

Table 4.1 presents the background characteristics for each population group. A good grasp of these characteristics helps in understanding and appreciating the results in the next chapters.

4.2.1 Background characteristics for Africans

Age

The largest proportion (19.7%) of the respondents is in the age group 15-19 years. The proportion of respondents declines from the youngest group to the oldest, with age groups 30-34 years and 35-39 years having an almost equal percentage (13.8% & 13.5%) of respondents. The lowest proportion is reached in the age group 45-49 (7.5%). The mean age of African respondents was 29.7.

Region

Most of the African respondents interviewed were from Gauteng (21.4%) and Kwazulu-Natal (21.0%). Followed by respondents in the Eastern Cape and Limpopo (14.6%) and (14.1%). The least number of African respondents were in the Northern Cape (0.8%). The distribution of African women interviewed closely follows the distribution of women enumerated in 1996 and 2001 population censuses with the exception that Gauteng and Kwazulu-Natal have swapped their positions.

Type of place of residence

The majority of the African respondents interviewed were from urban areas (53.3%) as opposed to those residing in rural areas (46.7%).

Table 4.1: Background characteristics for each population group in South Africa, SADHS, 1998

Variable name	Variables	Total		Africans		Coloureds		Whites		Asians	
		Number	%	Number	%	Number	%	Number	%	Number	%
Age	15-19	2249	19.2	1802	19.7	208	17.3	162	17.7	66	16.3
	20-24	2075	17.7	1746	19.1	181	15.1	77	8.4	60	14.8
	25-29	1857	15.8	1460	15.9	211	17.6	124	13.6	52	12.8
	30-34	1654	14.1	1257	13.8	176	14.7	144	15.7	66	16.3
	35-39	1636	13.9	1236	13.5	189	15.7	142	15.5	60	14.8
	40-44	1294	11.0	958	10.5	134	11.2	140	15.3	55	13.5
	45-49	970	8.3	688	7.5	102	8.5	126	13.8	47	11.6
Region	Western Cape	1193	10.2	294	3.2	752	62.6	129	14.1	7	1.7
	Eastern Cape	1566	13.3	1338	14.6	138	11.5	74	8.1	8	1.9
	Northern Cape	253	2.2	73	0.8	150	12.5	29	3.2	2	0.5
	Free State	763	6.5	659	7.2	22	1.8	80	8.7	308	75.5
	Kwazulu-Natal	2364	20.1	1922	21.0	28	2.3	89	9.7	8	1.9
	North West	909	7.7	828	9.1	30	2.5	38	4.2	50	12.3
	Gauteng	2552	21.7	1957	21.4	78	6.5	458	50.1	6	1.5
	Mpumalanga	819	6.9	788	8.6	3	0.2	18	1.9	19	4.7
	Limpopo	1316	11.2	1288	14.1						
Type of place of residence	Urban	7095	60.5	4873	53.3	989	82.3	794	86.7	398	98.0
	Rural	4640	39.5	4274	46.7	212	17.7	122	13.3	8	2.0
Educational level	None	804	6.9	747	8.2	44	3.7	1	0.1	5	1.2
	Primary	2916	24.8	2537	27.7	324	26.9	5	0.5	37	9.1
	Secondary	7103	60.5	5353	58.5	765	63.7	629	68.7	319	78.6
	Higher	912	7.8	511	5.6	68	5.7	280	30.6	45	11.1
Knowledge of any	Knows no method	393	3.3	374	4.9	10	0.8	0.0	0.0	2.39	0.5

Variable name	Variables	Total		Africans		Coloureds		Whites		Asians	
		Number	%	Number	%	Number	%	Number	%	Number	%
method	Knows modern method	11329	96.5	8760	95.8	1191	99.2	915	100	403	99.5
Ever use of any method	Never used	393	3.3	2324	26.9	296	24.6	181	19.8	122	30.0
	Used modern method	11329	96.5	6698	73.2	901	75.1	735	80.2	284	70.0
Current marital status	Never Married	5665	48.3	4720	51.6	553	46.1	237	25.9	122	29.9
	Married	3957	33.7	2671	29.2	450	37.5	569	62.1	242	59.5
	Living together	1119	9.5	958	10.5	103	8.6	46	5.0	8	1.9
	Widowed	285	2.4	232	2.5	21	1.8	21	2.3	10	2.6
	Divorced	256	2.2	160	1.7	42	3.5	36	3.9	17	4.2
	Not LT	452	3.9	406	4.4	31	2.6	7	0.8	8	1.9
Have a regular sex partner	No sexual partner	2835	46.7	2025	36.7	432	66.7	236	78.4	127	81.4
	Regular sex partner	3168	52.2	2882	52.2	187	28.9	55	18.3	26	16.7
	Occasional sex partner	655	10.8	612	11.1	29	4.5	10	3.3	3	1.9
Desire for more children	Wants	4184	45.7	3525	38.5	363	3.9	201	31.5	74	1.7
	Wants no more	4548	49.7	3825	41.8	377	75.2	198	27.5	123	56.9
	Sterilized	1129	11.2	1719		455	20.9	123	41.0	201	41.4
Attitude towards becoming pregnant	Happy	1819	21.9	1441	20.7	179	25.6	125	33.6	61	32.3
	Unhappy	5443	65.8	4806	68.9	388	55.8	134	36.0	90	47.6
	would not matter	1012	12.2	727	10.4	128	18.4	113	30.4	38	20.1
Respondent currently working	No	7889	67.5	6597	72.5	635	52.9	375	40.9	242	59.8
	Yes	3795	32.5	2505	27.5	565	47.1	541	59.1	163	40.2

Source: SADHS, 1998

Educational level

Almost 59% of the respondents have a secondary education, while 28% have primary education. Respondents with higher education represent 5.6% and those with no education represents 8.2%.

Knowledge of any method

Most respondents (slightly over 95%) know modern method of contraception. Only (4.9%) of the responded indicated that they do not know any method of contraception. The majority of those who know any method reported that they know modern methods.

Ever use of any method

Most respondents (slightly over 73.2%) reported that they have ever used any method of contraception. Only 26.9% of the respondents reported that they have never used any method of contraception. The majority of those who ever used any method have used modern methods.

Current marital status

Almost 51.6% of the respondents are never married, while 29.2% are married. 10.5% of the respondents reported that they are cohabiting. 2.5% represents the widowed. 1.7% respondents represent the divorced and 4.4% represents the not living together.

Have a regular sex partner

Most respondents (52.2%) have a regular sexual partner. Only (36.7%) of the respondents reported that they have no regular sexual partner whereas (11.1%) reported that they have an occasional sex partner.

Desire for more children

Most of the respondents (49.7%) reported that they want no more children. They were followed by those who wants but unsure of timing then followed by those who have sterilized.

Attitude towards becoming pregnant

Most respondents (68.9%) reported that they are unhappy about becoming pregnant. Only 10.4% of the respondents reported that they would not mind becoming pregnant whereas 20.7% reported that they would be happy about becoming pregnant.

Respondent currently working

The majority of the African respondents (72.5%) are not working. Only 27.5% of the respondents indicated that they are working.

4.2.2 Background characteristics for Coloureds

Age

The 15-19 and 25-29 age groups have almost the same percentage (17.3%) and (17.6%) respectively, which constitutes the largest proportion. The second largest percentage is found in age groups 20-24 and 35-39 with (15.1%) and (15.7%) followed by age group 30-34 with (14.7%). The lowest proportion is then reached in the last two age groups 40-44 and 45-49 with (11.2%) and (8.5%) respectively. The mean age of Coloured respondents was 30.7.

Region

Most Coloured respondents were from Cape provinces. The Western Cape (62.6%) which was the largest proportion, the Northern Cape (12.5%) and the Eastern Cape (11.5%) then followed by Gauteng with (6.5%). The North West and Kwazulu-Natal have almost the same proportion of Coloured women (2.5%) and (2.3%) respectively. Free State, Mpumalanga and Limpopo have the lowest Coloured respondents.

Type of place of residence

The majority of the Coloured respondents interviewed were from urban areas (82.3%) as opposed to those living in rural areas (17.7%).

Educational level

63.7% of the respondents have a secondary education, while 26.9% have primary education. 5.7% respondents have higher education and 3.7% of the respondents have no education.

Knowledge of any method

99.2% of Coloured respondents reported that they know modern methods of contraception and 0.8% of the respondents indicated that they do not know any method of contraception.

