TO INVESTIGATE THE DETERMINANTS OF BLACK WOMEN IN KHAYELITSHA'S SMOKING ORIENTATION AND BEHAVIOUR, WITH A SPECIFIC FOCUS ON URBANISATION

Eleni Eleftheriou Ratheb

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ABSTRACT

A random survey of 240 Xhosa-speaking women was conducted in 1998 in Khayelitsha, the largest township[1] in Cape Town, South Africa. The aim was to investigate the determinants of Black women in Khayelitsha's smoking orientation and behaviour, with a specific focus on urbanisation. This research was embedded within a larger study which was carried out at the UCT Graduate School of Business, with the aid of a grant from Research for International Tobacco Control (RITC), an international secretariat housed within the International Development Research Centre in Ottawa, Canada and was conducted in collaboration with the Medical Research Council of South Africa.

Tobacco consumption in South Africa has been a concern not only for tobacco-control campaigners, but also for the government due to the economic costs in terms of absenteeism, health care, premature death and reduced productivity (Saloojee *et al*, 1992). The estimates of smoking rates among Black women in the Western Cape province between the years 1990 and 1996, have ranged between 6.3% and 10% (Steyn *et al.*, 1994 : Reddy *at al.*, 1996 : Yach, 1993).

Traditionally Black females, along with Asian women, have had the lowest tobacco consumption level and the lowest rate of increase in consumption of all the population groups in South Africa. (Steyn, *et al.*, 1994 : Reddy *et al.*, 1996 : Steyn, *et al.*, 1997). However, Black women comprise over 39% of the national population and constitute a key market for 'fast-moving-consumer-goods' products like cigarettes. Consequently they have been increasingly targeted by tobacco companies, particularly prior to anti-tobacco laws being

[1] see glossary part A for description of township

instituted in South Africa, and exposed to marketing aimed at them as well as South African women and Black people in general. (Margardie, 2000; Yach and Peterson, 1994).

It is well documented that both primary and secondary cigarette smoke has negative effects on health, and the list of diseases that have been found to be related to the use of tobacco is extensive (Surgeon General's Report, 2001). In addition, women have a significant influence on the consumption behaviour of their children, family, friends and community (e.g. Peter and Olsen, 1995; Moschis, 1989). If the rate of smoking amongst Black women in South Africa increases, this may result in an increase in the smoking rate of their children, family and friends.

In order to constructively aid tobacco control efforts among Black women in South Africa, it is important to understand the determinants of their smoking behaviour. Reddy *et al.* (1996) stressed the urgent need for research on the determinants of smoking behaviour since current information was not yet comprehensive. Haire-Joshu *et al.* (1991) asserted that smoking is influenced by social, environmental, psychological and biological factors. However, the impact of factors such as these is being affected by societal changes like urbanisation and economic growth. With urbanisation, for example, increases in education and associated marginal increases in income usually occur (Yach, 1990).

A model was formulated as a framework around which to test relationships between various factors and smoking behaviour. The model was based on theory from the field of consumer behaviour. Fishbein and Ajzen's (1974) factors from their theory-of-reasoned-action model: attitudes, normative beliefs and behavioural intentions, were the first factors explored for inclusion in the model. These factors were conceptualised, respectively, as follows for the purposes of this investigation: 'attitude towards Black women smoking',

'normative expectations' and 'lifestyle commitment'. The theory-of-reasoned-action model proposes that external factors influence one's attitude towards a behaviour and one's understanding of subjective norms (normative expectations) about that behaviour. External factors include demographics and environmental influences such as social environment (product usage exposure) and marketing environment (media usage exposure) (Fishbein, 1980).

The five level model investigated in this thesis was constructed as follows and includes constructs that have been posited by researchers as being determinants of smoking behaviour. Level 1 was antecedents to behaviour and consisted of the demographic variables age, income, education and urbanisation. Level 2 consisted of product and media usage exposure. Level 3 was made up of attitude towards black women smoking and normative expectations, and Level 4 was the Conversion Model which measured commitment to a smoking or non-smoking lifestyle, and was labelled lifestyle commitment. Level 5 was smoking behaviour, categorised by smoker or non-smoker.

The demographic variable, which was a focus in this research as a determinant of smoking behaviour, was urbanisation. In the twenty-first century urbanisation is an important issue facing the world at large and particularly developing countries. In theory, living in urban areas should present great potential gains, including in health, for the inhabitants (Harris, 1992), however, in reality increases in urban populations are synonymous with the growth of urban poverty (Stephens, 1995). It is estimated that 30-70% of urban populations in developing countries are living in conditions of extreme material deprivation characterised by inadequate environmental services including water, sanitation and waste disposal, as well as poor quality shelter and limited access to social services including health and education (Hardoy *et*

al., 1992 : Bradley *et al.*, 1992 : Gilbert and Gugler, 1992 : Hardoy and Satterthwaite, 1989 : Hardoy and Sattherthwaite, 1991).

As urbanisation proceeds, urban populations in developing countries begin to suffer from more of the diseases of affluence, which are predominantly chronic diseases (Jamison *et al.*, 1993). The most pronounced increases are ischaemic heart disease and lung cancer associated with changes in lifestyle, changes in diet and the adoption of habits such as smoking and drinking alcohol (Seager, 1995). The lifestyle changes are frequently related to advertising and new social pressures (Seager, 1995).

Various studies in South Africa (Steyn *et al*, 1994 : Cooper *et al.*, 1991) have found level of urbanisation to have significant effects on Black women's health. Steyn *et al.* (1994) found that level of urbanisation was related to smoking behaviour in certain age groups. They found that women start smoking at a younger age the greater their degree of exposure to an urban environment. They went on to suggest that urban Black women's resistance to start smoking is eroded by urbanisation. In contrast, they also found in the same study that women above 54 years of age in the lowest urbanisation category were by far the heaviest smokers. Cooper *et al.* (1991) found markedly different patterns of chronic and acute illnesses to be evident in the formal, serviced areas compared with to informal areas.

Urbanisation's effect on health is becoming an issue of increasing importance in South African cities. Migration from former homelands to city centres has been constantly increasing since 1994 and local governments have been battling to keep up with the demand for services by the constantly growing informal settlements. Thus, urbanisation has been identified as a possible determinant of smoking behaviour among Black women in Khayelitsha, and was made a focus in this investigation.

In order to investigate the effects of urbanisation on smoking behaviour, a measure or definition of urbanisation relevant to the sample area under study had to be chosen. There exist a wide variety of approaches to measuring the phenomenon of urbanisation and the measures deemed relevant for discussion in this thesis were: housing context, the latent urban rural continuum (LURC) (Higgs, 1995), and single variable measures such as period of residence in an urban environment, migration, orientation to former homeland, administrative function, economic function and access to basic services, and distance from the city centre.

The two measures that were used and substituted independently of each other, as proxies for urbanisation in this research study, were housing context and LURC. These measures were chosen because they have been used more widely as proxies for urbanisation in South Africa by other researchers, and both comprise a range of other factors. Housing context encompasses type of dwelling, access to water, electricity, telephone, sewage and refuse disposal. LURC covers almost all of what housing context does but adds a further dimension to the description by incorporating questions regarding the richness of one's environment in terms of access and ability to access a range of shops and activities.

Hypotheses were set for investigation which tested the relationships between each construct in the model and the constructs in levels below it for significance. The primary goal was to identify which constructs or individual measures were determinants of smoking behaviour and/or lifestyle commitment, and secondarily to identify other relationships in the model that were significant. Such significant relationships were identified and suggested as starting points for future research to further investigate. Even where a construct or measure was not found to have a direct impact on smoking behaviour or lifestyle commitment, it might have an indirect effect, which

could be investigated in future research through methods such as simultaneous equation modelling.

The data was collected as part of a larger study, from a survey administered in mid-1998. A pilot study of 47 respondents was conducted, followed by the data collected from 240 respondents. The sample design was a random stratified cluster sample of 240 female Xhosa-speaking women living in Khayelitsha, the largest Black Township in the Cape Town Metropolitan area. Quotas were built in to ensure that an even age and housing context split were attained. The two age groups for the quota were 15-35 years and 36 to 65 years. The three housing context groups were formal, serviced areas; informal, serviced areas; and informal, unserviced areas.

The questionnaire was administered in Xhosa by three fieldworkers overseen by an experienced Xhosa-speaking field supervisor. The questionnaire was designed taking into account the limitations arising from respondents' lack of education as well as language barriers. This made scaled questions which yield continuous data very difficult to include, and even the basic ones included did not capture needed variation in response. As such there were limitations as to the techniques that could be used in the data analysis. Simultaneous equation modelling (Bagozzi, 1994 : Anderson and Gerbing, 1988). and other typical multivariate analyses could not be applied to test the full model, due to the nominal and interval nature of most the variables actually measured. Thus, Pearson's Chi-square was used to test the significance of individual relationships between constructs, and Spearman's rho or Cramers V were used to test the strength of the correlation (Diamantopoulos and Schlegelmilch, 2000). Bonferroni's correction was applied (Chen and Seneta, 2000 : Aickin and Gensler, 1996 : Troendle, 1995) to adjust for multiple testing because most constructs consisted of multiple measures.

Linear regression was run with lifestyle commitment as the dependent variable and as inputs, all the variables which correlated highly with lifestyle commitment during the descriptive analyses.

Urbanisation as measured by both housing context and LURC, was significantly related to both smoking behaviour and lifestyle commitment, as well as to all the other constructs in levels 1 to 3 in the model. The greater a respondents' level of housing context or LURC score, the smaller the likelihood of her being a smoker and the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle. As level of urbanisation increased, product usage exposure decreased, attitudes towards Black women smoking were more negative, and normative expectations were more likely to be negative towards her smoking. Thus, urbanisation was found to be a useful tool for segmenting Black women in township areas, and can be used effectively to target groups most vulnerable to tobacco uptake by tobacco control campaigns.

Although LURC and housing context were both able to identify the same relationships between constructs in the model, housing context is recommended for use in township research as a proxy for urbanisation for a number of reasons. It is a tangible demographic variable which is efficient to implement in research, it is a single variable measure which is cheaper to use than a multiple variable measure such as LURC, it is an easy and understandable concept to explain to fieldworkers in a South African research context, it is currently being used as an urbanisation measure in other health-related research studies in South Africa, and it correlates highly with LURC which is used commercially in South Africa as a measure of level of urbanisation.

In addition to urbanisation, other variables were significantly related to smoking behaviour. The variables that were significantly and positively

related to smoking were: age, product usage exposure, positive attitude towards Black women smoking, and lifestyle commitment towards smoking. The variables that were significantly and negatively related to smoking were: level of education and negative normative expectations.

These findings suggest that a female smoker in Khayelitsha is more likely to be older, less educated, have a lower level of urbanisation, a lower monthly household income, a positive attitude towards Black women smoking, a higher product usage exposure to cigarettes and smoking, and expect no reaction or a positive one from family and friends to her smoking. The opposite would apply for non-smokers. A non-smoker is more likely to be younger, more educated, have a higher level of urbanisation, a higher monthly household income, have a negative attitude towards Black women smoking, a lower product usage exposure to cigarettes and smoking, and expect a negative reaction from family and friends if they were to see her smoking.

Even though lifestyle commitment and smoking behaviour were completely correlated, fewer variables were significantly related to lifestyle commitment than were to smoking behaviour. This was probably because lifestyle commitment, as measured by the Conversion Model, was a 7-point scale as opposed to smoking behaviour which was a dichotomous variable. The variables that were identified via linear regression as being determinants of lifestyle commitment were: 'expected reaction from female acquaintances if they were to see her smoking', which was a measure of normative expectations; 'acceptability of older women smoking' and 'view of a Black woman who smokes', which were measures of attitude towards Black women smoking; and 'whether she had female friends who smoked', which was a measure of product usage exposure.

Respondents who disagreed that it was acceptable for women to smoke had a lower lifestyle commitment score than those who agreed, which means that

they were more committed to a smoke-free lifestyle. In the same way, those respondents who negatively viewed a Black woman who smoked had a lower lifestyle commitment score that those who had no reaction, and those who had a positive view of a Black woman who smoked had the highest scores and were more likely to be smokers. If she expected her female acquaintances to have a negative reaction if they were to see her smoking, then her intent to smoke was likely to be lower, and visa versa. If a respondent had no female friends that smoked, her lifestyle commitment score was considerably lower than if she did have female friends that smoked.

The Conversion Model, which was labelled lifestyle commitment for the purposes of this investigation, treated cigarette usage as a continuum ranging from highly committed to smoking through to highly committed to remaining smoke-free. By assessing the distribution across the continuum, it was possible to identify where Black women in Khayelitsha were in the conversion process between the two ends of the continuum. This coupled with the identification of lifestyle commitment determinants, provided useful descriptions of segments at each point in the Conversion Model continuum, thus, helping to target segments requiring tobacco control interventions. A basic description of respondent segments at the two ends of the continuum, are described below.

Respondents who were highly committed to a smoke-free lifestyle fell under the *'serious about not taking up smoking'* segment of the CM continuum. They were likely to have:

- not had female friends that smoked;
- disagreed that it was acceptable for older women to smoke;
- had a negative view of a Black woman who smokes;
- and expected a negative reaction from female acquaintances if they were to see her smoking.

On the other end of the continuum, respondents who were committed to a smoking lifestyle and fell under the *'serious about continuing smoking / ambivalent'* segments, were likely to have:

- had female friends that smoked;
- agreed that it was acceptable for older women to smoke;
- had no reaction or a positive view of a Black woman who smokes;
- and expected no reaction or a positive reaction from their female acquaintances if they were to see her smoking.

These two descriptions emphasise the importance and role of product usage exposure, attitude towards Black women smoking and normative expectations in determining where people fall on the continuum of lifestyle commitment.

The unweighted self-reported smoking rate found in this study was 12.9%. When weighted by age it was 10.6% and when weighted by housing context it was 10.8%. These findings suggest that the smoking rate amongst Black women in Khayelitsha may have increased since previous studies conducted in 1990 and 1994. In 1990, the BRISK study conducted by the South African Medical Research Council (Steyn *et al.,* 1994), in the Black residential and squatter areas of the Cape Peninsular, found that the smoking rate among women between the ages of 15 and 64 years was only 6.3%. More recently Reddy *et al* (1996) found the smoking rate among Black women in the Western Cape to be 9.0%.

This increase in the smoking rate is of concern to tobacco control advocates and adequate social marketing and other interventions need to be implemented to inoculate non-smokers against the up-take of smoking (Andreasen, 1995). The Conversion Model findings highlighted the nature of the problem by revealing that over a fifth of non-smokers were at risk of

smoking. Specifically, 3.8% were serious about taking up smoking and another 17.3% were leaning towards doing so (Table 9.87). Clearly, these segments are the logical group to target first as they are the least committed to a smoke-free lifestyle and thus, most vulnerable to move towards a smoking lifestyle on the Conversion Model continuum. Smoking is highly addictive and it is easier to prevent uptake of smoking than to stop it once started.

The Conversion Model findings also revealed that two thirds (67.9%) of smokers were not serious about continuing with their habit. Fully 17.9% were serious about quitting with another 50% being ambivalent about smoking. Thus, public policy needs to help smokers move through stages of change toward cessation (Andreasen, 1995 : Prochaska *et al.*, 1992). They need to target smokers not only with messages about the need for cessation but with interventions such as social marketing programmes to assist those wanting to stop and to enable those who are ambivalent to move towards trying to do so.

Housing Context was also a useful segmentation tool and revealed that informal, unserviced areas had the highest percentage of smokers (27.5% versus 7.5% and 3.8% in informal, serviced and formal, serviced areas respectively). In addition, cross-tabulating housing context with lifestyle commitment revealed that informal, unserviced areas had the highest percentage of women not committed to a smoking lifestyle (18.8% versus 2.6% and 2.5% in informal, serviced and formal, serviced areas respectively).. Not committed to a smoking lifestyle was measured by the percentage of women in each housing context that were either 'ambivalent about smoking' or 'serious about giving up smoking'. It was also found that formal, serviced areas had the highest percentage of women not committed to a smoke-free lifestyle (23.8% versus 15.4% and 16.3% in informal, serviced and informal, unserviced areas respectively). Not committed to a smoke-free lifestyle was measured by the percentage of women in each housing context that were

either 'leaning towards taking up smoking' or 'serious about taking up smoking'.

Thus, starting points for tobacco control interventions would be informal, serviced areas with cessation programmes for smokers, and formal, serviced areas with adequate social marketing and other interventions to inoculate non-smokers against the up-take of smoking.

The determinants of smoking that were identified can be applied as guidelines in structuring tobacco control interventions. They suggest that interventions need to inform attitudes towards Black women smoking, perceptions of normative expectations, and influence product usage exposure to cigarettes and smoking.

If tobacco control interventions could be aimed at reinforcing Black women's attitudes and normative expectations against Black women smoking, as well as encouraging the reduction in product usage exposure to children and adult non-smokers, it is more likely that lifestyle commitment towards smoking would decrease and move towards smoke-free commitment, thus reducing Black women's intentions to smoke and their actual smoking uptake rates.

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GLOSSARY

Part A – A brief history of the Apartheid City

For readers not familiar with South African history, the following information may be very useful in understanding the complexity of South African cities and urbanisation issues. Two important descriptions to note are the meanings of 'township' and 'homeland'.

Until 1991, various pieces of racial legislation, most notably the Group Areas Act of 1950, ensured that land use in cities was determined on a racial basis. Under the Population Registration Act of 1950, all South Africans were classified into four main racial categories: African; Asian (people from the Indian subcontinent), Coloured (mixed race), and White. As a result, people were only allowed to find accommodation in an area designated for use by their particular racial category.

People who were classified as White, were allocated most of the urban territory as well as other prime locations (Cooper et al.: 1985, p.469). The amount of land set aside per household for African, Coloured and Indian group areas or townships was generally much smaller and situated on the periphery of the city. Usually there was a substantial buffer zone between the townships and the nearest White neighbourhood (Morris : 1998).

Even prior to the 1950's Group Areas Act, the Urban Areas Act of 1923 empowered municipalities to set up separate townships for African residents. People classified as African became victims of a series of laws that became known as the "pass laws". These pass laws emphatically controlled freedom of movement. Every African person was told where he or she could reside and moving out of one's designated residential area without permission was an offence. Millions of African people in South Africa were prosecuted under the pass laws - between 1950 and 1959, the average annual number of pass

law contraventions totaled 318, 700. At the height of the pass law prosecutions in the first half of the 1970s, the average number of people convicted annually reached 541, 500 – more than one a minute (Wilson and Ramphele : 1989).

Homelands

Under the pass laws, Africans were only given the right to live in a city if they were born there. The majority of Africans were not given the right to reside in the city and were forced to either live on White-owned farms or in the so-called homelands. These homelands were a central feature of the apartheid system. Approximately thirteen percent of the nation's land was divided into nine presumed homelands, each homeland was supposed to accommodate a different ethnic group. The ultimate aim of apartheid ideologues was that the large majority of the African population would be located in these homelands (Morris, 1988). The strict enforcement of the pass laws succeeded in the keeping Africans outside of urban areas, and in 1985 while ninety percent of the White, Coloured and Indian population lived in cities or towns outside of the homelands, only twenty-eight percent of the African population did (Urban Foundation, 1990, p.20).

Resistance to the pass laws intensified throughout the 1970s and 1980s as increasing numbers of people started moving into urban areas illegally and in spite of constant harassment from the authorities (Cole, 1987). They moved into shacks constructed in the backyards of people with urban rights, or they invaded empty land (Urban Foundation, 1990 ; Mashabela, 1988). By the mid 1980s it was clear that the state was unable to control the influx into urban areas from the desolate countryside. The anti-apartheid struggle had intensified and in 1986 the pass laws were scrapped and people of all races had the legal right to live in whichever city they wished. The Group Areas Act was still in place however, and so those African households in an economic position to relocate to the cities in the 1980s and early 1990s, were forced to

settle in areas adjacent to or in existing African-only areas, this perpetuating the racial structuring of the city (Morris, 1987).

Townships

The pass laws were scrapped in 1986 and the Group Areas Act abandoned in 1991, however, their effects are still felt today in the cities of South Africa. They have left a legacy, which is difficult for the ANC government to eradicate. As a result of the apartheid laws, phenomenal inequalities in terms of facilities and infrastructure in African townships versus White residential areas developed. The gap is very difficult to bridge. African townships were the most poorly provided for in terms of access to services, and a large proportion of houses in these areas were not equipped with electricity, or water-bourne sewerage and often roads were unpaved and drainage poor (Mashabela, 1988). Conditions in Coloured areas were generally superior to those in African townships, but were also often inadequate. Facilities in Indian areas were generally acceptable, while those in almost all White areas were equivalent to any middle-class neighbourhood in an advanced capitalist society (Morris, 1987).

Even though apartheid is now seen as being in the past, its effects still constrain the masses of people living in South African township areas. At the time of this study, approximately eighty-three percent of Blacks living in Khayelitsha lived in informal housing structures (Tygerberg Municipality, 1998). These are usually built from corrugated iron and the single room usually doubles up as a bathroom, kitchen and sleeping area for an average density of about three to four people (Tygerberg Municipality, 1998). As much as nineteen percent of Khayelitsha's residents live in informal, unserviced areas which means their sites have no access to electricity, running water and refuse removal. Only rudimentary services are offered in these areas, which include common-use taps at certain points in the area and one refuse dump cleared every so long. Only seventeen percent of Khayelitsha's residents live in formal housing structures with full access to services. As can

be seen, environmental urbanisation issues plague township areas of South African cities such as Cape Town.

Part B - Definitions

The following definitions are based on those of Dr. John Seager and the English Oxford Dictionary. Those from the English Oxford Dictionary are in *italics.*

City

There is no standard international definition of a city but it is generally assumed to mean a larger agglomeration of people of whom the majority are involved in commerce, industry or services.
(A large and important town, a town with special rights given by charter and containing a Cathedral.)

Community

A group of individuals organised into a unit, or manifesting some unifying trait or common interest; loosely the locality or catchment area population for which a service is provided, or more broadly, the state, nation, or body politic. Urban communities tend to be defined mainly in geographic terms whereas rural communities usually have closer social linkages.*(body of people living in one place or country and considered as a whole; a group with common interests or origins; the immigrant communities; fellowship*

Dormitory Towns

Towns which offer low cost housing for either daily or even annual migrants to the city.

Level of Urbanisation

The proportion of the population living in urban areas (as defined for a particular country)

Megacity

This term refers to cities with populations exceeding 5 million. By the year 2000 there will be 60 megacities in the world.

Metropolis

The phenomenon of the metropolitan area tends to be a feature of the developed world although it will become increasingly common in developing countries as populations increase. Essentially a metropolis is a number of cities or large towns, usually in close proximity, which function as a unit. Such units are important from an administrative point of view and although the tendency is to break down health services into districts within the city, it is important to have a metropolitan planning framework to avoid fragmentation and duplication of services. In South Africa, linking previously separate authorities under single metropolitan chambers e.g. Johannesburg and Soweto, is the new challenge for health service administrators. In Europe, where rapid transport systems allow commuting over long distances, there is debate as to whether secondary cities up to 50 or even 100 km from the primary city should be regarded as part of the same functional unit. *(The chief city of a country or region.)*

Peri urban

Although definitions of urban and rural seem relatively straightforward, they effectively exclude a large proportion of the population of developing countries, namely those who live on the urban fringe in informal settlements. These settlements are clearly not rural and the people living there usually depend almost entirely on the urban economy but nor are they recognised as official residents of proclaimed towns. At best the unofficial residents of the city are ignored and at worst, they may be systematically persecuted. (See Hardoy and Satterthwaite, 1989,p103 for more details)

Rural

If an urban centre is defined in terms of concentrations of people, we rapidly get into difficulties with our definition if large numbers of people concentrate in rural areas - do they then become 'urban'? South Africa has many quite densely populated deep rural areas in the former homelands, which have characteristics that render them more urban than rural. This introduces the need for a more sophisticated definition so urban and rural definitions often include a sociological or economic aspect, which includes measures of economic and social activity. Thus, it may be argued that residents of a rural area who depend entirely on the urban economy for their income e.g. remittances from migrant labourers, as opposed to an agricultural life-style, should be considered part of the urban economy and therefore urban.

(of, in, or like the countryside)

South

Common term typically used to refer to emerging economies, mostly based in the Southern Hemisphere.

Town

Definitions for smaller settlements have little practical value as they vary so much from place to place. However, many of the important urban health issues arising in cities also apply to smaller towns so we must not assume that the big cities are the only places to pose important urban health challenges.

(a collection of dwellings and other buildings, larger than a village and generally smaller than a city.)

Urban

An Urban Centre is usually defined as a concentration of people, buildings or economic activities which a government chooses to call "an urban centre". Definitions vary from country to country, so between country comparisons should be made with caution. In the South African census, areas are defined

as urban if they fall within the formal boundaries of a proclaimed town or city having a local authority. (*situated in a city or town.)*

Urban Growth

The growth of the population living in urban centres. This is not the same as urbanisation as there can be growth in the urban population which, if matched by a similar growth rate in the rural population, does not result in an increase in the proportion of people living in urban areas (urbanisation).

Urbanisation

The process by which an increasing proportion of the population comes to live in urban areas. This process may be influenced by economic, social and political factors.

Urbanise

Change (a place) into a townlike area.

Xhosa

The main local African language spoken by Black people in the Western and Eastern Cape provinces of South Africa.

Chapter 1

INTRODUCTION

This thesis aimed to investigate the determinants of Black women in Khayelitsha's smoking orientation and behaviour, with a specific focus on urbanisation.

Cigarette smoking has been chosen as the lifestyle under investigation because it is suspected that cigarette smoking is on the increase amongst Black women in South Africa. Traditionally, only small numbers of Black women in South Africa smoked, and smoking was seen as a taboo for women in their communities. However, it has been posited that marketing efforts by tobacco companies in South Africa have succeeded in starting to breakdown the barriers against Black women smoking (Yach and Patterson, 1994).

Some research has been done to measure base rates of smoking amongst Black women in South Africa and the findings suggest that there have been increases in the smoking rate among Black women in Cape Town between 1990 and 1995. In a study called BRISK which was carried out by the Medical Research Council of South Africa in 1990 in the Black residential and squatter areas of Cape Town, it was found that the smoking rates among women between the ages of 15 and 64 years was 6.3% (Steyn *et al* : 1994). However, in 1993, epidemiological estimates put the percentage of Black females who smoke, at the most, between 10% and 12% (Yach and Martin : 1993). In 1995 Reddy *et al* (1996) found the reported smoking rate among Black women in the Western Cape to be 9% and country-wide to be 10%.

Marketing may be one of the causes for the problem of increase in uptake and continuation of smoking amongst Black women in Cape Town, however, it can also provide tools for remedying it (Pollay *et al.*, 1996 : Pollay and Lavack,

1993 : Pollay, 1993). This thesis is based on the use of marketing technologies such as segmentation analysis and identification of the determinants of consumption behaviour, to contribute to tobacco control policy development and implementation. Although the field of marketing derives from the commercial sector, it is also applicable to the development and implementation of public sector policies and interventions, as well as to development initiatives via social marketing. (See e.g., Andreasen, 1995 : Kotler and Roberto, 1989 : Marks, 1998b : Prochaska *et al.*, 1992). Marketing techniques that have been applied strategically in this thesis include behavioural market segmentation (Kotler, 1997), analysis of behavioural loyalty or commitment (Kotler, 1997 : Hofmeyr, 1995) and the use of consumer behaviour theory to identify determinants of smoking behaviour and lifestyle (Shiffman and Kanuk, 1994 : Fishbein and Azjen, 1975).

Literature dealing with the issue of Black women and smoking, consumer behaviour and urbanisation has been reviewed in order to clarify the understanding of the objectives being researched more thoroughly. Each of these topics will be covered in chapters two, three and four respectively in this thesis.

In chapter two, tobacco usage worldwide and in South Africa, and the effects of tobacco usage from a public health viewpoint are examined. Chapter three discusses determinants of smoking behaviour and outlines the consumer behaviour theory upon which the model investigated in this thesis is constructed. Chapter four deals with urbanisation, its effects on health, and the various methods of its measurement. Chapter five lays out the hypotheses that were investigated as per the model constructed for investigation in chapter three. It is followed by chapter six which discusses the methodology. Chapters seven and eight present the self-reported smoking rate measured by this study and the demographics of the sample. Chapter nine presents the main findings in detail, based on the hypotheses that were not rejected. Chapter ten is the concluding discussion chapter with recommendations.

Chapter 2

BLACK WOMEN AND SMOKING

2.1 Introduction

Tobacco consumption in South Africa has been a concern not only for tobacco-control campaigners, but also for the government. Saloojee *et al.* (1992) found that tobacco consumption not only has an impact on physical well-being, but also that the economic costs in terms of absenteeism, health care, premature death and reduced productivity are large. The economic impact of tobacco has been analysed in countries as diverse as Thailand, South Africa, Switzerland, China and Brazil, and together these studies clearly showed that the alleged economic benefits of tobacco were illusionary (Yach, 1991).

Smoking rates in South Africa are quite high and Reddy, *et al* (1996) in a study conducted in 1995, reported the adult smoking rate in South Africa to be 31%. Different population groups, in terms of age, race and gender, showed different rates of smoking. Epidemiological estimates in 1993 put the South African Black male population who smoked at approximately 60%, while the estimated percentage of Black females who smoked, was at the most, between 10% and 12% (Yach, 1993) A few years earlier in 1990, the BRISK study conducted by the South African Medical Research Council (Steyn *et al.*, 1994), in the Black residential and squatter areas of the Cape Peninsular, found that the smoking rates among women between the ages of 15 and 64 years to be only 6.3%. More recently Reddy *et al* (1996) found the smoking rate among Black women in the Western Cape province to be 9% and country-wide to be 10%. The estimates of smoking rates among Black women in the Western Cape range between 6.3% and 10% (Steyn *et al.*, 1994 : Reddy *at al., 1996)* .

These figures are quite different from one another and this research attempted to report a further measure of the smoking among Black women in Khayelitsha. Due to the fact that an age and housing quota were applied in this research, weightings for age and housing context were applied before reporting the smoking rate found among women in Khayelitsha in 1998.

Traditionally Black females, along with Asian women, have had the lowest tobacco consumption level and the lowest rate of increase in consumption of all the population groups in South Africa. (Steyn, *et al.*, 1994 : Reddy *et al.*, 1996 : Steyn, *et al.*, 1997). However, Black women comprise over 39% of the national population and constitute a key market for 'fast-moving-consumer-goods' products like cigarettes. Consequently they have been increasingly targeted by tobacco companies, particularly prior to anti-tobacco laws being instituted in South Africa, and exposed to marketing aimed at them, as well as South African women and Black people in general. (Margardie, 2000; Yach and Peterson, 1994).

The adoption of a smoking lifestyle by females is particularly disturbing, from a public health perspective, because it is usually women who have a significant influence on the consumption behaviour of their children as well as other family and community members (Peter and Olsen, 1995 : Moschis, 1989). Thus, if women smoke they make an example for their children to follow.

2.2 Effects of Primary and Secondary Tobacco Smoke

Tobacco is a far more harmful drug than most people realise or are aware of (Temple *et al*, 1996). It is the only legal product which, when used exactly as intended, kills one out of every two users prematurely (Temple *et al.*, 1996). The list of diseases that have been found to be related to the use of tobacco is extensive (Surgeon General's Report, 2001). Not only are direct users of tobacco products at risk, but passive smokers are also at risk (California Environmental Protection Agency (CELEPA), 1997). Studies have shown

that measurement of nicotine levels in blood and urine samples of non-smokers indicate that breathing second-hand tobacco smoke can be the equivalent of light smoking (Behera *et a;*., 2000). It is on this basis that it has been predicted that passive smoking will induce tobacco-related diseases (Surgeon General's Report, 2001: Temple *et al.*, 1996). There are numerous studies that have investigated the risk factors for various diseases when exposed to either primary or secondary smoke (WHO, 1996). Studies have also concluded that secondary smoke not only affects people via serious illnesses and diseases, but in less severe ways, which for many sensitive people can be equally as disturbing (Temple *et al.*, 1996).

Exposure to environmental tobacco smoke (ETS) has been linked to a variety of adverse health outcomes and has been found to be causally associated with respiratory illnesses, including lung cancer, childhood asthma and lower respiratory tract infections (Surgeon General's Report, 2001). Non-smokers may suffer from a variety of effects due to the presence of secondary smoke in their immediate environment: eyes become irritated; brings headaches and nausea; can impair lung function, especially in asthmatics; angina (heart pain) is worsened (Temple *et al.*, 1996). There is also a much higher risk for respiratory problems in children whose parents smoke (Groner *et al.*, 2000). The WHO (1996), among others, has found that passive smoking can lead to diseases such as lung cancer. And that passive smoking can increase the risk in adults for various lung diseases, heart disease, stroke and can shorten life expectancy.

Even unborn children can be affected if their mother smokes (Klonoff, *et al.*, 1995). Many studies have been conducted internationally investigating the effects of smoking on pregnant women, (Upton *et al.*, 1998; Stick *et al.*, 1996; Kleinman *et al*, 1998) indicating that maternal smoking affects the health of foetuses and infants.

A study investigating the effects of maternal smoking on foetal and infant death was conducted in Missouri between 1978 and 1983 (Kleinman, *et al.*, 1988). This study used a large database of 360 000 birth, 2 500 foetal death and 3 800 infant death certificates for Missouri residents during 1979-1983, to assess the impact of smoking on foetal and infant mortality. Compared with non-smoking women having their first born, women who smoked less than one pack of cigarettes per day had a 25% greater risk of infant mortality, and those who smoked one or more packs per day had a 56% greater risk. Among women having their second or higher birth, smokers experienced 30% greater infant mortality than non-smokers, but there was no difference by amount smoked. The prevalence of smoking in the population was 30%. It was estimated that if all pregnant women stopped smoking, the number of foetal and infant deaths would be reduced by about 10%. There was also a higher mortality risk among Blacks compared with whites, but this could not significantly be attributed to smoking, age parity, education or marital status, which were all the characteristics studied.

In a related study by Malloy *et al.* (1988), using the same database, the association of maternal smoking with age and cause of infant death was investigated. It was found that smoking was associated with both neonatal and postneonatal mortality and with each cause of death, except congenital anomalies. The two main causes for the high mortality rates were respiratory disease and sudden infant death syndrome. The study concluded that the evidence suggested that respiratory deaths and sudden infant death syndrome deaths may be related to the effect of passive exposure of the infant to smoke after birth.

In a study conducted by Stick et al., (1996), it was found that infants of mothers who smoked had reduced respiratory function and were more likely to develop wheezing. In-utero smoke exposure, a family history of asthma,

and maternal hypertension during pregnancy were found to be associated with reduced respiratory function after birth

It has thus, been well established that smoking while pregnant can cause significant harm to the foetus, and such babies are often born under-weight (Florek *et al.*, 2000). They are also at a doubled and sometimes tripled risk of sudden death ("cot or crib death") (Kleinman *et al.*, 1988: Klonoff, *et al.*, 1995). The child may also grow at a retarded rate and be a few months behind in reading once at school (Haglund and Cnattingius, 1990). There is also growing evidence that smoking by the father before conception may cause genetic defects in the child and that there may be a doubling of the risk of harelip, heart defects, and leukaemia (Temple *et al.*, 1996).

The effects of passive smoking have briefly been discussed, however, the effects of smoking on the actual smokers themselves can be more serious. The World health Organisation (1996) has reported the following figures: lung cancer is more than ten times as common in smokers than in non-smokers; cancer of the mouth, throat, and oesophagus are at least seven times more prevalent in smokers; and there is also an increased risk for cancer of the bladder, colon, pancreas, cervix, kidney and for leukaemia In North America alone, four hundred (400) people die each and every day from smoking related cancers and as Temple *et al.* (1996) put it in their book *Health for the New Century:* "How would people react if a fully laden jumbo jet crashed and killed that many people on a daily basis?"

Smoking does not only cause lung cancer, it is also the chief cause of both chronic bronchitis and emphysema (Daniell, 1971). These sicknesses are five times more prevalent in smokers and the risk of dying from them is fifteen times higher if one is a smoker (Daniell, 1971). Something less likely to be attributed to smoking is the common cold or cough. These are far more common in smokers than in non-smokers and cataracts and peptic ulcers

occur twice as often (Daniell, 1971). Another fact that most smokers remain unaware of, is that smoking causes premature aging and wrinkling of facial tissue. Most smokers have been subjected to pervasive and creative advertising their whole lives and sadly believe that smoking is a sexy and inspirational thing to do. A study in the U.S. found that a smoker in his or her forties has as much facial wrinkling as a non-smoker twenty years older (West, 1992).

One out of every two smokers will die prematurely of some smoking-related disease. This information was published in a landmark study by Doll *et al.* (1994), which is to date the world's longest running study of the effects of smoking. It involved the tracking of the life-styles and health of 34 400 male British physicians over a period of 40 years. The study predicted that half of all regular smokers will eventually be killed by their habit and that a regular smoker loses, on average, about seven years off his life expectancy. In South Africa alone, in 1988, deaths from smoking-related diseases accounted for 33.7% of white, 25.8% of Asian, 16.6% of coloured and 5.4% of African deaths (Yach, *et al.*, 1992).