Ever use of any method

Most respondents (slightly over 75%) reported that they have ever used any method of contraception and the majority of those who ever used any method have used modern methods. Only (24.6%) of the respondents reported that they have never used any method of contraception.

Current marital status

46.1% of the respondents are never married while 37.5% are married. Respondents who are divorced and widowed are 3.5% and 1.8% respectively. 8.6% of the respondents reported that they are cohabiting and 2.6% are not living together.

Have a regular sex partner

Most respondents (66.7%) reported that they have no regular sexual partner. Only 28.9% of the respondents reported that they have a regular sexual partner whereas 4.5% reported that they have an occasional sex partner.

Desire for more children

Most of the respondents (75.2%) reported that they want no more children. They are followed by those who want a child (3.9%), and then followed by those who have sterilized (20.9%).

Attitude towards becoming pregnant

Most respondents (55.8%) reported that they are unhappy about becoming pregnant. Only (18.4%) of the respondents reported that they would not mind becoming pregnant whereas (25.6%) reported that they would be happy about becoming pregnant.

Respondent currently working

Most Coloured respondents (52.9%) reported that they are not working. 47.1% of the respondents indicated that they are working.

4.2.3 Background characteristics for Whites

Age

The largest proportion (17.7%) of the respondents are in the age group 15-19 years. The second largest proportion of respondents is found in age groups 30-34, 35-39 and 40-44 having an almost equal percentage (15.7%, 15.5% and 15.3%) of respondents. These are then followed by age groups 25-29 and 45-49 also having an almost equal percentage (13.6% and 13.8%) respectively. The 20-24 age group has the lowest proportion of respondents (8.4%). The mean age of White respondents was 32.7.

Region

Most of the White respondents interviewed were found in Gauteng (50.1%). The Western Cape was the second province with White respondents (14.1%), followed by Kwazulu-Natal (9.7%), and the Eastern Cape and Free State having almost the same percentage (8.1% and 8.7%) then followed by the North West (4.2%) and the Northern Cape (3.2%). The least number of White respondents were reported in Mpumalanga and Limpopo.

Type of place of residence

The majority of the White respondents interviewed were from urban areas (86.7%) as opposed to (13.3%) who were residing in rural areas.

Educational level

68.7% of the respondents have a secondary education and (30.6%) have a higher education. Respondents of both primary education and no education represent about (0.5%) and (0.1%) respectively.

Knowledge of any method

100% of Whites responded that they know at least a method of contraception and (0.0%) indicated that they do not know any method of contraception. Those who know any method reported that they know modern methods.

Ever use of any method

Most respondents (over 80%) reported that they have ever used any method of contraception. Only (19.8%) of the respondents reported that they have never used any method of contraception. The majority of those who ever used any method have used modern methods.

Current marital status

25.9% of the respondents are never married, while (62.1%) are married. Respondents who are divorced and widowed are (3.9%) and (2.3%) respectively. (5.0%) of the respondents reported that they are cohabiting.

Have a regular sex partner

Most respondents (78.4%) reported that they have no regular sexual partner. Only 18.3% of the respondents reported that they have a regular sexual partner whereas 3.3% reported that they have an occasional sex partner.

Desire for more children

Most of the respondents (41.0%) reported that they have sterilized. 27.5% reported that they want no more children. 31.5% reported that they want a child but unsure of timing.

Attitude towards becoming pregnant

The majority of the respondents (36.0%) reported that they are unhappy about becoming pregnant. 30.4% of the respondents reported that they would not mind becoming pregnant whereas 33.6% reported that they would be happy about becoming pregnant.

Respondents currently working

40.9% of respondents reported that they are not working and 59.1% of the respondents indicated that they are working.

4.2.4 Background characteristics for Asians

Age

The largest proportion (16.3%) of the respondents is in the age groups 15-19 and 30-34 years. The second largest proportion of respondents is in age groups 20-24 and 35-39 having equal percentage of 14.8% each. They are then followed by age group 40-44 with 13.5% and then followed by age group 25-29 with 12.8%. The lowest proportion is reached in the age group 45-49 with (11.6%). The mean age of Asian respondents was 31.8.

Region

Most of the Asian respondents were living in the Free State (75.5%) followed by North West (12.3%) and Mpumalanga (4.7%). Eastern Cape, Kwazulu-Natal, Western Cape and Gauteng reported almost the same percentage, (1.9%) for both Eastern Cape and Kwazulu-Natal, (1.7%) and (1.5%) for Western Cape and Gauteng respectively. The least number of Asian respondents were reported in Northern Cape and Limpopo.

Type of place of residence

The majority of the Asian respondents interviewed were from urban areas (98.0%) as opposed to (2.0%) who were residing in rural areas.

Educational level

78.6% of the respondents have a secondary education and 11.1% have a higher education. (9.1%) of respondents have primary education and 1.2% have no education.

Knowledge of any method

Most respondents (over 99%) know at least a method of contraception and they reported that they know modern method. Only 0.5% of the responded do not know any method of contraception.

Ever use of any method

Over 70% of the respondents reported that they have ever used any method of contraception. 30% of the respondents reported that they have never used any method of contraception. Those who ever used any method have used modern methods.

Current marital status

29.9% of the respondents are never married, while 59.5% which represents the majority are married. Respondents who are divorced and widowed are 4.2% and 2.6% respectively. Those who are cohabiting and those who are not cohabiting both represents 1.9%.

Have a regular sex partner

Most respondents (81.4%) have no regular sexual partner. Only 16.7% of the respondents reported that they have a regular sexual partner whereas 1.9% reported that they have an occasional sex partner.

Desire for more children

Most of the respondents (56.9%) reported that they want no more children. 41.4% reported that they have sterilised. 1.7% reported that they want a child but unsure of timing.

Attitude towards becoming pregnant

Most respondents (47.6%) reported that they are unhappy about becoming pregnant. Only 20.1% of the respondents reported that they would not mind becoming pregnant whereas 32.3% reported that they would be happy about becoming pregnant.

Respondent currently working

59.8% of respondents reported that they are not working whereas 40.2% of the respondents indicated that they are working.

4.3 Summary

This chapter indicates that there are differences in social and economic characteristics by population group. For instance, the mean age of the Africans was 29.7 years whereas the mean age for the Whites was 32.7 years. Mean ages of the Coloureds and Asians was between that of Africans and Whites. Most women of the women interviewed for each population group were living in urban areas. The majority of women of all population groups had secondary education although more Whites than Africans could be said to be educated. Most African, Coloured and Asian women were not working and, in stark contrast, more White women were working. Most women in all population groups reported that they know and at the same time have used modern method of contraceptives. The majority of African and Coloured women were never married whereas most White and Asian women were married. Lastly, with regard to the attitude towards becoming pregnant, the majority of women of all population groups were unhappy about becoming pregnant.

CHAPTER 5: BIVARIATE ANALYSIS

5.1 Introduction

One of the objectives of this study is to examine the relationship between the background characteristics and fertility for each population group in South Africa. This was done by cross tabulating selected demographic and socio-economic variables with children ever born for each population group. The table below shows the bivariate analysis or mean parities by population groups (Africans, Coloureds, Whites and Asians).

5.2 Mean Parities for Population Groups

The reported number of children ever born shows the cumulated fertility for women up to their age at the time of the enumeration. Therefore, the number of children ever born to women at the end of the reproductive period, that is age group 45-49 or 50 years and over, can be taken as a measure of completed fertility (the average size of the completed family) particularly if the sources of biases in the data (discussed above) are deemed to be minimal (in the strict sense non-existent) and fertility is believed to have remained constant in the past since the "measure" refers to "past fertility". This section of the study uses mean parity for women aged 45-49 to study the relation between background characteristics and fertility of each population group.

5.2.1 Mean Parities for Africans

Mean number of children ever born varies by age group. It increases from low values in age group 15-19 to maximum values in age group 45-49.

Mean number of children ever born also varies by region. It is low in Limpopo with 3.55, followed by Eastern Cape, Kwazulu-Natal, Gauteng, Northern Cape, Mpumalanga and Free State with the following values: 4.00, 4.13, 4.33, 4.41, 4.57 and 4.69 respectively. Mean number

of children ever born is high in the following provinces, North West (5.18) and Western Cape (5.35).

Mean number of children ever born varies by type of place of residence (rural-urban). It is highest among rural dwellers than urban inhabitants. This is expected given that most studies indicate that fertility is higher in rural than urban areas (DoH, 2000). One possible explanation for this is that people in urban areas have access to modern contraception and better health facilities. They are also better educated or are working away from their homes.

Table 5.1: Mean parities of women aged 45-49 years for each population group by selected background characteristics for South Africa, 1998

Variable name	Variables	Total	African	Coloured	White	Asian
Country	South Africa	4.03	4.46	3.42	2.59	2.84
Region	Eastern Cape	3.07	4.00	3.03	2.85	.50
	Free State	4.34	4.69	3.70	1.69	2.00
	Gauteng	4.31	4.33	4.62	2.99	-
	Kwazulu-Natal	3.38	4.13	2.50	2.78	-
	Mpumalanga	4.17	4.57	3.00	2.57	2.59
	Northern Cape	4.15	4.41	2.00	2.99	3.00
	Limpopo	3.29	3.55	4.33	2.51	4.00
	North West	5.09	5.18	3.00	3.33	3.00
	Western Cape	5.26	5.35	-		3.00
Type of place of residence	Urban	3.42	3.80	3.31	2.52	2.84
	Rural	5.08	5.21	3.97	3.39	3.00
Educational level	None	5.38	5.47	4.80	-	2.00
	Primary	4.52	4.74	3.49	.00	3.05
	Secondary	3.14	3.36	3.47	2.54	2.91
	Higher	2.62	2.84	1.69	2.74	1.00
Knowledge of any method	Knows no method	3.54	3.51	-	3.00	-
	Knows modern method	4.04	4.50	3.42	2.59	2.84
Ever use of any method	Never used	3.68	4.05	1.32	1.13	.31
	Used modern method	4.15	4.65	3.83	2.70	3.22
Current marital status	Never Married	2.62	2.88	1.49	.00	.58
	Married	4.35	5.08	3.75	2.70	2.99
	Living together	4.21	4.35	2.33	1.25	4.00
	Widowed	4.22	4.44	3.90	2.96	4.50
	Divorced	3.00	3.27	3.07	1.88	3.00
	Not LT	3.95	4.01	3.47	-	-

Variable name	Variables	Total	African	Coloured	White	Asian
Have a regular sex partner	No sexual partner	3.21	3.54	3.52	2.13	2.03
	Regular sex partner	3.82	3.83	3.92	3.00	3.00
	Occasional sex partner	3.07	3.04	4.52	3.00	-
Desire for more children	Wants but unsure of timing	2.33	2.44	.54	2.27	.42
	Wants no more	4.29	4.66	3.24	2.41	2.48
	Sterilized	3.99	4.73	3.69	2.62	3.30
Attitude towards becoming pregnant	Happy	2.48	2.69	.98	2.57	.30
	Unhappy	4.50	4.79	3.72	2.61	2.61
	would not matter	3.29	3.85	2.05	1.82	2.75
Respondent currently working	No	4.38	4.84	3.95	2.51	3.10
	Yes	3.63	4.02	2.93	2.65	2.30

Mean number of children ever born is highest among women with no education (5.47), followed by those with primary (4.74), then followed by those with secondary education (3.36). It is lowest among women with higher education (2.84). Studies have shown that when the level of education increases, marriage, which is the powerful determinant of fertility tends to be postponed and this causes a negative effect on fertility (Be-Ofuriya, 2002). Mostly, educated women desire relatively fewer children because they are employed and also are aware about contraceptives.

The mean number of children ever born is highest (4.50) among women who know modern methods of contraception and low (3.51) among those who know no method. It is also highest (4.65) among women who used modern method of contraception as compared to those who never used any method of contraception and this is contrary to the expectation. It is expected that fertility should be high among women who have never used any method of contraception than among those who have ever used it.

Mean number of children ever born is highest among women who are married (5.08), followed by those who are widowed (4.44), the living together (4.35) and those who are not living together with partners (4.01). These women are then followed by women who are divorced (3.27). Mean number of children ever born is lowest among women who are never married (2.88) and this is expected.

The mean number of children ever born does not differ much with regard to having or not having a regular sex partner among Africans. It is 3.83 among women who have regular sex partners, 3.54 among those with no regular sex partners and 3.04 among those who have occasional sex partners. The mean number of children ever born also varies by desire to have more children. It is highest among women who have sterilised (4.73) and among those who wants no more (4.66). Mean number of children ever born is lowest among women who still wants more children (2.44)

The mean number of children ever born is highest among women who are unhappy about becoming pregnant (4.79) and also among women who would not mind if they can become pregnant (3.85). It is lowest among women who will be happy if they can become pregnant with

2.69. This is expected given the fact that women with less number of children would like to increase the number of children that they have.

Mean number of children ever born does not differ much between women who are working and those who are not working. Mean number of children ever born is 4.84 among those who are not working and 4.02 among those who are working.

5.2.2 Mean Parities for Coloureds

As indicated for African women, mean number of children ever born varies by region. It is highest in Gauteng and Limpopo with 4.62 and 4.33 respectively. These two provinces are then followed by Free State and Eastern Cape with 3.70 and 3.03 respectively. These provinces are then followed by North West and Mpumalanga with 3.00 mean number of children ever born. Provinces with lowest mean number of children ever born are KwaZulu Natal and Northern Cape with 2.50 and 2.00 respectively.

For the Coloureds, the mean number of children ever born does not vary much regarding type of place of residence (rural-urban) but it is high among rural dwellers with 3.97 as compared to urban dwellers with 3.31. This is expected because most studies indicates that fertility is higher in rural than urban areas (DoH, 1998).

The mean number of children ever born is high (4.80) among women with no education. Followed by those with primary and secondary education with 3.49 and 3.47 respectively. It is lowest among women with higher education (1.69). This is expected because in general, educated women desire relatively fewer children.

The mean number of children ever born is highest (3.42) among women who know modern method of contraceptives. It is also highest (3.84) among women who have ever used modern method of contraceptives at one point or another, and lowest (1.32) among women who have never used any method of contraceptives.

The mean number of children ever born is highest among widowed, married, not living together and among the divorced with 3.90, 3.75, 3.47 and 3.07 respectively. These Women are then followed by women who are living together with their partners with 2.33. In comparison, the mean number of children ever born is lowest among women who never married with 1.49.

The picture changes somewhat with the mean number of children ever born being highest among women who have occasional sex partners (4.52), followed by women who have regular sex partners (3.92) and lowest among women who have no sex partners (2.52) and this is what is expected.

In general terms, the mean number of children ever born also varies by desire for additional children. It is highest among women who have sterilised and among women who wants no more with (3.69) and (3.24) respectively. This is expected.

The mean number of children ever born is highest among women who are unhappy about becoming pregnant (3.72) and among those who would not mind becoming pregnant with (2.05). It is lowest among women who will be happy if they can become pregnant and this is expected.

Mean number of children ever born is high (3.95) among women who are not working and it is low (2.93) among women who are working.

5.2.3 Mean Parities for Whites

For the Whites, mean number of children ever born also varies by region. Mean number of children ever born among Whites is high (3.33) in the North West province, followed by Northern Cape and Gauteng with 2.99 respectively, then Eastern Cape, Kwazulu-Natal, Mpumalanga and Limpopo with 2.85, 2.78, 2.57) and 2.51 respectively. It is 3.39 among the rural dwellers and 2.52 among the urban inhabitants.

Most White women are educated. Mean number of children ever born does not differ much among women with secondary education and among women with higher education. It is 2.54 among women with secondary education and 2.74 among women with higher education.

The mean number of children ever born is high (3.00) among women who know no method of contraceptives and low (2.59) among women who know modern methods of contraceptives. It is high among women who used modern methods of contraceptives (2.70) and low among women who never used any method of contraception (1.13).

The mean number of children ever born is highest among women who are widowed and among women who are married, 2.96 and 2.70 respectively. It is lowest among women who have divorced and among women who are living together with 1.88 and 1.25 respectively. In comparison, the mean number of children ever born is 3.00 among women who have occasional sex partners and among those who have regular sex partners. It is low (2.13) among women who have no sex partners.

The mean number of children ever born also varies by desire for additional children. It is highest among women who are sterilised (3.69) followed by women who want no more children.

It is worth noting, however, that the mean number of children ever born is high among women who would be happy about becoming pregnant and among those who would be unhappy if they become pregnant. It is lowest among women who it would not matter if they become pregnant.

Accordingly, then, the mean number of children ever born does not differ much between women who are working and those who are not working. It is 2.65 among women who are working and 2.51 among women who are not working.