2.3 Facts and Figures about Smoking Worldwide

In 1995 the World Health Organisation reported the following figures regarding cigarette usage worldwide. There were about 1100 million smokers with 800 million in developing countries and 300 million in developed countries worldwide. About 6000 million cigarettes were smoked every year. In developed countries, about 41% of men and 21% of women regularly smoked cigarettes. In developing countries, about 50% of men but only about 8% of women smoked. Tobacco was the cause for about 3 million deaths a year, with about one third of them in developing countries. If smoking trends measured in 1995 persist, tobacco is likely to kill approximately 10 million

people a year in 25-35 years time, with about 70% of them in developing countries (WHO, 1995; Peto *et al.*, 1994).

WHO projected in 1995 that if smoking trends continued, that about 500 million people alive in 1995 (about 9% of the world's population) would eventually be killed by tobacco and half of them would be in middle age when they die, losing about 20-25 years of life. This is because about half of all smokers who start in adolescence and continue to smoke throughout their lives will eventually be killed by tobacco. Most of those killed by tobacco were not particularly "heavy" smokers, but most did start in their teenage years (WHO, 1995).

2.4 Tobacco Smoking in the Third World

According to the World Health Organisation, cigarette consumption over a decade ago in the third world was increasing faster than population growth rates (WHO, 1995). Between 1971 and 1981 consumption increased in Africa by 41.5% (population growth 23.4%), in Latin America by 32.4% (population growth 24.5%) and in Asia by 28.5% (population growth 21.8%). By comparison, in five industrialised nations (Australia, Canada, Japan, New Zealand, and the United States), tobacco consumption virtually matched population growth (12-13%). As can be seen, tobacco usage rates in third world countries have been very high (WHO, 1995). Overall in Africa, about 10% of the women are estimated to smoke cigarettes (Mackay, 1996).

2.5 Some Findings from Previous Research in Cape Town Area Townships

There is growing concern about the increasing tobacco consumption in developing countries, especially in urban communities. Limited and varying information is available on the prevalence and determinants of smoking in Black townships in South Africa, although studies such as that conducted by

Strebel *et al.* in 1989, suggest that urbanisation and increased earning power appear to boost tobacco consumption in the absence of active anti-smoking efforts. This study was conducted in three Cape Town area townships using a WHO questionnaire translated into Xhosa. The study found that in senior primary school-pupils, boys smoked much more than girls. The ratio of boys smoking to girls smoking was approximately seventeen to eight (17:8) and smoking prevalence was observed to increase with age, peer pressure and poor health knowledge. In adults smoking prevalence was 53% in men compared to 6% in women. In men, an urban experience of 6 or more years was significantly associated with smoking, after adjustment for age, health, knowledge and occupation. No association was found between level of education and smoking prevalence. Men in higher paid professions or occupations smoked more than those in low paid occupations. Unemployment, however, was not associated with smoking prevalence. On the basis of these findings of the above-mentioned study, Strebel *at al.* (1989) called for primary prevention of smoking in women and boys.

The BRISK study conducted in 1990 by the South African Medical Research Council, examined among other things, smoking amongst the Black population of the Cape Peninsula (Steyn, *et al.*, 1991). The findings showed that 50.3% of Black men and 6.3% of Black women between the ages of 15 and 64 years smoked cigarettes. There was a large differential between smoking rates among Black men and women. It was also found that for women, smoking was inversely related to their level of education, while for men it was directly related to being employed. Women below 45 years who had spent less than a third of their lives in the city had lower smoking rates than those who had spent more than a third of their lives in the city. Smoking was put forward at one of the most important public health issues facing the Black community of the Cape Peninsula.

2.6 Projected Deaths among Coloureds and Blacks for the Year 2000.

Using the World Health Organisation / International Agency for Research on Cancer classifications of causes of death, Yach and Joubert (1988) found that 34.5% of deaths among whites in SA were attributable to smoking-related causes in 1984. The comparable figures for Asians coloureds and Blacks were 24.5%, 14.5% and 3.9% respectively. In 1988 a similar study found that smoking-related deaths accounted for 33.7% of all white, 25.8% of Asian, 16.6% of coloured and 5.4% of African deaths (Yach, 1991). Even though the smoking-related deaths were low as a percentage among Blacks, by the year 2000 the scenario was predicted and expected to be much different. Yach and Joubert (1988) predicted that the aging of the Black population and the increased use of tobacco by Blacks is expected to increase the rate of smoking-related deaths by as much as 1200% by the year 2000. Having reached the year 2000, this remains to be investigated.

As smoking rates increase, more and more people in the long-term will become affected by smoking related diseases. Many of these diseases are chronic and in-curable. The public health system will be burdened with thousands of people needing long-term treatment and medication. Seager (1992) put it very plainly: "prevention is better than cure". As South Africa undergoes further socio-political change, comprehensive tobacco prevention programmes are needed to ensure that gains made in reducing infectious diseases are not eclipsed by the costs of increasing smoking-related disease (Steyn, 1996).

2.7 Conclusion

Smoking amongst Black women is a cause for concern. Not only does it affect their health but also that of their children. In the past Black women in South Africa have had relatively low rates of smoking and it is therefore

important to investigate the determinants of Black women's smoking so as to address these influencers in tobacco control endeavours.

This study investigated cigarette consumption behaviour and attitudes towards smoking among Black women in Khayelitsha. The sample was restricted to Xhosa women, as they make up the large majority of Black women in the Cape Town area. For more detailed information regarding the township of Khayelitsha, refer to the glossary and chapter 6.

Let us now turn our consideration to the field of consumer behaviour and the theoretical and research findings underpinning this study. The next chapter will show the consumer behaviour reasoning behind the modelling used for the analysis of the determinants of tobacco usage amongst Black women in Khayeltitsha.

Chapter 3

DETERMINANTS OF SMOKING BEHAVIOUR

3.1 Introduction

Behavioural prediction is a concern to marketing researchers because many expensive public and corporate decisions derive from forecasts of consumer's behaviours (Warshaw, 1980). The prediction of consumer behaviour is of great importance to the public sector because health related behaviours such as smoking, for example, can have marked effects on the long-term health and consumer spending patterns of South Africans (Saloojee *et al.*, 1992).

Smoking is a behaviour, the determinants of which people have sought to understand for many years. Reddy *et al.* (1996) stressed the urgent need for research on the determinants of smoking behaviour since current information was not yet comprehensive. Haire-Joshu *et al.* (1991) asserted that smoking is influenced by social, environmental, psychological and biological factors. Some of the factors that have been posited as having kept the global smoking rate for women low are in the process of transition, particularly in a country like South Africa. Such factors are: (Mackay, 1996)

- Smoking has been considered to be socially unacceptable for women,
- Women have had less spending power than men, and
- Women may be more inclined to spend their money to provide for their families before themselves.

However, the impact of factors such as these is being affected by societal changes like urbanisation and economic growth. With urbanisation for example, increases in education and associated marginal increases in income usually occur (Yach, 1990). One would expect that as education levels

increase, tobacco usage rates should decrease, as is the case in developed countries, however, Yach and Joubert (1988) found this to be the case among Blacks in South Africa only after a certain threshold of average education, such as 12 years of schooling, had been reached. Thus, while in developed countries education level is negatively correlated with smoking rates, in developing countries such as South Africa this relationship is positive. Yach and Joubert (1988) projected that as an increasing percentage of Black South Africans enter urban areas, the overall social class standing of Black people will increase due to higher levels of income and education or occupation, resulting, among other things, in increased tobacco consumption per capita.

Some other determinants that have been identified as being closely related to changing tobacco consumption patterns in developing countries are attitudes towards smoking, aggressive marketing of tobacco products (and lack of control of advertising), the affordability of cigarettes (a function of GNP per capita as well as control over household income) and urbanisation (Yach and Martin, 1993). In South Africa the issue of control over advertising has been dealt with by a ban being implemented on tobacco advertising in May 2000, however at the time of the data collection for this study in 1998, there were no advertising bans in place yet.

The reason that Black women were chosen for investigation in this research is because women have a significant influence on the consumption behaviour of their children, family, friends and community (e.g. Peter and Olsen, 1995; Moschis, 1989). If the rate of smoking amongst Black women in South Africa increases, this may result in an increase in the smoking rate of their children, family and friends.

This research aims to investigate the determinants of Khayelitsha women's smoking orientation and behaviour in order to identify the most important factors influencing their smoking behaviour. This chapter discusses relevant

literature relating to each of the constructs under investigation and details the model proposed for investigation. Urbanisation, being a focus, will be discussed separately in chapter 4.

3.2 Investigating Determinants of Smoking Behaviour

Researchers investigating the determinants of cigarette smoking behaviour have found some factors to be more influential than others. In a longitudinal study that investigated the predictability of the second-year smoking status among adolescents who were initially Triers or Non-Smokers in year one, Sherman *et al.* (1984) found that smoking transition could be predicted using three types of social psychological variables.

The three types of variables were: Fishbein and Ajzen's (1974) factors (attitudes, normative beliefs and behavioural intentions about smoking); Jessor and Jessor's (1977) distal variables (more generalised personality and perceived environment factors); and smoking environment variables (the extent of smokers modelling the behaviour in the adolescent's social milieu). In this study, the predictive powers of each of these three categories of factors were compared, and all three classes of social psychological variables were statistically significant predictors of smoking transition. Fishbein and Azjen's variables were found to be more important in predicting Triers' transition towards cigarette smoking.

Fishbein and Azjen's model of reasoned action (1975 : see also Ajzen and Fishbein, 1980 : Fishbein, 1980b) has received considerable and, for the most part, justifiable attention within the field of consumer behaviour (e,g, Ryan and Bonfield, 1975, 1980). Not only does the model have predictive power for consumer intentions and behaviour, it also provides a relatively simple basis for identifying when and how to target consumer's behavioural change attempts (Sheppard *et al.*, 1988).

Fishbein and Ajzen's theory-of-reasoned action model stands as a milestone in the development of behaviour prediction models in consumer behaviour theory. As such, even though the model has not been replicated in its totality in this thesis, it is still discussed and explained in this chapter for both its theoretical value and its influence on certain constructs included in the model being investigated. In many instances the measures required to replicate Fishbein and Ajzen's model were unsuitable for the level of education and the language barriers existing in the sample population. As a result the model for investigation has been constructed in accordance with the key constructs relevant to the South African context.

Ajzen and Fishbein (1970) suggest that behaviour is a function of behavioural intentions, which in turn, are a function of attitudes toward the act in question and beliefs about the expectations of significant people in the social world. Ajzen and Fishbein (1980) recognised that people's attitudes towards an object may not be strongly or systematically related to their specific behaviours. Rather, the immediate determinant of whether or not consumers will engage in a particular behaviour is their intention to engage in that behaviour. Fishbein modified and extended his multiattribute attitude model to relate consumer's beliefs and attitudes to their behavioural intentions.

The model is called the-theory-of-reasoned-action because it assumes consumers consider the consequences of the alternative behaviours under consideration (Ajzen and Fishbein, 1980) and choose the one that leads to the most desirable consequences. The outcome of this process is an intention to engage in the selected behaviour. The behavioural intention is the single best predictor of their actual behaviour. In sum, the theory of reasoned action proposes that any reasonably complex, voluntary behaviour is determined by the person's intention to perform that behaviour. The theory of reasoned action is not relevant for extremely simple or involuntary behaviours such as

automatic eye blinking, turning your head at the sound of the telephone, or sneezing.

According to this theory, people are more prone to perform behaviours that are evaluated favourably and that are perceived to be acceptable to other people. They are also prone to refrain from behaviours that are regarded unfavourably and that are unpopular with others.

In trying to understand cigarette smoking behaviour, it is therefore necessary not only to determine intention to smoke, but also to look at attitudes and normative expectations.

The theory-of-reasoned-action model also proposes that external factors influence one's attitude towards a behaviour and one's understanding of subjective norms about that behaviour. External factors include demographics and environmental influences such as social environment (product usage exposure) and marketing environment (media usage exposure). Normative expectations and attitudes then affect behavioural intention, which in turn affect behaviour (Fishbein, 1980).

This study drew upon the theory-of-reasoned-action's constructs of attitudes, normative expectations and behavioural intent to investigate Black women's smoking behaviour. It also investigated external factor antecedents mentioned in the theory-of-reasoned-action. These external factors included: demographic variables, which represent what one is born into or has, and environmental variables such as product usage and media usage exposure, which is what a person is exposed to in their environment. Personal variables which are the personal perceptions and beliefs about consequences of behaviours that a person constructs themselves, consisted of attitudes and normative expectations. These personal variables will now be discussed in

more detail, followed by discussions of the environmental and demographic variables.

3.2.1 Personal Variables

3.2.1.1 Attitudes

A crucial aspect of attitude towards the consequence of smoking, with reference to Black women, is their perception of how appropriate it is for Black women to smoke. Black women's smoking is broadly perceived to be taboo in South Africa (Marks *et al*, 1998) and therefore, the social consequences of a Black woman smoking are profound. Qualitative research (Marks *et* al, 1998) found that even Black women who are smokers are self-conscious about the appropriateness of Black women smoking. This taboo is perceived by both smokers and non-smokers as being an important aspect of what influences women's smoking behaviour. Thus, the attitude investigated in this study was the perceived appropriateness of a Black woman smoking which was labelled "attitude towards Black women smoking".

3.2.1.2 Normative Expectations

Psychologists and sociologists interested in individual behaviour have frequently made use of the attitude concepts whereas theorists dealing with groups and societies have often relied on the concept of normative expectations. By including an attitudinal and a normative component, the model used in this study investigates the importance of both concepts.

According to Fishbein and Azjen (1975), the normative component is expected to register the forms of social influence that impact on perceived expectations. While others (Deutsch and Gerard, 1955 : French and Raven, 1959 : Kelman, 1961) have attempted to distinguish between various types of social influence because of their differing motivational properties, Fishbein combines these influences into an overall 'normative expectation' – the

person's perception that important others think he/she should not engage in a certain behaviour.

Consequences that may lead to reward or punishment from a given referent accompany the performance of an act. Depending on the person's evaluation of these consequences, their attitude toward the behaviour will either be favourable or unfavourable (Fishbein and Azjen, 1975).

Thus, a subjective norm can be measured by assessing a consumer's feeling as to what specific others (family, friends and acquaintances) would think of the action being contemplated; would they look favourably or unfavourably on the anticipated action? (Fishbein and Azjen, 1975)

A multiethnic study conducted in the USA by Carvajal *et al.* (2000), investigating the determinants of smoking, found that attitudes, friend's norms, parent's norms, perceived behavioural controls and perceived prevalence, were consistent predictors of smoking status outcomes.

In this study, normative expectations were measured by asking each respondent how she would expect a range of people (partner, mother, father, children, siblings, friends and acquaintances) to react if they were to see her smoking.

3.2.1.3 Consumption Intention and Lifestyle Commitment

An intention can be viewed as a plan to engage in a specified behaviour in order to reach a goal (Baggozzi and Warshaw, 1990). The stronger a person's intention, the more they are expected to try, and hence the greater is the likelihood that they will perform the specified behaviour (Azjen and Madden, 1986). Since much human behaviour is under volitional control, most behaviours can be accurately predicted from an appropriate measure of the

individual's intention to perform the behaviour in question (Fishbein and Azjen, 1975).

Intentions have often been viewed as the conative component of attitude, and it is usually assumed that this conative component is related to the attitude's affective component. This conceptualisation has led to the assumption of a strong relation between attitudes and intentions.

Numerous recent studies have investigated the theory of reasoned action and the relationship between intentions and behaviour (Sheeran and Orbell, 1999 : Albaraccin *et al*, 1998 : Sutton, 1998 : Strader and Katz, 1990). Behavioural intent has been found across most studies to be a strong predictor of behaviour. The theory-of-reasoned action describes behavioural intent as the probability of one performing the behaviour in question.

However, smoking cigarettes is a complex consumption behaviour that is an ongoing process of product usage. To understand someone's consumption intent towards using a tabooed product such as cigarettes, it is helpful to think further than merely the probability of her performing the specific behaviour, and by viewing smoking as a continuum of commitment to a lifestyle which either includes or does not include the smoking of cigarettes.

3.2.1.3.1 Conversion Model

A model known as the Conversion Model (Hofmeyer and Rice, 1995 : Research Surveys, 1998) has been developed which is a psychological measure of commitment to consumption behaviour and is based on catastrophe theory (Brown, 1995). It is a proprietary tool that measures the strength of the relationship between customers and their use of products or services. It places each person in a market into one of eight segments. Users are divided into entrenched users, average users, shallow users and convertible users; and non-users are divided into available non-users, ambivalent non-users, weakly

unavailable non-users and strongly unavailable non-users. The eight segments range from least to most committed to the product usage or behaviour.

The background to the Conversion Model is that it was first developed in 1988 to account for religious commitment and conversion, and subsequently adapted for use in commercial marketing research (Hofmeyer, 1995). Since then it has been applied commercially in over 70 countries in 2000 projects for more than 150 product categories and 80 of the world's leading multi-nationals.

The Conversion Model has been adapted in this study to measure commitment to a smoking or non-smoking lifestyle. It measures respondents' propensity to move from one overall product usage state to another. Although not a direct measure of behavioural intent as defined by Fishbein and Ajzen (1975), it gauges the degree of a person's intention to pursue their current consumption behaviour or switch to the opposite one. In fact, the strength of this model of consumption intent is that it is able to place a respondent on a continuum ranging from highly committed to a smoking lifestyle on one end, through to highly committed to a smoke-free lifestyle on the other end. This makes it easy to identify those people who are most prone to switch to smoking. This readiness to take up smoking is important to identify in order to counteract it with tobacco control interventions. This measure has been labeled 'lifestyle commitment' for the purposes of this thesis and will be used as an indicator of behavioural orientation in the model to be investigated.

The Conversion Model consisted of five questions regarding smoking or non-smoking: the amount that one thinks about stopping or starting smoking; one's opinion about the reasons to stop or start smoking; the amount of pleasure one does get or would get from smoking; how good or bad one does or would feel about oneself when one smoked; and the extent to which smoking does or would fit into or interfere with one's life. A list of the

questions used is shown in Appendix E in green ink. The logarithm and method of calculation cannot be shown because the Conversion Model is a proprietary tool.

It is important to note that the lifestyle commitment categories are rooted in the respondents' current smoking or non-smoking behaviour, and thus, are perfectly correlated with smoking behaviour. Categories 1 to 4 define level of commitment to a smoking lifestyle amongst smokers, and categories 5 to 8 define level of commitment to a non-smoking lifestyle amongst non-smokers. Specifically, these categories are defined as follows: (1) entrenched users (serious about continuing smoking), (2) average users (leaning away from giving up smoking); (3) shallow users (leaning towards giving up smoking), (4) convertible users (serious about giving up smoking), (5) available non-users (serious about taking up smoking), (6) ambivalent non-users (leaning towards taking up smoking), (7) weakly unavailable non-users (leaning away from taking up smoking) and (8) strongly unavailable non-users (serious about not taking up smoking). An interesting consideration is that current smoking or non-smoking behaviour does not necessarily reflect future behaviour. In trying to predict future smoking or non-smoking behaviour, level of commitment to a smoking or non-smoking lifestyle is indicative of consumption intent.

3.3 External Factors

The theory-of-reasoned-action not only deals with the direct determinants of intentions to perform a given behaviour, which are attitudes and perceived social pressures, but it also deals with the antecedents of attitudes and subjective norms, antecedents which in the final analysis indirectly determine intentions and actions (Fishbein and Azjen, 1975). These antecedents or external factors influence the person's personal attitude and normative expectations and, to an extent, the relative weights of the two components.

The external factors investigated in this study were environmental influences and demographic variables.

Smoking research has identified the following variables as contributing to the explanation of smoking behaviour, each of which is included in the proposed model investigated in this study: physical environment (measured here by urbanisation); marketing environment (measured here as media usage exposure); social environment (product usage exposure), and demographic characteristics (age, income, education and urbanisation). Tobacco research findings regarding each of these variables is discussed below.

3.3.1 Environmental Variables

3.3.1.1 Media Usage Exposure

The tobacco industry spends billions of dollars so as to shape people's attitudes and perceptions towards cigarette smoking (Wallack and Montgomery, 1992). Researchers have found that advertising also plays an important role in influencing the degree to which health information reaches populations in developing counties (Yach and Paterson, 1994). Tobacco control advocates have claimed that tobacco advertising distorts public health messages and has been particularly successful in influencing poor and uneducated people to start and continue smoking (Wallack and Montgomery, 1992). Furthermore, the Surgeon-General's report in 1994 (US Department of Health, 1994) concluded that tobacco advertising 'increases young people's perceptions of the pervasiveness, image and function of smoking'. As such, the effects of tobacco advertising on smoking behaviour is an ongoing focus of public health research.

In trying to investigate the relationship between tobacco advertising and smoking or lifestyle commitment, it is not reasonable to expect to obtain accurate self-reported information from respondents regarding their exposure to tobacco advertising and promotions. In general, people do not recall the

exact time, position and message of every advertisement they are exposed to (Belch and Belch, 1995). Therefore, instead of attempting to measure direct tobacco-advertising exposure in this study, overall media usage exposure was examined. It was assumed that the more one is exposed to the media, the greater the likelihood of being exposed to some form of cigarette advertising or promotion. It is important to note that this study was conducted prior to the institution of the Tobacco Control Advertising ban in South Africa in 2000.

With regard to the prevalence of tobacco-related advertising and sponsorship in South African media prior to 2000, Yach and Paterson (1994) found that tobacco-related expenditure constituted 4,8% of the R3 billion spent on advertising in 1993. Print and radio together accounted for 72% of all tobacco advertising, while cinema and outdoor advertising were most dependent on the tobacco industry for revenue. Yach and Paterson (1994) monitored ten magazines and found that annualised spending for the ten magazines reached an estimated R230 million, of which tobacco adspend accounted for 6.4%. For 26 of the 30 issues studied, tobacco adverts were on the back cover. They also found that brand targeting was evident in Black, women's and family magazines. Yach and Paterson (1994) concluded that tobacco advertising through radio and outdoor advertising, reached illiterate communities in peri-urban and rural areas, and that tobacco advertising in magazines targeted specific consumers such as Blacks and women.

There is reason to believe that Black women in South Africa who have a high media usage exposure have therefore also been exposed to tobacco advertising. The tobacco transnationals, before the banning of tobacco advertising in May 2000, were targeting Black segments through advertising campaigns on billboards along the major transport routes, and through print media and radio. Tobacco sponsorship of sporting events was also conveyed on television (Strebel *et al.*, 1989: Yach, 1989). A large proportion of the South

African Broadcasting Association's revenue came from tobacco advertisements prior to the ban being implemented (Steyn *et al.*, 1994).

Steyn *et al.* (1994) in a study aimed at determining tobacco-use and related factors in the Black population of Cape Town, found that no differences existed among the smoking behaviour categories with regard to their pattern of watching television, listening to the radio or reading the newspaper. However, the study did indicate that a large number of smokers were exposed to the media, with about 80% having listened to the radio, 60% having watched television in the previous two weeks and 34% of male and 23% of female smokers having read newspapers during the same period.

This study investigated whether media usage exposure was related to lifestyle commitment and smoking behaviour.

3.3.1.2 Product Usage Exposure

Product usage exposure is an important factor to consider as a determinant of smoking behaviour and lifestyle commitment because it ties in strongly with the concept of vicarious learning. Social learning theory posits learning to take place vicariously, even in the absence of direct reinforcement (Manz and Sims, 1981 : Bandura, 1977). This occurs through a process called modeling or observational learning, where a person observes the behaviour of others, remembers it, and imitates it. Hence, it is plausible that the higher a woman's product usage exposure to other's use of cigarettes, the more likely she will mimic the smoking behaviour at some point in her life.

A study showing the influence on smoking behaviour by exposure to peer and role model example is one that investigated attitudes towards health amongst American Indians. Kegler *et al.* (2000) found that most teens smoked their first cigarette with friends, siblings or cousins, usually out of curiosity, or in response to peer encouragement. Overall the product usage exposure of

these teens was very similar to the product usage exposure of other teens in the United States (Kegler *et al.*, 2000). Similarly, in a study conducted in Hong Kong among 8-13 year old children, Peters *et al.* (1997) found that a key factor associated with ever-smoking was having one or more smokers at home.

In South Africa, Yach and Townshend (1988) found that smoking habits among male and female adults were related to their exposure to smoking by their peers and role models. Similarly, Strebel *et al.* (1989) found in a study conducted amongst male and female Blacks in South African townships, that smoking prevalence increased with peer pressure to smoke. A study of urban pregnant women in South Africa, found that a key factor in unsuccessful smoking cessation during pregnancy was having a partner who smoked (Steyn *et al.*, 1997). The study also found that women who smoked during pregnancy lived in homes with significantly more smokers than in the homes of non-smoking women.

Findings such as these, suggest that the higher one's exposure to product usage by others, the higher the likelihood that one will be drawn towards smoking. Another consideration is that because cigarette smoking is taboo for Black women (Mackay, 1996), exposure to females smoking in the household while growing up or in current social environment is unusual, and therefore the impact of this exposure by role models or friends may be amplified. Exposure to product usage by family, friends and acquaintances has been included in the model investigated.

The product usage exposure measure includes one's exposure to cigarettes while growing up as well as exposure in one's current social environment. Product usage exposure while growing up covers whether one was sent to buy cigarettes for others while growing up and whether people smoked in one's household while growing up. Product usage exposure in one's current

social environment covers the number of smokers in one's household 'now', what percentage of these household smokers are female and what percentage of one's female friends are smokers

3.3.2 Demographic Variables

Four demographic variables were examined: age, income, education and urbanisation.

3.3.2.1 Age

Age has been found in some studies (Strebel *et* al, 1989: Maziak *et al*, 2001) to be positively related to smoking, i.e. older women are more likely to smoke. Strebel *et al.* (1989) in a study conducted amongst male and female Blacks in South African townships, found that smoking prevalence among Black women increased with age. Steyn *et al.* (1994) in a study conducted amongst male and female Blacks in Cape Town, found that women in the oldest groups, 55-64 years, smoked more than other age groups. For both men and women, the youngest age groups, 15-19, smoked the least.

In the past, smoking has been considered to be socially unacceptable for women in traditional societies and emerging economies (Mackay, 1996). However, qualitative research (Marks *et al.*, 1998) has suggested that many Black women in South Africa believe that it is acceptable for older women to smoke pipes, home-made cigarettes and snuff. Steyn *et al.* (1994) found that of those women who smoked, 2.8% smoked a pipe and all women who smoked a pipe were older than 45 years. They also found that more younger women than older women reported smoking as being harmful.

This pattern of older women smoking more than other age groups has been found in other emerging economies. For example, in a study conducted among low-income women in Aleppo, Syria, Maziak *et al.* (2001) found that smokers were more likely to be older and economically better off that non-

smokers. Steyn *et al.* (1994) found that women above 54 years in the lowest urbanisation category (less than a third of life spent in urban environment) were by far the heaviest smokers. Strebel *et al* (1989) in a study conducted amongst male and female Blacks in Cape Town area townships, found that of the women, 7% were ex-smokers, 3% were light smokers and 3% were moderate to heavy smokers, however, no clear age trends were detected. This study investigated whether a significant relationship exists between age and smoking behaviour.

3.3.2.2 Income and Education

In another study conducted in South Africa in Mamre, which is a village on the West Coast north of Cape Town, a relationship was found between smoking and education and age (Yach and Joubert, 1988b). Among women, education, age and employment were independently related to smoking and the highest risks were among the youngest and the unemployed. For example, women who were unemployed, less than 45 years old and who had less than a Grade 11 education, were twelve times more likely to smoke than younger women who were employed and more educated (Yach and Joubert, 1988b).

Similar to these findings of Yach and Joubert (1988b), Steyn *et al.* (1994) found that women smoked significantly less the higher their level of education. They also found that women who had a motor car in their household, which is an indication of household income, smoked significantly less than those without a motor car.

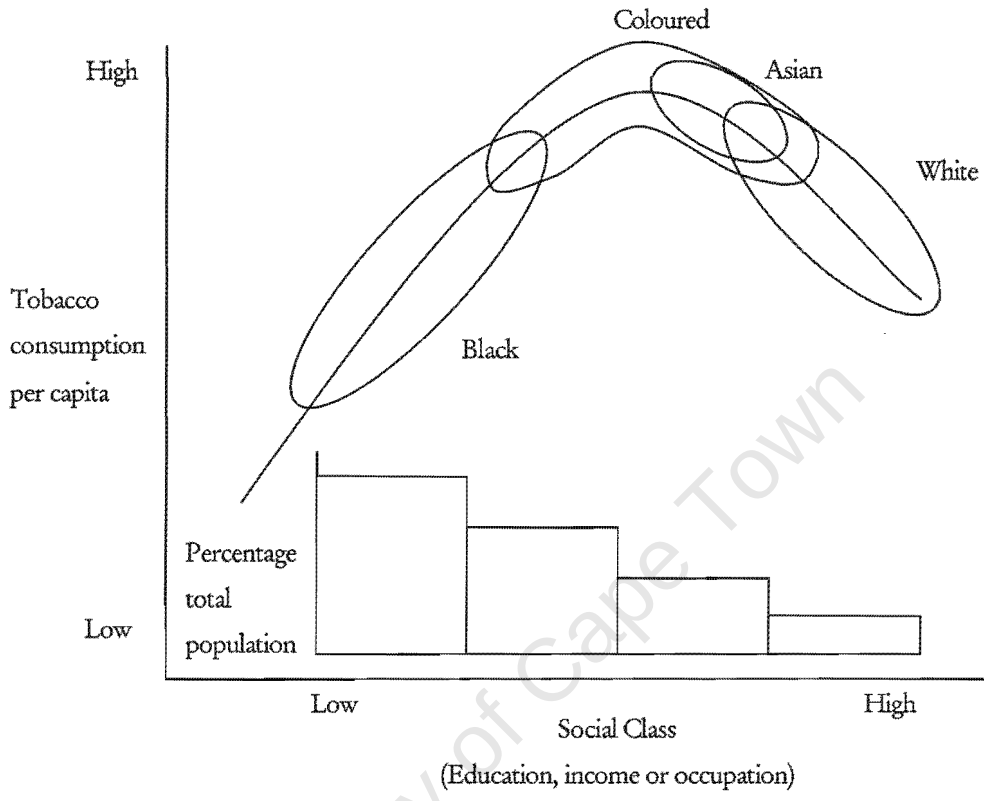
Income and education are usually closely correlated and recent findings suggest that there is also often a correlation between these two demographic variables and level of urbanisation. The 1988/89 Race Relations Survey (South African Institute of Race Relations: 1989) reported that with increasing urbanisation there have been rapid increases in education levels, particularly among the Black population in South Africa. These increases have also been associated with marginal increases in income (Yach, 1990). For example, in

the North West province of South Africa, Vorster *et al.* (2000) found that among Blacks, improved socioeconomic circumstances (measured by income and education level) observed in the wealthiest urban (formal, serviced) areas were accompanied by better health behaviours including lower smoking and drinking.

In 1988, Yach and Joubert (1988) reported that among all population groups in South Africa, people with more than 12 years of education reported lower smoking rates. This finding suggests that after a certain threshold of education (12 years), increased level of education leads to decreased smoking rates. In a study by Yach (1990), where social class represented a combination of education and income or occupation, the results mirrored those of Yach and Joubert in 1988. An inverse relationship was found to exist between social class (education and income) and smoking behaviour for the majority of the Black population.

In fact, Yach (1990) found a curvilinear relationship to exist between tobacco consumption and social class, which itself is correlated with the racial hierarchy of apartheid. The figure below shows how in one group of South Africans (Whites, Asians and Coloureds) there existed an inverse relationship and in another (Blacks) a direct relationship between tobacco consumption per capita and social class (education, income and occupation). Only when the overall spectrum was considered did the true relationship become apparent.

Figure 3.1 : Simplified Relationship Between Tobacco Consumption, Social Class and Race in South Africa.



Source: Yach, 1990: 1122

A high proportion of the Black South African population was found to fall into the lowest social class category and even small increases in income or education were likely to push them into higher tobacco consumption patterns (Yach, 1990 : Steyn *et al.*, 1994). In line with the Yach and Joubert finding (1988), after a certain threshold of education (12 years of schooling or more), the relationship between class and smoking amongst Blacks was found to be consistent with that of Whites in South Africa, where class is inversely related to smoking rates (Yach, 1990).

Interestingly, Strebel *et al.* (1989) in a study conducted amongst male and female Blacks in South African townships, found no significant association

between education level and smoking. This relationship between education and smoking behaviour, as well as the relationship between household income and smoking behaviour, was investigated in this research.

3.3.2.3 Urbanisation

Considering that smoking has been identified as a socially taboo behaviour amongst Black women in South Africa, we could expect that when women move from more rural or less urbanised areas to more urbanised areas, they may adopt behaviours that in their former environments were culturally and socially unacceptable for their defined social roles. It is therefore important to investigate whether one's lifestyle commitment to being a smoker or remaining smoke-free and current smoking behaviour, is related to one's level of urbanisation.

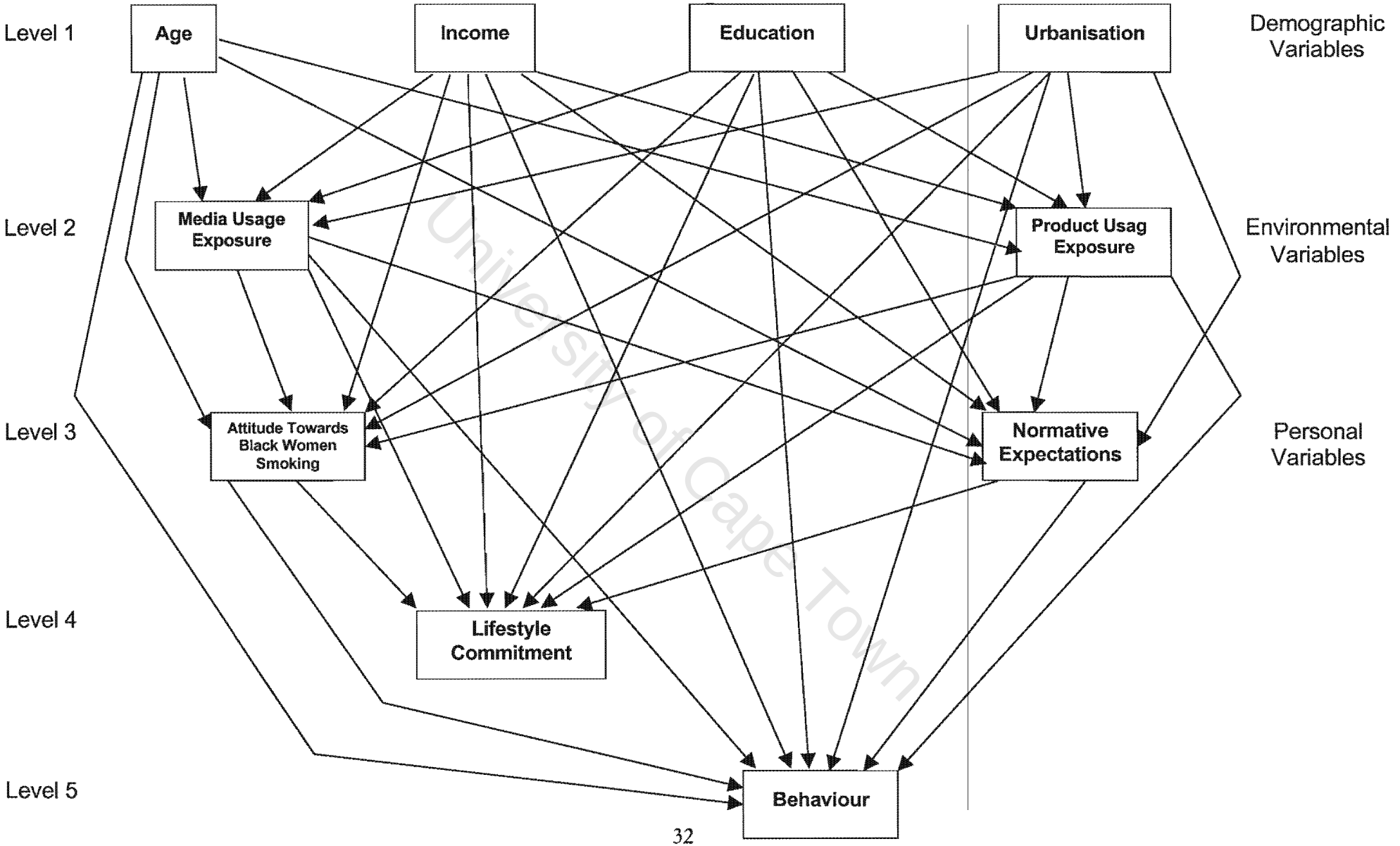
The relative role of urbanisation in determining smoking is the focus of enquiry in this thesis, and is discussed in detail in the following chapter.

3.4 The Model

The model proposed for testing in this study, is comprised of the constructs discussed in this chapter. The Level 1 antecedents consist of demographic variables, Level 2 consists of the Product and Media Usage Exposure measures. Level 3 is made up of Attitude Towards Black Women Smoking and Normative Expectations, and Level 4 is the Conversion Model measure of Lifestyle Commitment. Level 5 is Behaviour, which was a self-reported dichotomous variable: being a smoker or a non-smoker.

Each of the relationships amongst the variables, as depicted by the arrows in the diagrammatic depiction of the model on the next page, was investigated.

Figure 3.2: Model to be Investigated



Chapter 4

URBANISATION

4.1 Introduction

In the twenty-first century, urbanisation is an important issue facing the world at large and particularly developing countries. Urbanisation in the Southern hemisphere is rapidly increasing, and estimates indicate that more than half the global population will live in urban agglomerations in the next century (WHO, 1992 : World Bank, 1992). The world's urban population in 1996 was around 2.6 billion (just under half the world's total population), two-thirds in developing countries (Harpham *et al.*, 1997).

In theory, living in urban areas should present great potential gains, including in health, for the inhabitants (Harris, 1992), however, in reality increases in urban populations are synonymous with the growth of urban poverty (Stephens, 1995). It is estimated that 30-70% of urban populations in developing countries are living in conditions of extreme material deprivation characterized by inadequate environmental services including water, sanitation and waste disposal, as well as poor quality shelter and limited access to social services including health and education (Hardoy *et al.*, 1992 : Bradley *et al.*, 1992 : Gilbert and Gugler, 1992 : Hardoy and Satterthwaite, 1989 : Hardoy and Sattherthwaite, 1991). The study of urban health has highlighted how low-income city populations suffer the "worst of both worlds" (Harpham *et al*, 1997) and has demonstrated large health inequalities within cities in developing countries (Stephens, 1996).

The physical, social and economic characteristics of rapid urbanisation in developing countries have an impact on health, which has begun to capture the attention of international public-health researchers over the past decade

(Hapham *et al.*, 1997). International analysts and policymakers have begun to focus more closely on assessing the environmental health impacts of urbanisation and on identifying environmental problems in urban areas of developing countries (Leitman, 1992 : Stephens *et al.*, 1994 : McGranahan, 1991 : Benneh *et al*,: 1993). Stephens (1995) asserts that urban poverty and the effects of the growing polarization in living conditions and health consequences between groups within cities, is a crisis confronting urban policy makers in terms of human health and quality of life.

Tabibzadeh, Rossi-Espagnet and Maxwell (1989) found that among the disadvantaged, economic deprivation tends to correlate closely with inadequate material conditions. Their description of the situation faced by a large number of disadvantaged urban dwellers is that 'they (the urban poor) are caught in a web of insecurity, low income, environmental hazards and unsatisfied human needs'.

4.2 Measurement of level of Urbanisation

There exist a wide variety of approaches to measuring urbanisation, some of which are presented in this chapter. Those most relevant in a South African township context will be adopted for use in this study.

Of particular interest to consumption behaviour such as cigarette smoking, is the emphasis that the primary health care literature places on physical living conditions when discussing urban health. Inadequate urban facilities such as housing, water, electricity, waste disposal and sanitation are associated with the urban poor (Hardoy *et al.*, 1992 : Bradley *et al.*, 1992 : Gilbert and Gugler, 1992 : Hardoy and Satterthwaite, 1989 : Hardoy and Sattherthwaite, 1991).

Some groups of people living in urban areas experience extremes of social disadvantage and material deprivation, while other groups in urban areas

experience the exact opposite (Stephens 1995). The extent of inequalities in assets and physical conditions within cities has received more attention in recent years (Harpham and Stephens, 1991a : Harpham and Stephens, 1991b : Hardoy and Satterthwaite, 1989 : Bradlet *et al.*, 1992) and is itself potentially important in terms of urban health (Stephens, 1995). This suggests that different levels of urbanisation can exist within an urban area, and that these levels can possibly be measured by differences in physical conditions.

von Schirnding *et al.* (1991) linked quality of housing to poverty in South Africa, and demonstrated high housing related risks for acute respiratory infections (ARI) and diarrhoeal disease amongst South African children. Three housing factors were particularly related to health and safety: the first is overcrowding; the second is inadequate utility services, particularly potable water supplies, and refuse and sewage disposal facilities; and third is the quality of dwelling and shelter.

4.2.1 Housing Context

Cooper *et al.* (1990) in a study conducted among women in Khayelitsha to determine the relationship between urbanisation, health status and use of health services, described a strong relationship between area of residence and urbanisation factors. Those in the areas with formal housing and utility services were found to have longer urban exposure and weaker rural ties than those in areas with informal housing and in most cases very few utility services. Cooper *et al.* (1990) asserted that area of residence, i.e. formal versus informal housing area, can act to some extent, as a proxy for urbanisation status when examining the effects of urbanisation on the health of respondents.

Cooper *et al.* (1990) found that in the unserviced and poorly serviced areas, which accommodate the more recent arrivals and those with the poorest socio-economic conditions, there is the least access to health care and

facilities. This is concurrent with findings by Yach *et al.* (1990). They too found that ties to the rural areas were strong, particularly in the informal housing areas. 'New arrivals' to an urban area were young, mostly unemployed, and lived in the worst environmental conditions. In the informal, unserviced areas, 47.5% of the women had migrated to an urban area within the last 5 years. Those living in the formal, serviced housing areas were more likely to have been born in Cape Town or in another urban area. They showed a greater orientation toward life in Cape Town and weaker links with the rural areas. Area of residence is therefore an important variable to consider in a study investigating urbanisation as a determinant of smoking behaviour.

Based on findings such as those of Cooper *et al.* (1991), in South Africa, public health research has tended to use housing context to divide urban residential areas into three groups based on the nature of the housing structure and access to amenities (Steyn *et al.*, 1991 : Cooper *et al.*, 1991: Strebel *et al.*, 1989). These are: formal, serviced; informal, serviced; and informal, unserviced housing areas.

The benefit of using the housing context categorisation is that it can be determined from data available from urban planning departments. Furthermore, it is a tangible variable that is easy to understand, identify and explain to interviewers in research and fieldwork situations. In addition, other local health-related research studies have used it as an urbanisation segmentor, which allows for some degree of comparative analysis (Steyn *et al.* 1991 : Cooper *et al.*, 1991).

The three different housing contexts are described below in more detail. Descriptions are based on information obtained from the Tygerberg Municipality (1998) in the Cape Town metropolis. Photographs depicting each housing context can be found in Appendix A.

Formal, Serviced Housing Area

Formal serviced housing areas refer to brick structures with access to services such as water, sewage, electricity, tarmac roads and refuse removal.

Informal, Serviced Housing Area

Informal, serviced housing areas consist of housing structures made of corrugated iron and sometimes wood. There is direct access from each site to services such as water, sewage, electricity, tarmac roads and refuse removal

Informal, Unserviced Housing Area

Informal housing in unserviced areas are usually referred to as squatter camps. The housing structures are built of corrugated iron and in many cases, plastic and pieces of wood. These sites have no direct access to services such as water, sewage, electricity, tarmac roads and refuse removal. The municipality usually does their best to provide rudimentary services to these areas. These would include common-use water taps deployed at points around the area and common refuse dumping areas cleared periodically.

Economic circumstances play an important role in determining people's ability to live in areas with formal housing and services. Analysis of urban poverty descriptions and measures by Stephens (1996), shows that the distinction between the physical environment in which people live and their economic circumstances is often blurred. Income or expenditure often acts as a proxy for measuring the ability to subsist (World Bank : 1990) and ownership or access to physical facilities in the environment (or rather lack of them) is often used as a proxy for urban poverty, particularly when data on incomes are weak (Housing and Development Associates : 1990).

Stephens (1996) notes that Demographic and Health Survey (DHS) data implies that the extent of differences in health outcomes is not dependent solely on the degree of socio-economic differences within the population. In terms of child health, the results at city level and of national urban data analyses emphasise the importance of an adequate household and neighbourhood physical environment. If this also has implications for adult health, then it suggests that housing context, and thus neighbourhood physical environment, will have an effect on health behaviours such as smoking.

4.2.2 The Latent Urban Rural Continuum (LURC)

Another measure of urbanisation which has been used in the South African commercial sector was developed by Dr. Neil Higgs of Research Wise, a South African marketing research house. This measure is known as the Latent Urban Rural Continuum (LURC). According to LURC's developers:

> "'Urbanisation' as a concept begins to lose its purely geographical roots i.e. *where* people live, and becomes more a matter of *how* they live. The concept of *relative space* becomes central in that a person's urbanisation level is influenced by one's access to urban-like amenities and opportunities. This need not be a function of physical proximity to a town, but becomes more a function of the time and cost (actual and emotional) involved in assessing the relevant opportunities. It is also a function of a person's willingness to be exposed to the riches of stimuli offered by urban centres: that is to say, the relative richness of one's level of urbanisation. This has links with the geographical concept of *threshold*, which examines the minimum population size required to sustain different types of services and outlets.

Hence, one's level of urbanisation depends on:

- The ease with which one can access different services and amenities (external / physical environment);
- The relative richness of one's environment (external / physical environment); and
- One's willingness and ability to interface with that environment (internal / personality)."

(Higgs, 1995, p 3)

Research Wise found people to be relatively evenly distributed along a continuum ranging from least to most urbanised. A score is produced for each person ranging from zero (most rural) to one hundred (most urbanised), based on the relative weighting of each of the measure's indicators. The LURC continuum is an interval-level measure conventionally divided into ten equal-length intervals to preserve equal differentiation between classes. Obviously, one can group the scores in any desired manner and this is one its strengths: different needs may require different groupings. (Higgs, 1995).

LURC has been used in South Africa as a predictor of consumption behaviour. It incorporates questions that attempt to reveal underlying environmental and psychological (mindset) aspects of urbanisation. A list of the questions asked for LURC are exhibited in Appendix E in red ink. The logarithm and method of calculation cannot be shown because it is a proprietary tool.

LURC measures a number of the constructs used by other researchers as indicators of urbanisation, such as: access to water, telephone, electricity and housing type; recency of move to the city, and where lived before moving to the city (Steyn *et al.*, 1991 : Cooper *et al.*, 1991).

However, it also includes other constructs, some of which have been discussed earlier in the chapter. For example, access to physical facilities in the environment is often used as a proxy for urban poverty (Housing and Development Associates, 1990). LURC includes questions about access to and frequency of visits to different kinds of shops, service outlets and entertainment centres. It also measures access to print media as well as respondents' opinions on about social behaviours in the area.

LURC can be criticised for encompassing too many different constructs. The holistic nature of the measure may detract from its ultimate purpose by muddying the waters. It can be argued for example, that the frequency of shopping at certain store types is a characteristic of the person - a behaviour - which thus confounds the urbanisation measure with its effects.

However, the composite nature of the LURC instrument embodies the idea of urbanisation as a mindset that emanates from and encompasses many variables.

4.2.3 Single Variable Measures of Urbanisation

There are a number of other single question measures which various researchers have used to gauge level of urbanisation. The most frequently used are discussed below.

4.2.3.1 Period of Residence in an Urban Environment

Seager (1995) reported that one of the simplest ways of measuring urban exposure is to look at the period of residence in the urban environment.

Studies using this measure ask respondents 'when they came to Cape Town' or 'how many years they have spent in Cape Town or an urban area' (Cooper *et al.*, 1991 : Steyn *et al.*, 1991). Comparisons are made between recent arrivals (i.e. less than three years), those who have some tenure in the urban

environment (i.e. 10 – 15 years) and those who have lived in an urban environment their entire lives. However, this measure is complicated or confounded in most developing countries due to the fact that settlement in the urban environment is not a simple one-way migration process (Seager, 1995).

A common misconception is that all peri-urban squatters are recent arrivals from the rural areas, but a significant proportion of these people may well represent the overflow from overcrowded formal urban settlements (Seager, 1995). Similarly, some residents of urban areas may return to the rural areas for prolonged periods of time (e.g. for schooling), or rural people become temporary urban residents in order to obtain health care (e.g. for childbirth) (Seager, 1995).

4.2.3.2 Migration

Seager (1995) found that urbanisation can also be associated with migration, which is a profound change in lifestyle that can affect the mental health of new arrivals to an urban setting. Migration to city settlements occurs in two ways, with the first being natural population growth due to births in the cities, and the second, migration from rural areas to urban areas. He explains that during the latter, links between the urban and rural areas remain strong and a proportion of people's time is spent oscillating between the two, which creates increased stress and instability at individual, home and community levels. Regarding the former, people often move from one part of an urban area to another and thus lose contact with their established support networks. The results of this type of change can create stress, which is often manifested as mental disorder, alcohol and other substance abuse, or violence.

Cooper *et al.* (1991) measured migration by questions such as 'where is your birthplace?' and [where was your] residence before Cape Town?'.

4.2.3.3 Orientation to Former Homeland

Various measures have been used to measure psychological and economic ties with 'homelands'[2]. In a study by Cooper *et al.* (1991), the following questions were included: 'place regarded as home – homeland or Cape Town'; 'send money back home?'; and 'have a dwelling place back home?'. They found that the more informal and unserviced the housing context, the stronger the ties were to the rural areas (i.e. orientation to former homeland). In addition, people newly or recently arrived in Cape Town were likely to maintain stronger ties with their homeland than those who had been in the city for many years or who were born in the city.

Thus, a relationship appears to exist between housing context, orientation to homeland and recency of arrival to an urban area. The more recent an arrival to an urban area, the higher the likelihood that housing will be informal and in an unserviced area. Length of time in an urban environment helps establish economic circumstances that provide for access to better housing conditions. Therefore, if most recent arrivals live in informal, unserviced areas it is logical that people living in these areas will maintain stronger ties with their homelands. The more established they become economically over time and are able to live in a more formal serviced housing area, the less likely they are to depend on their links with their homelands as strongly.

4.2.3.4 Population Density

The disciplines of urban planning and epidemiology tend to refer to population density as a measure of urbanisation (Rossi-Espagnet, 1984). The problem with using population density as a single measure of urbanisation is that in some rural areas density is higher than in certain urban areas (Yach *et al.*, 1990).

[2] See glossary part A for description of homelands

4.2.3.5 Administrative Function, Economic Function and Access to Basic Services

Quantitative definitions such as population density (people per km^2) as used by the World Health Organisation often ignore qualitative differences between urban areas, such as those proposed by Graaf (1986). Graaf noted a number of other criteria that could be used to define urbanisation, over and above density. He included the form of administration present in an area, economic function (agricultural versus industrial) and access to basic services.

However, each of these criteria are problematic. Administrative criteria present difficulties in defining urbanisation, because often the most rapidly growing peri-urban components of a city have not necessarily been drawn into any formal administrative structure, which has been the case in many informal, unserviced township areas in Cape Town. Economic function usually refers to the proportion of the population involved in agriculture as opposed to other types of employment. However, this measurement criterion is problematic in situations where there is high unemployment or underemployment, as is common in large cities in developing countries such as South Africa.. Access to basic services, which include water, electricity, shops and health clinics, can also be a misleading criterion due to the fact that many of the poorest peri-urban areas (referred to as informal, unserviced areas in the methodology of this thesis) lack them in the same way that more rural areas do.

4.2.3.6 Distance from the City Centre

Distance from the city centre can be used to define areas for making intra-urban comparisons. In a small city in the Transkei, Byarungaba (1991) classified the zone up to five kilometres from the city centre as urban, five to ten kilometres as peri-urban, and all settlements further than ten kilometres from the city centre as rural. Clearly in megacities these distances could be much greater but for comparative purposes distance defined zones of a metropolitan area can be useful. However, Seager (1995) cautions that

distance can be confounded with the type of settlement. That is, in some situations, settlements at great distances from major cities may themselves have a fairly urban economy. This would be the case of 'dormitory towns', which offer low cost housing for either daily or even annual migrants to the city.

There are problems with using a combination of the above single measures for gauging urbanisation. For example, rural traditional living is often associated with lower density housing, lower levels of air pollution, poorer access to water, sanitation, sewage and health facilities and higher rates of unemployment and poverty. In contrast, urban settled communities are assumed to represent the opposite level for each of these variables. This simplistic dichotomisation ignores the fact that, particularly in developing countries, many peri-urban areas' access to water, sanitation, sewage and unemployment can be worse than that in rural areas (Yach *et al.*, 1990), and are thus not linear indicators of urban proximity or lifestyle.

4.3 Choice of Proxies for Urbanisation

Yach *et al.* (1990) suggest that in epidemiological research it is undesirable to set or use a universally prescribed definition of urban. Rather, the definition used should be determined by the aim of the study. Simpson (1972) in his doctoral thesis investigating the effects of urbanisation on the consumption of petrol, noted that: "there is no single definition of urbanisation acknowledged by urban students". Continuing on the same note, Seager (1995) states that various definitions of what is 'urban' have been used and, in general, it is necessary to clearly define both the area and the population under study for each specific project.

With respect to the urbanisation measures discussed thus far, two have been used more widely in South Africa as proxies for urbanisation. These are housing context and LURC and both comprise a range of other factors.

Housing context encompasses: type of dwelling, access to water, electricity, telephone, sewage and refuse disposal. LURC covers almost all of what housing context does, but adds a further dimension to the description by incorporating questions regarding the richness of one's environment in terms of access and ability to access a range of shops and activities.

Thus, housing context and LURC were the two measures that were used (substituted independently of each other), as proxies for urbanisation in this research study.

4.4 The Effects of Urbanisation on Women

Urbanisation as a phenomenon has major implications for health, particularly for the urban poor in developing countries (Yach *et al.*, 1990b). Women in the peri-urban areas created by urban-rural and urban-urban migration have been identified as one of the most vulnerable groups (Pick *et al.*, 1990), with the greatest risk for several adverse health effects. According to Yach *et al* (1990b), the broad group of poverty-related diseases can be considered a result of social class, physical environment and health services factors. For example, diarrhoea mortality is related to water availability as well as the provision of sewage reticulation. It is also related to social class factors such as education. Maternal education is of particular importance, as diarrhoea mortality is often related to the knowledge of mothers and care-givers with regard to oral rehydration therapy and their availability as care-givers.

Life in an urban environment should offer numerous advantages such as better access to education, employment, sustainable food supplies and health care (Seager, 1995). This however, is not always the case, as there exists polarisation in living conditions and health consequences between groups within cities (Stephens, 1995). Intra-urban differentials can be attributed largely to population growth and migration (Harpham and Tanner, 1995).

Not only do cities grow globally, but their population profiles change (Harpham and Tanner, 1995). The understanding of these demographic changes is of crucial importance in order to define strategies for reducing smoking related morbidity and mortality.

As urbanisation proceeds, urban populations in developing countries begin to experience more of the diseases of affluence, which are predominantly chronic diseases (Jamison *et al.*, 1993). The most marked increases are ischaemic heart disease and lung cancer associated with changes in lifestyle, changes in diet and the acquistion of habits such as smoking and drinking alcohol (Seager, 1995). The lifestyle changes are frequently related to advertising and new social pressures (Seager, 1995). This epidemiological transition from 'old' to 'new' disease patterns or, in the case of the developing world, the 'epidemiological trap' producing the worst of both worlds is a major challenge to urban health research (Seager, 1995).

It is possible that a number of health problems that can be observed in cities in the South are not so much due to the urbanisation process per se as to the overall changes in lifestyle which accompany urbanisation (Harpham and Tanner, 1995). The wide range of social problems linked to urbanisation (Harpham et al., 1998 : Rossi-Espagnet at al., 1991) have led and will continue to lead to important psychosocial problems, and are a key factor for the social development of the urban areas (Harpham and Tanner, 1995).

Urbanisation can be viewed as a transition, as it involves moving from a less urbanised or rural area to a more urbanised area. Ruble and Seidman (1966) describe major life transitions such as these as 'social transitions'. These changes can represent naturalistic variations in basic social processes, such as role identity change or social construction. Smoking has in the past been

taboo for Black women's social identity in South Africa and it is possible that the social transition of urbanisation could change this social norm.

Recent arrivals in cities often have high unemployment rates and a few individuals may have to support many people of similar age. Different age-dependency relationships are evident, and breadwinners may suffer from considerable stress. (Harpham and Tanner, 1995). The features emphasised above are particularly expressed among the poorer strata of any urban population. (Harpham and Tanner, 1995). This suggests that the poorer strata of the urban population are more prone to suffer from stress and other psychosocial problems. Stress level has been found to be related to smoking incidence. For example, a study of an urban African-American community by Romano *et.al.* (1991), found that people reporting high levels of stress were more likely to smoke than those reporting les stress. They asserted that stressful environments may contribute to high-risk smoking behaviour among urban African Americans.

Cooper *et al* (1991) noted that Khayelitsha's class structure was heavily weighted towards the lowest social strata, apart from the relatively small formal housing area population, and could well be operating as a 'social sink' where the poorest individuals (particularly single women) end up. Such people could be particularly at risk of smoking to deal with stress.

Rapid growth in the urban population places great pressure on essential services such as housing, water supply, sanitation, food hygiene and refuse removal as well as health services. This is the most marked in the unserviced sites (Cooper *et al.* (1991). All these factors have major implications for health and the provision of appropriate health services.

Steyn *et al.* (1994) in a study aimed at determining tobacco-use and related factors in the Black population of the Cape Peninsula, categorised degree of urbanisation by the percentage of life spent in an urban environment. They

found that there were significant differences in the smoking patterns of women in the three urbanisation categories (0-33%, 34-66%, 67-100% of life spent in an urban environment). Women who had spent a third of their life in the city had significantly lower smoking rates at younger ages than those women who had spent more than a third of their life in the city.

Urban Black women had the lowest smoking rate (10%) of all urban women studied by Steyn *et al.* (1994) in a 1990 study. In the past they seem to have resisted the promotion of tobacco more than other women in the country (Kjellstrom *et al.*, 1992). Steyn *et al.* (1994) have found that level of urbanisation was related to smoking behaviour in certain age groups. They found that women start smoking at a younger age the greater their degree of exposure to an urban environment. They went on to suggest that urban Black women's resistance to start smoking is eroded by urbanisation. In contrast, they also found in the same study that women above 54 years of age in the lowest urbanisation category were by far the heaviest smokers.

Many other studies in South Africa have found level of urbanisation to have significant effects on Black women's health. Cooper *et al.* (1991) found markedly different patterns of chronic and acute illnesses to be evident in the formal, serviced areas compared with the informal areas. They found hypertension and upper tract infections to dominate in the formal, serviced areas and tuberculosis, diarrhoea/gastro-enteritis and abdominal pain to predominate in the informal areas.

Level of urbanisation in Cape Town townships appears to be significantly related to Black women's health. Urbanisation as a determinant of Black women's smoking behaviour in Khayelitsha, will be investigated in this study.

Chapter 5

HYPOTHESES AND RESEARCH OBJECTIVES

The model presented in Figure 5.1 on page 53, proposes the following thirty-seven hypotheses for testing. Specific emphasis will be placed on the testing of the effects of urbanisation, which will be substituted by two alternative measures: housing context and LURC.

It is important to note that this is not a fully specified model of the determinants of Black women's smoking lifestyles. This investigation of the determinants of Black women's smoking lifestyles emphasises the role of urbanisation and the relevant attitudes, normative expectations, product usage exposure and media usage exposure in predicting smoking behaviour and commitment to a smoking or smoke-free lifestyle.

Table 5.1 : Hypotheses for Investigation

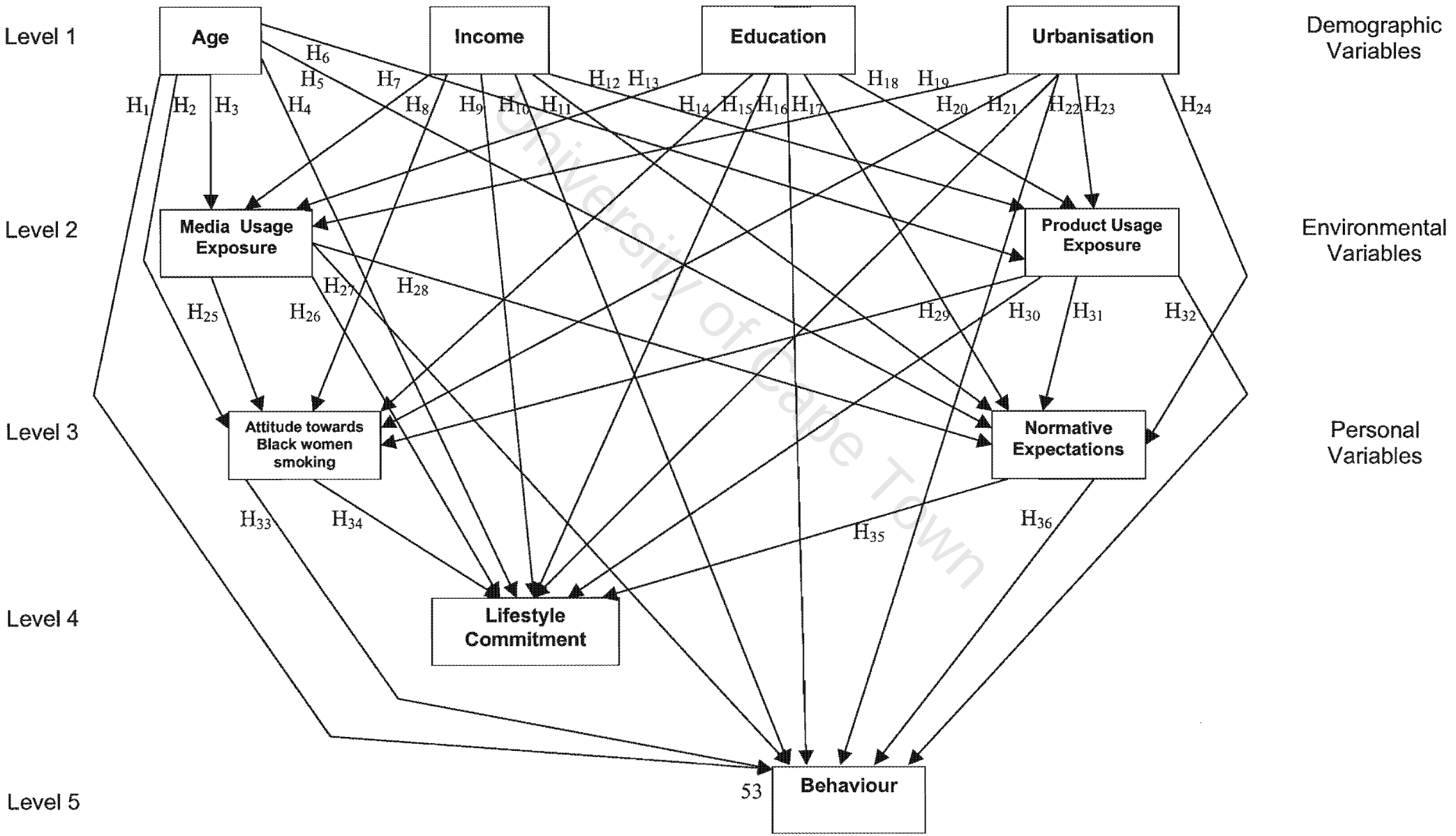
	Hypotheses
	Age
H_1	The greater her age, the greater the likelihood of her being a smoker.
H_2	The greater her age, the greater the likelihood of her having a positive attitude towards Black women smoking.
H_3	The greater her age, the smaller her media usage exposure
H_4	The greater her age, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.
H_5	The greater her age, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.
H_6	The greater her age, the higher her product usage exposure.

	Hypotheses Continued...
	Income
H_7	The greater her monthly household income, the greater her media usage exposure.
H_8	The greater her monthly household income, the greater the likelihood of her having a negative attitude towards Black women smoking.
H_9	The greater her monthly household income, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.
H_{10}	The greater her monthly household income, the smaller the likelihood of her being a smoker.
H_{11}	The greater her monthly household income, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.
H_{12}	The greater her monthly household income, the smaller her product usage exposure.
	Education
H_{13}	The greater her level of education, the greater her media usage exposure.
H_{14}	The greater her level of education, the smaller the likelihood of her having a positive attitude towards Black women smoking.
H_{15}	The greater her level of education, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.
H_{16}	The greater her level of education, the smaller the likelihood of her being a smoker.
H_{17}	The greater her education, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.
H_{18}	The greater her education, the smaller her product usage exposure.
	Housing Context as a proxy for Urbanisation
H_{19H}	The greater her level of housing context, the greater her media usage exposure.
H_{20H}	The greater her level of housing context, the greater the likelihood of her having a negative attitude towards Black women smoking.
H_{21H}	The greater her level of housing context, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.
H_{22H}	The greater her level of housing context, the smaller the likelihood of her being a smoker.
H_{23H}	The greater her level of housing context, the smaller her product usage exposure.
H_{24H}	The greater the housing context, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking..

	Hypotheses Continued...
	LURC as a proxy for Urbanisation
H_{19L}	The greater her LURC score, the greater her media usage exposure.
H_{20L}	The greater her LURC score, the greater the likelihood of her having a negative attitude towards Black women smoking.
H_{21L}	The greater her LURC score, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.
H_{22L}	The greater her LURC score, the smaller the likelihood of her being a smoker.
H_{23L}	The greater her LURC score, the smaller her product usage exposure.
H_{24L}	The greater her LURC score, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.
	Media Usage Exposure
H_{25}	The greater her media usage exposure, the greater the likelihood of her having a positive attitude towards Black women smoking.
H_{26}	The greater her media usage exposure, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.
H_{27}	The greater her media usage exposure, the smaller the likelihood of her being a smoker.
H_{28}	The greater her media usage exposure, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.
	Product Usage Exposure
H_{29}	The greater her product usage exposure, the greater the likelihood of her having a positive attitude towards Black women smoking.
H_{30}	The greater her product usage exposure, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.
H_{31}	The greater her product usage exposure, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.
H_{32}	The greater her product usage exposure, the greater the likelihood of her being a smoker.
	Attitude Towards Black Women Smoking
H_{33}	The more positive her attitude towards Black women smoking, the greater the likelihood of her being a smoker.
H_{34}	The more positive her attitude towards Black women smoking, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.

	Hypotheses Continued...
	Normative Expectations
H_{35}	The more negative she expected the reaction from her family and friends (normative expectations) to be if they were to see her smoking, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.
H_{36}	The more negative she expected the reaction from her family and friends (normative expectations) to be if they were to see her smoking, the smaller the likelihood of her being a smoker.

Figure 5.1 : Summary of Hypotheses Investigated



Chapter 6

RESEARCH METHODOLOGY

6.1 Introduction

The data discussed in this thesis was collected as part of a larger study, from a survey administered in mid-1998. The survey was preceded by a pilot study of 47 respondents. The study's sample design was a random stratified cluster sample of 240 female Xhosa-speaking women living in Khayelitsha, the largest Black Township in the Cape Town Metropolitan area. Quotas were built in to ensure that an even age and housing context split were attained. The two age groups for the quota were 15-35 years and 36 to 65 years. The three housing context groups were formal, serviced areas; informal, serviced areas; and informal, unserviced areas.

The questionnaire was administered in Xhosa by 3 fieldworkers overseen by an experienced Xhosa-speaking field supervisor. The questionnaire looked at Black women's attitudes, beliefs, perceptions, social norms and behaviour towards cigarette smoking, as well as demographics, urbanisation and media exposure.

This chapter discusses the planning and execution of the sampling design, the questionnaire design and translation, as well as the fieldwork method of data collection.

6.2 Sample Design

6.2.1 Sample Frame

A few comments are needed to explain the fact that the words 'township' and 'suburb' are often interchanged when discussing the sample frame,

Khayelitsha, in this thesis. At the time if this study, most Black women in Cape Town lived in almost exclusively Black residential areas for historical reasons[3]. The South African term 'Black township' refers to a metropolitan suburb or peri-urban area that was formerly only open to residence by Black people during the apartheid regime. The democratic government that was inaugurated in 1994 legally abolished racially based limitations on where people can live. Currently, the term 'township' is in transition. It is becoming common to refer to such areas as 'suburbs', whereas during the apartheid years 'suburb' applied only to areas designated for white habitation only. However, practically speaking, the racial stratification in the township areas has not changed much, if at all, although there has been some migration by people of colour into formerly 'white only' areas. In this thesis, both terms will be used freely - Black townships and Black suburb.

6.3 Background of Khayelitsha

Khayelitsha is a large peri-urban Black settlement situated 32km from central Cape Town, South Africa. It was established in 1983 and is an area of intense and rapid growth and continuing urbanisation. It is the single largest township in Cape Town and houses approximately half of Cape Town's Black population. It was estimated mid-2000 that there were over 390 000 people living in Khayelitsha (WESGRO, 1999).

One of the main reasons Khayelitsha was chosen as the sampling frame for this study is because it contains a wide diversity of housing types and is inhabited by people from various backgrounds in terms of levels of urbanisation: some were born in Cape Town; some came to live in Cape Town at some point during the last few decades; and some have only just arrived in Cape Town in the last few years.

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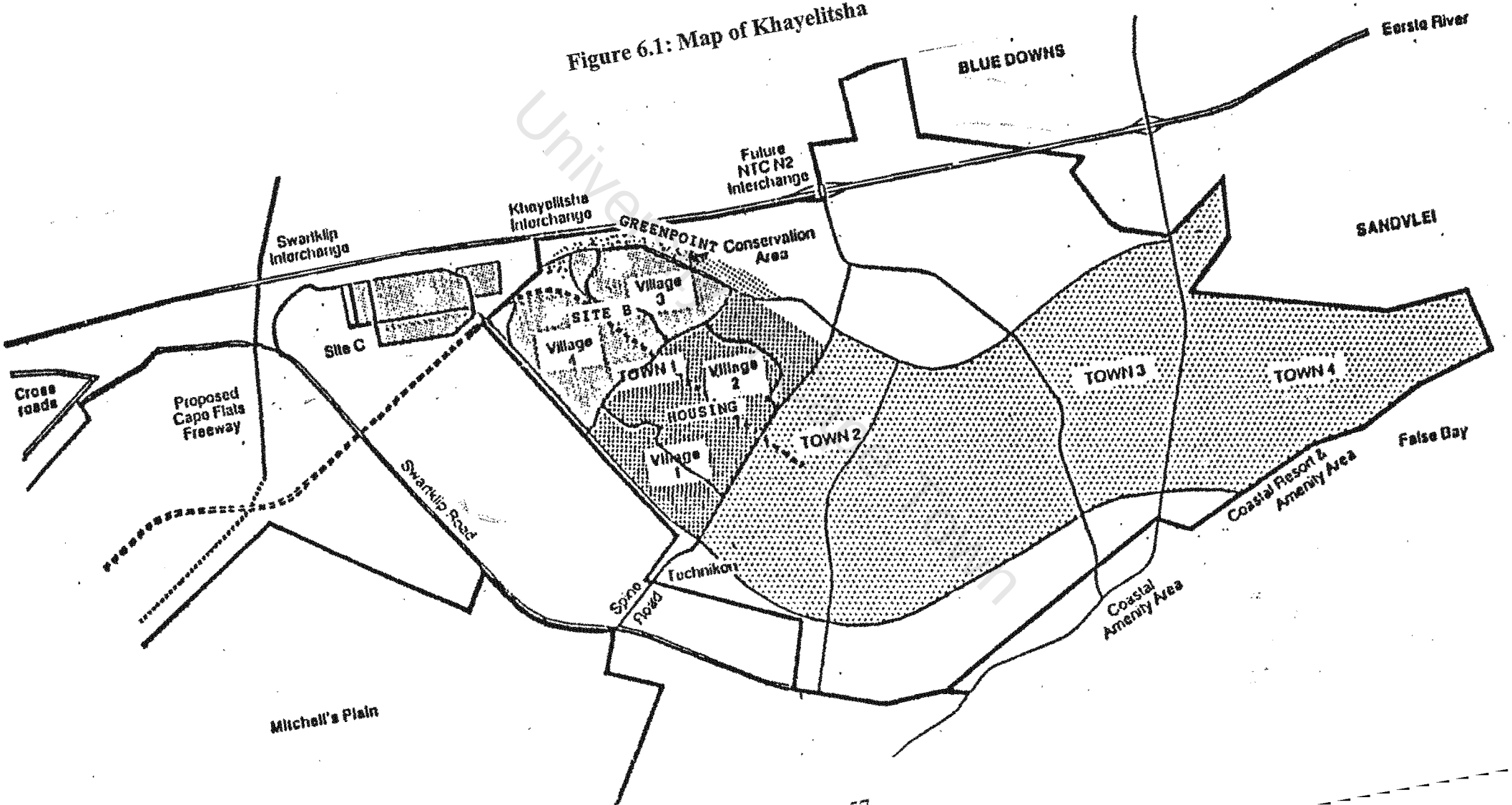
[3] See glossary part A for history of townships

In terms of its housing make up, Khayelitsha consists predominantly of informal housing (non-permanent housing structures constructed from corrugated iron, plastic and wood, commonly known as 'shacks'). There are also areas of formal housing (made of bricks and cement) and these areas are slowly growing as informal housing is transformed into formal housing when financially viable for the household. A large proportion of Khayelitsha's residents have serviced sites (electricity, water and sewage available on site) and efforts are made by the municipality to ensure that people living in unserviced areas, at least have access to rudimentary services (free standing water taps and free standing toilets).

Khayelitsha is a very large township and is broken up into five 'towns', one of which is not yet inhabited as it is being prepared by the municipality for further housing.

A map of Khayelitsha is attached overleaf:

Figure 6.1: Map of Khayelitsha



The sample frame included all Black Xhosa-speaking women between the ages of 15 and 65 years living in Khayelitsha. Respondents were chosen randomly from starting points plotted on site maps. Respondents were to be chosen based on a set of rules and procedures, which will be explained further on. Interviewers were instructed to find an appropriately aged female starting from a site chosen at random on the map.