5.2.4 Mean Parities for Asians

Mean number of children ever born is highest in the Limpopo Province (4.00), followed by the Northern Cape, Western Cape and North West with (3.00) respectively. It is lowest in Mpumalanga (2.95) and in Free State with 2.00.

It is interesting to observe that the mean number of children ever born is highest among Asian rural dwellers (3.00) than Asian urban inhabitants (2.84). This is expected because most studies indicate that fertility is higher in rural than in urban areas (DoH, 1998). One other possible explanation for this is that people in urban areas have access to modern contraception and they are usually more educated than those living in rural areas. The mean number of children ever born is highest among women with primary education (3.05). These women are then followed by women with secondary education (2.91) and women with no education (2.00). It is lowest among women with higher education (1.00).

The mean number of children ever born is highest (2.84) among women who know modern methods of contraceptives. It is also highest (3.22) among women who use modern methods of contraceptives.

Mean number of children ever born is highest among women who are widowed (4.50) and among women who are living together with their partners (4.00). These women are then followed by divorced women and married women with (3.00) and (2.99) respectively.

Women who have regular sex partners have the highest mean number of children ever born (3.00) and those with no sex partners have mean parity of 2.03.

The mean number of children ever born also varies by desire for more children. In terms of quantifiable measurement, the mean number of children ever born is highest among women who are sterilised (3.30), followed by women who want no more (2.48). This is expected.

There is no much difference with regard to attitude of women towards becoming pregnant. For those who would not mind if they become pregnant the mean number of children ever born was 2.75 and it was 2.61 for those who would be unhappy if they become pregnant. Mean number of children ever born was high (3.10) among women who are not working and low (2.30) among those who are working.

5.3 Summary

This chapter shows that fertility of each population group varies by social and economic characteristics of women. Mean number of children ever born was highest among women residing in rural areas than those who were residing in urban areas for all population groups. The mean number of children ever born was highest among Africans, Coloureds and Asians who know modern method of contraceptives. It was also highest among women who have used modern methods of contraceptives in all population groups. Mean number of children ever born was highest among widows of Coloureds, Whites and Asians. For the Africans, the mean number of children ever born was highest among married women. With regard to the desire for more children, in all the population groups, mean number of children ever born was highest among women who have sterilized. It was also high among women who are unhappy about becoming pregnant amongst the Africans, Coloureds and Whites. Mean number of children ever born was highest among African, Coloured and Asian women who are not working but highest among White women who are working.

CHAPTER 6: DETERMINANTS OF FERTILITY

6.1 Introduction

This chapter presents the effect of socio-economic factors on fertility. Multivariate regression analyses as well as stepwise regression analyses were used to predict the effect of selected socio-economic variables on fertility for each population group in South Africa,.

6.1.1 Determinants of Fertility for Africans

Firstly, it should be mentioned at the outset that some variables were excluded by SPSS from the regression analysis because they are highly correlated with other variables. In the case of the African population the variables that were removed were: Never married, Married, 15-19, higher education, rural, used modern method of contraceptives, never used and Gauteng province.

Secondly, higher education was deleted from the analysis because it is constant or it has the missing correlation.

Table 6.1: Effect of selected socio-economic variables on fertility for Africans (multiple regression)

Variables	B	Std. Error	Beta	t	Significance	Variables
Constant	2.445	.248			9.859	.000
Marital status						
living together	-.534	.049	-.078		-10.952	.000
Widowed	.770	.090	.058		8.530	.000
Divorced	.382	.105	.024		3.656	.000
not living together	.599	.068	.059		8.746	.000
Desire for more children						
Wants	-.837	.150	-.194		-5.582	.000
wants no more	-.132	.149	-.031		-.888	.375
Sterilized	.104	.148	.019		.701	.483
Age						
20-24	.462	.047	.087		9.803	.000
25-29	1.028	.052	.180		19.578	.000
30-34	1.689	.057	.277		29.555	.000
35-39	2.216	.059	.361		37.297	.000
40-44	2.496	.063	.365		39.560	.000
45-49	2.896	.069	.364		41.728	.000
Educational level						
no education	-.545	.054	-.116		-10.101	.000
Primary	-1.082	.054	-.254		-19.925	.000
Secondary	-1.385	.077	-.152		-17.947	.000
Knowledge of any method						
Knows no method	-.332	.072	-.031		-4.618	.000
Knows modern method	.501	.037	.104		13.472	.000
Type of place of residence						
Urban	-.401	.034	-.095		-11.808	.000

Have a regular sex partner					
no sexual partner	-1.363	.049	-.270	-27.636	.000
regular sex partner	-1.188	.041	-.263	-29.089	.000
occasional sex partner	-1.203	.064	-.143	-18.853	.000
Region					
Western Cape	-.083	.082	-.007	-1.018	.309
Eastern Cape	.048	.050	.008	.970	.332
Northern Cape	-.165	.149	-.007	-1.103	.270
Free State	-.234	.058	-.029	-4.051	.000
Kwa Zulu Natal	.184	.046	.036	4.019	.000
North West	-.207	.056	-.028	-3.689	.000
Mpumalanga	.187	.057	.025	3.289	.001
Limpopo	.201	.054	.033	3.749	.000
Attitude towards becoming pregnant					
Happy	-.332	.072	-.058	-4.600	.000
Unhappy	.502	.064	.120	7.840	.000
would not matter	.212	.077	.027	2.744	.006
Respondent working					
not working	-.086	.187	-.018	-.462	.644
working	-.281	.188	-.060	-1.495	.135

R-square = 165%

A unit change in a number of women living together was associated with a 0.534 decrease in the total number of children ever born. A unit change in the number of women widowed, divorced

and not living together was associated with a 0.770, 0.328 and 0.599 increase in the total number of children ever born.

A unit change in a number of women who wants more children and those who wants no more children was respectively associated with 0.837 and 0.132 decrease in the total number of children ever born. On the other hand, women who are sterilised were associated with a 0.104 increase in the total number of children ever born.

Age is one of the most important determinants of fertility. The higher the age of the respondent the higher fertility is expected to be. A unit change in the number of women aged 20-24 was associated with a 0.462 increase in the total number of children ever born whereas a unit change in the number of women aged 45-49 was associated with a 2.896 increase in the total number of children ever born.

Studies have shown that education is one of the most important socio-economic determinants of fertility. The higher the level of education the lower fertility is expected to be. Table 6.1 indicates that a unit change in the number of women with no education was associated with a 0.545 decrease in the total number of children ever born whereas a unit change in the number of women with primary education was associated with a 1.082 decrease in the total number of children ever born whilst a unit change in the number of women with secondary education was associated with a 1.385 decrease in the total number of children ever born.

Fertility levels vary by type of place of residence. Fertility is expected to be high in rural areas than in urban areas. Table 6.1 indicates that a unit change in the number of women residing in urban areas was associated with a 0.401 decrease in the total number of children ever born. Fertility levels also vary by province. Fertility is high in some provinces and low in others. On the one hand, residing in the Eastern Cape, Kwazulu-Natal, Mpumalanga and Limpopo appears to be associated with high fertility. A unit change in the number of women who are residing in the Eastern Cape, Kwazulu-Natal, Mpumalanga and Limpopo was respectively associated with 0.048, 0.184, 0.187 and 0.201 increase in the total number of children ever born. On the other hand, residing in the Western Cape, the Northern Cape, Free State, and the North West was

associated with low fertility. A unit change in the number of women who are residing in the Western Cape, the Northern Cape, Free State, and the North West was respectively associated with 0.083, 0.165, 0.234 and 0.207 decrease in the total number of children ever born.

Women who are happy with becoming pregnant can be said to have lower fertility. A unit change in the number of women who are happy with becoming pregnant was associated with a 0.332 decrease in the total number of children ever born whereas a unit change in the number of women who are unhappy with becoming pregnant or who becoming pregnant would not matter was associated with a 0.502 and 0.212 increase in the total number of children ever born, respectively. It is possible that women who report that they are unhappy with becoming pregnant have already fulfilled their fertility desires and have reached the maximum number of children they would like to have.

It is expected that women who are working should have a fewer number of children ever born. Table 6.1 further shows that a unit change in the number of women who are not working was associated with a 0.086 decrease in the total number of children ever born whereas a unit change in the number of women who are working was also associated with a 0.281 decrease in the total number of children ever born. It can be argued that decline in the regression coefficients between not working and working is a reflection of reduced fertility among those who are working.

Table 6.2: Regression coefficients, South Africa, African, 1998

	1	2	3	4	5	6	7	8	9	10
Constant	3.229	2.584	3.017	2.821	2.556	2.155	1.795	2.047	1.727	1.363
never married	-2.353	-2.129	-1.932	-1.806	-1.637	-1.359	-1.140	-1.255	-1.222	-1.058
Wants no more		1.268	1.210	1.151	1.108	1.019	0.930	0.744	0.735	0.653
Primary			-0.873	-0.783	-0.695	-0.608	-0.545	-0.558	-0.471	-0.435
45-49				1.372	1.617	2.013	2.382	2.363	2.434	2.810
40-44					1.198	1.566	1.912	1.940	2.022	2.390
35-39						1.303	1.637	1.686	1.745	2.105
30-34							1.002	1.090	1.152	1.493
Happy								-0.807	-0.779	-0.877
Rural									0.474	0.516
25-29										0.789
R-square	0.314	0.400	0.440	0.468	0.495	0.533	0.555	0.572	0.585	0.599

The table above presents results of regressing fertility with selected socio-economic variables for the African population.

Stepwise regression analyses indicate that the ten most important determinants of fertility for the African population in South Africa are “Never married”, “wants no more”, “primary education”, “the age of the respondent”, that is conditional upon whether they are in any of the following age groups: 45-49, 40-44, 35-39, 30-34, 25-29, happy and rural.

Step 1 of the regression output indicates that the best single predictor of fertility is never married. This is due to age being the most important factor in determining fertility. Its B is -2.353 and the Std Error is 0.036 and is statistically significant ($t = -64.751$). The coefficient of determination (r^2) for this variable alone is 0.314, indicating that 31% of the variation in children ever born is accounted for by the respondent being never married.

The next most important variable is wants no more. Its B is 1.268 and the Std Error is 0.035 and is statistically significant ($t = 36.234$). The (r^2) for both the “never married” and “wants no more” is 0.400, indicating that 40% of the variation in children ever born is accounted for by both never married and wants no more. The addition of the independent variable, “wants no more”, adds nearly 9% additional explained variance in children ever born. The next most important variable is “primary education”. Its B is -0.873 and the Std Error is 0.034 and is statistically significant ($t = -25.379$). The r^2 for the “never married”, “wants no more” and “primary education” is 0.440, indicating that 44% of the variation in children ever born is accounted for by the “never married” category, “wants no more” and having primary education. The addition of the independent variable, “primary education”, adds nearly 4% additional explained variance in children ever born.

The fourth most important variable is age of the respondent belonging to age group 45-49. Age is one of the most important factors in determining fertility Its B is 1.372 and the Std Error is 0.063 and is statistically significant ($t = 21.814$). The r^2 for the “never married”, “wants no more”, “sterilised” and “primary education” is 0.468, indicating that 47% of the variation in children ever born is accounted for by “never married”, “wants no more”, “having primary education”

and age 45-49. The addition of the independent variable, age 45-49 adds nearly 3% additional explained variance in children ever born.

The fifth most important variable is also age of the respondent and in this case it is age group 40-44. Its B is 1.198 and the Std Error is 0.053 and is statistically significant ($t = 22.425$). The r^2 for “never married”, “wants no more”, “having primary education” and “belonging to age group 45-49 and 40-44” is 0.495, indicating that 49% of the variation in children ever born is accounted for by “never married”, “wants no more”, “having primary education” and “belonging to age group 45-49 and 40-44”. This clearly shows that the addition of the independent variable, age group 40-44, adds nearly 3% additional explained variance in children ever born.

6.1.2 Determinants of Fertility for Coloureds

To predict the effect of selected socio-economic variables on fertility for the Coloured population in South Africa, multivariate regression was used. Firstly, it should also be mentioned at the outset that some variables were excluded by SPSS from the regression analysis because they are highly correlated with other variables. In the case of the Coloured population, the variables that were excluded were: “never married”, “married”, “age group 15-19”, “knows no method”, “urban place of residence”, “never used any method of contraception” and the Western Cape province.

Secondly, some variables were deleted from the analysis because they are constant or they have missing correlations. Those variables are: “higher education”, and “Limpopo province”.

Table 6.3: Effect of selected socio-economic variables on fertility for Coloureds (multiple regression)

Variables	B	Std. Error	Beta	t	Significance
(Constant)	1.031	1.571		0.657	0.512
Marital status					
living together	-0.396	0.119	-0.068	-3.323	0.001
widowed	0.712	0.238	0.057	2.985	0.003
divorced	0.709	0.176	0.080	4.016	0.000
not living together	0.994	0.197	0.097	5.052	0.000
Desire for more children					
wants	-1.508	0.472	-0.423	-3.192	0.001
wants no more	-0.932	0.469	-0.264	-1.988	0.047
sterilized	-0.335	0.442	-0.099	-0.758	0.449
Age					
20-24	0.289	0.113	0.063	2.555	0.011
25-29	0.502	0.118	0.117	4.249	0.000
30-34	0.956	0.131	0.206	7.281	0.000
35-39	1.109	0.134	0.246	8.252	0.000
40-44	1.418	0.144	0.273	9.836	0.000
45-49	1.741	0.154	0.296	11.327	0.000
Educational level					
no education	-0.087	0.166	-0.024	-0.524	0.600
primary	-0.404	0.167	-0.119	-2.425	0.015
secondary	-0.729	0.207	-0.103	-3.517	0.000
Knowledge of any method					
Knows modern method	-0.145	0.339	-0.008	-0.429	0.668
Ever use of any method					
Used modern method	1.265	0.097	0.333	13.081	0.000
Type of place of residence					
rural	0.021	0.085	0.005	0.249	0.804
Have a regular sex partner					
no sexual partner	-0.893	0.101	-0.262	-8.883	0.000
regular sex partner	-0.591	0.108	-0.131	-5.465	0.000

occasional sex partner	-0.933	0.207	-0.088	-4.506	0.000
Region					
Eastern Cape	-0.095	0.096	-0.019	-0.989	0.323
Northern Cape	0.192	0.095	0.039	2.013	0.044
Free State	0.093	0.225	0.008	0.414	0.679
Kwa Zulu Natal	-0.190	0.199	-0.017	-0.955	0.340
North West	0.183	0.193	0.017	0.947	0.344
Gauteng	0.042	0.125	0.006	0.333	0.739
Mpumalanga	0.048	0.573	0.002	0.083	0.934
Attitude towards becoming pregnant					
happy	-0.023	0.178	-0.005	-0.130	0.897
unhappy	0.586	0.168	0.167	3.489	0.001
would not matter	0.309	0.182	0.058	1.694	0.091
Respondent currently working					
not working	0.625	1.457	0.190	0.429	0.668
working	0.391	1.457	0.119	0.269	0.788

R-square = 66%

Table 6.3 shows the regression coefficients for the Coloured population. A unit change in the number of women living together was associated with a 0.396 decrease in the total number of children ever born. A unit change in the number of widowed women and divorced as well as those not living together was associated with a 0.712, 0.709 and 0.994 increase in the total number of children ever born.

A unit change in the number of women who wants more children, those who wants no more and those who have sterilised was respectively associated with 1.508, 0.932 and 0.335 decrease in the total number of children ever born.

Age, which is one of the most important determinants of fertility, shows that the higher the age of the respondent the higher fertility is expected to be. A unit change in the number of women aged 20-24 was associated with a 0.289 increase in the total number of children ever born

whereas a unit change in the number of women aged 45-49 was associated with a 1.741 increase in the total number of children ever born.

Education, which is also one of the most important socio-economic determinants of fertility, indicated that the higher the level of education, the lower fertility is expected to be. Table 6.3 indicates that a unit change in the number of women with no education was associated with a 0.087 decrease in the total number of children ever born whereas a unit change in the number of women with primary education was associated with a 0.405 decrease in the total number of children ever born whilst a unit change in the number of women with secondary education was associated with 0.729 decrease in the total number of children ever born.

Fertility levels, which vary by province was high in some provinces and low in others. On the one hand residing in the Northern Cape, the Free State, the North West, Gauteng and Mpumalanga appear to be associated with high fertility. A unit change in the number of women who are residing in the Northern Cape, the Free State, the North West and Gauteng was associated with 0.192, 0.093, 0.183, 0.042 and 0.048 increase in the total number of children ever born. On the other hand residing in the Eastern Cape and Kwazulu Natal was associated with low fertility. A unit change in the number of women who were residing in the Eastern Cape and KwaZulu Natal was respectively associated with 0.095 and 0.190 decrease in the total number of children ever born.