In order to institute random selection of respondents within the sampling frame, detailed site maps were needed of all the areas within Khayelitsha. It was very difficult to obtain up-to-date information and maps as there is a high rate of influx into these areas from the adjacent province, the Eastern Cape, as well as rural parts of the Western Cape, which is the province in which Cape Town is located. Many areas (manly informal housing areas) have inhabitants who are commonly referred to as "squatters" because of the temporary nature of their homes and tenacy. Thus, even while the municipality make maps, change can occur within a month and renders them inaccurate. Consequently, a great deal of effort went into locating and obtaining the most accurate site plans available. For informal areas, aerial photographs were obtained to assist the sampling procedure.

The most recent available schedule of occupied sites and squatter density was obtained from the Tygerberg office (municipal office) in Khayelitsha and was published in November 1994.

The maps and aerial photographs that were used to plot the starting points in each area were also purchased from the Tygerberg office and were the most up-to-date street maps available at the time of the research.

Data pertaining to age, gender, population and services per area were obtained from the 1991 South African census, completed by Statistics South

Africa. This information was used in conjunction with information and estimates that the Tygerberg municipality had on record.

6.3.1 Quotas for Age and Housing Context

The sample design ensured that both age and housing context would have adequate variation represented. A quota was applied to ensure that respondents were equally sampled from each of three housing contexts: formal, serviced housing areas; informal, serviced housing areas; and informal, unserviced housing areas. A second quota was applied that provided for two broad age groups: 15-35 year olds, and 36 to 65 year olds.

Housing Context is a variable which has been found to be associated with urbanisation and socio-economic status amongst Black women, not only in Khayelitsha, the largest township in Cape Town (Cooper, *et al.*, 1991) but also in Soweto, the largest township in Johannesburg (Morris, 1998 : Bozzoli *et al.*, 1997). It was therefore decided to split the sample equally into three housing contexts that are typically identified in epidemiological and urban planning research.

The first of the three housing contexts is formal, serviced housing areas. These areas are occupied by houses constructed from permanent building materials that are built according to government standards. These houses are also provided with services such as water, sewage, refuse removal and electricity.

Informal houses are constructed using materials and building practices outside the building codes set down by government regulations. Building materials used range from corrugated iron and wooden boards, to less durable materials such as plastic bags, tin and sticks. The differentiating factor between informal, serviced areas and informal, unserviced areas is the fact that formal services including water, sewage, refuse removal and electricity to each site are

only available in the serviced areas. Rudimentary services such as taps scattered at various points in the area are sometimes available in unserviced areas. These areas are often referred to as "squatter settlements".

As can be seen in Table 6.1 below, the quota split the sample of 240 respondents equally into the three housing contexts (80 respondents per housing context). A quota was put on age in order to ensure that each age group was adequately represented. The age group split chosen was based on the age group split used in the Medical Research Council of South Africa's BRISK study (Steyn *et al.*, 1991). The split was 15 to 35 years and 36 to 65 years of age.

Table 6.1 : Housing Context and Age Quotas

Type of Sample	*Formal Serviced*	*Informal Serviced*	*Informal Unserviced*	Total
15 to 35 years	**37**	**40**	**44**	**121**
(Percentage within age group)	(30.6%)	(33.1%)	(36.4%)	(100%)
(Percentage within Housing Context)	(46.3)	(50.0%)	(55.0%)	(50.4%)
(Percentage within Total)	(15.4%)	(16.7%)	(18.3%)	(50.4%)
36 to 65 years	**43**	**40**	**36**	**119**
(Percentage within age group)	(36.1%)	(33.6%)	(30.3%)	(100%)
(Percentage within Housing Context)	(53.7%)	(50.0%)	(45.0%)	(49.6%)
(Percentage within Total)	(17.9%)	(16.7%)	(15%)	(49.6%)
Total	**80**	**80**	**80**	**240**
(Percentage within age group)	(33.3%)	(33.3%)	(33.3%)	(100%)
(Percentage within Housing Context)	(100%)	(100%)	(100%)	(100%)
(Percentage within Total)	(33.3%)	(33.3%)	(33.3%)	(100%)

6.3.2 Suburbs in the Sample Frame

The table below lists all the areas in the sample frame. They have been divided as best as possible into the three housing contexts, although there were some exceptions within each area that were accounted for in the sampling process. The tables from which we derived this data are available in Appendix B.

Table 6.2 : Break-Down Of Suburbs In Khayelitsha

Formal, Serviced Areas	*Informal, Serviced Areas*	*Informal, Unserviced Areas*
Bongweni	Mxolisi Phetani	Site C Buffer and open areas
Ikwezi Park	Trevor Vilakazi	Site C (B occupant shares services with A occupant)
Tembani	Victoria Myenge	Greenpoint
Washington Square	Griffiths Mxenge	Site B North
Town 1, Village 1	Harare	Bermuda
Town 1, Village 2	Graceland (half)	Bongani
Ilitha Park	Macassar	Silvertown
Mandela Park		Albertina Sisulu
Ekuphumleni		Solomon Mahlangu
Graceland (half)		
Total Formal, Serviced Areas in Khayelitsha *No. of sites: +- 10 897* *Population: +- 58 690*	*Total Informal, Serviced Areas in Khayelitsha* *No. of sites: +- 36 268* *Population: +-193 492*	*Total Informal, Unserviced Areas in Khayelitsha* *No. of sites: +- 6 350* *Population: +-51 408*

The data shown in the last row of the table above was obtained from the Tygerberg office (municipal office of the area). It was the source of data deemed to be most accurate at the time of this research as it was estimated by people who were working very closely with the implementation of services into Khayelitsha and more importantly, was the most recent data available at the time (printed in 1994). In 1998, when this research was conducted, the most recent census data available was from the 1991 census. This census recorded the population of Khayelitsha to be 188 390 and the female black population therein to be 89 356. It was heavily debated when this data was released that it was underestimating the real population of Khayelitsha. The total population in Khayelitsha, estimated by the data we received from the Tygerberg office was 303 590 people.

Below is the list of suburbs that were chosen for the study using a random stratified cluster sampling technique.

Table 6.3 : Breakdown of Suburbs in Study

Pilot Test
Phase 1 (23 respondents): Tembani (Formal, Serviced) Griffiths Mxenge (Informal, Serviced) Bongani (Informal, Unserviced)
Phase 2 (24 respondents): Washington Square (Formal, Serviced) Trevor Vilakazi (Informal, Serviced) Site C – Occupant B (Informal, Unserviced)

Final Data Collection:
Informal, Unserviced Areas (80 respondents): Site C Buffer & Open Areas Greenpoint Solomon Mahlangu Silvertown
Informal, Serviced Areas (80 respondents): Harare Victoria Mxenge Mxolisi Phetani Macassar
Formal, Serviced Areas (80 respondents): Ilitha Park Town 1, Village 1 Town 1, Village 2 Mandela Park

6.3.3 Sample Size

The sample size for the pilot study was to be 60 interviews. This was to be divided into 30 initial interviews to test the questionnaire (Phase 1) and then another 30 to test the revised questionnaire and interviewer reliability (Phase 2). Due to unexpected occurrences, only 47 interviews were completed in the pilot study. During Phase 1, the interviewers were not allowed access into Griffiths Mxenge by the leaders of the area who insisted that only Khayelitsha residents should have been hired as fieldworkers, and so only 23 out of the 30 interviews were completed. This was enough however, to pick up mistakes made by the interviewers and various problems with the questionnaire, the main one being its length. Phase 2 suffered the loss of an interviewer who decided to elope to Worcester with her boyfriend and desert the project. This resulted in only 24 interviews being completed but this too proved enough to pick up any glaring problems.

The sample size for the main study (Phase 3) was 240. This was divided into three housing contexts:

- formal serviced (80)
- informal, serviced (80)
- informal, unserviced (80)

Within each housing context, the sample size was further divided equally into two age groups:

- 15 - 35 years
- 36 - 65 years

All of these interviews were completed. Where data was found to be missing or unreliable on returned questionnaires, they were redone by randomly picking a new starting point very close to the starting point of the questionnaire in question.

A fieldworker's manual was created in order to guide the fieldworkers during both their training as well as during the fieldwork itself. This manual can be found in Appendix F. It contains step-by-step instructions which fieldworkers were to apply in choosing their respondent. In addition, it contains the daily schedules for the duration of the fieldwork.

6.3.4 Sampling Procedure

A random method of selection was used. Stratified sampling within cluster sampling was performed in deciding from which suburbs to draw the respondents. Twenty respondents were interviewed from each of the suburbs randomly chosen using the cluster stratified sampling technique. The reason that this sampling technique was used, was to ensure that all housing contexts were equally represented so as to ensure that behavioural differences due to varying socio-economic conditions were recorded.

The method used to draw the sample was as follows: First the suburbs were arranged under the housing context labels, as set out in Figure 6.2 on page 61. Then, the suburbs of each housing context were listed with a cumulative column of the populations in each suburb. A list of random numbers was used to choose four (4) suburbs from each housing context, based on where the random numbers fell in the cumulative population count. In order to make up the sample of eighty (80) in each housing context, twenty (20) respondents from each randomly chosen suburb were to be interviewed.

Twenty (20) plots/erfs in each suburb were randomly selected as starting points on the site maps. Some of the maps obtained were clearer than others and had actual street addresses (i.e. the erf numbers on the maps were marked with a number and sections of each map fell under a symbol marking the area e.g. A125 or B355. These erf numbers were being used on the ground as actual street addresses by residents), whereas some of the maps just had erf

numbers (i.e.5746) and street names and the two did not correspond. It was much harder for the interviewers to find the marked plots on the latter mentioned maps and this caused unexpected delays in finding starting points.

In order to randomly choose the plots to be marked on the maps, the number of erfs/plots in each area were divided by twenty (20). (i.e. if there were *n* plots then every $n/20^{th}$ plot would be chosen) Then it was just a matter of counting through the plots starting from one end and systematically working towards the other, and marking off every $n/20^{th}$ plot.

Cover sheets were also made for each questionnaire, each of which contained a different set of random numbers used for choosing which building to approach on the plot and which respondent to interview if more than one was eligible. The exact age description of the respondent to be found was printed on the cover sheet. Examples of the cover sheets used can be found in Appendix D.

The cover sheets equally represented the two age groups. They were printed out and put into piles of twenty (20) that alternated between the age group instruction. As plots were randomly marked on the maps, the addresses or plot numbers were written straight onto the cover sheets, ensuring that every second respondent chosen would be from the age group that differed from the previous respondent's.

Photocopies were made of the maps with the marked plots on them and distributed to the fieldworkers. Cover sheets were attached to clean copies of full questionnaires and individually placed in plastic sleeves for cleanliness and security. Fieldworkers were only given questionnaires and incentives in two-day packages. This was to ensure that the fieldworkers visited the fieldwork supervisor based in Langa every second day, and that they did not have too much to carry at one time as they all used public transport.

6.3.5 Incentives

Respondents were thanked for their participation with the following small gifts:

1. *Femista* donated 300 samples of their *Swankie Hand & Body Lotion.*
2. Key-rings were manufactured specifically for this study. They were perspex and had the following logo on the inside.

Figure 6.2 : Design on Incentive Key-rings

These key-rings could be opened and the message could be replaced with a photograph if the respondent desired. Interviewers were instructed not to show the key-ring or discuss its messages until after the interview.

6.4 Questionnaire Design

6.4.1 Survey Questionnaire

The questionnaire was structured-undisguised and included multichotomous (e.g. five-point Likert scales) and dichotomous questions, as well as open-ended questions. Questions were clearly worded in both English and Xhosa (although options for closed-ended questions were only printed in Xhosa on the questionnaires) and interviewers were instructed to read out questions exactly as written to avoid interviewer bias. Note that in Appendix E the questionnaire shows both Xhosa and English closed-ended question options, and therefore makes the questionnaire appear much longer than what it was.

Due to this study being embedded in a larger study, the full-length questionnaire structure is explained below. In Appendix E the whole questionnaire is shown, with the questions specific to this study printed in blue ink. The LURC questions are printed in red ink and the Conversion Model questions are printed in green ink.

The questionnaire is divided into the following colour-coded sections.

Table 6.4 : Breakdown of the Questionnaire

Section	*Pages*	*Paper Colour*	*Completed by*	*Topics covered*
Screening Questions	1-3	white	all	- Demographics
Part 1	4-9	white	all	- Urbanisation / Living Area Questions - Media Exposure - Environment - Behavioural Intention / Life-Style
At the end of this section, respondent were asked whether they smoke or not. Depending on their answer, the fieldworker moved either to the smokers' or non-smokers' questionnaire.				
Part 2	10-20	white	all	- Social Influence - Attitude - Education - Employment - Alcohol Usage *
Non-Smokers	21-22	yellow	Non-smokers only	
Non-smokers were asked if they had ever used snuff. If the respondent answered yes, the interviewer moved to the pink snuff users' questionnaire. If the respondent answered no, the interviewer moved to the white Part 2.				
Smokers	23-26	blue	Smokers only	
Smokers were asked if they had ever used snuff. If the respondent answered yes, the interviewer moved to the pink snuff users' questionnaire. If the respondent answered no, the interviewer moved to the white Part 2.				
Snuff Users *	27-29	pink	Snuff users only	
Interviewers returned to the white paper Part 2.				
Show Card Sheet	30			

* *not used in the study reported here*

6.4.2 Translation of the Questionnaire

The questionnaire was first translated into Xhosa during the training of the fieldworkers, by them and the field supervisor. The questions that were not yielding logical responses or that caused confusion during the pilot were back translated by Xhosa-speaking people working at the Graduate School of Business and unrelated to the project. The translation of these questions was altered before the final questionnaire was printed.

6.4.3 Outline of Each Section of the Questionnaire

The survey's **screening** questions covered demographics such as age, home language, marital status, number of children and number in household. It then asked questions about usage of Coca-Cola by people in their area, their friends and themselves. This was done in an attempt to ease into the next question, which asked about the usage of snuff by both men and women in their area, their friends and themselves. Coca Cola was chosen because it is a commonly consumed drink. Questions about the usage of paraffin (kerosene) were then asked to further ease into the next set of questions regarding smoking among the men and women of their area, their friends and themselves.

Part 1 was a section to be completed by all and each sub-heading within it covered different areas. The **Urbanisation Questions** covered the following: place of birth; childhood environment; first time to Cape Town; reasons for leaving or coming to Cape Town; type of dwelling inhabited; access to electricity and water; and frequenting of places such as banks, shops, taverns and cinemas. **Media Exposure** extracted information regarding access and exposure to newspapers, magazines, TV and radio. **Environment and Behavioural Intention / Life-Style** dealt with both the work and home environments and the prevalence of tobacco usage in these environments.

Part 2 was a continuation of part one even though it was only answered after the tobacco usage questionnaires were completed. **Social Influence** looked at the role that friends may play in the adoption of smoking. **Attitude** examined the reported reasons why men and women smoke and/or use snuff, and the perceived negative and positive effects of tobacco usage. **Education** was a record of the level of schooling passed by each respondent. **Employment** identified the number of unemployed versus employed, and recorded the various types of jobs held presently or in the past by respondents. The personal and household income of the respondents was also questioned as well as the main source of their disposable income. Respondents were also asked how they would spend a gift of R100, which provided interesting information on desired consumption patterns. **Alcohol Usage** was the final section in this part of the questionnaire and aimed to identify its consumption practices and link with smoking. Two questions were asked about their opinions regarding smoking in the public domain, but were not used in this study.

The **Non-Smokers Questionnaire** investigated whether non-smokers had ever smoked before and if so, why they stopped and to what extent they used to smoke. It also questioned non-smokers as to their reasons for not smoking and their intentions to smoke in the future. Several Conversion Model measures were included here.

The **Smokers Questionnaire** focused on aspects of why smokers used cigarettes and how they started. It also investigated: the number of cigarettes consumed per day / week; where and with whom smokers usually smoked; where and around whom they would not smoke and why; in what quantities and from where were cigarettes usually bought; which brands of cigarettes were preferred; Conversion Model questions on orientation towards quitting; success of previous attempts at quitting, if any; and the health effects that smokers felt cigarettes were having on them.

The **Snuff Users Questionnaire** was similar to the smokers questionnaire but is not relevant to this study.

The **Show Card Sheet** had two income tables for use by respondents in reply to questions 116 and 119.

6.4.4 Questionnaire Improvements after the Pilot Study

The questionnaire was originally 31 pages long and after the pilot study (Phase 1 & 2) numerous questions were removed and it was shortened to 26 pages in total (including options to go to either non-smoker, smoker and/or snuff user sections). The interviewers explained that certain questions were difficult to explain to respondents and were often answered incorrectly or not at all. These questions were examined and either replaced with clearer questions or completely removed. It was important to be ruthless at this point because if the questionnaire was too long, the value of the data received would be at stake. The questionnaire was cut by four to five pages in total and reduced the time per interview considerably. Each interview took on average between 30 and 45 minutes to complete.

6.5 Fieldwork

6.5.1 Data Collection

The fieldwork was conducted over a two-month period, between September 3 and October 28, 1998.

Initially four fieldworkers were hired and trained for the project but only three remained until the end of the project. Two of the fieldworkers lived in Langa while the other lived in Khayelitsha. Each of the fieldworkers was given transport money in advance each week. They all used public transport to get to the areas in which they were interviewing, which in most cases was taxis.

The interviewers had little or no experience in the field and so a period of one week was dedicated to training before the start of the fieldwork. The pilot study also helped iron out any problems the fieldworkers had in understanding and completing the questionnaires, and in finding the marked plots on the street maps.

A fieldwork supervisor, was also hired to: oversee the fieldworkers; handle the giving out of, collecting, editing and checking of the questionnaires; speak to the different governing bodies in each suburb of Khayelitsha to ensure easy access by interviewers; and to generally ensure that all ran smoothly and that all problems were handled and dealt with. The fieldwork supervisor was a retired nurse living in Langa. She had no previous experience in research but learnt fast and was very capable and competent.

Before the fieldworkers entered a suburb, the fieldwork supervisor was responsible for distributing a letter in both Xhosa and English, which was endorsed by the vice-chancellor of the University of Cape Town as well as the Medical Research Council of South Africa, to the community leaders of the suburb. The letter explained the reasons and benefits of the research being conducted. Each fieldworker also carried a personalised letter with them, printed on the Medical Research Council of South Africa's letterhead, explaining who they were and why they were in the area asking to interview people. Copies of these letters are available in Appendix C

Once in the designated suburb, the interviewers had to find the chosen starting plots/erfs on foot. The distances in some cases were quite far and it was also difficult in certain suburbs for the interviewers to find the right plot. This is because some of the maps obtained only gave erf numbers and not actual addresses, which meant that the fieldworkers had to start at one end of the street and count the houses until they got to the site that they calculated to be the right one using their map.

The fieldworkers were given time-tables showing the number of interviews to be completed each day and in which area. They were instructed to meet at a certain point each morning and proceed to the day's area together. This was both for safety and supportive reasons. There were times however, that due to delays in transport or misunderstandings of meeting points, that the interviewers did not find each other and either delayed the time-table by one day or continued alone or in twos.

Call-backs were conducted either at the end of the day or on weekends. Interviewers were instructed to call-back twice before finding another eligible respondent.

The fieldwork was originally planned to take one month to complete but due to unexpected delays it took two months from start to finish. In general, there were unexpected delays caused by each of the following: data capture and analysis of the pilot test; revisions to the questionnaire; fieldworkers returning their questionnaires late; coding and checking.

6.5.2 Editing, Checking and Coding

All the questionnaires were edited and checked by the fieldwork supervisor. Not only did she check that all relevant questions had been answered but she also made an effort to detect incorrect and/or inconsistent answers and to complete any incomplete answers where the question tied in with other completed questions. She was also responsible for ensuring that the fieldworkers had translated the open-ended questions correctly from Xhosa into English.

The questionnaires were then checked again and coded by the researcher. When all closed and open-ended questions had been coded the questionnaires

were delivered to the data capture department of the Medical Research Council (MRC).

Even though many of the questions in the questionnaire were structured to collect 5-point scale responses (continuous data), the majority of the variables had to be recoded. Many cell sizes were just too small to allow for statistically robust analysis, and most the variables that were initially multichotomous, were recoded into dichotomous and 3-point scale responses. Most the variables in the cleaned dataset were ordinal or nominal.

In the past there have been a number of studies in South Africa which have had the same problem with continuous or scaled questions. The reasons why scaled questions are not successful in township research are not clear, however, it may be that the translation into Xhosa (African languages) is not effective enough to differentiate the responses and/or the scale polarisation is not understood well enough by the respondents, given their educational background (Steyn, 2001).

6.5.3 Data Capture

The data was captured by the MRC data-capturing department and was cleaned by the researcher.

6.5.4 Recoding of Variables

Where necessary, due to small cell sizes, variables were recoded. An important recoding was that of the Conversion Model. The Conversion Model score which is referred to as lifestyle commitment in this thesis, was recoded from eight original segments into seven due to the small cell sizes of segments 6 (leaning towards giving up smoking) and 7 (leaning away from giving up smoking). As such, segments 6 and 7 were combined into segment 6 (ambivalent about smoking).

A list of the variables making up each of ten constructs in the model as well as a description of the responses and the recoded variables are shown in Appendix K.

6.5.5 Statistical Analysis

Due to the nominal and interval nature of most the variables used in this analysis, simultaneous equation modelling (Bagozzi, 1994 : Anderson and Gerbing, 1988) and other multivariate analyses could not be used as intended. An alternative method had to be adopted to analyse the data. Pearson's Chi-Square was used to test the significance of each relationship and Spearman's rho or Cramer's V was used to test the strength of each correlation (Diamantopoulos and Schlegelmilch, 2000). Bonferroni's correction was used to adjust for multiple testing using (Chen and Seneta, 2000 : Aickin and Gensler, 1996 : Troendle, 1995). Bonferroni's correction reduces the probability of type one errors by adjusting for multiple measures being used to test the relationship between two constructs (The significance level of 0.05 is adjusted based on the number of measures being used to test a null hypothesis. E.g. if there are 5 measures, then the alpha is adjusted to 0.05 divided by the number of measures).

A linear regression was then run using as inputs all the variables that correlated with behavioural intent higher than 0.45 (The reason that the standard correlation minimum of 0.6 was not applied in this case is because very few variables had a high correlation with the dependent variable). Linear regression was used because the independent variables were generally categorical in nature and the independent variable, lifestyle commitment, was continuous.

Chapter 7

FINDINGS : TOBACCO USAGE RATES

7.1 Introduction

Chapters 7, 8 and 9 present the findings of this study. This chapter examines the base tobacco usage rates found amongst women in Khayelitsha, chapter 8 presents a summary of the demographics of the sample, and chapter 9 deals with the hypotheses that were not rejected.

Due to the age group and housing context quotas being applied as a result of the sampling procedure, the results presented in this chapter will be presented in three formats: firstly without taking any of the quota effects into account; secondly, applying an age group weighting which was calculated based on Black female age group data for the Western Cape from the 1991 census; and thirdly, applying a housing context weighting calculated from the population data received from the Tygerberg municipality.

Two questions were asked regarding women's cigarette usage. The first question was embedded in the screening section of the questionnaire and was worded as follows: "So, have you ever smoked a cigarette?" The second question was positioned half-way through the questionnaire after various other questions had been asked to ease the respondent into feeling comfortable with reporting whether they were smokers. The second question was worded as follows: "So, do you smoke? Even if it is only once in a while or socially?"

The cigarette usage data presented is based on respondents' replies to the second question asked, as it asked about current smoking status. In most cases answers to both questions were the same, however, there were a few

respondents who answered 'no' in the first question and yet answered 'yes' in the second question.

7.2 Self-Reported Tobacco Usage Rates

The table below shows the reported smoking rates found in the 240 sample.

Table 7.1 : Reported Cigarette Usage

	Number of Women	Valid Percentage of the Sample
Unweighted	31	12.9%
Weighted by Age	26	10.6%
Weighted by Housing Context	27	10.8%

The weighted results, suggest that the reported cigarette usage rate amongst women in Khayelitsha is likely to be +- 10.7%.

7.3 Comparison With Previous Findings

It is difficult to make an exact comparison of tobacco usage rates found here with previous ones because of differences in methodology and weighting models used on the data. However, it is interesting to take a look at what other studies have found. Table 7.2 shows the cigarette smoking rates found in four earlier studies conducted on Black women in South Africa.

The study that was most similar to this one, in that its sampling frame was all Cape Town area townships, including Khayelitsha, was the one by Steyn *et al.* (1994). The smoking rate found there was by a self-report measure and was 6.3%. This was derived from data that was weighted to standardise the sample against the population structure of the Cape Town area.

The results of the current study, after being weighted to standardise its age profile against the population structure of Black Women in the Western Cape (as per 1991 census), was 10.6%. These results are higher than those found by Steyn *at al* (1994) but the difference could be attributable to many factors. Firstly, it could be beacuse Steyn *et al*'s sample frame was all Cape Town area townships and not only Khayelitsha, and perhaps Khayelitsha has a higher smoking rate amongst women than other Cape Town area townships. Secondly, this study was conducted four years after Steyn *et al*'s in which case there could have been a marked increase in cigarette smoking among Black women in Cape Town area townships since then. Thirdly, it could be due to fieldwork or sampling differences.

Table 7.2 : Cigarette Usage Rates of Black Women from Previous Research

Authors and Year	Sample Frame and Size	Smoking Rate
Strebel, Kuhn and Yach, 1989	Three Cape Town Black Townships: Langa, Site B and Khayelitsha – N = 763 Black women aged 16 years & over. Interviewing during day and after-hours and on Saturday afternoons.	6.0%
Steyn, Bourne, Jooste, Fourie, Lombard and Yach, 1994	All Cape Town Black Townships: Age stratified proportional sample – Data was weighted to standardise its age profile against the population structure; N = 544 Black women 15-64 years	6.3%
Reddy, Meyer-Weitz and Yach, 1996	All South Africans, with rate calculated for the Black women in the Western Cape – Data was weighted to make socio-demographic characteristics comparable to the 1991 census data. N = 2,238 of all adults over 18 years old. All interviews conducted after working hours.	9.0%
Results of this Study, 1998	Khayelitsha, the largest Cape Town area township. Age stratified proportional sample – Data was weighted to standardise its age profile against the population structure; N = 240 Black women 15-65 years. Fieldwork conducted Monday - Saturday	10.6%

Chapter 8

FINDINGS : DEMOGRAPHICS

A breakdown of the unweighted demographics of the sample is presented below.

Table 8.1 : Demographics and Smoking Behaviour of Black Women in Khayelitsha

		No. of Respondents	Non-Smokers (%)	Smokers (%)
	Total	*240*	*87.1*	*12.9*
Age	15-19	26	92.3	7.7
	20-24	27	100.0	0.0
	25-34	61	90.2	9.8
	35-44	89	84.3	15.7
	45-54	21	81.0	19.0
	55-65	16	68.8	31.2
Education	No Education – Standard 1	7	42.9	57.1
	Standard 2 - 7	98	82.7	17.3
	Standard 8 or 9	73	93.2	6.8
	Standard 10 / Matric	62	91.9	8.1
Household Monthly Income	R100-R999	97	83.5	16.5
	R999-R1999	68	91.2	8.8
	R2000 +	22	95.5	4.5
Electri-city	Yes	159	94.3	5.7
	No	80	72.5	27.5
Tele-phone	Yes	62	96.8	3.2
	No	177	83.6	16.4
Water Supply	Tap available but not in house	81	72.8	27.2
	Tap in house	158	94.3	5.7
Type of Dwelling	Shack/Shanty in Squatter Camp (unserviced)	80	72.5	27.5
	Shack/Shanty next to formal house (serviced)	77	93.5	6.5
	Proper house or backroom (serviced)	82	85.1	4.9
No. of People in Household	0 – 4.63 (mean)	120	83.3	16.7
	>4.63	119	90.8	9.2

		No. of Respondents	Non-Smokers (%)	Smokers (%)
Province Born	Eastern Cape	203	87.2	12.8
	Western Cape	35	85.7	14.3
Work for money or goods	Yes	104	81.7	18.3
	No	136	91.2	8.8

8.1 Age

The mean age of the respondents was 34.7 years. Forty-five percent of the sample was concentrated between the ages of 30 and 40 years. There was a significant relationship between age and smoking behaviour (Pearson's Chi Square, $p < 0.046$). As age increased, the likelihood of a Black woman in Khayelitsha smoking increased. All age group splits below 35 years had a lower smoking rate than the total sample smoking rate of 12.9%, and all the age group splits 35 years and older, had a higher smoking rate. The oldest women, 55-65 year olds, had a smoking rate as high as 31.2%.

8.2 Education

A quarter, 25.8%, of the respondents had matriculated, 30.4% had passed standard 8 or 9, 40.8% had a standard 2 to 7 education, and only 2.9% had no education to standard 1. There was a significant relationship between level of education and smoking behaviour (Pearson's Chi Square, $p < 0.001$). As education increased, the likelihood of a Black woman in Khayelitsha smoking decreased. As many as 57.1% of respondents who had no education to standard 1 smoked, versus only 8.1% of respondents with a standard 10 smoked.

8.3 Household Monthly Income

About half, 51.9%, of respondents had a household monthly income of less than R999, 35.2% had a household monthly income of between R999 and R1999, and 11.4% had a household monthly income of R2000 or more. There was no

significant relationship found between household monthly income and smoking behaviour (Pearson's Chi Square, $p < 0.218$).

8.4 Electricity

Two thirds, 66.5%, of respondents had electricity in their homes. There was a significant relationship between having electricity and smoking behaviour (Pearson's Chi Square, $p < 0.0001$). Only 5.7% of respondents who had electricity in their home smoked, versus 27.5% of respondents who did not have electricity in their home.

8.5 Telephone

A quarter, 25.9%, of respondents had a telephone in their home. There was a significant relationship between having a telephone and smoking behaviour (Pearson's Chi Square, $p < 0.008$). Only 3.2% of respondents who had a telephone in their home smoked, versus, 16.4% of respondents who did not have a telephone in their home.

8.6 Water Supply

One third, 33.9%, of respondents had access to a tap, but not in their home, while the other 66.1% had a tap in their home. There was a significant relationship between water supply and smoking behaviour (Pearson's Chi Square, $p < 0.0001$). Only 5.7% of respondents who had a tap in their home smoked, versus, 27.2% of respondents who did not have a tap in their home.

8.7 Type of Dwelling / Housing Context

This variable was highly influenced by the housing context quota and was therefore very predictable. 33.5% of respondents lived in a shack/shanty in a squatter area (informal, unserviced), 32.2% lived in a shack/shanty next to a formal house (informal, serviced), and 34.3% lived in a proper house or backroom (formal, serviced). There was a significant relationship between type pf dwelling and smoking behaviour (Pearson's Chi Square, $p < 0.0001$). Only 4.9% of respondents who lived in a proper house or backroom (formal, serviced

area) and 6.5% of respondents who lived in a shack/shanty next to a formal house (informal, serviced area) smoked, versus 27.5% of respondents who lived in a shack/shanty in a squatter area (informal, unserviced area).

8.8 Number of People Per Household

The average number of people per household was 4.63. This compares reasonably to findings from a study conducted in Khayelitsha in 1989 by Cooper *et al.* (1991), which found the average number of people per household to be 4.9. No significant relationship was found between number of people per household and smoking behaviour (Pearson's Chi-Square, $p < 0.088$).

8.9 Province Born

Most, 85.3%, of the respondents were born in the Eastern Cape, with only 14.7% being born in the Western Cape. This suggests that there has been active rural to urban migration. No significant relationship was found between province born and smoking behaviour (Pearson's Chi-Square, $p < 0.810$). Virtually all, 96.0%, of those born in the Eastern Cape still have a house in their homeland or place of birth.

Of those born in the Eastern Cape, 88.7% still regard their homeland as their real home. In contrast, only 5.7% of those who were born in the Western Cape regard their home now, as being the homeland their parents come from.

8.10 Work for money or goods

Over half, 56.7%, of respondents were unemployed. The rate of smoking was significantly higher amongst women who worked than amongst those who did not work (Pearson's Chi-square, $p<0.031$) with 18.3% of respondents who worked smoking, versus only 8.8% of those who did not work.

Chapter 9

FINDINGS : HYPOTHESES

The data analysis and presentation of the findings accords with the hypotheses proposed in the model shown in Figure 5.1 on page 53. Firstly, the relationships between each construct on level 1 (demographics) and each construct on level 2 (environmental), 3 (personal), 4 (lifestyle commitment) and 5 (smoking behaviour) of the model were investigated. Next, the relationships between each construct on level 2 and each construct on levels 3,4 and 5 of the model were measured. Then, the relationships between each construct on level 3 and each construct on levels 4 and 5 of the model were tested. Finally the relationship between level 4 and level 5 was examined.

While some of the constructs were made up of single measures, other constructs consisted of numerous measures. Principle components factor analysis was used to determine the coherence of the measures within each construct and to check whether they were triangulating on the overall idea being measured (i.e. variables that had a factor score of > 0.4). Appendix G shows the output of the factor analyses.

A summary of the descriptive analyses that were run can be found in Appendix H. Note that all Pearson's Chi-square tests were 2-tailed. This chapter discusses in depth only the findings for the hypotheses that were not rejected. The findings are presented in order of the hypotheses as marked in Figure 9.1. All hypotheses that were not rejected are represented by solid arrows and those that were rejected, by dotted arrows. For easy reference, Table 9.1 shows which hypotheses were rejected and which were not rejected.

Where a construct consisted of multiple measures, Bonferroni's correction was applied (Chen and Seneta, 2000 : Aickin and Gensler, 1996 : Troendle, 1995). Thus, after applying Bonferroni's corrected alpha, if any of the construct's multiple measures were significantly related to the construct they were being measured against, the relationship between the constructs was deemed to be significant.

Where a construct consisted of numerous measures and all the measures were significantly related to a certain construct or measure, it would be repetitive to describe in full the relationship for each of the measures. In such cases, a description of one of the relationships was given and tables were presented containing all the data for the remaining relationships. This was often the case for normative expectations, which consisted of nine measures. Each of the nine measures recorded the expected reaction she believed she would get from different members of her family or friends if they were to see her smoking. The description presented usually discussed the expected reaction of her husband/partner, which was usually very similar to that of other family members and friends.