With regard to the attitude towards becoming pregnant, a unit change in the number of women who are happy with becoming pregnant was associated with 0.023 decrease in the number of children ever born. On the other hand a unit change in the number of women who are unhappy or who it would not matter with becoming pregnant was respectively associated with a 0.586 and 0.309 increase in the total number of children ever born respectively.

It is expected that women who are working tend to have a fewer number of children ever born than those who are not working. Table 6.3 shows that a unit change in the number of women who are not working was associated with a 0.625 increase in the total number of children ever

born whereas a unit change in the number of women who are working was associated with a 0.391 increase in the total number of children ever born.

Table 6.4: Regression coefficients, South Africa, Coloureds, 1998

	1	2	3	4	5	6	7	8	9	10
(Constant)	2.593	1.381	1.372	1.213	1.054	0.870	0.673	0.745	0.676	0.531
never married	-1.846	-1.343	-1.146	-1.040	-0.922	-0.784	-0.639	-0.709	-0.697	-0.706
used modern method		1.302	1.667	1.662	1.633	1.554	1.482	1.434	1.424	1.447
wants			-1.182	-1.076	-0.972	-0.846	-0.800	-0.608	-0.591	-0.591
45-49				0.963	1.131	1.363	1.601	1.608	1.533	1.562
40-44					0.728	0.958	1.199	1.191	1.132	1.166
35-39						0.615	0.846	0.862	0.829	0.869
30-34							0.591	0.654	0.619	0.651
happy								-0.488	-0.505	-0.470
no education									0.342	0.318
not working										0.219
R-Square	0.316	0.410	0.512	0.537	0.554	0.569	0.581	0.589	0.597	0.601

Stepwise regression analyses indicate that the ten most important determinants of fertility for the Coloured population in South Africa are never married, used modern method, wants more children, the age of the respondent that is whether they are in any of the following age groups; 45-49, 40-44, 35-39, 30-34, happy, no education and not working.

Step 1 of the regression output indicates that the best single predictor of fertility is never married. This is due to age being the most important factor in determining fertility. Its B is -1.846 and the Std Error is .078 and is statistically significant ($t = -23.532$). The coefficient of determination (r^2) for this variable alone is 0.316, indicating that 31% of the variation in children ever born is accounted for by the respondent being never married.

The next most important variable is used modern method. Its B is 1.302 and is statistically significant ($t = 13.820$). The r^2 for both the “never married” and “used modern contraception method” is 0.410, indicating that 41% of the variation in children ever born is accounted for by

both “never married” and “used modern method”. The addition of the independent variable, “used modern method”, adds nearly 9% additional explained variance in children ever born.

The next most important variable is “wants more”. Its B is -1.182 and is statistically significant ($t = -15.834$). The r^2 for the “never married”, “used modern method” and “wants more” is 0.512, indicating that 51% of the variation in children ever born is accounted for by never married, used modern method and wants more. The addition of the independent variable, being “wants more”, adds nearly 10% additional explained variance in children ever born.

The fourth most important variable is age 45-49. Its B is 0.963 and is statistically significant ($t = 8.007$). The r^2 for the “never married”, “used modern method”, “wants more” and 45-49 is 0.537, indicating that 54% of the variation in children ever born is accounted for by “never married”, “used modern method”, “wants more” and 45-49. The addition of the independent variable, age 45-49, adds nearly 2% additional explained variance in children ever born.

The fifth most important variable is age 40-44. Age is one of the most important factors in determining fertility. Its B is 0.728 and is statistically significant ($t = 6.754$). The r^2 for the “never married”, “used modern method”, “wants more”, age 45-49 and 40-44 is 0.554, indicating that 55% of the variation in children ever born is accounted for by those who were never married, used modern method, want more children and are in the age categories of 45-49 and 40-44. The addition of the independent variable age group 40-44 adds nearly 2% additional explained variance in children ever born.

6.1.3 Determinants of Fertility for Whites

To predict the effect of selected socio-economic variables on fertility for the White population in South Africa, multivariate regression was used. Table 6.5 shows the regression coefficients for the White population.

As in the disparate cases of Africans and Coloureds, it should be mentioned at the outset that some variables were excluded by SPSS from the regression analysis because they are highly correlated with other variables. In the case of the White population the variables that were excluded were: “never married”, “married”, “age group 15-19”, “knows modern method”, “rural place of residence”, “never used”, Gauteng and not working.

Secondly, some variables were deleted from the analysis because they are constant or they have missing correlations. Those variables are: higher education and Limpopo province.

Table 6.5: Effect of selected socio-cultural variables on fertility for Whites (multiple regression)

Variables	B	Std. Error	Beta	T	Significance
Constant	1.113	0.779			
Marital Status					
living together	-0.291	0.134	-0.047	-2.170	0.030
Widowed	0.958	0.246	0.107	3.891	0.000
Divorced	0.794	0.200	0.116	3.968	0.000
not living together	0.394	0.353	0.025	1.118	0.264
Desire for more children					
Wants	-1.147	0.245	-0.355	-4.675	0.000
Wants no more	-0.559	0.238	-0.172	-2.344	0.019
Sterilized	-0.013	0.186	-0.005	-0.069	0.945
Age					
20-24	0.050	0.129	0.010	0.384	0.701
25-29	0.347	0.154	0.089	2.254	0.024
30-34	0.559	0.161	0.153	3.473	0.001
35-39	0.767	0.165	0.208	4.637	0.000
40-44	0.838	0.168	0.226	4.985	0.000
45-49	1.113	0.169	0.287	6.568	0.000
Educational level					
no education	2.442	0.822	0.134	2.972	0.003
Primary	1.084	0.730	0.377	1.485	0.138
Secondary	0.991	0.731	0.342	1.355	0.176
Knowledge of any method					
knows no method	-0.793	1.197	-0.014	-0.662	0.508
Ever use of any method					
Never used	-0.653	0.130	-0.195	-5.029	0.000
Type of place of residence					
Urban	-0.303	0.087	-0.077	-3.487	0.001
Have a regular sex partner					
no sexual partner	-1.171	0.165	-0.384	-7.105	0.000
regular sex partner	-0.834	0.165	-0.148	-5.058	0.000
occasional sex partner	-0.975	0.299	-0.077	-3.263	0.001
Region					
Western Cape	-0.183	0.086	-0.048	-2.141	0.033
Eastern Cape	-0.263	0.105	-0.054	-2.502	0.013
Northern Cape	0.020	0.163	0.003	0.122	0.903

Free State	-0.007	0.102	-0.001	-0.067	0.947
Kwa Zulu Natal	-0.149	0.099	-0.033	-1.501	0.134
North West	0.131	0.142	0.020	0.923	0.356
Mpumalanga	-0.085	0.202	-0.009	-0.422	0.673
Attitude towards becoming pregnant					
Happy	0.270	0.177	0.069	1.527	0.127
Unhappy	0.355	0.176	0.094	2.014	0.044
would not matter	0.253	0.177	0.062	1.430	0.153
Respondent currently working					
working	-0.254	0.062	-0.094	-4.097	0.000

R-square = 63

Table 6.5 shows that a unit change in the number of women living together was associated with a 0.29 decrease in the total number of children ever born. A unit change in the number of women widowed, divorced and not living together was respectively associated with a 0.958, 0.794 and 0.394 increase in the total number of children ever born.

A unit change in the number of women who want to have more children, who want no more and who have sterilised was associated with 1.147, 0.559 and 0.013 decrease in the total number of children ever born.

Once again age as one of the most important determinants of fertility influences fertility, that is, fertility is expected to be high among older women than among young women. A unit change in the number of women aged 20-24 was associated with a 0.050 increase in the total number of children ever born whereas a unit change in the number of women aged 45-49 was associated with a 1.113 increase in the total number of children ever born. Studies have shown that education is one of the most important socio-economic determinants of fertility. The higher the level of education the lower fertility is expected to be. The table above indicates that a unit change in the number of women with no education, primary education and those with secondary education was respectively associated with a 2.442, 1.084 and 0.991 increase in the total number of children ever born respectively.

Fertility levels vary by type of place of residence. Fertility is expected to be high in rural areas than in urban areas. Table 6.5 indicates that a unit change in the number of women residing in urban areas was associated with 0.303 decrease in the total number of children ever born.