Figure 9.1 : Summary of Hypotheses Not Rejected

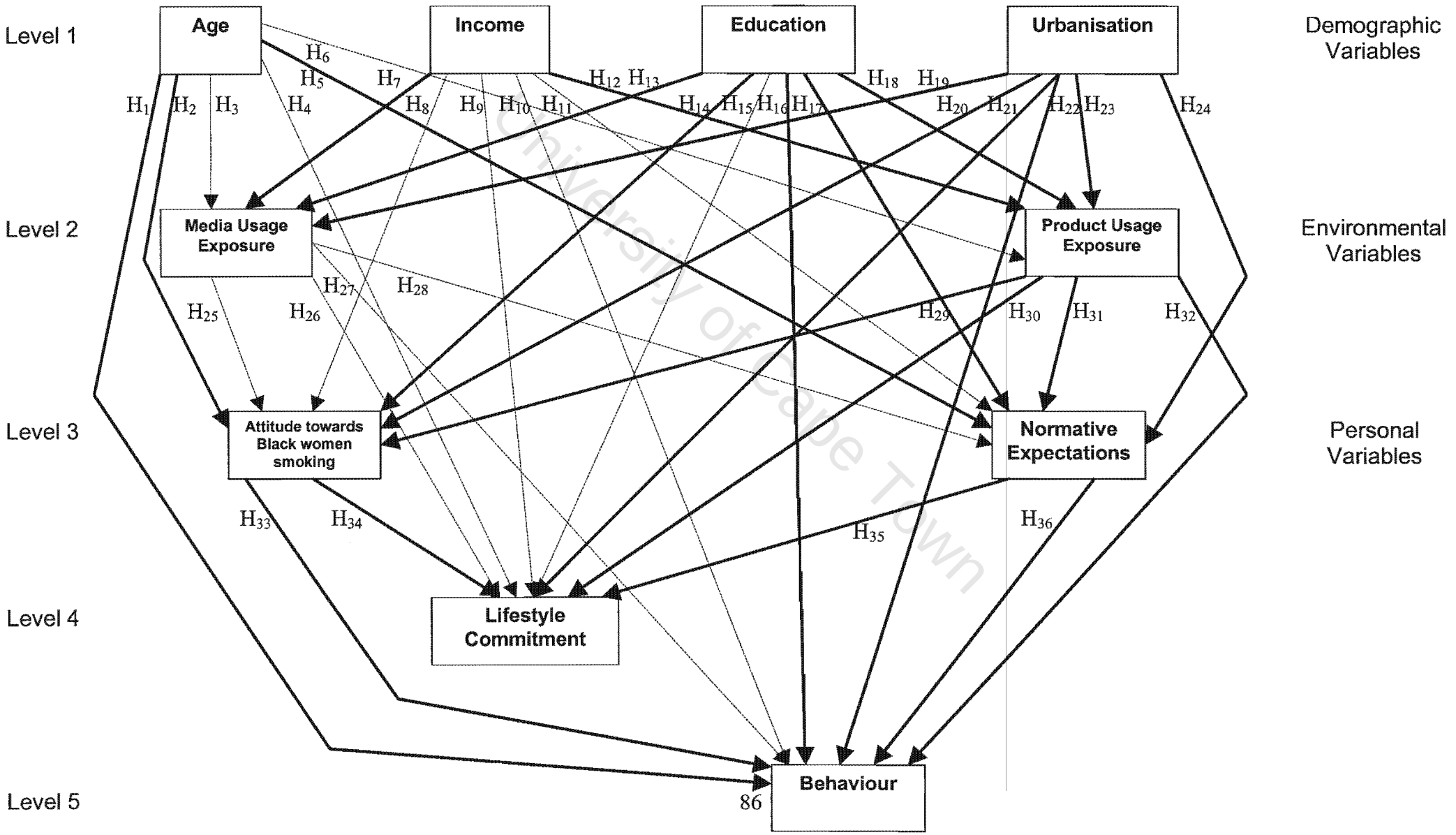


Table 9.1 : Hypotheses Findings

	Hypotheses Findings	*Rejected*	*Not Rejected*
	Age		
H_1	The greater her age, the greater the likelihood of her being a smoker.		✔
H_2	The greater her age, the greater the likelihood of her having a positive attitude towards Black women smoking.		✔
H_3	The greater her age, the smaller her media usage exposure	✔	
H_4	The greater her age, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.	✔	
H_5	The greater her age, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.		✔
H_6	The greater her age, the higher her product usage exposure.	✔	
	Income		
H_7	The greater her monthly household income, the greater her media usage exposure.		✔
H_8	The greater her monthly household income, the greater the likelihood of her having a negative attitude towards Black women smoking.	✔	
H_9	The greater her monthly household income, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.	✔	
H_{10}	The greater her monthly household income, the smaller the likelihood of her being a smoker.	✔	
H_{11}	The greater her monthly household income, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.	✔	
H_{12}	The greater her monthly household income, the smaller her product usage exposure.		✔

	Hypotheses Findings Continued...	*Rejected*	*Not Rejected*
	Education		
H_{13}	The greater her level of education, the greater her media usage exposure.		✔
H_{14}	The greater her level of education, the smaller the likelihood of her having a positive attitude towards Black women smoking.		✔
H_{15}	The greater her level of education, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.	✔	
H_{16}	The greater her level of education, the smaller the likelihood of her being a smoker.		✔
H_{17}	The greater her education, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.		✔
H_{18}	The greater her education, the smaller her product usage exposure.		✔
	Housing Context as a proxy for Urbanisation		
H_{19H}	The greater her level of housing context, the greater her media usage exposure.		✔
H_{20H}	The greater her level of housing context, the greater the likelihood of her having a negative attitude towards Black women smoking.		✔
H_{21H}	The greater her level of housing context, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.		✔
H_{22H}	The greater her level of housing context, the smaller the likelihood of her being a smoker.		✔
H_{23H}	The greater her level of housing context, the smaller her product usage exposure.		✔
H_{24H}	The greater the housing context, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking..		✔

	Hypotheses Findings Continued...	*Rejected*	*Not Rejected*
	LURC as a proxy for Urbanisation		
H_{19L}	The greater her LURC score, the greater her media usage exposure.		✔
H_{20L}	The greater her LURC score, the greater the likelihood of her having a negative attitude towards Black women smoking.		✔
H_{21L}	The greater her LURC score, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.		✔
H_{22L}	The greater her LURC score, the smaller the likelihood of her being a smoker.		✔
H_{23L}	The greater her LURC score, the smaller her product usage exposure.		✔
H_{24L}	The greater her LURC score, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.		✔
	Media Usage Exposure		
H_{25}	The greater her media usage exposure, the greater the likelihood of her having a positive attitude towards Black women smoking.	✔	
H_{26}	The greater her media usage exposure, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.	✔	
H_{27}	The greater her media usage exposure, the smaller the likelihood of her being a smoker.	✔	
H_{28}	The greater her media usage exposure, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.	✔	

	Hypotheses Findings Continued...	*Rejected*	*Not Rejected*
	Product Usage Exposure		
H_{29}	The greater her product usage exposure, the greater the likelihood of her having a positive attitude towards Black women smoking.		✔
H_{30}	The greater her product usage exposure, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.		✔
H_{31}	The greater her product usage exposure, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.		✔
H_{32}	The greater her product usage exposure, the greater the likelihood of her being a smoker.		✔
	Attitude Towards Black Women Smoking		
H_{33}	The more positive her attitude towards Black women smoking, the greater the likelihood of her being a smoker.		✔
H_{34}	The more positive her attitude towards Black women smoking, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.		✔
	Normative Expectations		
H_{35}	The more negative she expected the reaction from her family and friends (normative expectations) to be if they were to see her smoking, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.		✔
H_{36}	The more negative she expected the reaction from her family and friends (normative expectations) to be if they were to see her smoking, the smaller the likelihood of her being a smoker.		✔

Level 1 - Demographic Variables

9.1 Age

H_1 : The greater her age, the greater the likelihood of her being a smoker.

Only 5.6% of the under 30 year olds were smokers, while 15.3% of the 30 to 40 year olds and 19.3% of the over 40 year olds were smokers.

Table 9.2 : Age and Smoking Behaviour

Age	Smokers	Non-Smokers	*Total*
< 30 yrs	5 5.6%	85 94.4%	90 100.0%
30-40 yrs	15 15.3%	83 84.7%	98 100.0%
> 40 yrs	11 19.3%	46 80.7%	57 100.0%
Total	31	214	235

Pearson's Chi-square, $p < 0.043$ Cramer's $V = 0.162$

H_2 : The greater her age, the greater the likelihood of her having a positive attitude towards Black women smoking.

Attitude towards Black women smoking was made up of three measures, two of which were significantly related to age, using Bonferroni's correction applied as follows: $\alpha = 0.05 / 3 = 0.016$.

The first was the likelihood of her agreeing that it is acceptable for older women to smoke. Table 9.3 shows that while only 5.9% of under 30 year olds agreed it is acceptable for older women to smoke, 9.2% of the 30 to 40 year olds and as many as 28.1% of the over 40 year olds agreed it is acceptable for older women to smoke. As age increased, the likelihood she would agree that smoking is acceptable for older women was greater.

Table 9.3 : Age and Acceptability of Older Women Smoking

Age	Agree it is acceptable for older women to smoke	Disagree it is acceptable for older women to smoke	*Total*
< 30 yrs	5 5.9%	80 94.1%	*85* *100.0%*
30-40 yrs	9 9.2%	89 90.8%	*98* *100.0%*
> 40 yrs	16 28.1%	41 71.9%	*57* *100.0%*
Total	*30* *12.5%*	*210* *87.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.304

The greater her age, the greater the likelihood of her viewing a Black woman who smokes positively (Table 9.4). Only 8.2% of the under 30 year olds had a positive view of a Black woman who smokes, while 23.5% of the 30 to 40 year olds and as many as 42.1% of the over 40 year olds had a positive view of a Black woman who smokes.

Table 9.4 : Age and View of a Black Woman who Smokes

Age	Positive view of a Black woman who smokes	Negative view of a Black woman who smokes	*Total*
< 30 yrs	7 8.2%	78 91.8%	*85* *100.0%*
30-40 yrs	23 23.5%	75 86.5%	*98* *100.0%*
> 40 yrs	24 42.1%	33 57.9%	*57* *100.0%*
Total	*54* *22.5%*	*186* *77.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.304

The third measure of attitude towards Black women smoking which was 'opinion of Black women smoking', was not significantly related to age (Pearson's Chi-square, $p < 0.101$).

H_5 : The greater her age, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.

Normative expectations consisted of nine measures, each relating to how she believed a certain family member or friend would react if they had to see her smoking. Table 9.5 shows that the p value of the Pearson's Chi-square test for all nine normative expectations questions, ranged between $p<0.0001$ and $p<0.001$. Spearman's rho for each of the nine measures ranged from 0.243 to 0.303. The table below summarises the significant relationships found after applying Bonferroni's correction: $\alpha = 0.05 / 9 = 0.0055$.

All nine measures showed that age is negatively related to normative expectations. As age increased, the likelihood of her expecting her: husband/partner, father, mother, daughter(s), son(s) and/or brothers to have no reaction if they were to see her smoking increased. As age increased, the likelihood of her expecting her: sister(s), close female friends and/or female acquaintances to react positively or have no reaction if they were to see her smoking increased.

For example, only 3.5% of women younger than 30 years old expected their partner/husband to have no reaction if they were to see her smoking, where as 19.4% of women between 30 and 40 years old and 33.3% of women over the age of 40 years, expected their partner/husbands to have no reaction if they were to see her smoking.

Table 9.5 : Age and Expected Reaction by People Around her if she Smoked

Person	*Her expected reaction from the person if they had to see her smoking:*	< 30 years	30 – 40 years	> 40 years	*Pearson's Chi-square*	*Spearman's Correlation Coefficient*
Husband / partner	No reaction	3/85 3.5%	19/98 19.4%	19/57 33.3%	0.0001	0.303
	Negative	82/85 96.5%	79/98 80.6%	38/57 66.7%		
Father	No reaction	0/85 0.0%	12/98 12.2%	12/57 21.1%	0.0001	0.271
	Negative	85/85 100%	86/98 87.8%	45/57 78.9%		
Mother	No reaction	1/85 1.2%	12/98 12.2%	12/57 21.1%	0.001	.0250
	Negative	84/85 98.8%	86/98 87.8%	45/57 78.9%		
Daughter(s)	No reaction	1/85 1.2%	14/98 14.3%	13/57 22.8%	0.0001	0.262
	Negative	84/85 98.8%	84/98 85.7%	44/57 77.2%		
Son(s)	No reaction	2/85 2.4%	14/98 14.3%	13/57 22.8%	0.001	0.243
	Negative	83/85 97.6%	84/98 85.7%	44/57 77.2%		
Brother(s)	No reaction	1/85 1.2%	14/98 14.3%	14/57 24.6%	0.0001	0.276
	Negative	84/85 98.8%	84/98 85.7%	43/57 75.4%		
Sister(s)	Positive / No reaction	0/85 0.0%	14/98 14.3%	14/57 24.6%	0.0001	0.296
	Negative	85/85 100.0%	84/98 85.7%	43/57 75.4%		
Close Female Friends	Positive / No reaction	4/85 4.7%	21/98 21.4%	16/57 28.1%	0.0001	0.247
	Negative	81/85 95.3%	77/98 78.6%	41/57 71.9%		
Female Acquaintances	Positive / No reaction	5/85 5.9%	21/98 21.4%	17/57 29.8%	0.001	0.245
	Negative	80/85 94.1%	77/98 78.6%	40/57 70.2%		

9.2 Income

H_7 : The greater her monthly household income, the greater her media usage exposure.

There were three media usage exposure questions, therefore Bonferroni's correction was applied as follows: $\alpha = 0.05 / 3 = 0.016$.

The greater her household income, the greater was her exposure to reading newspaper(s). Table 9.6 shows that 60% of respondents from households that earned R1400 or more per month read a newspaper once a month or more, compared to 21.1% and 33.3% of respondents from households earning R800-R1399 and <R800 per month respectively.

Table 9.6 : Income and Newspaper Exposure

Income	Read a newspaper once a month or more	Read a newspaper once in 6 months or less	*Total*
<R800	22 33.3%	44 66.7%	*66* *100.0%*
R800 - R1399	16 21.1%	60 78.9%	*76* *100.0%*
>= R1400	30 60.0%	20 40.0%	*50* *100.0%*
Total	*68* *35.4%*	*124* *64.6%*	*192* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.183

The greater her household income, the greater was her exposure to reading magazine(s). Table 9.7 indicates that 84% of respondents from households that earned R1400 or more per month, read a magazine once a month or more, compared to 46.1% and 50.0% of respondents from households earning R800-R1399 and <R800 per month respectively.

Table 9.7 : Income and Magazine Exposure

Income	Read a magazine once a month or more	Read a magazine once in 6 months or less	*Total*
<R800	33 50.0%	33 50.0%	*66* *100.0%*
R800 - R1399	35 46.1%	41 53.9%	*76* *100.0%*
> = R1400	42 84.0%	8 16.0%	*50* *100.0%*
Total	*110* *57.3%*	*82* *42.7%*	*192* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.240

The greater her monthly household income, the greater was her exposure to watching television (TV) (Table 9.8). Almost all (98%) respondents from households that earned R1400 or more per month watch TV everyday, compared to 73.7% and 74.2% of respondents from households earning R800-R1399 and <R800 per month respectively.

Table 9.8 : Income and Television Exposure

Income	Watch TV everyday	Watch TV once a week or less	*Total*
<R800	49 74.2%	17 25.8%	*66* *100.0%*
R800 - R1399	56 73.7%	20 26.3%	*76* *100.0%*
> = R1400	49 98.0%	1 2.0%	*50* *100.0%*
Total	*154* *80.2%*	*38* *19.8%*	*192* *100.0%*

Pearson's Chi-square, $p < 0.001$ Spearman's rho = 0.211

H_{12} : The greater her monthly household income, the smaller her product usage exposure.

There were five product usage exposure questions, therefore Bonferroni's correction was applied as follows: $\alpha = 0.05 / 5 = 0.01$. Product usage exposure was made up of two underlying themes, namely: 'growing up product usage exposure' and 'current product usage exposure'. Where applicable in these

findings, the measures belonging to each underlying themes are marked as such. In some cases both themes showed significant relationships with the construct being tested against, however, in other cases as is shown below, only one of the theme's relationship with the construct was found to be significant.

Growing Up Product Usage Exposure

The greater her monthly household income, the less was the likelihood that anyone smoked in her household while she was growing up (Table 9.9). While 65.8% and 69.7% of respondents from households earning R800-R1399 and <R800 per month respectively, had smoker(s) in their households while they were growing up, only 40.0% of respondents from households that earned R1400 or more per month had smoker(s) in their households while they were growing up.

Table 9.9 : Income and Exposure to Smokers in Household While Growing Up

Income	No smoker(s) in her household while growing up	Were smoker(s) in her household while growing up	*Total*
<R800	20 30.3%	46 69.7%	*66* *100.0%*
R800 – R1399	26 34.2%	50 65.8%	*76* *100.0%*
>= R1400	30 60.0%	20 40.0%	*50* *100.0%*
Total	*76* *39.6%*	*116* *60.4%*	*192* *100.0%*

Pearson's Chi-square, $p < 0.002$ Cramer's V = 0.250

The greater her monthly household income, the less was the likelihood of her being sent to buy cigarettes or snuff for others while growing up. Table 9.10 shows that while 52.6% and 47.0% of respondents from households earning R800-R1399 and <R800 per month respectively, were sent to buy cigarettes or snuff for others while they were growing up, only 16.0% of respondents from households that earned R1400 or more per month were sent to buy cigarettes or snuff for others while they were growing up.

Table 9.10 : Income and Being Sent to Buy Cigarettes or Snuff for Others While Growing Up

Income	Were sent to buy cigarettes / snuff for others while growing up	Were not sent to buy cigarettes / snuff for others while growing up	*Total*
<R800	31 47.0%	35 53.0%	*66* *100.0%*
R800 – R1399	40 52.6%	36 47.4%	*76* *100.0%*
> = R1400	8 16.0%	42 84.0%	*50* *100.0%*
Total	*79* *41.1%*	*113* *58.9%*	*192* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Cramer's V = 0.307

None of the three measures making up the 'current product usage exposure' theme were significantly related to income. These measures were: 'percentage of female friends that smoke' (Pearson's Chi-square $p < 0.087$), 'percentage of household smokers that are female' (Pearson's Chi-square $p < 0.026$) and 'number of smokers in her household' (Pearson's Chi-square $p < 0.0.131$).

9.3 Education

H_{13} : The greater her level of education, the greater her media usage exposure.

Bonferroni's correction was applied as follows: $\alpha = 0.05 / 3 = 0.016$.

The greater her level of education, the greater was her exposure to reading newspaper(s) (Table 9.11). Only 29.2% of respondents who had an education level of Standard 6 or less read a newspaper once a month or more, while 37.0% of respondents who had an education level of Standard 7 or 8 read a newspaper

once a month or more. As many as 64.0% of respondents who had an education level of Standard 9 or 10 read a newspaper once a month or more.

Table 9.11 : Education and Newspaper Exposure

Education	Read a newspaper once a month or more	Read a newspaper once in 6 months or less	*Total*
No education – Standard 6	21 29.2%	51 70.8%	*72* *100.0%*
Standard 7 – Standard 8	30 37.0%	51 63%	*81* *100.0%*
Standard 9 – Standard 10	55 64.0%	31 36.0%	*86* *100.0%*
Total	*106* *44.4%*	*133* *55.6%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.291

The greater her level of education, the greater was her exposure to reading magazine(s). As Table 9.12 indicates, only 38.9% of respondents who had an education level of Standard 6 or less read a magazine once a month or more, while 60.5% of respondents who had an education level of Standard 7 or 8 read a magazine once a month or more. As many as 84.9% of respondents who had an education level of Standard 9 or 10 read a magazine once a month or more.

Table 9.12 : Education and Magazine Exposure

Education	Read a magazine once a month or more	Read a magazine once in 6 months or less	*Total*
No education – Standard 6	28 38.9%	44 61.1%	*72* *100.0%*
Standard 7 – Standard 8	49 60.5%	32 39.5%	*81* *100.0%*
Standard 9 – Standard 10	73 84.9%	13 15.1%	*86* *100.0%*
Total	*150* *62.8%*	*89* *37.2%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.387

The greater her level of education, the greater was her exposure to watching television (TV). Table 9.13 shoes that 73.6% of respondents who had an education level of Standard 6 or less, watched TV everyday, 81.5% of

respondents who had an education level of Standard 7 or 8 watched TV everyday, and 93.0% of respondents who had an education level of Standard 9 or 10 watched TV everyday.

Table 9.13 : Education and Television Exposure

Education	Watch TV everyday	Watch TV once a week or less	*Total*
No education – Standard 6	53 73.6%	19 26.4%	*72* *100.0%*
Standard 7 – Standard 8	66 81.5%	15 18.5%	*81* *100.0%*
Standard 9 – Standard 10	80 93.0%	6 7.0%	*86* *100.0%*
Total	*199* *83.3%*	*40* *16.7%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.004$ Spearman's rho = 0.213

H_{14} : The greater her level of education, the smaller the likelihood of her having a positive attitude towards Black women smoking.

Attitude towards Black women smoking was made up of three measures, thus Bonferroni's correction was applied as follows: $\alpha = 0.05 / 3 = 0.016$. Education was significantly related to two of the three attitude towards Black women smoking measures.

The greater her level of education, the more likely she was to disagree that smoking is acceptable for older women. As shown in Table 9.14, 72.6% of respondents with an education level of Standard 6 or less disagreed that smoking is acceptable for older women, while as many as 93.8% and 94.2% of respondents with an education level of Standard 7 or 8 and Standard 9 or 10 respectively, disagreed that smoking is acceptable for older women.

Table 9.14 : Education and Acceptability of Older Women Smoking

Education	Disagree that smoking is acceptable for older women.	Agree that smoking is acceptable for older women.	*Total*
No education – Standard 6	53 72.6%	20 27.4%	*73* *100.0%*
Standard 7 – Standard 8	76 93.8%	5 6.2%	*81* *100.0*
Standard 9 – Standard 10	81 94.2%	5 5.8%	*86* *100.0%*
Total	*210* *87.5%*	*30* *12.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.254

The greater her level of education, the more likely she was to view a Black woman who smokes negatively. Table 9.15 indicates that 60.3% of respondents with an education level of Standard 6 or less had a negative view of a Black woman who smokes, 81.5% of respondents with an education level of Standard 7 or 8 had a negative view of a Black woman who smokes, and 88.4% of respondents with an education level of Standard 9 or 10 had a negative view of a Black woman who smokes.

Table 9.15 : Education and View of a Black Woman who Smokes

Education	Negative view of a Black woman who smokes	Positive view of a Black woman who smokes	*Total*
No education – Standard 6	44 60.3%	29 39.7%	*73* *100.0%*
Standard 7 – Standard 8	66 81.5%	15 18.5%	*81* *100.0%*
Standard 9 – Standard 10	76 88.4%	10 11.6%	*86* *100.0%*
Total	*186* *77.5%*	*54* *22.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.267

The third measure of attitude towards Black women smoking which was not significantly related to age, was 'opinion of Black women smoking' (Pearson's Chi-square, $p < 0.101$).

H_{16} : The greater her level of education, the smaller the likelihood of her being a smoker.

Twenty percent of respondents with an education level of Standard 7 or less were smokers, while only 7.4% of respondents with an education level of Standard 8 to 10 were smokers.

Table 9.16 : Education and Smoking Behaviour

Education	Non-Smoker	Smoker	*Total*
No education – Standard 7	84 80.0% 40.2%	21 20.0% .67.7%	*105* *100.0%* *43.8%*
Standard 8 – Standard 10	125 92.6% 59.8%	10 7.4% 32.3%	*135* *100.0%* *56.3%*
Total	*209* *87.1%* *100.0%*	*31* *12.9%* *100.0%*	*240* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.004$ Cramer's $V = 0.186$

H_{17} : The greater her education, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking..

Normative expectations consisted of nine measures, thus Bonferroni's correction was applied as follows: $\alpha = 0.05 / 9 = 0.0055$.

Table 9.17 below shows that Pearson's Chi-square was significant ($p<0.0001$) for all nine normative expectations questions. A respondent with an education level of Standard 7 or less were more likely than those with an education level of Standard 8 to 10 to expect no reaction and in some cases a positive reaction from people around her if she smoked.

Table 9.17 : Education and Expected Reaction by People if she Smoked

Person	*Her expected reaction from the person if they had to see her smoking:*	No Education – Standard 7	Standard 8 - 10	*Pearson's Chi-square*	*Spearman's Correlation Coefficient*
Husband / partner	No reaction	32/105 30.5%	9/135 6.7%	0.0001	-0.314
	Negative	73/105 69.5%	126/135 93.3%		
Father	No reaction	21/105 20.0%	3/135 2.2%	0.0001	-0.294
	Negative	84/105 80.0%	132/135 97.8%		
Mother	No reaction	21/105 20.0%	4/135 3.0%	0.0001	-0.297
	Negative	84/105 80.0%	131/135 97.0%		
Daughter(s)	No reaction	24/105 22.9%	4/135 3.0%	0.0001	-0.307
	Negative	81/105 77.1%	131/135 97.0%		
Son(s)	No reaction	24/105 22.9%	5/135 3.7%	0.0001	-0.292
	Negative	81/105 77.1%	130/135 96.3%		
Brother(s)	No reaction	25/105 23.8%	4/135 3.0%	0.0001	-0.317
	Negative	80/105 76.2%	131/135 97.0%		
Sister(s)	Positive / No reaction	25/105 23.8%	3/135 2.2%	0.0001	-0.334
	Negative	80/105 76.2%	132/135 97.8%		
Close Female Friends	Positive / No reaction	30/105 28.6%	11/135 8.1%	0.0001	-0.269
	Negative	75/105 71.4%	124/135 91.9%		
Female Acquaintances	Positive / No reaction	31/105 29.5%	12/135 8.9%	0.0001	-0.267
	Negative	74/105 70.5%	123/135 91.1%		

H_{18} : The greater her education, the smaller her product usage exposure.

Product usage exposure was made up of five measures, thus, Bonferroni's correction was applied: $\alpha = 0.05 / 5 = 0.01$. Only three out of the five measures were significantly related to education.

Growing Up Product usage exposure

The greater her education, the less likely she was exposed to cigarette usage when growing up. Below in Table 9.18, as level of education increases, it is less likely that she had a smoker living in her household while growing up. Only 26.0% of respondents who had an education level of Standard 7 or less did not have smoker(s) in their household while growing up, while more than half (52.6%) of the respondents who had an education level of Standard 8 to 10 did not have smoker(s) in their household while growing up.

Table 9.18 : Education and Exposure to Smokers in Household While Growing Up

Education	Had smoker(s) living in her household while growing up	Did not have smoker(s) living in her household while growing up	*Total*
No education – Standard 7	*77* 74.0%	*27* 26.0%	*104* *100.0%*
Standard 8 – Standard 10	64 47.4%	71 52.6%	*135* *100.0%*
Total	*141* *59.0%*	*98* *41.0%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Cramer's V = 0.268

Table 9.19 shows that as level of education increases, it is less likely that she was sent to buy cigarettes or snuff for others while growing up. Just over half (50.9%) of the respondents who had an education level of Standard 7 or less were sent to buy cigarettes or snuff for others while growing up, while only 31.9% of respondents who had an education level of Standard 8 to 10 were sent to buy cigarettes or snuff for others while growing up.

Table 9.19 : Education and Being Sent to Buy Cigarettes or Snuff for Others While Growing Up

Education	Were sent to buy cigarettes or snuff for others while growing up	Were not sent to buy cigarettes or snuff for others while growing up	*Total*
No education – Standard 7	53 50.9%	51 49.1%	*104* *100.0%*
Standard 8 – Standard 10	43 31.9%	92 68.1%	*135* *100.0%*
Total	*96* *40.2%*	*143* *59.8%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.003$ Cramer's V = 0.193

Current Product usage exposure

As level of education increases, the less likely she had female friends that smoked (Table 9.20). Only 9.9% of respondents who had an education level of Standard 8 to 10 had female friends that smoked, while 27.2% of respondents who had an education level of Standard 7 or less had female friends that smoked.

Table 9.20 : Education and Percentage of Female Friends that Smoke

Education	0% of her female friends that smoke	>0% of her female friends that smoke	*Total*
No education – Standard 7	67 72.8%	25 27.2%	*92* *100.0%*
Standard 8 – Standard 10	100 90.1%	11 9.9%	*111* *100.0%*
Total	*167* *82.3%*	*36* *17.7%*	*203* *100.0%*

Pearson's Chi-square, $p < 0.001$ Spearman's rho = -0.225

The two measures that were not significantly related to education were: 'percentage of household smokers that are female' (Pearson's Chi-Sqaure $p < 0.129$) and 'number of smokers in her household' (Pearson's Chi-Sqaure $p < 0.125$).

9.4 Urbanisation

As discussed in chapter four, two proposed measures of urbanisation were substituted as proxies for the urbanisation construct, namely housing context and the Latent Urban Rural Continuum (LURC).

Housing context was applied as a quota in the sampling design, and thus, each of the three housing contexts comprised one third of the sample (Table 9.21).

Table 9.21 : Housing Context Categories

Housing Context	Number of Respondents	Percentage of Respondents
Informal, Unserviced	80	33.3%
Informal, Serviced	80	33.3%
Formal, Serviced	80	33.3%
Total	240	100.0%

LURC is a ten-point scale ranging from least urbanised on the one end to most urbanised on the other. Table 9.22 shows the distribution of the respondents across the LURC continuum and how the ten categories were collapsed into three due to the small cell sizes.

Table 9.22 : LURC Recoded into Three Categories

	Original 10 Categories	Number of Respondents	Percentage of Respondents	Recoded into 3 Categories	Number of Respondents	Number of Respondents
Least urbanised	1	0	0.0%	1	81	33.8%
	2	5	2.1%			
	3	11	4.6%			
	4	21	8.8%			
	5	44	18.3%			
	6	53	22.1%	2	85	35.4%
	7	32	13.3%			
	8	35	14.6%	3	74	30.8%
Most urbanised	9	29	12.1%			
	10	10	4.2%			
Total		240	100.0%		240	100.0%

Both sets of findings are presented sequentially for easy comparison. The first set of hypotheses discussed (H_{19H} - H_{24H}) used housing context as a proxy for urbanisation and the second used LURC (H_{19L} - H_{24L}).

9.4.1 Housing Context

H_{19H} : The greater her level of housing context, the greater her media usage exposure.

Media usage exposure consisted of three measures, thus Bonferroni's $\alpha = 0.05 / 3 = 0.016$. One out of three measures was significantly related to housing context.

The higher her level of housing context was, the greater the likelihood that she watched TV everyday. As Table 9.23 shows, all respondents living in formal, serviced areas and 95.0% of respondents living in informal, serviced areas watched TV everyday, where as only 55.0% of respondents living in informal, unserviced areas watched TV everyday. It is interesting that eventhough electrical utilities are not provided in unserviced areas, over half the women had daily access to TV.

Table 9.23 : Housing Context and Television Exposure

Housing Context	Watch TV everyday	Watch TV once a week or less	*Total*
Informal, Unserviced	44 55.0%	36 45.0%	*80* *100.0%*
Informal, Serviced	76 95.0%	4 5.0%	*80* *100.0%*
Formal, Serviced	79 100.0%	0 0.0%	*79* *100.0%*
Total	*199* *83.3%*	*40* *16.7%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.493

The two measures of media usage exposure that were not significantly related to housing context were 'how often read newspapers' (Pearson's Chi-Sqaure $p < 0.852$) and 'how often read magazines'(Pearson's Chi-Sqaure $p < 0.324$).

H_{20H} : The greater her level of housing context, the greater the likelihood of her having a negative attitude towards Black women smoking.

Attitude towards Black women smoking consisted of three measures, thus, applying Bonferroni's correction, $\alpha = 0.05 / 3 = 0.016$.

The greater her level of housing context, the more likely she was to disagree that smoking is acceptable for older women (Table 9.24). The percentage of respondents who disagreed that smoking is acceptable for older women increased from 76.25% to 90.0% to 96.25% as housing context increased from informal, unserviced to informal, serviced to formal, serviced respectively.

Table 9.24 : Housing Context and Acceptability of Older Women Smoking

Housing Context	Disagree that smoking is acceptable for older women.	Agree that smoking is acceptable for older women.	*Total*
Informal, Unserviced	61 76.25%	19 23.75%	*80* *100.0%*
Informal, Serviced	72 90.0%	8 10.0%	*80* *100.0%*
Formal, Serviced	77 96.25%	3 3.75%	*80* *100.0%*
Total	*210* *87.5%*	*30* *12.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.247

The greater her level of housing context, the more likely she was to view a Black woman who smoked negatively. There appeared to be a difference between serviced and unserviced housing areas. Table 9.25 indicates that 61.25% of respondents in informal, unserviced areas had a negative view of a Black woman

smoking, versus 83.75% and 87.5% in informal, serviced and formal, serviced areas respectively.

Table 9.25 : Housing Context and View of a Black Woman who Smokes

Housing Context	Negative view of a Black woman who smokes	Positive view of a Black woman who smokes	*Total*
Informal, Unserviced	49 61.25%	31 38.75%	*80* *100.0%*
Informal, Serviced	67 83.75%	13 16.25%	*80* *100.0%*
Formal, Serviced	70 87.5%	10 12.5%	*80* *100.0%*
Total	*186* *77.5%*	*54* *22.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.257

The greater her level of housing context, the more likely she was to have a negative opinion of African women smoking. The percentage of respondents who had a negative opinion of African women smoking, increased from 57.5% to 71.25% to 78.75% as housing context increased from informal, unserviced to informal, serviced to formal, serviced respectively.

Table 9.26 : Housing Context and Opinion of African Women Smoking

Housing Context	Negative opinion of African women smoking	Positive opinion of African women smoking	*Total*
Informal, Unserviced	46 57.5%	34 42.5%	*80* *100.0%*
Informal, Serviced	57 71.25%	23 28.75%	*80* *100.0%*
Formal, Serviced	63 78.75%	17 21.25%	*80* *100.0%*
Total	*166* *69.2%*	*74* *30.8%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.013$ Spearman's rho = -0.188

H_{21H} : The greater her level of housing context, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.

Looking at the polar ends of the lifestyle commitment continuum (Conversion Model) more respondents in serviced areas were serious about not taking up smoking (57.7% and 60.0% in informal, serviced and formal, serviced areas respectively, versus 38.8% in informal, unserviced areas), and more respondents in unserviced areas were serious about continuing smoking (8.8% in informal, unserviced areas versus 1.3% in both informal, serviced and formal, serviced areas) (Table 9.27). However, it is interesting that double the respondents in formal, serviced areas (22.5%) versus informal, serviced areas (11.5%) and informal, unserviced areas (11.3%) were leaning towards taking up smoking.

Table 9.27 : Housing Context and Lifestyle Commitment

Lifestyle Commitment	Informal, Unserviced	Informal, Serviced	Formal, Serviced	*Total*
1. Serious about not taking up Smoking	31 38.8% 25.0%	45 57.7% 36.3%	48 60.0% 38.7%	*124* *52.1%* *100.0%*
2. Leaning away from taking up Smoking	14 17.5% 35.0%	17 22.1% 42.5%	9 11.4% 22.5%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	9 11.3% 25.0%	9 11.5% 25.0%	18 22.5% 50.0%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	4 5.0% 50.0%	3 3.9% 37.5%	1 1.3% 12.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	5 6.3% 100.%	0 0.0% 0.0%	0 0.0% 0.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	10 12.5% 71.4%	2 2.6% 14.3%	2 2.5% 14.3%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	7 8.8% 77.8%	1 1.3% 11.1%	1 1.3% 11.1%	*9* *3.8%* *100.0%*
Total	*80* *100%* *33.9%*	*78* *100%* *32.6%*	*80* *100%* *33.5%*	*238* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.225

H_{22H} : The greater her level of housing context, the smaller the likelihood of her being a smoker.

Table 9.28 indicates that whereas 3.8% of respondents in formal, serviced areas and 7.5% in informal, serviced areas smoked, as many as 27.5% in informal, unserviced areas were smokers.

Table 9.28 : Housing Context and Smoking Behaviour

Housing Context	Non-Smokers	Smokers	*Total*
Informal, Unserviced	58 72.5% 27.8%	22 27.5% 71.0%	*80* *100.0%* *33.3%*
Informal, Serviced	74 92.5% 35.4%	6 7.5% 19.4%	*80* *100.0%* *33.3%*
Formal, Serviced	*77* 96.2% 36.8%	3 3.8% 9.7%	*80* *100.0%* *33.3%*
Total	*209* *87.1%* *100.0%*	*31* *12.9%* *100.0%*	*240* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Cramer's V = 0.311

H_{23H} : The greater her level of housing context, the smaller her product usage exposure.

Product usage exposure consisted of five measures, therefore Bonferroni's correction was applied: $\alpha = 0.05 / 5 = 0.01$. Four of the five product usage exposure measures were significantly related to housing context.

Growing Up Product usage exposure

The greater the level of housing context, the smaller the chance that she was exposed to cigarette usage while growing up (Table 9.29). As housing context increases, it is less likely that anyone smoked in her household while she was growing up. Only 26.25% of respondents in informal, unserviced areas did not have smoker(s) living in their household while growing up, while in informal,

serviced areas and formal, serviced areas respectively, 38.75% and 58.2% of respondents did not have smoker(s) living in their household while growing up.

Table 9.29 : Housing Context and Exposure to Smokers in Household While Growing Up

Housing Context	Did not have smoker(s) living in her household while growing up	Had smoker(s) living in her household while growing up	*Total*
Informal, Unserviced	21 26.25%	59 73.75%	*80* *100.0%*
Informal, Serviced	31 38.75%	49 61.25%	*80* *100.0%*
Formal, Serviced	46 58.2%	33 41.8%	*79* *100.0%*
Total	*98* *41.0%*	*141* *59.0%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Cramer's V = 0.267

Table 9.30 shows that as housing context increases, it is less likely that she was sent to buy cigarettes or snuff for others while growing up. Only 28.8% of respondents in informal, unserviced areas were not sent to buy cigarettes or snuff for others while growing up, while in informal, serviced areas and formal, serviced areas this figure was 70.0% and 81.0% respectively.

Table 9.30 : Housing Context and Being Sent to buy Cigarettes or Snuff for others while Growing Up

Housing Context	Were not sent to buy cigarettes or snuff for others while growing up	Were sent to buy cigarettes or snuff for others while growing up	*Total*
Informal, Unserviced	23 28.8%	57 71.25%	*80* *100.0%*
Informal, Serviced	56 70.0%	24 30.0%	*80* *100.0%*
Formal, Serviced	64 81.0%	15 19.0%	*79* *100.0%*
Total	*183* *76.6%*	*96* *40.2%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Cramer's V = 0.459

Current Product Usage Exposure

As level of housing context increases, the less likely she was to have female friends that smoked. Table 9.31 shows that 37.7% of respondents in informal, unserviced areas had female friends that smoked, versus only 7.7% and 7.2% of respondents in informal, serviced and formal, serviced areas.

Table 9.31 : Housing Context and Percentage of Female Friends that Smoke

Housing Context	0% of female friends smoke	>0% of female friends smoke	*Total*
Informal, Unserviced	43 62.3%	26 37.7%	*69* *100.0%*
Informal, Serviced	60 92.3%	5 7.7%	*65* *100.0%*
Formal, Serviced	64 92.8%	5 7.2%	*69* *100.0%*
Total	*167* *82.3%*	*36* *17.7%*	*203* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.328

As level of housing context increases, the less likely she was to have female smokers in her household. Table 9.32 reveals that 30.0% of respondents in informal, unserviced areas had female smokers in their household, versus only 7.5% and 6.3% of respondents in informal, serviced and formal, serviced areas respectively.

Table 9.32 : Housing Context and Percentage of Smokers in Household that are Female

Housing Context	Do not have female smokers in their household	Have female smokers in their household	*Total*
Informal, Unserviced	56 70.0% 27.3%	24 30.0% 68.6%	*80* *100.0%* *33.3%*
Informal, Serviced	74 92.5% 36.1%	6 7.5% 17.1%	*80* *100.0%* *33.3%*
Formal, Serviced	75 93.8% 36.6%	5 6.3% 14.3%	*80* *100.0%* *33.3%*
Total	*205* *85.4%* *100.0%*	*35* *14.6%* *100.0%*	*240* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.275

The only measure of product usage exposure which was not significantly related to housing context was 'number of smokers in her household' (Pearson's Chi-square $p < 0.023$).