Fertility levels also vary by province. Fertility is high in some provinces and low in others. On the one hand residing in the Northern Cape and the North West appears to be associated with high fertility. A unit change in the number of women who resides in the Northern Cape and the North West was associated with 0.020 and 0.131 increase in the total number of children ever born respectively. On the other hand residing in other provinces of the Western Cape, the Eastern Cape, the Free State, KwaZulu Natal and Mpumalanga was associated with low fertility.

A unit change in the number of women who were residing in the Western Cape, Eastern Cape, Free State, KwaZulu Natal and Mpumalanga was associated with 0.183, 0.263, 0.007 0.149 and 0.085 decrease in the total number of children ever born respectively.

It is almost axiomatic that fertility is also associated with attitude towards becoming pregnant and with regard to that, a unit change in the number of women who are happy about becoming pregnant was associated with 0.270 increase in the total number of children ever born. A unit change in the number of women who are unhappy about becoming pregnant was associated with 0.355 increase in the total number of children ever born and for those who becoming pregnant would not matter was associated with a 0.253 increase in the total number of children ever born.

As evidenced earlier on, the expectation that women who are working are supposed to have a fewer number of children ever born than those who are not working has been vindicated by prevalence rates. Table 6.5 shows that a unit change in the number of women who are working was associated with a 0.254 decrease in the total number of children ever born. It can be argued that a decline in the regression coefficients among working women is a reflection that working women have a tendency of reducing their fertility.

Table 6.6: Regression coefficients, South Africa, Whites, 1998

	1	2	3	4	5	6	7	8	9	10
(Constant)	2.063	2.239	2.299	2.191	2.600	2.718	2.679	2.372	2.263	2.360
never married	-2.043	-2.025	-1.448	-1.360	-1.388	-1.423	-1.401	-	-	-1.082
wants		-0.823	-1.008	-0.933	-0.948	-1.057	-1.089	1.123	1.054	
never used			-0.856	-0.856	-0.805	-0.883	-0.902	1.066	1.006	-0.964
45-49				0.499	0.524	0.529	0.524	0.886	0.854	-0.865
urban					-0.475	-0.470	-0.427	0.415	0.411	-0.374
wants no more						-0.344	-0.349	0.324	0.284	-0.258
no education							1.610	1.554	1.580	1.458
married								0.335	0.338	0.326
40-44									0.307	0.321
working										-0.216
R-square	0.449	0.514	0.541	0.556	0.570	0.579	0.587	0.593	0.599	0.605

Stepwise regression analyses indicate that the ten most important determinants of fertility for the White population in South Africa are “never married”, “wants more”, “whether the respondent is in age group 45-49”, “urban”, “wants no more”, “no education”, “married”, “whether the respondent is in age group 40-44” and lastly, “working”.

Step 1 of the regression output indicates that the best single predictor of fertility is “never married”. This is due to age being the most important factor in determining fertility. Its B is -2.043 and the Std Error is .075 and is statistically significant ($t = -27.291$). The coefficient of determination (r^2) for this variable alone is 0.449, indicating that 45% of the variation in children ever born is accounted for by the respondent being never married.

The next most important variable is wants. Its B is 0.823 and is statistically significant ($t = -11.061$). The r^2 for both the never married and sterilised is 0.51, indicating that 51% of the variation in children ever born is accounted for by both never married and wants. The addition of

the independent variable, wants, adds nearly 6% additional explained variance in children ever born.

The next most important variable is never used. Its B is 0.856 and is statistically significant ($t = -7.245$). The r^2 for both the “never married”, “wants” and “never used” is 0.541, indicating that 54% of the variation in children ever born is accounted for by never married, wants and never used. The addition of the independent variable, “wants no more”, adds nearly 3% additional explained variance in children ever born.

The fourth most important variable is age group 45-49. Its B is 0.499 and is statistically significant ($t = 5.589$). The r^2 for the never married, wants, never used and 45-49 is 0.556, indicating that 55% of the variation in children ever born is accounted for by never married, wants, never used and age group 45-49. The addition of the independent variable, age group 45-49, adds nearly 2% additional explained variance in children ever born.

The fifth most important variable is urban, Its B is -0.475 and is statistically significant ($t = -5.517$). The r^2 for never married, wants, never used, 45-49 and urban is 0.570, indicating that 57% of the variation in children ever born is accounted for by never married, wants, never used, 45-49 and urban. The addition of the independent variable, urban, adds nearly 1% additional explained variance in children ever born.

6.1.4 Determinants of Fertility for Asians

To predict the effect of selected socio-cultural variables on fertility for the Asian population in South Africa, multivariate regression was used. Table 6.7 shows the regression coefficients for the Asian population.

Just like for the Africans, Coloureds and Whites, it should be mentioned at the outset that some variables were excluded by SPSS from the regression analysis because they are highly correlated with other variables. In the case of the Asian population the variables that were excluded were; married, age group 15-19, knows modern method, never used, no sexual partner and KwaZulu Natal.

Secondly, some variables were deleted from the analysis because they are constant or they have missing correlations. Those variables are; higher education and Northern Cape Province.

Table 6.7: Effect of selected socio-cultural variables on fertility for Asians (multiple regression)

Variables	B	Std. Error	Beta	t	Significance
Constant	0.204	1.281		0.160	0.873
Marital status					
living together	-0.214	0.338	-0.018	-0.634	0.527
Widowed	0.808	0.331	0.079	2.439	0.015
divorced	-0.578	0.260	-0.072	-2.221	0.027
not living together	-0.893	0.353	-0.076	-2.526	0.012
never married	-1.506	0.237	-0.433	-6.349	0.000
Desire for more children					
wants	-0.658	0.429	-0.159	-1.534	0.126
wants no more	-0.093	0.425	-0.027	-0.219	0.827
Sterilized	0.989	0.332	0.310	2.981	0.003
Age					
20-24	0.028	0.179	0.006	0.155	0.877
25-29	0.105	0.223	0.022	0.471	0.638
30-34	0.504	0.227	0.116	2.224	0.027
35-39	0.839	0.228	0.187	3.675	0.000
40-44	0.721	0.234	0.155	3.083	0.002
45-49	0.928	0.237	0.186	3.922	0.000
Educational level					
no education	0.394	0.447	0.071	0.883	0.378
primary	0.065	0.431	0.017	0.150	0.881
secondary	-0.199	0.454	-0.039	-0.439	0.661
Knowledge of any method					
Knows no method	1.879	0.642	0.090	2.926	0.004
Ever use of any method					
Used modern method	-0.978	0.200	-0.281	-4.899	0.000
Have a regular sex partner					
regular sex partner	0.394	0.238	0.060	1.659	0.098
occasional sex partner	3.200	0.581	0.181	5.511	0.000
Region					
Western Cape	-0.646	0.362	-0.051	-1.783	0.075

Eastern Cape	0.187	0.332	0.016	0.563	0.574
Free State	0.882	0.714	0.035	1.235	0.218
North West	0.915	0.339	0.077	2.699	0.007
Gauteng	0.232	0.149	0.048	1.555	0.121
Mpumalanga	-0.230	0.376	-0.017	-0.611	0.541
Limpopo	0.470	0.217	0.062	2.163	0.031
Attitude towards becoming pregnant					
happy	0.111	0.317	0.025	0.351	0.726
unhappy	0.541	0.315	0.141	1.715	0.087
would not matter	0.661	0.335	0.121	1.975	0.049
Respondent currently working					
not working	-0.693	0.944	-0.213	-0.734	0.463
working	-0.877	0.946	-0.270	-0.927	0.355

R-square = 72%

A unit change in the number of women who were living together with their partners, those who were divorced and those who were not living together with their partners was associated with a -0.214, -0.578, -0.893 and -1.506 a decrease in the number of children ever born. A unit change in the number of women who want to have more and those who want no more was associated with 0.658, 0.093 decrease in the total number of children ever born. On the other hand, women who are sterilised were associated with a 0.989 increase in the total number of children ever born.

As proven earlier, age is one of the most important determinants of fertility. The higher the age of the respondents the higher fertility is expected to be. A unit change in the number of women aged 20-24 was associated with a 0.028 increase in the total number of children ever born whereas an increase of 1 SD in the number of women aged 45-49 was associated with a 0.928 increase in the total number of children ever born.