H_{24H} : The greater the housing context, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.

Normative expectations consisted of nine measures, thus, Bonferroni's $\alpha = 0.05 / 9 = 0.0055$.

Table 9.33 shows that the p-value for Pearson's Chi-square for all nine questions was < 0.003 and Spearman's rho ranged between -0.217 and -0.298. All responses showed that the higher her level of housing context, the more likely she was to expect a negative reaction (normative expectations) from her family and friends if they were to see her smoking.

Table 9.33 : Housing Context and Expected Reaction by People Around her if she Smoked

Person	*Her expected reaction from the person if they had to see her smoking:*	Informal, Unserviced	Informal, Serviced	Formal, Serviced	*Pearson's Chi-square*	*Spearman's Correlation Coefficient*
Husband / partner	No reaction	25/80 31.3%	10/80 12.5%	6/80 7.5%	0.0001	-0.258
	Negative	55/80 68.8%	70/80 87.5%	74/80 92.5%		
Father	No reaction	15/80 18.8%	7/80 8.8%	2/80 2.5%	0.003	-0.221
	Negative	65/80 81.3%	73/80 91.3%	78/80 97.5%		
Mother	No reaction	15/80 18.8%	8/80 10.0%	2/80 2.5%	0.003	-0.217
	Negative	65/80 81.3%	72/80 90.0%	78/80 97.5%		
Daughter(s)	No reaction	19/80 23.8%	6/80 7.5%	3/80 3.8%	0.0001	-0.254
	Negative	61/80 76.3%	74/80 92.5%	77/80 96.3%		
Son(s)	No reaction	20/80 25.0%	6/80 7.5%	3/80 3.8%	0.0001	-0.266
	Negative	60/80 75.0%	74/80 92.5%	77/80 96.3%		
Brother(s)	No reaction	19/80 23.8%	7/80 8.8%	3/80 3.8%	0.0001	-0.251
	Negative	61/80 76.3%	73/80 91.3%	77/80 96.3%		
Sister(s)	Positive / No reaction	18/80 22.5%	7/80 8.8%	3/80 3.8%	0.001	-0.238
	Negative	62/80 77.5%	73/80 91.3%	77/80 96.3%		
Close Female Friends	Positive / No reaction	27/80 33.8%	9/80 11.3%	5/80 6.3%	0.0001	-0.298
	Negative	53/80 66.3%	71/80 88.8%	75/80 93.8%		
Female Acquaintances	Positive / No reaction	28/80 35.0%	9/80 11.3%	6/80 7.5%	0.0001	-0.293
	Negative	52/80 65.0%	71/80 88.8%	74/80 92.5%		

9.4.2 Latent Urban Rural Continuum (LURC)

H_{19L} : The greater her LURC score, the greater her media usage exposure.

Media usage exposure consisted of three measures, thus Bonferroni's $\alpha = 0.05 / 3 = 0.016$.

The higher her LURC score, the greater her exposure to newspaper(s) (Table 9.34). Only 31.3% and 35.3% of respondents that fell under LURC 1-5 and LURC 6-7 respectively read a newspaper once a month or more, versus as many as 68.9% of those that fell under LURC 8-10.

Table 9.34 : LURC and Newspaper Exposure

LURC	Read newspaper once a month or more	Read newspaper less than once in 6 months	*Total*
1-5	25 31.3%	55 68.8%	*80* *100.0%*
6-7	30 35.3%	55 64.7%	*85* *100.0%*
8-10	51 68.9%	23 31.1%	*74* *100.0%*
Total	*106* *44.4%*	*133* *55.6%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.299

The higher her LURC score, the greater her exposure to magazine(s) (Table 9.35). Only 47.5% and 60.0% of respondents that fell under LURC 1-5 and LURC 6-7 respectively read a newspaper once a month or more, versus 82.4% of those that fell under LURC 8-10.

Table 9.35 : LURC and Magazine Exposure

LURC	Read magazine(s) once a month or more	Read magazine(s) less than once in 6 months	*Total*
1-5	38 47.5%	42 52.5%	*80* *100.0%*
6-7	51 60.0%	34 40.0%	*85* *100.0%*
8-10	61 82.4%	13 17.6%	*74* *100.0%*
Total	*150* *62.8%*	*89* *37.2%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.288

Table 9.36 shows that the higher her LURC score, the greater her exposure to television. As many as 98.6% and 90.6% of respondents that fell under LURC 8-10 and LURC 6-7 respectively watch TV everyday, compared to only 61.3% of those that fell under LURC 1-5.

Table 9.36 : LURC and Television Exposure

LURC	Watch TV everyday	Watch TV less than once a week	*Total*
1-5	49 61.3%	31 38.8%	*80* *100.0%*
6-7	77 90.6%	8 9.4%	*85* *100.0%*
8-10	73 98.6%	1 1.4%	*74* *100.0%*
Total	*199* *83.3%*	*40* *16.7%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.407

H_{20L} : The greater her LURC score, the greater the likelihood of her having a negative attitude towards Black women smoking.

Attitude towards Black women smoking consisted of three measures, thus Bonferroni's $\alpha = 0.05 / 3 = 0.016$. LURC was significantly related to two of the three measures of attitude towards Black women smoking.

The greater her LURC score, the more likely she was to disagree that smoking is acceptable for older women (Table 9.37). While 75.3% of respondents that fell under LURC 1-5 disagreed that smoking is acceptable for older women, 94.6% and 92.9% of respondents that fell under LURC 8-10 and LURC 6-7 respectively disagreed that smoking is acceptable for older women

Table 9.37 : LURC and Acceptability of Older Women Smoking

LURC	Disagree that smoking is acceptable for older women.	Agree that smoking is acceptable for older women.	*Total*
1-5	61 75.3%	20 24.7%	*81* *100.0%*
6-7	79 92.9%	6 7.1%	*85* *100.0%*
8-10	70 94.6%	4 5.4%	*74* *100.0%*
Total	*210* *87.5%*	*30* *12.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.239

The greater her LURC score, the more likely she was to have a negative view of a Black woman who smokes. Table 9.38 indicates that 61.7% of respondents that fell under LURC 1-5 had a negative view of a Black woman who smokes, versus 84.7% and 86.5% of respondents that fell under LURC 6-7 and LURC 8-10 respectively.

Table 9.38 : LURC and View of a Black Woman Who Smokes

LURC	Negative view of a Black woman who smokes	Positive view of a Black woman who smokes	*Total*
1-5	50 61.7%	31 38.3%	*81* *100.0%*
6-7	72 84.7%	13 15.3%	*85* *100.0%*
8-10	64 86.5%	10 13.5%	*74* *100.0%*
Total	*186* *77.5%*	*54* *22.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.243

The measure of attitude towards Black women smoking that was not significantly related to LURC was 'opinion of African women smoking' (Pearson's Chi-square $p < 0.020$).

H_{21L} : The greater her LURC score, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.

Looking at the polar ends of the lifestyle commitment continuum, Table 9.39 shows that more respondents with higher LURC scores were serious about not taking up smoking (77.8% of LURC 8-10, 48.2% of LURC 6-7, and 34.6% of LURC 1-5), and more respondents with lower LURC scores were serious about continuing smoking (8.6% of LURC 1-5, versus 2.4% and 0.0% of LURC 6-7 and LURC 8-10 respectively).

Table 9.39 : LURC and Lifestyle Commitment

Lifestyle Commitment	1-5	6-7	8-10	*Total*
1. Serious about not taking up Smoking	28 34.6% 22.6%	40 48.2% 32.3%	56 77.8% 45.2%	*125* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	17 21.0% 42.5%	16 19.3% 40.0%	7 9.7% 17.5%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	12 14.8% 33.3%	19 22.9% 52.8%	5 6.9% 13.9%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	4 4.9% 50.0%	3 3.6% 37.5%	1 1.4% 12.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	5 6.2% 100.0%	0 0.0% 0.0%	0 0.0% 0.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	8 9.9% 57.1%	3 3.6% 21.4%	3 4.2% 21.4%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	7 8.6% 77.8%	2 2.4% 22.2%	0 0.0% 0.0%	*9* *3.8%* *100.0%*
Total	*81* *100%* *34.3%*	*83* *100%* *35.2%*	*72* *100%* *30.5%*	*236* *100%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.361

H_{22L} : The greater her LURC score, the smaller the likelihood of her being a smoker.

While 24.7% of respondents that fell under LURC 1-5 were smokers, only 7.1% and 6.8% of respondents that fell under LURC 6-7 and LURC 8-10 respectively were smokers.

Table 9.40 : LURC and Smoking Behaviour

LURC	Non-smoker	Smokers	*Total*
1-5	61 75.3%	20 24.7%	*81* *100.0%*
6-7	79/85 92.9%	6/85 7.1%	*85* *100.0%*
8-10	69/74 93.2%	5/74 6.8%	*74* *100.0%*
Total	*209* *87.1%*	*31* *12.9%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.001$ Cramer's $V = 0.251$

H_{23L} : The greater her LURC score, the smaller her product usage exposure.

Product usage exposure consisted of five measures, therefore Bonferroni's correction was applied: $\alpha = 0.05 / 5 = 0.01$. Four of the five product usage exposure measures were significantly related to LURC.

Growing Up Product Usage Exposure

Overall, the greater her LURC score, the lower the probability that she was exposed to cigarette usage while growing up.

Specifically, the greater her LURC score, the less likely it was that anyone smoked in her household while she was growing up. Table 9.41 shows that 73.8% of

respondents that fell under LURC 1-5, 57.6% of respondents that fell under LURC 6-7 and only 44.6% of respondents that fell under LURC 8-10 had smokers in their household while they were growing up.

Table 9.41 : LURC and Exposure to Smokers in Household While Growing Up

LURC	Nobody smoked in her household while she was growing up	People smoked in her household while she was growing up	*Total*
1-5	21 26.3%	59 73.8%	*80* *100.0%*
6-7	36 42.4%	49 57.6%	*85* *100.0%*
8-10	41 55.4%	33 44.6%	*74* *100.0%*
Total	*98* *41.0%*	*141* *59.0%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.001$ Cramer's V = 0.239

Table 9.42 shows that as her LURC score increases, it is less likely that she was sent to buy cigarettes or snuff for others while growing up. Whereas two thirds, 65.0%, of respondents that fell under LURC 1-5 were sent to buy cigarettes or snuff for others while they were growing up, only 36.5% of respondents that fell under LURC 6-7 and only 17.6% of respondents that fell under LURC 8-10 were asked to do so.

Table 9.42 : Housing Context and Being Sent to buy Cigarettes or Snuff for others while Growing Up

LURC	Was not sent to buy cigarettes or snuff for others while growing up	Was sent to buy cigarettes or snuff for others while growing up	*Total*
1-5	28 35.0%	52 65.0%	*80* *100.0%*
6-7	54 63.5%	31 36.5%	*85* *100.0%*
8-10	61 82.4%	13 17.6%	*74* *100.0%*
Total	*143* *59.8%*	*96* *40.2%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Cramer's V = 0.430

Current Product Usage Exposure

The greater her LURC score, the less likely she was exposed to cigarettes and smoking in her current environment.

Specifically, Table 9.43 shows that the greater her LURC score, the less likely she was to have female friends that smoked. While 30.9% of respondents that fell under LURC 1-5 had female friends who smoked, only 13.3% and 8.3% of respondents that fell under LURC 6-7 and LURC 8-10 respectively had female friends who smoked.

Table 9.43 : LURC and Percentage of Female Friends that Smoke

LURC	0% of female friends smoke	>0% of female friends smoke	*Total*
1-5	47 69.1%	21 30.9%	*68* *100.0%*
6-7	65 86.7%	10 13.3%	*75* *100.0%*
8-10	55 91.7%	5 8.3%	*60* *100.0%*
Total	*167* *82.3%*	*36* *17.7%*	*203* *100.0%*

Pearson's Chi-square, $p < 0.002$ Spearman's rho = -0.238

The greater her LURC score, the less likely she was to have female smokers in her household (Table 9.44). While 28.4% of respondents that fell under LURC 1-5 had female smokers in their household, only 7.1% and 8.1% of respondents that fell under LURC 6-7 and LURC 8-10 respectively had female smokers in their household.

Table 9.44 : LURC and Percentage of Smokers in Household that are Female

LURC	0% of smokers in the household are female	>0% of smokers in the household are female	*Total*
1-5	58 71.6% 28.3%	23 28.4% 65.7%	*81* *100.0%* *33.8%*
6-7	79 92.9% 38.5%	6 7.1% 17.1%	*85* *100.0%* *35.4%*
8-10	68 91.9% 33.2%	6 8.1% 17.1%	*74* *100.0%* *30.8%*
Total	*205* *85.4%* *100.0%*	*35* *14.6%* *100.0%*	*240* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = -0.237

The measure of product usage exposure that was not significantly related to LURC was 'number of smokers in her household' (Pearson's Chi-square $p < 0.024$).

H_{24L} : The greater her LURC score, the more likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.

Normative expectations consisted of nine measures, thus, Bonferroni's $\alpha = 0.05 / 9 = 0.0055$.

For all nine questions the p-value for Pearson's Chi-square was < 0.003 and Spearman's rho ranged between -0.217 and -0.298. Table 9.45 shows that the higher her LURC score, the more likely she was to expect a negative reaction (normative expectations) from her family and friends if they were to see her smoking.

Table 9.45 : LURC and Expected Reaction by People Around her if she Smoked

Person	*Her expected reaction from the person if they had to see her smoking:*	1-5	6-7	8-10	*Pearson's Chi-square*	*Spearman's Correlation Coefficient*
Husband/partner	No reaction	26/81 32.1%	9/85 10.6%	6/74 8.1%	0.0001	-0.261
	Negative	55/81 67.9%	76/85 89.4%	68/74 91.9%		
Father	No reaction	15/81 18.5%	5/85 5.9%	4/74 5.4%	0.007	-0.179
	Negative	66/81 81.5%	80/80 94.1%	70/74 94.6%		
Mother	No reaction	15/81 18.5%	6/85 7.1%	4/74 5.4%	0.013	-0.175
	Negative	66/81 81.5%	79/85 92.9%	70/74 94.6%		
Daughter(s)	No reaction	18/81 22.2%	5/85 5.9%	5/74 6.8%	0.001	-0.199
	Negative	63/81 77.8%	80/85 94.1%	69/74 93.2%		
Son(s)	No reaction	19/81 23.5%	5/85 5.9%	5/74 6.8%	0.001	-0.211
	Negative	62/81 76.5%	80/85 94.1%	69/74 93.2%		
Brother(s)	No reaction	18/81 22.2%	6/85 7.1%	5/74 6.8%	0.003	-0.195
	Negative	63/81 77.8%	79/85 92.9%	69/74 93.2%		
Sister(s)	Positive / No reaction	17/81 21.0%	6/85 7.1%	5/74 6.8%	0.006	-0.182
	Negative	64/81 79.0%	79/85 92.9%	69/74 93.2%		
Close Female Friends	Positive / No reaction	26/81 32.1%	10/85 11.8%	5/74 6.8%	0.0001	-0.274
	Negative	55/81 67.9%	75/85 88.2%	69/74 93.2%		
Female Acquaintances	Positive / No reaction	27/81 33.3%	10/85 11.8%	6/74 8.1%	0.0001	-0.269
	Negative	54/81 66.7%	75/85 88.2%	68/74 91.9%		

9.4.3 Comment on Urbanisation

Both LURC and housing context revealed the same overall relationships between constructs in the model, and thus, both appear to represent the concept of urbanisation equally well. Using either measure, urbanisation was found to be positively related to media usage exposure and negatively related to product usage exposure, attitude towards Black women smoking, normative expectations, lifestyle commitment and smoking behaviour. In addition, housing context and LURC scores were significantly related and highly correlated (Pearson's Chi-square, $p<0.0001$ and Spearman's rho = 0.688).

There are however, certain advantages to using housing context as opposed to LURC as a proxy for urbanisation in a South African township research context. These advantages are that::

- it is a tangible demographic variable, defined and used by government authorities, making it efficient to implement in research
- it is a single variable measure which is cheaper to use than a multiple variable measure such as LURC
- it is an easy and understandable concept to explain to fieldworkers in a South African research context
- it is currently being used as an urbanisation measure in other health-related research studies in South Africa
- it correlates highly with LURC which is used commercially in South Africa as a more psychographic measure of level of urbanisation.

It is therefore recommended that housing context be used as a proxy for urbanisation in South African township research.

The findings explained via hypotheses $H_{19L\&H}$ - $H_{24L\&H}$ show that urbanisation is significantly related to all constructs in the model. Urbanisation can therefore, be used as a useful segmentor in the construction of tobacco control campaigns.

Level 2 - Environmental Variables

9.5 Media Usage Exposure

All four media usage exposure hypotheses, H_{25}-H_{28}, were rejected.

9.6 Product Usage Exposure

H_{29} : The greater her product usage exposure, the greater the likelihood of her having a positive attitude towards Black women smoking.

Product usage exposure consisted of five measures, therefore Bonferroni's correction was applied and thus $\alpha = 0.05 / 5 = 0.01$.

Growing Up Product Usage Exposure

If anyone smoked in her household while she was growing up, she was more likely to agree that smoking is acceptable for older women. Table 9.46 shows that 17% of respondents who were exposed to people smoking in their household while they were growing up, versus 6.1% of respondents who were not exposed to people smoking in their household while they were growing up, agreed that smoking is acceptable for older women.

Table 9.46 : Exposure to Smokers in Household While Growing Up and Acceptability of Older Women Smoking

Did anyone smoke in your household while you were growing up?	**Agree that smoking is acceptable for older women**	**Disagree that smoking is acceptable for older women**	*Total*
Yes	24 17.0%	117 83.0%	*141* *100.0%*
No	6 6.1%	92 93.9%	*98* *100.0%*
Total	*30* *12.6%*	*209* *87.4%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.012$ Cramer's V = 0.162

If anyone smoked in her household while she was growing up, she was more likely to have a positive opinion of African women smoking (Table 9.47). Over a third, 38.3%, of respondents who were exposed to people smoking in their household while they were growing up, versus 19.4% of respondents who were not exposed to people smoking in their household as children, had a positive opinion of African women smoking.

Table 9.47 : Exposure to Smokers in Household While Growing Up and Opinion of African Women who Smoke

Did anyone smoke in your household while you were growing up?	**Positive opinion of African women smoking**	**Positive opinion of African women smoking**	*Total*
Yes	54 38.3%	87 61.7%	*141* *100.0%*
No	19 19.4%	79 80.6%	*98* *100.0%*
Total	*73* *30.5%*	*166* *69.5%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.002$ Cramer's V = 0.202

If she was sent to buy cigarettes or snuff for others while she was growing up, she was more likely to agree that smoking is acceptable for older women. Table 9.48 shows that a fifth, 20.8%, of respondents who were sent to buy cigarettes or snuff for others while they were growing up, versus 7.0% of respondents who were not, agreed that smoking is acceptable for older women.

Table 9.48 : Being Sent to Buy Cigarettes or Snuff for Others While Growing Up and Acceptability of Older Women Smoking

Were you ever sent to buy cigarettes or snuff for others while growing up?	**Agree that smoking is acceptable for older women**	**Disagree that smoking is acceptable for older women**	*Total*
Yes	20 20.8%	*76* *79.2%*	*96* *100.0%*
No	10 7.0%	133 93.0%	*143* *100.0%*
Total	*30* *12.6%*	*209* *87.4%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.002$ Cramer's V = 0.205

If she was sent to buy cigarettes or snuff for others while she was growing up, she was more likely to have a positive view of a Black woman who smokes (Table 9.49). Almost a third, 30.2%, of respondents who were sent to buy cigarettes or snuff for others while they were growing up, versus 16.8% of respondents who were not sent to buy cigarettes or snuff for others while they were growing up, had a positive view of a Black woman who smokes.

Table 9.49 : Being Sent to Buy Cigarettes or Snuff for Others While Growing Up and View of a Black Woman who Smokes

Were you ever sent to buy cigarettes or snuff for others while growing up?	**Positive view of a Black woman who smokes**	**Negative view of a Black woman who smokes**	*Total*
Yes	29 30.2%	67 69.8%	*96* *100.0%*
No	24 16.8%	119 83.2%	*143* *100.0%*
Total	*53* *22.2%*	*186* *77.8%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.014$ Cramer's V = 0.158

The only two relationships within the 'growing up product usage exposure' theme that were not significantly related to attitude towards Black women smoking, were: 'how do you view a Black woman who smokes' with 'when growing up did anyone in household smoke' (Pearson's Chi-square $p < 0.033$), and 'opinion of African women smoking' with 'ever sent to buy cigarettes for others while you were growing up' (Pearson's Chi-square $p < 0.056$).

Current Product Usage Exposure

If a percentage of her female friends smoked, she was more likely to agree that smoking is acceptable for older women. Table 9.50 shows that 5.4% of respondents who had no female friends that smoked, versus as many as 41.7% of respondents who had female friends that smoked, agreed that smoking is acceptable for older women.

Table 9.50 : Percentage of Female Friends that Smoke and Acceptability of Older Women Smoking

% of female friends that smoke	**Agree that smoking is acceptable for older women**	**Disagree that smoking is acceptable for older women**	*Total*
0%	9 5.4%	158 94.6%	*167* *100.0%*
>0%	15 41.7%	21 58.3%	*36* *100.0%*
Total	*24* *11.8%.*	*179* *88.2%*	*203* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.429

If a percentage of her female friends smoked, she was more likely to have a positive opinion of African women smoking. Table 9.51 shows that 23.4% of respondents who had no female friends that smoked, versus as many as 63.9% of respondents who had female friends that smoked, had a positive opinion of African women smoking.

Table 9.51 : Percentage of Female Friends that Smoke and Opinion of African Women Smoking

% of female friends that smoke	**Positive opinion of African women smoking**	**Negative opinion of African women smoking**	*Total*
0%	39 23.4%	128 76.6%	*167* *100.0%*
>0%	23 63.9%	13 36.1%	*36* *100.0%*
Total	*62* *30.5%*	*141* *69.5%*	*203* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.336

If a percentage of her female friends smoked, she was more likely to have a positive view of a Black woman who smokes (Table 9.52). One eighth, 12.6%, of respondents who had no female friends that smoked, versus as many as three quarters, 75.0%, of respondents who had female friends that smoked, viewed a Black woman who smoked positively.

Table 9.52 : Percentage of Female Friends that Smoke and View of a Black Woman who Smokes

% of female friends that smoke	**Positive view of a Black woman who smokes**	**Negative view of a Black woman who smokes**	*Total*
0%	21 12.6%	146 87.4%	*167* *100.0%*
>0%	27 75.0%	9 25.0%	*36* *100.0%*
Total	*48* *23.6%*	*155* *76.4%*	*203* *100.0%*

Pearson's Chi-square, $p < 0.00$ Spearman's rho = 0.561

If a percentage of smokers in her household were female, she was more likely to agree that smoking is acceptable for older women. Table 9.53 indicates that 6.5% of respondents who did not have any female smokers in their household, versus as many as 66.7% of respondents who did have female smokers in their household, agreed that smoking is acceptable for older women.

Table 9.53 : Percentage of Smokers in Household that are Female and Acceptability of Older Women Smoking

% of household smokers that are female	**Agree that smoking is acceptable for older women**	**Disagree that smoking is acceptable for older women**	*Total*
0%	14 6.5%	202 93.5%	*216* *100.0%*
>0%	16 66.7%	8 33.3%	*24* *100.0%*
Total	*30* *12.5%*	*210* *87.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.546

If a percentage of smokers in her household were female, she was more likely to have a positive opinion of African women smoking. Table 9.54 reveals that 22.0% of respondents who did not have any female smokers in their household, versus as many as 82.9% of respondents who did have female smokers in their household, had a positive opinion of African women smoking.

Table 9.54 : Percentage of Smokers in Household that are Female and Opinion of African Women Smoking

% of household smokers that are female	**Positive opinion of African women smoking.**	**Negative opinion of African women smoking.**	*Total*
0%	45 22.0% 60.8%	160 78.0% 96.4%	*205* *100.0%* *85.4%*
>0%	29 82.9% 39.2%	6 17.1% 3.6%	*35* *100.0%* *14.6%*
Total	*74* *30.8%* *100.0%*	*166* *69.2%* *100.0%*	*240* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.465

If a percentage of smokers in her household were female, she was more likely to have a positive view of a Black woman who smokes. Table 9.55 shoes that 11.7% of respondents who did not have any female smokers in their household, versus as many as 85.7% of respondents who did have female smokers in their household, had a positive view of a Black woman who smokes.

Table 9.55 : Percentage of Smokers in Household that are Female and View of a Black Woman who Smokes

% of household smokers that are female	**Positive view of a Black woman who smokes**	**Negative view of a Black woman who smokes**	*Total*
0%	24 11.7% 44.4%	181 88.3% 97.3%	*205* *100.0%* *85.4%*
>0%	30 85.7% 55.6%	5 14.3% 2.7%	*35* *100.0%* *14.6%*
Total	*54* *22.5%* *100.0%*	*186* *77.5%* *100.0%*	*240* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.626

The greater the number of regular smokers in her household currently, the more likely she was to agree that smoking is acceptable for older women. Table 9.56 shows that only 4.7% of respondents who had no smokers in their household

agreed that smoking is acceptable for older women, while 17.1% of respondents who had 1 smoker in their household and as many as 29.6% of respondents who had 2 or more smokers in their household, agreed that smoking is acceptable for older women.

Table 9.56 : Number of Regular Smokers in Household Currently and Acceptability of Older Women Smoking

No. of regular smokers in her household currently	**Agree that smoking is acceptable for older women**	**Disagree that smoking is acceptable for older women.**	*Total*
0	6 4.7% 21.4%	122 95.3% 58.4%	*128* *100.0%* *54.0%*
1	14 17.1% 50.0%	68 82.9% 32.5%	*82* *100.0%* *34.6%*
2+	8 29.6% 28.6%	19 70.4% 9.1%	*27* *100.0%* *11.4%*
Total	*28* *11.8%* *100.0%*	*209* *88.2%* *100.0%*	*237* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.261

The greater the current number of regular smokers in her household, the more likely she was to have a positive opinion of African women smoking. Table 9.57 shows that only 15.6% of respondents who had no smokers in their household, versus 46.3% and 48.1% of respondents who had 1 or 2+ smokers in their household respectively, had a positive opinion of African women smoking.

Table 9.57 : Number of Regular Smokers in Household Currently and Opinion of African Women Smoking

No. of regular smokers in her household currently	Positive opinion of African women smoking	Negative opinion of African women smoking	*Total*
0	20 15.6% 28.2%	108 84.4% 65.1%	*128* *100.0%* *54.0%*
1	38 46.3% 53.5%	44 53.7% 26.5%	*82* *100.0%* *34.6%*
2+	13 48.1% 18.3%	14 51.9% 8.4%	*27* *100.0%* *11.4%*
Total	*71* *30.0%* *100.0%*	*166* *70.0%* *100.0%*	*237* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.330

The greater the current number of regular smokers in her household, the more likely she was to have a positive view of a Black woman who smokes. Table 9.58 shows that 11.7% of respondents who had no smokers in their household, versus 32.9% and 33.3% of respondents who had 1 or 2+ smokers in their household respectively, viewed a Black woman who smoked positively.

Table 9.58 : Number of Regular Smokers in Household Currently and View of a Black Woman who Smokes

No. of regular smokers in her household currently	Positive view of a Black woman who smokes	Negative view of a Black woman who smokes	*Total*
0	15 11.7% 29.4%	113 88.3% 60.8%	*128* *100.0%* *54.0%*
1	27 32.9% 52.9%	55 67.1% 29.6%	*82* *100.0%* *34.6%*
2+	9 33.3% 17.6%	18 66.7% 9.7%	*27* *100.0%* *11.4%*
Total	*51* *21.5%* *100.0%*	*186* *78.5%* *100.0%*	*237* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.250

H_{30} : The greater her product usage exposure, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.

Bonferroni's correction is applied because product usage exposure consisted of five measures: $\alpha = 0.05 / 5 = 0.01$.

Growing Up Product Usage Exposure

As can be seen in Table 9.59, if she was sent to buy cigarettes or snuff for others while she was growing up, she was more likely to have a higher lifestyle commitment score. At the polar ends of the lifestyle commitment continuum, respondents who were sent versus those who were not sent to buy cigarettes or snuff for others while growing up, were more serious about continuing smoking (6.4% vs. 2.1%) and less serious about not taking up smoking (40.4% vs. 61.0%).

Table 9.59 : Being Sent to Buy Cigarettes or Snuff for Others While Growing Up and Lifestyle Commitment

Lifestyle Commitment	Were not sent to buy cigarettes or snuff for others while growing up	Were sent to buy cigarettes or snuff for others while growing up	*Total*
1. Serious about not taking up Smoking	86 61.0%	38 40.4%	*124* *52.8%*
2. Leaning away from taking up Smoking	18 12.8%	22 23.4%	*40* *17.0%*
3. Leaning towards taking up Smoking	21 14.9%	14 14.9%	*35* *14.9%*
4. Serious about taking up Smoking	6 4.3%	2 2.1%	*8* *3.4%*
5. Serious about giving up Smoking	1 0.7%	4 4.3%	*5* *2.1%*
6. Ambivalent about Smoking	6 4.3%	8 8.5%	*14* *6.0%*
7. Serious about continuing Smoking	3 2.1%	6 6.4%	*9* *3.8%*
Total	*141* *100%*	*94* *100%*	*235* *100%*

Pearson's Chi-square, $p < 0.010$ Spearman's rho = 0.195

The second measure of the 'growing up product usage exposure' theme, which was 'when growing up did anyone in household smoke', was not significantly related to lifestyle commitment (Pearson's Chi-square, $p < 0.567$).

Current Product Usage Exposure

The more people smoked around her in her current environment, the greater was her intent to smoke. All three measures making up the 'current product usage exposure' theme of product usage exposure were significantly related to lifestyle commitment.

As can be seen in Table 9.60, if she had female friends that smoked, she was more likely to have a higher lifestyle commitment score. At the polar ends of the lifestyle commitment continuum, respondents who had female friends that smoked versus those who did not, were more serious about continuing smoking (23.5% vs. 1.2%) and less serious about not taking up smoking (20.6% vs. 56.3%).

Table 9.60 : Percentage of Female Friends that Smoke and Lifestyle Commitment

Lifestyle Commitment	0% of female friends smoke	>0% of female friends smoke	*Total*
1. Serious about not taking up Smoking	94 56.3%	7 20.6%	*101* *50.2%*
2. Leaning away from taking up Smoking	30 18.0%	4 11.8%	*34* *16.9%*
3. Leaning towards taking up Smoking	32 19.2%	1 2.9%	*33* *16.4%*
4. Serious about taking up Smoking	6 3.6%	0 0.0%	*6* *3.0%*
5. Serious about giving up Smoking	1 0.6%	4 11.8%	*5* *2.5%*
6. Ambivalent about Smoking	2 1.2%	10 29.4%	*12* *6.0%*
7. Serious about continuing Smoking	2 1.2%	8 23.5%	*10* *5.0%*
Total	*167* *100%*	*34* *100%*	*201* *100%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.414

As can be seen in Table 9.61, if there were female smokers in her household, she was more likely to have a higher lifestyle commitment score. At the polar ends of the lifestyle commitment continuum, respondents who had female smokers in their household versus those who did not, were more serious about continuing smoking (28.1% vs. 0.0%) and less serious about not taking up smoking (6.3% vs. 59.8%).

Table 9.61 : Percentage of Smokers in Household that are Female and Lifestyle Commitment

Lifestyle Commitment	0% of smokers in household are female	>0% of smokers in household are female	*Total*
1. Serious about not taking up Smoking	122 59.8% 98.4%	2 6.3% 1.6%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	39 19.1% 97.5%	1 3.1% 2.5%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	35 17.2% 97.2%	1 3.1% 2.8%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	7 3.4% 87.5%	1 3.1% 12.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	0 0.0% 0.0%	5 15.6% 100.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	1 0.5% 7.1%	13 40.6% 92.9%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	0 0.0% 0.0%	9 28.1% 100.0%	*9* *3.8%* *100.0%*
Total	*204* *100%* *86.4%*	*32* *100%* *13.6%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.568

The greater the number of regular smokers she had in her household currently, the greater was her intent to smoke (Table 9.62). More respondents who had no smokers in their household were serious about not taking up smoking (63.3%)

than those who had 1 smoker (43.8%) and 2 or more smokers (32.0%) in their household.

Table 9.62 : Number of Regular Smokers in Household Currently and Lifestyle Commitment

Lifestyle Commitment	0 smokers in household	1 smoker in household	2 + smokers in household	*Total*
1. Serious about not taking up Smoking	81 63.3% 65.3%	35 43.8% 28.2%	8 32.0% 6.5%	*124* *53.2%* *100.0%*
2. Leaning away from taking up Smoking	22 17.2% 55.0%	12 15.0% 30.0%	6 24.0% 15.0%	*40* *17.2%* *100.0%*
3. Leaning towards taking up Smoking	20 15.6% 57.1%	11 13.8% 31.4%	4 16.0% 11.4%	*35* *15.0%* *100.0%*
4. Serious about taking up Smoking	5 3.9% 62.5%	2 2.5% 25.0%	1 4.0% 12.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	0 0.0% 0.0%	3 3.8% 60.0%	2 8.0% 40.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	0 0.0% 0.0%	9 11.3% 69.2%	4 16.0% 30.8%	*13* *5.6%* *100.0%*
7. Serious about continuing Smoking	0 0.0% 0.0%	8 10.0% 100.0%	0 0.0% 0.0%	*8* *3.4%* *100.0%*
Total	*128* *100.0%* *54.9%*	*80* *100.0%* *34.3%*	*25* *100.0%* *10.7%*	*233* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.001$ Spearman's rho = -0.292

H_{31} : The greater her product usage exposure, the less likely she was to expect her family and friends (normative expectations) to have a negative reaction if they were to see her smoking.

Due to normative expectations being made up of nine questions, Bonferroni's correction was applied as follows: $\alpha = 0.05 / 9 = 0.0055$.

Growing Up Product Usage Exposure

Women who were sent to buy cigarette or snuff for others while growing up, were more likely to expect no reaction or a positive reaction from their family and friends if they were to see her smoking. Where her experiences while growing up supported smoking by allowing her to be sent to buy tobacco for others, the likelihood that her understanding of normative expectations would favour smoking was higher (Table 9.63). Eight of the nine relationships tested were found to be significant using Pearson's Chi-square test, and showed that respondents who were sent to buy cigarettes for others while growing up were more likely to expect no reaction or a positive reaction from family and friends if they were to see her smoking.

Table 9.63 : Being Sent to Buy Cigarettes or Snuff for Others While Growing Up and Expected Reaction by People Around her if she Smoked

Person	*If had to see her smoking, the person's reaction would be:*	Sent to buy cigarettes or snuff for others while growing up	Not sent to buy cigarettes or snuff for others while growing up	*Pearson's Chi-square*	*Spearman's Correlation Coefficient*
Husband/ partner	No reaction	25/96 26.0%	15/143 10.5%	0.002	0.204
Mother	No reaction	16/96 16.7%	8/143 5.6%	0.005	0.181
Daughter(s)	No reaction	18/96 18.8%	9/143 6.3%	0.003	0.193
Son(s)	No reaction	19/96 19.8%	9/143 6.3%	0.001	0.206
Brother(s)	No reaction	19/96 19.8%	9/143 6.3%	0.001	0.206
Sister(s)	Positive / No reaction	19/96 19.8%	8/143 5.6%	0.001	0.220
Close Female Friends	Positive / No reaction	25/96 26.0%	15/143 10.5%	0.002	0.204
Female Acquaintances	Positive / No reaction	27/96 28.1%	15/143 10.5%	0.0001	0.227

Current Product usage exposure

The more women that smoked around her, the more likely she was to expect no reaction or a positive reaction from her family and friends (normative expectations) if they were to see her smoking (Table 9.64). All nine measures were significantly related to the percentage of her female friends that smoked. Across the nine measures, between 5.4% and 8.4% of respondents who had no female friends that smoked, compared to between 30.6% and 63.9% of respondents who did have female friends (>0%) that smoked, expected family or friends to have no reaction or a positive reaction if they were to see her smoking.

Table 9.64 : Percentage of Female Friends that Smoke and Expected Reaction by People Around her if she Smoked

Person	*If had to see her smoking, the person's reaction would be:*	0% of her female friends smoke	>0% of her female friends smoke	*Pearson's Chi-square*	*Spearman's Correlation Coefficient*
Husband/ partner	No reaction	14/167 8.4%	21/63 58.3%	0.0001	0.505
Father	No reaction	9/167 5.4%	11/36 30.6%	0.0001	0.323
Mother	No reaction	9/167 5.4%	11/36 30.6%	0.0001	0.323
Daughter(s)	No reaction	10/167 6.0%	14/36 38.9%	0.0001	0.389
Son(s)	No reaction	10/167 6.0%	15/36 41.7%	0.0001	0.415
Brother(s)	No reaction	10/167 6.0%	15/36 41.7%	0.0001	0.415
Sister(s)	Positive / No reaction	10/167 6.0%	14/36 38.9%	0.0001	0.389
Close Female Friends	Positive / No reaction	13/167 7.8%	23/36 63.9%	0.0001	0.561
Female Acquaintances	Positive / No reaction	14/167 8.0%	23/36 63.9%	0.0001	0.549

All nine measures were significantly related to the percentage of smokers in her household that were female (Table 9.65). Between 4.9% and 8.3% of respondents who had no female friends that smoked, compared to between 40.0% and 74.3% of respondents who had female friends that smoked (>0%), expected family or friends to have no reaction or a positive reaction if they were to see her smoking.

Table 9.65 : Percentage of Smokers in Household that are Female and Expected Reaction by People Around her if she Smoked

Person	*If had to see her smoking, the person's reaction would be:*	0% of smokers in household are female	>0% of smokers in household are female	*Pearson's Chi-square*	*Spearman's Correlation Coefficient*
Husband/ partner	No reaction	15/205 7.3%	26/35 74.3%	0.0001	0.628
Father	No reaction	10/205 4.9	14/35 40.0%	0.0001	0.413
Mother	No reaction	11/205 5.4%	14/35 40.0%	0.0001	0.400
Daughter(s)	No reaction	12/205 5.9%	16/35 45.7%	0.0001	0.438
Son(s)	No reaction	12/205 5.9%	17/35 48.6%	0.0001	0.463
Brother(s)	No reaction	12/205 5.9%	17/35 48.6%	0.0001	0.463
Sister(s)	Positive / No reaction	12/205 5.9%	16/35 45.7%	0.0001	0.438
Close Female Friends	Positive / No reaction	16/205 7.8%	25/35 71.4%	0.0001	0.597
Female Acquaintances	Positive / No reaction	17/205 8.3%	26/35 74.3%	0.0001	0.607

Table 9.66 shows that the greater the number of regular smokers in her household currently, the more likely she was to expect her family and friends (normative expectations) to have no reaction or a positive reaction if they were to see her smoking. For example, only 4.7% of respondents who had no regular smokers in the household expected their husband or partner to have no reaction if he was to see her smoking, where as 29.3% and 33.3% of respondents who had 1 or 2+ regular smokers in their household respectively, expected their husband or partner to have no reaction if he was to see her smoking.

Table 9.66 : Number of Regular Smokers in Household Currently and Expected Reaction by People Around her if she Smoked

Person	*If had to see her smoking, the person's reaction would be:*	0 regular smokers in the household currently	1 regular smokers in the household currently	2+ regular smokers in the household currently	*Pearson's Chi-square*	*Spearman's Correlation Coefficient*
Husband / partner	No reaction	6/128 4.7%	24/82 29.3%	9/27 33.3%	0.0001	0.340
Daughter(s)	No reaction	6/128 4.7%	15/82 18.3%	5/27 18.5%	0.004	0.211
Brother	No reaction	6/128 4.7%	15/82 18.3%	6/27 22.2%	0.002	0.230
Son (s)	No reaction	5/27 18.5%	26/237 11.0%	6/128 4.7%	0.004	0.211
Sister	Positive / No reaction	6/128 47%	15/82 18.3%	5/27 18.5%	0.004	0.211
Close Female Friends	Positive / No reaction	7/128 5.5%	23/82 28.0%	8/27 29.6%	0.0001	0.305
Female Acquaintances	Positive / No reaction	7/128 5.5%	24/82 29.3%	9/27 33.3%	0.0001	0.327

H_{32} : The greater her product usage exposure, the greater the likelihood of her being a smoker.

Product usage exposure is made up of five measures, therefore Bonferroni's alpha was applied as follows: $\alpha = 0.05 / 5 = 0.01$.

Growing Up Product Usage Exposure

If she was sent to buy cigarettes or snuff for others while growing up, there was a greater chance of her being a smoker. Table 9.67 shows that a fifth, 20.8%, of respondents who were sent to buy cigarettes or snuff for others while growing up were smokers, versus only 7.7% of respondents who were not sent.

Table 9.67 : Being Sent to Buy Cigarettes or Snuff for Others While Growing Up and Smoking Behaviour

Were you ever sent to buy cigarettes or snuff for others while growing up?	Smokers	Non-Smokers	*Total*
Yes	20 20.8%	76 79.2%	*96* *100.0%*
No	11 7.7%	132 92.3%	*143* *100.0%*
Total	*31* *13.0%*	*208* *87.0%*	*239* *100.0%*

Pearson's Chi-square, $p < 0.003$ Cramer's V = 0.192

Thus, only one of the two measures of 'growing up product usage exposure' was significantly related to smoking behaviour. 'Smoking behaviour' and 'when growing up did anyone in household smoke' was not significant with a Pearson's Chi-square of $p < 0.065$.

Current Product usage exposure

If a percentage of her female friends smoked, there was a greater chance of her being a smoker. Table 9.68 reveals that almost two thirds, 63.9%, of respondents who had female friends that smoked were smokers, versus only 3.7% of respondents who did not have any female friends that smoked.

Table 9.68 : Percentage of Female Friends that Smoke and Smoking Behaviour

Percentage of female friends that smoke	Smokers	Non-Smokers	*Total*
0%	6 3.7%	161 94.3%	*167* *100.0%*
>0%	23 63.9%	13 36.1%	*36* *100.0%*
Total	*29* *14.3%*	*174* *85.7%*	*203* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.658

Table 9.69 shows that if a percentage of the smokers in her household were female, there was a greater chance of her being a smoker: 85.7% of respondents

who had female smokers in their household were smokers, versus only 0.5% of respondents who did not.

Table 9.69 : Percentage of Smokers in Household that are Female and Smoking Behaviour

Percentage of smokers in household that are female	Non-Smokers	Smokers	*Total*
0%	204 97.6% 99.5%	1 3.2% 0.5%	*205* *85.4%* *100.0%*
>0%	5 2.4% 14.3%	30 96.8% 85.7%	*35* *14.6%* *100.0%*
Total	*209* *87.1%* *100.0%*	*31* *12.9%* *100.0%*	*240* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.897

The greater the number of regular smokers in her household currently, the greater the chance of her being a smoker. Table 9.70 shows that 25.6% of respondents who had 1 regular smoker in their household and 29.6% of respondents who had 2 or more regular smokers in their household were, themselves, smokers, versus 0.0% of respondents who had no regular smokers in their household.

Table 9.70 : Number of Regular Smokers in Household Currently and Smoking Behaviour

How many regular smokers in your household currently?	Smokers	Non-Smokers	*Total*
0	0 0.0% 0.0%	128 61.5% 100.0%	*128* *54.0%* *100.0%*
1	21 72.4% 25.6%	61 29.3% 74.4%	*82* *34.6%* *100.0%*
2+	8 27.6% 29.6%	19 9.1% 70.4%	*27* *11.4%* *100.0%*
Total	*29* *100.0%* *12.2%*	*208* *100.0%* *87.8%*	*237* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.400

Level 3 - Personal Variables

9.7 Attitude towards Black women smoking

H_{33} : The more positive her attitude towards Black women smoking, the greater the likelihood of her being a smoker.

Attitude towards Black women smoking consisted of three measures, thus Bonferroni's correction was applied as follows: $\alpha = 0.05 / 3 = 0.016$.

If she agreed that it was acceptable for older women to smoke, there was a greater chance of her being a smoker. Table 9.71 shows that as many as 63.3% of respondents who agreed that smoking is acceptable for older women were smokers, versus only 5.7% of respondents who disagreed.

Table 9.71 : Acceptability of Older Women Smoking and Smoking Behaviour

It is acceptable for older women to smoke	Smokers	Non-Smokers	*Total*
Agree	19 63.3%	11 26.7%	*30* *100.0%*
Disagree	12 5.7%	198 94.3%	*210* *100.0%*
Total	*31* *12.9%*	*209* *87.1%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Cramer's $V = 0.568$

Table 9.72 shows that if she had a positive opinion of African women smoking, there was a greater chance that she would be a smoker: 36.5% of respondents who had a positive opinion of African women smoking were smokers, versus only 2.4% of respondents who had a negative opinion of African women smoking.

Table 9.72 : Opinion of African Women Smoking and Smoking Behaviour

What is your opinion of Black women smoking?	Smokers	Non-Smokers	*Total*
Positive	*27* 36.5%	*47* 63.5%	*74* *100.0%*
Negative	4 2.4%	162 97.6%	*166* *100.0%*
Total	*31* *12.9%*	*209* *87.1%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.469

If she had a positive view of a Black woman who smokes, there was a greater chance that she would be a smoker. Table 9.73 shows that 55.6% of respondents who had a positive view of a Black woman who smokes were smokers, versus only 0.5% of respondents who had a negative view of a Black women who smokes.

Table 9.73 : View of a Black Woman Who Smokes and Smoking Behaviour

What is your view of a Black woman who smokes?	Smokers	Non-Smokers	*Total*
Positive	30 55.6%	24 44.4%	*54* *100.0%*
Negative	1 0.5%	185 99.5%	*186* *100.0%*
Total	*30* *12.5%*	*210* *87.5%*	*240* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.685

H_{34} : The more positive her attitude towards Black women smoking, the greater her commitment towards a smoking lifestyle or away from a smoke-free lifestyle.

Attitude towards Black women smoking consisted of three measures, thus Bonferroni's correction was applied as follows: $\alpha = 0.05 / 3 = 0.016$.

For all three measures, if she had a positive attitude towards Black women smoking, then her intent to smoke was likely to be higher. Respondents who had

a positive attitude towards Black women smoking (i.e. agreed that it was acceptable for older women to smoke, had a positive view of a Black woman who smokes, and/or had a positive opinion of African women smoking) were more likely to be smokers and to be closer to 7 on the lifestyle commitment continuum, and vice versa for respondents that had a negative attitude towards Black women smoking.

Table 9.74 shows that 59.0% of respondents who disagreed that it was acceptable for older women to smoke were serious about not taking up smoking, versus only 3.6% of respondents who agreed. Likewise, 21.4% of respondents who agreed that it was acceptable for older women to smoke were serious about continuing smoking, versus only 1.4% of respondents who disagreed.

Table 9.74 : Acceptability of Older Women Smoking and Lifestyle Commitment

Lifestyle Commitment	**Disagree that it is acceptable for older women to smoke**	**Agree that it is acceptable for older women to smoke**	*Total*
1. Serious about not taking up Smoking	123 59.1% 99.2%	1 3.6% 0.8%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	37 17.8% 92.5%	3 10.7% 7.5%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	33 15.9% 91.7%	3 10.7% 8.3%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	4 1.9% 50.0%	4 14.3% 50.0%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	3 1.4% 60.0%	2 7.1% 40.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	5 2.4% 35.7%	9 32.1% 64.3%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	3 1.4% 33.3%	6 21.4% 66.7%	*9* *3.8%* *100.0%*
Total	*208* *100.0%* *88.1%*	*28* *100.0%* *11.9%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.490

Table 9.75 shows that 59.4% of respondents who had a negative opinion of African women using cigarettes were serious about not taking up smoking, versus 36.6% of respondents who had a positive opinion of African women using cigarettes. Likewise, 11.3% of respondents who had a positive opinion of African women using cigarettes were serious about continuing smoking, versus only 0.6% of respondents who had a negative opinion of African women using cigarettes.

Table 9.75 : Opinion of African Women Smoking and Smoking Behaviour

Lifestyle Commitment	**Negative opinion of African women smoking**	**Positive opinion of African women smoking**	*Total*
1. Serious about not taking up Smoking	98 59.4% 79.0%	26 36.6% 21.0%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	34 20.6% 85.0%	6 8.5% 15.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	24 14.5% 66.7%	12 16.9% 33.3%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	5 3.0% 62.5%	3 4.2% 37.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	3 1.8% 60.0%	2 2.8% 40.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	0 0.0% 0.0%	14 19.7% 100.0%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	1 0.6% 11.1%	8 11.3% 88.9%	*9* *3.8%* *100.0%*
Total	*165* *100.0%* *69.9%*	*71* *100.0%* *30.1%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.331

Table 9.76 shows that 62.7% of respondents who had a negative view of a Black woman who smokes were serious about not taking up smoking, versus only 15.7% of respondents who had a positive view of a Black woman who smokes. Likewise, 17.6% of respondents who had a positive view of a Black woman who

smokes were serious about continuing smoking, versus 0.0% of respondents who had a negative view of a Black woman who smokes.

Table 9.76 : View of a Black Woman Who Smokes and Smoking Behaviour

Lifestyle Commitment	**Negative view of a Black woman who smokes**	**Positive view of a Black woman who smokes**	*Total*
1. Serious about not taking up Smoking	116 62.7% 93.5%	8 15.7% 6.5%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	35 18.9% 87.5%	5 9.8% 12.5%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	30 16.2% 83.3%	6 11.8% 16.7%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	4 2.2% 50.0%	4 7.8% 50.0%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	0 0.0% 0.0%	5 9.8% 100.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	0 0.0% 0.0%	14 27.5% 100.0%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	0 0.0% 0.0%	9 17.6% 100.0%	*9* *3.8%* *100.0%*
Total	*185* *100.0%* *78.4%*	*51* *100.0%* *21.6%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.546

9.8 Normative Expectations

H_{35} : The more negative she expected the reaction from her family and friends (normative expectations) to be if they were to see her smoking, the greater her commitment towards a smoke-free lifestyle or away from a smoking lifestyle.

Normative expectations consisted of nine measures, thus Bonferroni's correction was applied as follows: $\alpha = 0.05 / 9 = 0.0055$.

Each of the nine measures confirmed a significant relationship between normative expectations and lifestyle commitment. Respondents who expected their family and friends to have a positive or no reaction if they were to see her smoking, were likely to have a higher intent to smoke. Respondents who believed that their family and friends would have a positive or no reaction if they were to see her smoking, were more likely to be smokers and to be closer to 7 on the lifestyle commitment continuum. Equally, respondents who believed that their family and friends would have a negative reaction if they were to see her smoking, were more likely to be non-smokers and to be closer to 1 on the lifestyle commitment continuum.

Table 9.77 shows that 60.1% of respondents who believed that their partner or husband would have a negative reaction if he was to see her smoking, were serious about not taking up smoking, versus only 13.2% of respondents who believed that their partner or husband would have no reaction if he was to see her smoking. Likewise, 18.4% of respondents who believed that their partner or husband would have no reaction if he was to see her smoking, were serious about continuing smoking, versus 1.0% of respondents who believed that their partner or husband would have a negative reaction if he was to see her smoking.

Interestingly, respondents who believed that their partner or husband would have no reaction if he was to see her smoking were more likely to be serious about taking up smoking (10.5%) than respondents who believed that their partner or husband would have a negative reaction if he was to see her smoking (2.0%).

Table 9.77 : Expected Reaction by her Husband/Partner if he Saw her Smoking and Lifestyle Commitment

Lifestyle Commitment	**Husband / partner would have a negative reaction if he saw her smoking**	**Husband / partner would have no reaction if he saw her smoking**	*Total*
1. Serious about not taking up Smoking	119 60.1% 96.0%	5 13.2% 4.0%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	37 18.7% 92.5%	3 7.9% 7.5%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	32 16.2% 88.9%	4 10.5% 11.1%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	4 2.0% 50.0%	4 10.5% 50.0%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	2 1.0% 40.0%	3 7.9% 60.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	2 1.0% 14.3%	12 31.6% 85.7%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	2 1.0% 22.2%	*7* 18.4% 77.8%	*9* *3.8%* *100.0%*
Total	*198* *100.0%* *83.9%*	*38* *100.0%* *16.1%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.496

Table 9.78 shows that 56.1% of respondents who believed that their father would have a negative reaction if he was to see her smoking, were serious about not taking up smoking, versus only 18.2% of respondents who believed that their father would have no reaction if he was to see her smoking. Likewise, 18.2% of respondents who believed that their father would have no reaction if he was to see her smoking, were serious about continuing smoking, versus 2.3% of respondents who believed that their father would have a negative reaction if he was to see her smoking.

Respondents who believed that their father would have no reaction if he was to see her smoking were more likely to be serious about taking up smoking (13.6%)

than respondents who believed that their father would have a negative reaction if he was to see her smoking (2.3%).

Table 9.78 : Expected Reaction by her Father if he Saw her Smoking and Lifestyle Commitment

Lifestyle Commitment	**Father would have a negative reaction if he saw her smoking**	**Father would have no reaction if he saw her smoking**	*Total*
1. Serious about not taking up Smoking	120 56.1% 96.8%	4 18.2% 3.2%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	38 17.8% 95.0%	2 9.1% 5.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	34 15.9% 94.4%	2 9.1% 5.6%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	5 2.3% 62.5%	3 13.6% 37.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	4 1.9% 80.0%	1 4.5% 20.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	8 3.7% 57.1%	6 27.3% 42.9%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	5 2.3% 55.6%	4 18.2% 44.4%	*9* *3.8%* *100.0%*
Total	*214* *100.0%* *90.7%*	*22* *100.0%* *9.3%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.319

Table 9.79 shows that 56.3% of respondents who believed that their mother would have a negative reaction if she was to see her smoking, were serious about not taking up smoking, versus only 17.4% of respondents who believed that their mother would have no reaction if she was to see her smoking. Likewise, 21.7% of respondents who believed that their mother would have no reaction if she was to see her smoking, were serious about continuing smoking, versus 1.9% of respondents who believed that their mother would have a negative reaction if she was to see her smoking.

Of note was that respondents who believed that their mother would have no reaction if she was to see her smoking were more likely to be serious about taking up smoking (17.4%) than respondents who believed that their mother would have a negative reaction if she was to see her smoking (1.9%).

Table 9.79 : Expected Reaction by her Mother if she Saw her Smoking and Lifestyle Commitment

Lifestyle Commitment	**Mother would have a negative reaction if she saw her smoking.**	**Mother would have no reaction if she saw her smoking.**	*Total*
1. Serious about not taking up Smoking	120 56.3% 96.8%	4 17.4% 3.2%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	38 17.8% 95.0%	2 8.7% 5.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	34 16.0% 94.4%	2 8.7% 5.6%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	4 1.9% 50.0%	4 17.4% 50.0%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	5 2.3% 100.0%	0 0.0% 0.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	8 3.8% 57.1%	6 26.1% 42.9%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	4 1.9% 44.4%	5 21.7% 55.6%	*9* *3.8%* *100.0%*
Total	*213* *100.0%* *90.3%*	*23* *100.0%* *9.7%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.337

Table 9.80 shows that 56.9% of respondents who believed that their daughter(s) would have a negative reaction if they were to see her smoking, were serious about not taking up smoking, versus only 18.5% of respondents who believed that their daughter(s) would have no reaction if they were to see her smoking. Likewise, 18.5% of respondents who believed that their daughter(s) would have

no reaction if they were to see her smoking, were serious about continuing smoking, versus 1.9% of respondents who believed that their daughter(s) would have a negative reaction if they were to see her smoking.

Interestingly, respondents who believed that their daughter(s) would have no reaction if they were to see her smoking were more likely to be serious about taking up smoking (11.1%) than respondents who believed that their daughter(s) would have a negative reaction if they were to see her smoking (2.4%).

Table 9.80 : Expected Reaction by her Daughter(s) if they Saw her Smoking and Lifestyle Commitment

Lifestyle Commitment	**Daughter(s) would have a negative reaction if they saw her smoking.**	**Daughter(s) would have no reaction if they saw her smoking.**	*Total*
1. Serious about not taking up Smoking	119 56.9% 96.0%	5 18.5% 4.0%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	38 18.2% 95.0%	2 7.4% 5.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	33 15.8% 91.7%	3 11.1% 8.3%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	5 2.4% 62.5%	3 11.1% 37.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	5 2.4% 100.0%	0 0.0% 0.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	5 2.4% 35.7%	9 33.3% 64.3%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	4 1.9% 44.4%	5 18.5% 55.6%	*9* *3.8%* *100.0%*
Total	*209* *100.0%* *88.6%*	*27* *100.0%* *11.4%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.363

Table 9.81 shows that 57.2% of respondents who believed that their son(s) would have a negative reaction if they were to see her smoking, were serious about not

taking up smoking, versus only 17.9% of respondents who believed that their son(s) would have no reaction if they were to see her smoking. Likewise, 21.4% of respondents who believed that their son(s) would have no reaction if they were to see her smoking, were serious about continuing smoking, versus 1.4% of respondents who believed that their son(s) would have a negative reaction if they were to see her smoking.

Respondents who believed that their son(s) would have no reaction if they were to see her smoking were more likely to be serious about taking up smoking (10.7%) than respondents who believed that their son(s) would have a negative reaction if they were to see her smoking (2.4%).

Table 9.81 : Expected Reaction by her Son(s) if they Saw her Smoking and Lifestyle commitment

Lifestyle Commitment	**Son(s) would have a negative reaction if they saw her smoking**	**Son(s) would have no reaction if they saw her smoking**	*Total*
1. Serious about not taking up Smoking	119 57.2% 96.0%	5 17.9% 4.0%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	38 18.3% 95.0%	2 7.1% 5.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	33 15.9% 91.7%	3 10.7% 8.3%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	5 2.4% 62.5%	3 10.7% 37.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	5 2.4% 100.0%	0 0.0% 0.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	5 2.4% 35.7%	9 32.1% 64.3%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	3 1.4% 33.3%	6 21.4% 66.7%	*9* *3.8%* *100.0%*
Total	*208* *100.0%* *88.1%*	*28* *100.0%* *11.9%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.381

Table 9.82 shows that 56.9% of respondents who believed that their brother(s) would have a negative reaction if they were to see her smoking, were serious about not taking up smoking, versus only 18.5% of respondents who believed that their brother(s) would have no reaction. Likewise, 18.5% of respondents who believed that their brother(s) would have no reaction if they were to see her smoking, were serious about continuing smoking, versus 1.9% of respondents who believed that their brother(s) would have a negative reaction.

Interestingly, respondents who believed that their brother(s) would have no reaction if they were to see her smoking were more likely to be serious about taking up smoking (11.1%) than respondents who believed that their brother(s) would have a negative reaction if they were to see her smoking (2.4%).

Table 9.82 : Expected Reaction by her Brother(s) if they Saw her Smoking and Lifestyle Commitment

Lifestyle Commitment	**Brother(s) would have a negative reaction if they saw her smoking**	**Brother(s) would have no reaction if they saw her smoking**	*Total*
1. Serious about not taking up Smoking	119 56.9% 96.0%	5 18.5% 4.0%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	38 18.2% 95.0%	2 7.4% 5.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	33 15.8% 91.7%	3 11.1% 8.3%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	5 2.4% 62.5%	3 11.1% 37.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	5 2.4% 100.0%	0 0.0% 0.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	5 2.4% 35.7%	9 33.3% 64.3%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	4 1.9% 44.4%	5 18.5% 55.6%	*9* *3.8%* *100.0%*
Total	*209* *100.0%* *88.6%*	*27* *100.0%* *11.4%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.363

Table 9.83 shows that 56.7% of respondents who believed that their sister(s) would have a negative reaction if they were to see her smoking, were serious about not taking up smoking, versus only 19.2% of respondents who believed that their sister(s) would have a positive or no reaction if they were to see her smoking. Likewise, 19.2% of respondents who believed that their sister(s) would have a positive or no reaction if they were to see her smoking, were serious about continuing smoking, versus 1.9% of respondents who believed that their sister(s) would have a negative reaction if they were to see her smoking.

Of note was that respondents who believed that their sister(s) would have a positive or no reaction if they were to see her smoking were more likely to be serious about taking up smoking (11.5%) than respondents who believed that their sister(s) would have a negative reaction if they were to see her smoking (2.4%).

Table 9.83 : Expected Reaction by her Sister(s) if they Saw her Smoking and Lifestyle Commitment

Lifestyle Commitment	Sister(s) would have a negative reaction if they saw her smoking	Sister(s) would have a positive or no reaction if they saw her smoking	*Total*
1. Serious about not taking up Smoking	119 56.7% 96.0%	5 19.2% 4.0%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	38 18.1% 95.0%	2 7.7% 5.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	33 15.7% 91.7%	3 11.5% 8.3%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	5 2.4% 62.5%	3 11.5% 37.5%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	5 2.4% 100.0%	0 0.0% 0.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	6 2.9% 42.9%	8 30.8% 57.1%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	4 1.9% 44.4%	5 19.2% 55.6%	*9* *3.8%* *100.0%*
Total	*210* *100.0%* *89.0%*	*26* *100.0%* *11.0%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.347

Table 9.84 shows that 60.1% of respondents who believed that their close female friends would have a negative reaction if they were to see her smoking, were serious about not taking up smoking, versus only 13.2% of respondents who believed that their close female friends would have a positive or no reaction if they were to see her smoking. Likewise, 18.4% of respondents who believed that their close female friends would have a positive or no reaction if they were to see her smoking, were serious about continuing smoking, versus 1.0% of respondents who believed that their close female friends would have a negative reaction if they were to see her smoking.

Respondents who believed that their close female friends would have a positive or no reaction if they were to see her smoking were more likely to be serious about taking up smoking (10.5%) than respondents who believed that their close female friends would have a negative reaction if they were to see her smoking (2.0%).

Table 9.84 : Expected Reaction by her Close Female Friends if they Saw her Smoking and Lifestyle Commitment

Lifestyle Commitment	**Close female friends would have a negative reaction if they saw her smoking**	**Close female friends would have a positive or no reaction if they saw her smoking**	*Total*
1. Serious about not taking up Smoking	119 60.1% 96.0%	5 13.2% 4.0%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	36 18.2% 90.0%	4 10.5% 10.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	33 16.7% 91.7%	3 7.9% 8.3%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	4 2.0% 50.0%	4 10.5% 50.0%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	1 0.5% 20.0%	4 10.5% 80.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	3 1.5% 21.4%	11 28.9% 78.6%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	2 1.0% 22.2%	7 18.4% 77.8%	*9* *3.8%* *100.0%*
Total	*198* *100.0%* *83.9%*	*38* *100.0%* *16.1%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.487

Table 9.85 shows that 60.2% of respondents who believed that their female acquaintances would have a negative reaction if they were to see her smoking, were serious about not taking up smoking, versus only 15.0% of respondents who believed that their female acquaintances would have a positive or no reaction. Likewise, 17.5% of respondents who believed that their female

acquaintances would have a positive or no reaction if they were to see her smoking were serious about continuing smoking, versus 1.0% of respondents who believed their female acquaintances would have a negative reaction.

Interestingly, respondents who believed that their female acquaintances would have a positive or no reaction if they were to see her smoking were more likely to be serious about taking up smoking (10.0%) than respondents who believed that their female acquaintances would have a negative reaction if they were to see her smoking (2.0%).

Table 9.85 : Expected Reaction by her Female Acquaintances if they Saw her Smoking and Lifestyle Commitment

Lifestyle Commitment	**Female acquaintances would have a negative reaction if they saw her smoking**	**Female acquaintances would have a positive or no reaction if they saw her smoking**	*Total*
1. Serious about not taking up Smoking	118 60.2% 95.2%	6 15.0% 4.8%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	36 18.4% 90.0%	4 10.0% 10.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	33 16.8% 91.7%	3 7.5% 8.3%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	4 2.0% 50.0%	4 10.0% 50.0%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	1 0.5% 20.0%	4 10.0% 80.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	2 1.0% 14.3%	12 30.0% 85.7%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	2 1.0% 22.2%	7 17.5% 77.8%	*9* *3.8%* *100.0%*
Total	*196* *100.0%* *83.1%*	*40* *100.0%* *16.9%*	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Spearman's rho = 0.485

H_{36} : The more negative she expected the reaction from her family and friends (normative expectations) to be if they were to see her smoking, the smaller the likelihood of her being a smoker.

Table 9.86 shows that all nine measures of normative expectations were significantly related to smoking behaviour. Where her normative expectations were that family and friends would have no reaction or a positive reaction to her smoking, the smoking rate was between 52% and 58.5%, however, where normative expectations were that family and friends would have a negative reaction to her smoking, the smoking rate was much lower and ranged between 3.0% and 8.4%.

Interesting relationships were found between smoking behaviour and the expected reaction to her smoking by her husband/partner, close female friends and female acquaintances. These three relationships had high correlation coefficients with Cramer's V being over 0.6 for each of them. Only between 3.0% and 3.5% of respondents who expected a negative reaction from these sets of people smoked, versus between 7.1% and 8.4% for the other six measures (father, mother, daughter(s), son(s), brother(s), sister(s)).

Table 9.86 : Expected Reaction by People Around her if she Smoked and Smoking Behaviour

Person	*Her expected reaction from the person if they had to see her smoking:*	Smokers	Non-Smokers	*Pearson's Chi-square*	*Cramer's V*
Husband/ partner	No reaction	24/41 58.5%	17/41 41.5%	0.0001	0.617
	Negative	7/199 3.5%	192/199 96.5%		
Father	No reaction	13/24 54.2%	11/24 45.8%	0.0001	0.410
	Negative	18/216 8.3%	198/216 91.7%		
Mother	No reaction	13/25 52.0%	12/25 48.0%	0.0001	0.397
	Negative	18/215 8.4%	197/215 91.6%		
Daughter(s)	No reaction	15/28 53.6	13/28 46.4	0.0001	0.441
	Negative	16/212 7.5%	196/212 92.5%		
Son(s)	No reaction	16/29 55.2%	13/29 44.8%	0.0001	0.467
	Negative	15/211 7.1%	196/211 92.9%		
Brother(s)	No reaction	16/29 55.2%	13/29 44.8%	0.0001	0.467
	Negative	15/211 7.1%	196/211 92.9%		
Sister(s)	Positive / No reaction	15/28 53.6%	13/28 46.4%	0.0001	0.441
	Negative	16/212 7.5%	196/212 92.5%		
Close Female Friends	Positive / No reaction	24/41 58.5%	17/41 41.5%	0.0001	0.617
	Negative	7/199 3.5%	192/199 96.5%		
Female Acquaintances	Positive / No reaction	25/43 58.1%	18/43 41.9%	0.0001	0.630
	Negative	6/197 3.0%	191/197 97.0%		

Level 4 & 5 - Lifestyle Commitment & Behaviour

9.9 Lifestyle Commitment on Behaviour

As was to be expected, smoking lifestyle commitment is completely correlated with smoking behaviour (Cramer's V = 1.000). The following table shows the frequency of smokers versus non-smokers in each category of lifestyle commitment, as well as the overall spread of the lifestyle commitment scores.

Table 9.87 : Lifestyle Commitment and Smoking Behaviour

Lifestyle Commitment	Non-Smokers	Smokers	*Total*
1. Serious about not taking up Smoking	124 59.6% 100.0%	0 0.0% 0.0%	*124* *52.5%* *100.0%*
2. Leaning away from taking up Smoking	40 19.2% 100.0%	0 0.0% 0.0%	*40* *16.9%* *100.0%*
3. Leaning towards taking up Smoking	36 17.3% 100.0%	0 0.0% 0.0%	*36* *15.3%* *100.0%*
4. Serious about taking up Smoking	8 3.8% 100.0%	0 0.0% 0.0%	*8* *3.4%* *100.0%*
5. Serious about giving up Smoking	0 0.0% 0.0%	5 17.9% 100.0%	*5* *2.1%* *100.0%*
6. Ambivalent about Smoking	0 0.0% 0.0%	14 50.0% 100.0%	*14* *5.9%* *100.0%*
7. Serious about continuing Smoking	0 0.0% 0.0%	9 32.1% 100.0%	*9* *3.8%* *100.0%*
Total	208 100.0% 88.1%	28 100.0% 11.9%	*236* *100.0%* *100.0%*

Pearson's Chi-square, $p < 0.0001$ Cramer's V = 1.000

Non-smokers made up segments 1 to 4 of the lifestyle commitment continuum, which ranged from 'serious about not taking up smoking' to 'serious about taking up smoking' and smokers made up segments 5 to 7, which ranged from 'serious about giving up smoking' to 'serious about continuing smoking'.

It is particularly noteworthy that the Conversion Model findings suggest that 21.1% of the non-smokers were at risk of smoking (17.3% were leaning towards taking up smoking and 3.8% were serious about taking up smoking), and that two thirds (67.9%) of the smokers were not serious about continuing with their habit with over one-sixth (17.9%) serious about giving it up.

9.10 Linear Regression

Due to the nominal and ordinal nature of most the data, a linear regression was run with the continuous lifestyle commitment variable as the dependent variable. This was done in an attempt to identify which variables were the key contributors to the variation found.

Spearman's rho and Cramer's V were used to eliminate variables that were unlikely to have a significant relationship with lifestyle commitment. Due to the fact that very few variables had a correlation with the dependent variable of over 0.6, the variables that had a correlation with lifestyle commitment of over 0.45 were entered into the linear model as independent variables. The model that emerged is shown in Table 9.88 and explained 54.8% of the variance in smoking lifestyle commitment. Copies of the linear regression process are available in Appendix I.

Table 9.88 : Linear Regression Model

Between-Subjects Factors

		Value Label	N
cn_72 - How do you view a Black woman who smokes?	1.00	negatively	154
	2.00	no reaction/ positive	45
cn70_9 - Expected reaction of female acquaintances if they were to see her smoking	1.00	negative	165
	2.00	no reaction/ positive	34
N76_1 - Smoking is acceptable for older women	0.00	disagree	177
	1.00	agree	22
Cfrnd - Percentage of female friends that smoke	0.00	0%	166
	1.00	>0%	33

Tests of Between-Subjects Effects

Dependent Variable: CM_BI conversion (lifestyle commitment)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	331.345[a]	4	82.836	58.749	.000
Intercept	885.094	1	885.094	627.728	.000
cn_72	19.965	1	19.965	14.160	.000
cn70_9	5.500	1	5.500	3.900	.050
n76_1	13.621	1	13.621	9.661	.002
cfrnd	23.463	1	23.463	16.640	.000
Error	273.539	194	1.410		
Total	1627.000	199			
Corrected Total	604.884	198			

a R Squared = .548 (Adjusted R Squared = .538)

Parameter Estimates

Dependent Variable: CM_BI conversion (lifestyle commitment)

	B	Std. Error	T	Sig.	95% Confidence Interval	
Parameter					Lower Bound	Upper Bound
Intercept	5.749	.282	20.411	.000	5.194	6.305
[cn_72=1.00]	-1.281	.340	-3.763	.000	-1.952	-.610
[cn_72=2.00]	0[a]					
[cn70_9=1.00]	-.683	.346	-1.975	.050	-1.365	-.0009
[cn70_9=2.00]	0[a]	.	.	.	.	.
[n76_1=0.00]	-1.116	.359	-3.108	.002	-1.824	-.408
[n76_1=1.00]	0[a]					
[cfrnd=0.00]	-1.118	.274	-4.079	.000	-1.659	-.578
[cfrnd=1.00]	0[a]	.	.	.	.	.

a This parameter is set to zero because it is redundant.

As can be seen above, the four variables that were useful in explaining variation in smoking lifestyle commitment were: cn_72, cn70_9, n76_1 and cfrnd. These questions are described in full in Table 9.89 below and represent attitudes, a normative expectation, and an exposure to product usage.

Table 9.89 : Description of Variables and the Constructs they Belong To

Variable	*Description*	*Construct*
cn_72	How do you view a Black woman who smokes? *negatively or no reaction/positively*	Attitude towards Black women smoking
cn70_9	Expectation of how female acquaintances would react if they saw her smoking? *negatively or no reaction/positively*	Normative Expectations
n76_1	It is acceptable for older women to smoke? *agree or disagree*	Attitude towards Black women smoking
cfrnd	Percentage of female friends that smoke *0% or >0%*	Product usage exposure

The linear regression indicated that at the lowest end of the continuum, respondents were more likely to be *'serious about not taking up smoking'* if they:

- had no female friends that smoked;
- disagreed that it was acceptable for older women to smoke;
- had a negative view of a Black woman who smoked;
- and expected their female friends to react negatively if they were to see her smoking.

At the other end of the continuum, respondents were more likely to be *'serious about continuing smoking / ambivalent'* if they:

- had female friends that smoked;
- agreed that it was acceptable for older women to smoke;
- had a positive view of a Black woman who smoked;
- and expected no reaction or a positive reaction from their female friends if they were to see her smoking

(See Appendix J for further explanation.)

Thus, certain measures making up the constructs of product usage exposure, attitude towards Black women smoking and normative expectations were found to contribute significantly to determining smoking lifestyle commitment. These findings are consistent with the predictions of the theory-of-reasoned-action, which asserts that attitudes and normative expectations affect consumption intent.

Chapter 10

DISCUSSION AND RECOMMENDATIONS

This research has helped further the understanding of the determinants of smoking behaviour amongst Black women in Khayelitsha. Profiles of smokers and non-smokers, as well as segments of the Conversion Model were created and can be used to aid tobacco control intervention strategies. Both the Conversion Model and level of urbanisation were useful segmentation tools in identifying segments that should be targeted with social marketing and other intervention programmes in order to curb the uptake and reduce the continuation of smoking amongst these women.

10.1 Housing Context as a Segmentation Tool

Level of urbanisation, as measured by both housing context and LURC, was significantly related not only to smoking behaviour but also to all the constructs in levels 2 to 5 in the model tested.

As level of urbanisation increased, product usage exposure decreased, attitudes were more negative towards Black women smoking, and normative expectations were more likely to be negative towards her smoking. Urbanisation was therefore found to be a useful tool for segmenting Black women in township areas so as to target groups most vulnerable to tobacco uptake, which in this case were areas with lower levels of urbanisation.

Although LURC and housing context were both able to identify the same relationships between constructs in the model, housing context was recommended for use in South African township research as a proxy for urbanisation, for an array of reasons. The advantages that housing context offered over LURC were that:

- it is a tangible demographic variable, defined and used by government authorities, making it efficient to implement in research
- it is a single variable measure which is cheaper to use than a multiple variable measure such as LURC
- it is an easy and understandable concept to explain to fieldworkers in a South African research context
- it is currently being used as an urbanisation measure in other health-related research studies in South Africa
- it correlates highly with LURC which is used commercially in South Africa as a more psychographic measure of level of urbanisation.