Studies have shown that education is one of the most important socio-economic determinants of fertility. The higher the level of education the lower fertility is expected to be. Table 6.7 indicates that a unit change in the number of women with no education was associated with 0.394 increase in the total number of children ever born and a unit change increase of women

with primary education was associated with a 0.065 increase in the total number of children ever born whereas a unit change in the number of women with secondary education was associated with a 0.199 decrease in the total number of children ever born.

Fertility levels vary by province. Fertility is high in some provinces and low in other provinces. On the one hand residing in the Eastern Cape, the Free State, the North West, Gauteng and Limpopo appears to be associated with high fertility. A unit change in the number of women who resides in Eastern Cape, Free State, North West, Gauteng and Limpopo was associated with 0.187, 0.882, 0.915, 0.232 and 0.470 increase in the total number of children ever born. On the other hand, residing in the Western Cape and Mpumalanga was associated with low fertility. A unit change in the number of women who resides in Western Cape and Mpumalanga was associated with 0.646 and 0.230 decrease in the total number of children ever born respectively.

Women who are happy about becoming pregnant were associated with 0.111 increase in the total number of children ever born whereas a unit change in the number of women who are unhappy with becoming pregnant was associated with 0.541 increase in the total number of children ever born. For those who becoming pregnant would not matter, a unit change in the total number of children ever born was 0.661.

It is expected that women who are working are supposed to have a fewer number of children ever born. Table 6.7 further shows that a unit change in the number of women who are not working was associated with a 0.693 decrease in the total number of children ever born and a unit change in the number of women who are working was associated with a 0.877 decrease in the total number of children ever born. It can be argued that decline in the regression coefficients between not working and working is a reflection of reduced fertility among those who are working.

Table 6.8: Regression coefficients, South Africa, Asians, 1998

	1	2	3	4	5	6	7	8	9	10
(Constant)	2.379	2.603	1.549	1.414	1.037	1.013	0.953	1.005	0.978	0.938
never married	-2.320	-2.408	-1.503	-1.371	-1.610	-1.580	-	-	-	-1.463
wants		-1.091	-1.336	-1.463	-1.102	-1.105	-	-	-	-1.021
used modern method			1.182	1.309	1.375	1.367	1.364	1.360	1.333	1.276
occasional sex partner				3.554	3.625	2.753	2.836	3.184	3.212	2.959
sterilised					0.679	0.675	0.660	0.628	0.600	0.568
widowed						1.266	1.199	1.092	1.066	1.055
no education							0.531	0.509	0.457	0.475
not living together								-	-	-0.918
45-49								1.034	0.987	
35-39										0.408
R-square	0.445	0.514	0.555	0.594	0.623	0.635	0.644	0.651	0.658	0.664

Stepwise regression analyses indicate that the ten most important determinants of fertility for the Asian population in South Africa are “never married”, “wants”, “used modern method”, “occasional sex partner”, “sterilised”, “widowed”, “no education”, “not living together”, “the age of the respondent” that is whether they are in any of the following age groups: 45-49 and 35-39.

Step 1 of the regression output indicates that the best single predictor of fertility is “never married”. This is due to age being the most important factor in determining fertility. Its B is -2.320 and the Std Error is .129 and is statistically significant ($t = -17.994$). The coefficient of determination (r^2) for this variable alone is 0.445, indicating that 44% of the variation in children ever born is accounted for by the respondent being never married.

The next most important variable is wants. Its B is -1.091 and is statistically significant ($t = 7.550$). The (r^2) for both the never married and wants 0.514, indicating that 51% of the variation

in children ever born is accounted for by both “never married” and “wants”. The addition of the independent variable, wants, adds nearly 7% additional explained variance in children ever born.

The next most important variable is used modern method of contraceptives. Its B is 1.182 and is statistically significant ($t = 6.094$). The r^2 for the “never married”, “wants” and “used modern method” is 0.555 indicating that 55% of the variation in children ever born is accounted for by never married, wants and used modern method. The addition of the independent variable, being used modern method, adds nearly 4% additional explained variance in children ever born.

The fourth most important variable is “occasional sex partner”. Its B is 3.554 and is statistically significant ($t = 6.235$). The r^2 for “the never married”, “wants”, “used modern method” and “occasional sex partner” is 0.594, indicating that 59% of the variation in children ever born is accounted for by “never married”, “wants”, “used modern method” and “occasional sex partner”. The addition of the independent variable, “occasional sex partner”, adds nearly 4% additional explained variance in children ever born.

The fifth most important variable is sterilised. Its B is 0.679 and is statistically significant ($t = 5.496$). The r^2 for “never married”, “wants”, “used modern method”, “occasional sex partner” and being sterilised is 0.623, indicating that 62% of the variation in children ever born is accounted for by “never married”, “wants”, “used modern method”, “occasional sex partner” and “being sterilised”. The addition of the independent variable, being sterilised, adds nearly 3% additional explained variance in children ever born.

6.2 Summary

This chapter has looked at determinants of fertility in South Africa for each population group. For each population group, there are some differences in the determinants of fertility. Among the Africans, the most important determinant of fertility is proportion never married followed by desire to limit childbearing and primary education. For Coloured women, the most important determinants for fertility are “never married”, “used modern method” and “desire to have additional children”. For the Whites, the most important determinants for fertility are “never married”, “desire to have additional children” and “never used any method” and for the Asian, the most important determinant of fertility is “never married”, “desire for additional children” and “used modern methods”. It should be noted that for all population group “never married” is the most important determinant of fertility. In addition, this chapter shows that whereas the Africans desire to limit child bearing, the Coloured, White and Asian desire additional children.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

This study was aimed at re-examining the determinants of fertility for each population group. The results showed that fertility varies by age, region, type of place of residence, educational level, knowledge of contraceptive methods, marital status and whether the respondent is working or not.

The study found that means number of children ever born is lowest among women of all population groups residing in urban areas of South Africa. It is highest among women residing in rural areas.

In the Eastern Cape, mean number of children ever born is highest among the African women and lowest among women of other population groups. It is also high among African women and Asian women living in KwaZulu Natal. Means number of children ever born is also high among African women and Coloured women living in Mpumalanga. It is high among White women residing in North West. Mean number of children ever born is lowest among women with higher education for all population groups. It is low among women of all population groups who were never married. It is also highest among the married African women as compared to married women of other population groups.

The study revealed that the most important determinant of fertility for Africans is proportion never married because never married is negatively related with fertility. Other variables that are negatively related with fertility among Africans are primary education and happy about becoming pregnant. This tells us that women who are never married and those that are happy, together with those who have primary education are less likely to have given birth to many children, that is, they have a lower fertility rate.

The most important determinant of fertility among the Coloureds is proportion “never married”. The variables “Never married”, “wants more children” and “happy” are negatively related with fertility which means that the respondents that have never been married and those that are happy together with those that want additional children are less likely to have given birth to a lot of children.

It was also found that for the Whites, the most important determinant of fertility is proportion “never married” which is negatively related to fertility. The other variable that is negatively related to fertility are wants additional children and never used. The respondents that have never been married and those who want more children as well as those who have never used any method contraceptives are less likely to have given birth to many children.

For Asians, it was also found that the most important determinant of fertility is proportion “never married”. Other determinants are wants additional children and not living together with partners. This tells us that women who want additional children and those who are not living together with their partners have a lower fertility rate.

“Never married” appears as the most important determinant of fertility for all population groups and. It was also found that the desire for additional children appears among the first three most important determinants of fertility for Coloureds, Whites and Asians.

7.2 Recommendations

The study found that marriage is one of the factors responsible for lower fertility in South Africa. Some studies have shown that there is an increasing trend in proportion never married in South Africa (Palamuleni, 2010). It can be speculated that because of continued increase in the proportion never married in the country, fertility will continue to decline further in future. However future studies should determine when fertility will reach replacement level and the optimal level of fertility for the country.

The study has found that residing in urban areas is associated with lower fertility because urban areas are associated with better services (health, transport, education, recreation, social services); infrastructure and better living standards. As a result, there is a need to improve services in the rural areas in order to stimulate further decline of fertility in these areas.

The study also found that Coloureds, Asians and Whites desire additional children whereas Africans desire to limit children. More studies should be conducted to investigate causes.

The study has also found that for the Africans and Coloureds, women with primary and secondary education are negatively related to fertility. This is not what was expected and no attempt was made to explain why this was the case. It is therefore recommended that more studies should be conducted on the relationship between fertility and education for Africans and Coloureds.

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