The recommendation, therefore, is that housing context be used as a proxy for urbanisation in South African township research.

10.2 Determinants of Smoking Behaviour

The descriptive statistical analyses revealed that the variables that were significantly and positively related to smoking behaviour were: age, product usage exposure and positive attitude towards Black women smoking. Those variables that were found to be significantly and negatively related to smoking were: level of education, negative normative expectations and level of urbanisation. Each of these relationships will be discussed.

10.2.1 Age

The greater her age, the greater the likelihood of her being a smoker. Only 5.6% of the under 30 year olds were smokers, while 15.3% of the 30 to 40 year olds and 19.3% of the over 40 year olds were smokers.

10.2.2 Product Usage Exposure

If a percentage of her female friends smoked, there was a greater chance of her being a smoker. 63.9% of respondents who had female friends that

smoked were smokers, versus only 3.7% of respondents who did not have any female friends that smoked.

10.2.3 Attitude towards Black women smoking

Where a respondent agreed that it was acceptable for older women to smoke, there was a greater chance of her being a smoker. As many as 63.3% of respondents who agreed that smoking is acceptable for older women were smokers, versus only 5.7% of respondents who disagreed.

If a respondent had a positive view of a Black woman who smokes, there was a greater chance that she would be a smoker: 55.6% of respondents who had a positive view of a Black woman who smokes were smokers, versus only 0.5% of respondents who had a negative view of a Black women who smokes.

10.2.4 Education

The greater her level of education, the smaller was the likelihood of her being a smoker: 20.0% of respondents with an education level of Standard 7 or less were smokers, while only 7.4% of respondents with an education level of Standard 8 to 10 were smokers.

10.2.5 Normative Expectations

Where her normative expectations were that her family and friends would have no reaction or a positive reaction to her smoking, the smoking rate was between 52% and 58.5%, however, where her normative expectations were that her family and friends would have a negative reaction to her smoking, the smoking rate was much lower and ranged between 3.0% and 8.4%.

10.2.6 Level of Urbanisation

The greater her level of urbanisation, the smaller was the likelihood of her being a smoker: 3.75% of respondents in formal, serviced areas smoked, 7.5%

in informal, serviced areas, and as many as 27.5% in informal, unserviced areas.

Thus, informal, unserviced areas, are in need of the greatest attention in terms of tobacco control interventions. These areas have the greatest smoking rates amongst Black women in Khayelitsha, and people living in these areas are at the most risk of taking up smoking as a result of the social impact of other women smoking in the area and the influence of friends and family who smoke.

10.3 Profile of Smokers and Non-smokers

These findings suggest that a female smoker in Khayelitsha is more likely to be older, less educated, have a lower level of urbanisation, a lower monthly household income, a positive attitude towards Black women smoking, a higher product usage exposure to cigarettes and smoking, and expect no reaction or a positive one from family and friends to her smoking.

The opposite would apply for non-smokers. A non-smokers is more likely to be younger, more educated, have a higher level of urbanisation, a higher monthly household income, have a negative attitude towards Black women smoking, a lower product usage exposure to cigarettes and smoking, and expect a negative reaction from family and friends if they were to see her smoking.

10.4 Determinants of Smoking Lifestyle Commitment

The variables that were identified via linear regression as being determinants of lifestyle commitment were: 'expected reaction from female acquaintances if they were to see her smoking', which was a measure of normative expectations; 'acceptability of older women smoking' and 'view of a Black woman who smokes', which were measures of attitude towards Black women smoking; and 'whether she had female friends who smoked', which was a

measure of product usage exposure. Each of these determinants are discussed below.

10.4.1 Attitude towards Black women smoking

Two of the three measures of attitude towards Black women smoking affected lifestyle commitment significantly in the linear regression. These were 'acceptable for older women to smoke' and 'view of a Black woman who smokes', and those who felt positively were more prone to want to or actually smoke.

Specifically, respondents who disagreed that it was acceptable for women to smoke had a lower lifestyle commitment score than those who agreed. The lower the lifestyle commitment score, the higher was the commitment to a smoke-free lifestyle. In the same way, those respondents who viewed a Black woman who smoked negatively had a lower lifestyle commitment score than those who had no reaction, and those who had a positive view of a Black woman who smoked had the highest scores and were more likely to be smokers.

10.4.2 Normative Expectations

The measure of normative expectations that was related to lifestyle commitment was the expected reaction of her female acquaintances if they were to see her smoking. If she expected her female acquaintances to have a negative reaction, then her commitment to a smoke-free lifestyle was likely to be higher, and visa versa. Respondents who believed that their female acquaintances would have a negative reaction if they were to see her smoking, were more likely to be non-smokers and to be closer to 1 on the lifestyle commitment scale. Equally, respondents who believed that their female acquaintances would have a positive reaction, were more likely to be smokers and to be closer to 7 on the lifestyle commitment scale.

10.4.3 Product Usage Exposure

The product usage exposure measure that related to lifestyle commitment significantly, was the percentage of female friends that smoke. If a respondent had no female friends that smoked, her lifestyle commitment score was considerably lower than if she did have. At the polar ends of the lifestyle commitment continuum, respondents who had female friends that smoked were more serious about continuing smoking (23.5% vs. 1.2%) and less serious about not taking up smoking (20.6% vs. 56.3%), than those who did not have female friends that smoked.

As 54.8% of the variance in lifestyle commitment was explained by the four measures discussed above, tobacco control policy needs to address the three constructs they measure - attitude towards Black women smoking, normative expectations and product usage exposure - in order to enhance commitment to remaining smoke-free.

The Conversion Model, which was labelled lifestyle commitment for the purposes of this investigation, treated cigarette usage as a continuum ranging from highly committed to smoking through to highly committed to remaining smoke-free. By assessing the distribution across the continuum, it was possible to identify where Black women in Khayelitsha were in the conversion process between the two ends of the continuum. This coupled with the identification of lifestyle commitment determinants, provided useful descriptions of segments at each point in the Conversion Model continuum, thus, helping to target segments requiring tobacco control interventions. An overall profile of the respondents most committed to a smoke-free and smoking lifestyle, respectively, is discussed overleaf.

10.4.4 Commitment to a Smoke-free Lifestyle

Respondents who were highly committed to a smoke-free lifestyle fell under the *'serious about not taking up smoking'* segment of the CM continuum. They were likely to have:

- not had female friends that smoked;
- disagreed that it was acceptable for older women to smoke;
- had a negative view of a Black woman who smokes;
- and expected a negative reaction from female acquaintances if they were to see her smoking.

10.4.5 Commitment to a Smoking Lifestyle

On the other end of the continuum, respondents who were committed to a smoking lifestyle and fell under the *'serious about continuing smoking / ambivalent'* segments, were likely to have:

- had female friends that smoked;
- agreed that it was acceptable for older women to smoke;
- had no reaction or a positive view of a Black woman who smokes;
- and expected no reaction or a positive reaction from their female acquaintances if they were to see her smoking.

These two descriptions emphasise the importance and role of product usage exposure, attitude towards Black women smoking and normative expectations in determining where people fall on the continuum of lifestyle commitment towards or away from smoking.

10.4.6 Future Research

Due to the nominal and ordinal nature of the data ultimately gathered by this study, higher order multivariate and causal analysis could not be used. Further research needs to be done that gathers more continuous data, although this goal has been consistently difficult to attain (Steyn, 2001).

10.5 Policy Implications and Recommendations

10.5.1 The Smoking Rate Among Black Women is Cause for Concern

The study found a weighted base rate of smoking amongst Black women in Khayelitsha of about 10.7%, which suggests some increase over previous studies' findings. Thus, smoking uptake amongst Black women in Khayelitsha, Cape Town, continues to be a public health problem which is increasing.

10.5.2 Non-smokers are at Risk of Smoking

This increase in the smoking rate is of concern to tobacco control advocates and adequate social marketing and other interventions need to be implemented to inoculate non-smokers against the up-take of smoking (Andreasen, 1995). The Conversion Model findings highlighted the nature of the problem by revealing that over a fifth of non-smokers were at risk of smoking. Specifically, 3.8% were serious about taking up smoking and another 17.3% were leaning towards doing so (Table 9.87). Clearly, these segments are the logical group to target first as they are the least committed to a smoke-free lifestyle and thus, most vulnerable to move towards a smoking lifestyle on the Conversion Model continuum. Smoking is highly addictive and it is easier to prevent uptake of smoking than to stop it once started.

10.5.3 Two-thirds of Smokers are Not Committed to the Behaviour

The Conversion Model findings also revealed that two thirds (67.9%) of smokers were not serious about continuing with their habit. Fully 17.9% were serious about quitting with another 50% being ambivalent about smoking. Thus, public policy needs to help smokers move through stages of change toward cessation (Andreasen, 1995 : Prochaska *et al.*, 1992). They need to target smokers not only with messages about the need for cessation but with interventions such as social marketing programmes to assist those wanting to stop and to enable those who are ambivalent to move towards trying to do so.

10.5.4 Use Housing Context to Identify Target Segments for Tobacco Control Policy Interventions

Informal, unserviced areas had the highest percentage of smokers (27.5% versus 7.5% and 3.8% in informal, serviced and formal, serviced areas respectively). In addition, cross-tabulating housing context with lifestyle commitment revealed that informal, unserviced areas had the highest percentage of women not committed to a smoking lifestyle (18.8% versus 2.6% and 2.5% in informal, serviced and formal, serviced areas respectively).. Not committed to a smoking lifestyle was measured by the percentage of women in each housing context that were either 'ambivalent about smoking' or 'serious about giving up smoking'. It was also found that formal, serviced areas had the highest percentage of women not committed to a smoke-free lifestyle (23.8% versus 15.4% and 16.3% in informal, serviced and informal, unserviced areas respectively). Not committed to a smoke-free lifestyle was measured by the percentage of women in each housing context that were either 'leaning towards taking up smoking' or 'serious about taking up smoking'.

Thus, starting points for tobacco control interventions would be informal, serviced areas with cessation programmes for smokers, and formal, serviced areas with adequate social marketing and other interventions to inoculate non-smokers against the up-take of smoking.

10.5.5 Determinants to Focus Upon

The determinants of smoking that were identified can be applied as guidelines in structuring tobacco control interventions. They suggest that interventions need to inform attitudes towards Black women smoking, perceptions of normative expectations, and influence product usage exposure to cigarettes and smoking.

If tobacco control interventions could be aimed at reinforcing Black women's attitudes and normative expectations against Black women smoking, as well as encouraging the reduction in product usage exposure to children and adult non-smokers, it is more likely that lifestyle commitment towards smoking would decrease and move towards smoke-free commitment, thus reducing Black women's intentions to smoke and their actual smoking uptake rates.

BIBLIOGRAPHY

- Aickin, M., Gensler, H. 1996. "Adjusting for Multiple Testing when Reporting Research." *American Journal of Public Health.* 86(5): 726-728

- Aitken, P.P., Eadie, D.R. 1990. "Reinforcing Effects of Cigarette Advertising on Under-Age Smoking." *British Journal of Addiction.* 85: 399-412

- Ajzen, I. 1985. "From intentions to actions: A theory of planned behaviour" in J. Kuhl and J. Beckman (Eds.) *Action control: From cognition to Bdehaviour.* New York: Springer-Verlag. pp 11-39

- Ajzen, I., Darroch, R.K., Fishbein, M., Hornik, J.A. 1970. "Looking backward revisited." *The American Sociologist.* 5: 400-416

- Ajzen, I., Driver, B.L. 1991. "Prediction of leisure participation from behavioural, normative and control beliefs" An application of the theory of planned behaviour." *Leisure Studies.* 13: 185-204.

- Ajzen, I., Fishbein, M. 1970. "The Prediction of Behaviour from Attitudinal and Normative Variables." *Journal of Experimental Social Psychology.* 6: 466-487.

- Ajzen, I., Fishbein, M. 1972. "Attitudinal and normative beliefs as factors influencing behavioural intentions." *Journal of Personality and Social Psychology.* 27: 41-57

- Ajzen, I., Fishbein, M. 1974. "Factors influencing intentions and the intention behaviour relation." *Human Relations.* 27: 1-15

- Ajzen, I., Fishbein, M. 1977. "Attitude-Behaviour Relations: A Theoretical Analysis and Review of Empirical Research." *Psychological Bulletin.*. 84(5): 888-919

- Ajzen, I., Fishbein, M. 1980. *Understanding Attitudes and Predicting Social Behaviour.* Englewood Cliffs, NJ: Prentice-Hall

- Ajzen, I., Madden, T.J. 1986. "Prediction of Goal-Directed Behaviour: Attitudes, Intentions, and Perceived Behavioral Control." *Journal of Experimental Social Psychology.* 22: 453-474

- Albarracin, D., Fishbein, M., Johnson , B.T., Muellerleile, P.A. 2001. "Theories of Reasoned Action and Planned Bahaviour as Models of Condom Use." *Psychological Bulletin.* 127(1): 142-161

- Allport, G.W. 1935, Attitudes. *A Handbook of Social Psychology.* Clark University Press, 798-844.

- Alwitt, L.F., Mitchell, A.A. 1985. "Psychological Processes and Advertising Effects". *Theory, Research and Application.* 65-87.

- Anderson, J.C., Gerbing, D.W. 1988. "Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach." *Psychological Bulletin.* 103(3): 411-423.

- Andreason, A. 1995. *Marketing Social Change: Changing Behavior to Promote Health, Social Development and the Environment.* San Fracisci, Jossey-Bass.

- Andrews, R.L., Franke, G.R. 1991. "The Determinants of Cigarette Consumption: A Meta-Analysis." *Journal of Public Policy and Marketing.* 10(1): 81-100.

- Asch, S.E. 1948. "The Doctrine of Suggestion, Prestife and Imitation in Social Psychology." *Psychological Review.* 55: 250-276

- Bagozzi, R.P. 1994. "Structural Equation Models in Marketing Research: Basic Principles." Chapter in R.P Bagozzi (Ed.) *Principles of Marketing Research.* Blackwell Publishers. Oxford, England.

- Bagozzi, R.P., Baumgartner, H., Yi, Y. 1992. "State versus Action Orientation and the Theory of Reasoned Action : An Application to Coupon Usage." *Journal of Consumer Research.* 18(March): 505-518

- Baggozi, R.P., Warshaw, P.R. 1990. "Trying to Consume." *Journal of Consumer Research.* September: 127-140.

- Bandura, A. 1977. *Social Learning Theory.* Engelwood Cliffs, N.J.: Prentice Hall.

- Barten, F., van Naerssen, T., Robotham, D. *et al.* 1993. "Health and Environment in the Cities in the late Twentieth Century". Paper presented at the EPH/City '93 Conference, Antwerp.

- Bearden, W.O., Randall, R.L. 1990. "Attention to Social Comparison Information." *Journal of Consumer Research.* March: 28-37

- Behera, D., Uppal, R., Majumdar, S. 2000. "Nicotine and cotinine levels in the urine of smokers and non-smokers." Poster presented at 11th World Conference on Tobacco or Health.

- Belch, G.E., Belch, M.A. 1995. *Introduction to Advertising and Promotion. An Integrated Marketing Communications Perspective.* USA, Irwin. pp570

- Benneh, G., Songsore, J., Nabila, J.S. *et al.* 1993. "Environmental problems and the urban household in the Greater Accra Metropolitan Area (GAMA) – Ghana." Stockholm : Stockholm Environment Institute.

- Benthin, A.., Slovic, P., Severson, H. 1993. "A Psychometric study of adolescent risk perceptions". *Journal of Adolescence.* 16: 153-168.

- Berger, I.E., Mitchell, A.A. 1989. "The Effect of Advertising on Attitude Accessibility, Attitude Confidence, and the Attitude-Behaviour Relationship." *Journal of Consumer Research.* December: 269-279

- Bozzoli, B., Cock, J., Gilbert, L., Lehutso-Phooko, L., Leroke, W., Morris, A., Posel, D., Tshandu, Z., van Huyssteen, E. 1997. "Soweto in Transition Project" Department of Sociology. University of Witwatersrand, Johannesburg.

- Bradley, D., Stephens, C., Harpham, T. *et al.* 1992. "Urban Management Program Discussion paper 6: A Review of

Environmental Health Impacts in Developing Country Cities." Washington DC : The World Bank.

- Brown, C. 1995. *Chaos and Catastrophe Theory.* London: Sage Publications.

- Byarungaba, J. 1991. "The Impact of Urbanisation on the Health of Black Preschool Children in the Umtata district, Transkei." *South African medical Journal.* 79: 444-448

- Calder, B.J., Ross, M. 1973. *Attitudes and Behaviour.* Morristown, N.J. General Learning Press.

- California Environmental Protection Agency (CALEPA), 1997. "Health effects of exposure to environmental tobacco smoke." Date accessed: 5 July 2001. Location (URL): http://www.oehha.org/air/environmental_tobacco_tobacco/finalets.html

- Chapman, S., Wai Leng, W. 1990. *Tobacco Control in the Third World. A Resource Atlas.* Penang, Malaysia: International Organisation of Consumer Unions

- Charlton, A. 1984. "Smoking and weight control in teenagers". *Public Health.* 98: 277-281.

- Chein, I. 1948. "Behaviour Theory and the Behaviour of Attitudes: Some Critical Comments." *Psychological Review.* 55: 175-188

- Chen, T., Seneta, E. 2000. "A Refinement of the Multivariate Bonferroni-Type Inequalities." *Journal of Applied Probability.* 37(1): 276-282

- Cohen, A.R. 1964. *Attitude, Change and Social Influence.* New York: Basic Books.

- Cohen, J.B., Areni, C.S. 1991. "Affect and Consumer Behaviour," in Harold H. Kassarjian and Thomas S. Robertson, eds. Op. cit, 188-240

- Cole, J. 1987. *Crossroads : The Politics of Reform and Repression, 1976-1986.* Johannesburg : Ravan.

- Collins, L.M., Sussman, S., Rauch, J.M., Clyde, W.D., Johnson, C.A., Hansen, W.B., and Flay, B.R. 1987. "Psychosocial Predictors of Young Adolescent Cigarette Smoking: A sixteen month, three wave longitudinal study." *Journal of Applied Social Psychology.* 17(6): 554-573.

- Cooper, C., Shindler, J., McCaul, C., Potter, F., Cullum, M. 1985. "Race Relations Survey 1984". South African Institute of Race Relations. Johannesburg.

- Cooper, D., Pick, W.M., Myers, J.E., Hoffman, M.N., Sayed, A.R., Klopper, J.M.L. 1991a. "Urbanisation and Women's Health in Khayelitsha. Part 1. Demographic and socio-economic profile." *South African Medical Journal.* 79: 423-427.

- Cooper, D., Pick, W.M., Myers, J.E., Hoffman, M.N., Sayed, A.R., Klopper, J.M.L. 1991b. "Urbanisation and Women's Health in

Khayelitsha. Part 2. Health status and use of health services." *South African Medical Journal.* 79: 428-432.

- Daniell, H. W.1971. "Smokers Wrinkles. A study in the epidemiology of 'crow's feet'." *Annuals of Internal Medicine.* 75(6): 873-880

- Davidson, A.R., Jaccard, J.J. 1979. "Variables that moderate the attitude-behaviour relation: Results of a longitudinal survey." *Journal of Personality and Social Psychology.* 37: 1364-1376

- Deutsch, M., Gerard, H.B. 1955. "A study of normative and informational social influence upon individual judgement." *Journal of Abnormal and Social Psychology.* 51(November): 629-636

- Doll, R., Peto, R., Wheatley, K., Gray, R., Sutherland, I. 1994. "Mortality in relation to smoking: 40 years' observations on male British doctors." *British Medical Journal.* 309(6595): 901-911

- Doob, L. 1947. "The Behaviour of Attitudes." *Psychological Review.* 54: 135-146

- Dulany, D.E. 1961. "Hypothesis and habits in verbal operating conditioning." *Journal of Abnormal and Social Psychology.* 63: 51-263

- Dulany, D.E. 1968. "Awareness, Rules, and Propositional Control: A Confrontation with S-R Behaviour Theory." In Theodore R. Dixon and David L. Horton, Eds. *Verbal Behaviour and S-R Behaviour Theory.* Engelwood Cliffs: Prentice Hall, 340-387.

- Eiser, J., Harding, R., Harding, C. 1983. "Smoking, seat-belt use and perceptions of health risk." *Addictive Behaviours.* 8:75-78

- Farquhar, P.H. 1989. "Managing Brand Equity." *Marketing Research.* September: 24-33.

- Feldman, W., Hodgson, C., Corbers, S. 1985. "Relationship between higher prevalence of smoking and weight concern amongst adolescent girls". *Canadian Journal of Public Health.* 76: 205-206.

- Festinger, L. 1964. "Behavioural Support for Opinion Change". *Public Opinion Quarterly.* 28: 404-417

- Fishbein, M. 1964. "The relationship of the behavioural deferential to other attitude instruments." *American Psychologist.* 19: 540

- Fishbein, M. 1966. "Sexual behaviour and propositional control." Paper read at the Psycho-nomic Society, St. Louis, October..

- Fishbein, M. 1967. *Readings in Attitude Theory and Measurement.* New York: Wiley.

- Fishbein, M. 1980a. *An Overview of the Attitude Construct. A Look Back, A Look Ahead.* Eds. G.B Hafer. Chicago: Americaning Association, 8

- Fishbein, M. 1980b. "A Theory of Reasoned Action : Some Applications and Implications," in *Nebraska Symposium on Motivation,* eds. H. Howe and M. Page, Lincoln, N.B.: University of Nebraska Press, 65-116.

- Fishbein, M., Ajzen, I. 1972. "Attitudes and Opinions." *Annual Review of Psychology.* 23: 487-544

- Fishbein, M., Ajzen, I. 1974. "Attitudes towards objects as predictors of single and multiple behavioural criteria." *Psychological Review.* 81: 59-74

- Fishbein, M. and Ajzen, I. 1975. *Belief, Attitude, Intention And Behaviour: An Introduction to Theory and Research.* Reading Mass: Addison-Wesley Publishing Company, Inc. 216-411.

- Fishbein, M., Azjen, I., Hinkle, R. 1980. "Predicting and understanding voting in American elections: Effects of external variables." In I. Azjen & M. Fishbein (Eds.), *Understanding attitudes and predicting social behaviour.* Engelwood Cliffs, N.J.: Prentice-Hall.

- Fishbein, M., Bowman, C.H., Thomas, K., Jaccard, J.J., Azjen, I. 1980. "Predicting and understanding voting in British elections and American referenda: Illustrations of theory's generality." In I. Azjen & M. Fishbein (Eds.), *Understanding attitudes and predicting social behaviour.* Engelwood Cliffs, N.J.: Prentice-Hall.

- Florek, E., Adamek, R., Adamek, A. 2000. "Health effects of environmental tobacco smoking on mother foetus and newborn: The role of family in preventing low birth weight." Poster presented at 11th World Conference on Tobacco or Health.

- French, J.R.P., Raven, B. 1959. "The Bases of Social Power." In *Studies in Social power,* ed. Dorwin Cartwright, Ann Arbor, MI: University of Michigan Press. 150-167

- French, S.A., Jeffery, R.W., Pirie, P.L., McBride, C.M. 1992. "Do weight concerns hinder smoking cessation efforts?" *Addictive Behaviours.* 17: 219-226.

- French, S.A., Perry, C.L., Leon, G.R., & Fulkerson, J.A. 1994. "Weight concerns, dieting behaviour, and smoking initiation among adolescents: a prospective study. *American Journal of Public Health.* Nov, 84(11): 1818-1820

- Gilbert, A., Gugler, J. 1992. *Cities, poverty and development.* 2nd Edition. Oxford: Oxford University Press.

- Glassman, M. 1971. "The effects of personality and demographic factors on the formation of attitudes toward convenience goods." Unpublished Masters Thesis, University of Illinois.

- Graaff, J.F. de V. 1986. "The Present State of Urbanisation in the South African Homelands: Rethinking the Concepts and Predicting the Future." Congress of the Development Society of Southern Africa, Cape Town.

- Greenlund, K.J., Johnson, C.C. 1997. "Cigarette smoking attitudes and first use among third through sixth-grade children." *American Journal of Public Health.* 87(Aug): 1345-1349

- Gritz E.R., Klesges, R.C., Meyers, A.W. 1989. "The smoking and body weight relationship: implications for intervention and post-cessation weight control. *Annuals of Behavioural Medicine.* 11: 144-152

- Groner, J.A., Nguyen, H., Castile, R., Hayes, G. 2000. "The sources of environmental tobacco smoke exposure in infants and young children." Poster presented at 11th World Conference on Tobacco or Health.

- Haglund, B., and Cnattingius, S. 1990. "Cigarette smoking as a risk factor for sudden infant death syndrome: a population-based study." *American Journal of Public Health.* 80(1): 29-32

- Haire-Joshu, D., Morgan, G., Fisher, E.B. 1991. "Determinants of cigarette smoking." *Clinics in Chest Medicine.* 12(4), 711-725

- Hardoy, J.E., Mitlin, D., Satterthwaite, D. 1992. *Environmental problems in Third World cities.* London: Earthscan Publications.

- Hardoy, J.E., Satterthwaite, D. 1989. *Squatter Citizen: life in the urban third world.* London: Earthscan Publications.

- Hardoy, J.E., Satterthwaite, D. 1991. "Environmental Problems of Third World cities: a global issue ignored?" *Public Administration and Development.* 11: 341-346

- Harpham, T. 1994. "Urbanisation and mental health in developing countries: a research role for social scientists, public health professionals and social psychiatrists." *Social Science and Medicine.* 39(2): 233-245

- Harpham, T., Blue, I. 1995. *Urbanisation and mental health in developing countries.* Aldershot: Avebury.

- Harpham, T., Lusty, T., Vaughan, P. 1997. *In the shadow of the city: community health and the urban poor.* Oxford : Oxford University Press.

- Harpham, T., Stephens, C. 1991a. "Urbanisation and health in developing countries from the shadows into the spotlight." *Tropical Diseases Bulletin.* 88(8): 1-35

- Harpham, T., Stephens, C. 1991b. "Urbanisation and health in developing countries." *World Health Statistics Quarterly* 44: 62-69

- Harpham, T., Tanner, M. 1995. *Urban health in developing countries : Progress and Prospects.* London : Earthscan.

- Harris, M. 1992. Introduction. In: Harris M (ed) *Cities in the 1990s. The Challenge for Developing Countries.* London. UCL Press:cix-1.

- Higgs, N. 1995. "The Latent Urban Rural Continuum", *Demographic and development Division, a Research Wise pamphlet*, September

- Hofmeyr, J. 1995. "Is Satisfaction Enough? Using the Conversion Model for Customer Retention and Acquisition." Paper presented at "Measuring Customer Satisfaction Conference". 22-23 February, Café Royal, London.

- Hofmeyer, J., Rice, B. 1995. "Integrating the psychological conversion model with database information to measure and manage customer equity." *The Journal of Database Marketing.* 3(1): 39-50

- Hornik, J.A. 1970. "Two approaches to individual differences in an expanded prisoner's dilemma game." Unpublished master's thesis, University of Illinois.

- Housing and Development Associates. 1990. *Housing needs assessment study. Final Report.* Volume 1. Unpublished

- Hovland, C.I., Weiss, W. 1952. "The Influence of Source Credibility on Communication effectiveness." *Public Opinion Quaterly.* 15: 635-650

- Insko, C.A. 1967. *Theories of Attitude Change.* New York: Appleton-Century-Crofts.

- Jaccard, J.J., Davidson, A.R. 1972. "Toward an understanding of family planning behaviours." *Journal of Applied Social Psychology.* 2: 228-235

- Jayanti, R.K. and Burns, A.C. 1998. "The antecedents of preventative health care behaviour: an empirical study." *Journal of the Academy of Marketing Science.* 26(1): 6-15

- Jessor, R.. Jessor., S.L. 1977. *Problem behaviour and psychosocial development.* San Diego, CA: Academic Press

- Johnson, M., Zinkhan, G.M. 1991. "Emotional Responses to a Professional Service Encounter." *Journal of Service Marketing.* 5(Spring): 5-16

- Kaplan, M., Carriker, L. & Waldron, I. 1990. "Gender differences in tobacco use in Kenya". *Social Science and Medicine.* 30(3): 305-3110

- Kasarda, J.D., Parnell, A.M. 1993. Introduction: Third World Urban Development Issues. In: Kasarda JD, Parnell AK (eds) *Third World Cities: Problems, Policies and Prospects.* London: Sage Publications: ix-1.

- Kegler, M., Cleaver, V., Kingsley, B. 2000. "The social context of experimenting with cigarettes: American Indian 'start stories'." *American Journal of Health Promotion.* 15(2): 89-92

- Kelman, H.C. 1961. "Processes of Opinion Change." *Public Opinion Quarterly.* 25(Spring): 57-58

- Kjellstrom, T., Koplan, J.P., Rothenburg, R.B. 1992. "Current and future determinants of adult ill-health." In Feacham RGA. Kjelstrom T, Murray CJL, Over M, and Phillips MA, eds. *The health of adults in the developing world.* A World Bank Book. Oxford University Press. Pp 209-259. New York.

- Kleinman, J.C., Pierre, M.B., Madans, J.H., Land, G.H., and W.F. Schramm. 1988."The Effects of Maternal Smoking on Fetal and Infant Mortality" *American Journal of Epideniology,* 127(2): 274-282

- Klesges, R.C., & Kelsges, L.M. 1988. "Cigarette smoking as a dieting strategy in a university population" *International Journal of Eating Disorders.* 7(3): 413-419

- Klesges, R.C., Meyers, A.W., Klesges, A.M., & Lavasque, M.E. 1989. "Smoking, body weight, and their effects on smoking behaviour: A comprehensive review of the literature." *Psychological Bulletin.* 106: 204-230

- Klesges, R.C., Mizes, J.S., & Klesges, L.M. 1987. "Dieting strategies ina college population." *International Journal of Eating Disorders.* 6: 409-417

- Klonoff, D.C., Wiskocil, R.L. "Inappropriate drug prescribing" 1995. *Journal of American Medical Association.* 273(6): 456-457

- Kotler, P. 1997. *Marketing Management: analysis, Planning, Implementation and Control.* (9th Edition), New Jersey: Prentice Hall.

- Kotler, P., Roberto, E. 1989. *Social Marketing: Strategy for Changing Public Behavior.*New York: The Free Press

- Leitman, J. 1992. "Environmental management and urban development in the third world: A tale of health, wealth and the pursuit of pollution." PhD Thesis. Washington DC.

- Leventhal, H., Glynn, K., and Flemming, R. 1987. "Is the smoking Decision an 'Informed Choice'?" *Journal of the American Medical Association.* 257(June 26): 3373-3376

- Loken, B. 1982. "Heavy Smokers;, Lights Smokers' and Nonsmokers' Beliefs About Cigarette Smoking." *Journal of Applied Psychology.* 67(5): 616-622.

- Lutz, R.J. 1967. "An experimental Investigation of Causal Relations Among Cognitions, Affect and Behavioral Intention." *Journal of Consumer Research.* 3(March): 197-208

- Lutz, R.J. 1973. "Cognitive change and attitude change: A validation study." Unpublished doctoral dissertation, University of Illinois.

- Lutz, R.J. 1986. *Advances in Consumer Research.* (Ed.) Vol. XIII, Provo, UT: Association for Consumer Research. 72-76

- Mackay, J. 1996. "Women and Tobacco International Issues." *Journal of American Medical Womens Association.* 51(1&2): 48-51

- Mackay, J. 1998. "Reflections of a public health advocate on marketing's role in the great cigarette debate." Paper presented to the marketing department, University of Science and Technology, Hong Kong, 13 February.

- Magardie, K. 2000. "Tobacco groups target women." Press article. Mail & Gardian. 2000/Oct/20-26.

- Malloy, M.H., Kleinman, J.C., Land, G.H., Schramm, W.F. "The Association of Maternal Smoking with age and cause of Infant Death" *American Journal of Epideniology,* 128(1): 46-55

- Manfredi, C., Lacey, L., Warnecke, R., Buis, M. 1992. "Smoking-Related Behavior, Beliefs, and Smoking Environment of Young Black Women in Subsidized Public Housing in Chicago." *American Journal of Public Health.* 82(Feb): 267-272

- Manz, C.C., Sims, H.P. 1981. "Vicarious Learning: The Influence of Modeling on Organisational Behaviour." *Academy of Management Review.* January: 105-113

- Marks, A., Ratheb, E.M.E. 1998. "Review of Qualitative Research investigating the beliefs, perceptions, attitudes and behaviour of Black women in Cape Town towards smoking." Unpublished report submitted to RITC.

- Marks, A.S. 1998b. "Behavioural Management of Tobacco Addiction: What does Social Marketing Offer?", a chapter in *The Economics of Tobacco Control: Towards an Optimal Policy Mix.* Edson-Clyde Press, Mowbray, W.Cape.

- Mashabela, H. 1988. "Townships of the PWV". South African Institute for Race Relations. Johannesburg.

- Maziak, W., Asfar, T., Mzayek, F. 2001. "Socio-demographic determinants of smoking among low-income women in Aleppo, Syria. *International Journal of Tuberculosis and Lung Disease.* 5(4): 307-312

- McArdle, J.B. 1972. "Positive an negative communications and subsequent attitude and behaviour change in alcoholics." Unpublished doctoral dissertation, University of Illinois.

- McGranahan, G. 1991. "Environmental problems and the urban household in third world countries." Stockholm Environment Institute.

- McGuire, W.J. 1966. "Attitudes and Opinions." *Annual Review of Psychology.* 17: 475-514

- McGuire, W.J. 1968. "The Nature of Attitudes and Attitude Change." In G. Lindzey and E. Aronson, eds. *The Handbook of Social Psychology.* Vol. 3. Addison-Wesley.

- McIntyre, P., Mark, A., Barnett, R.H., Shanteau, J., Skowronski, J., Klasen, M. 1987. "Psychological Factors Influencing Decisions to Donate Organs." *Advances in Consumer Research.* 14: 331-334

- Miniard, P.W., Cohen, J.B. 1983. "Modeling personal and normative influences on behaviour." *Journal of Consumer Research.* 10(September): 169-180

- Mollentze, W.F., Moore, A., Steyn., A.F., Joubert, G., Steyn, K., Oosthuizen, G.M. and Weich, D.G.V. 1991 "Coronary heart disease risk factors in a rural and urban Orange Free State Black population." *South African Medical Journal.* In press

- Morris, A. Winter, 1998. "Continuity or Rupture." *Social Research.* Downloaded from http://www.findarticles.com Date accessed: 12 May 2001.

- Moschis, G.P. 1989. "Point of view: Cigarette advertising and young smokers." *Journal of Advertising Research.* April/May: 51-60

- Newcomb, T.M. 1943. *Personality and Social Change.* New York: Dryden.

- Olson, J.C., Dover, P.A. 1979. "Attribute Maturation." *Advances in Consumer Research.* 5: 333-342

- Ostrom, T.M. 1968. "The Emergence of Attitude Theory: 1930-1950." In A.G. Greenwald, T.C. Brock, and T.M. Ostrom, eds. *Psychological Foundations of Attitudes.* Academic Press.

- Peter, J.P., Olson, J.C. 1993. *Consumer Behaviour and Marketing Strategy, 3rd edition.* Chicago: Irwin.

- Peter, J.P., Olson, J.C. 1996. *Consumer Behaviour and Marketing Strategy. 4th Edition,* Times Mirror Higher Education Group, Inc.

- Peters, J., Hedley, A.J., Lam, T.H., Betson, C.L., Wong, C.M. 1997. "A comprehensive study of smoking in primary school children in Hong Kong: implications for prevention." *Journal of Epidemiology and Community Health.* 51(3): 239-345

- Peto, R., Lopez, A.D., Boreham, J., Thun, M., Heath, C.Jr. 1994. "Mortality from smoking in developing countries 1950-2000." Oxford University Press.

- Phillips, M.A., Feachem, G.A., Ko[plan, J.P. 1992. "The emerging agenda for health," in *The health of adults in the developing world. A World Bank book,* (eds). Feachem, R.G.A., Kjellstrom, T., Murray, C.H.L, Over, M. and Phillips, M.A. New York: Oxford University Press. 261-294

- Pick, W.M., Hoffman, M.N., Myers, J.E., Klopper, J.M.L., Cooper, D. 1990. "Women, health and urbanisation (Opinion)." *South African Medical Journal.* 77: 553-554

- Pollay, R.W., Siddarth, S., Siegel, M., Haddix, A., Merritt, R.K., Giovino, G.A. and Eriksen, M. 1996. "The Last Straw? Cigarette Advertising and Realized Market Shares Among Youths and Adults, 1979 – 1993." *Journal of Advertising.* 60(4): 1-16

- Pollay, R.W., Lavack, A.M. 1993. "The Targeting of Youths by Cigarette Marketers: Archival Evidence on Trial." *Advances in Consumer Research.* 20: 266-271

- Pollay, R.W. 1993. "Pertinent Research and Impertinent Opinions: Our Contributions to the Cigarette Advertising Policy Debate." *Journal of Advertising.* 22(4): 110-117

- Prochaska, J.O., DiClemente, C.C., Norcross, J.C. 1992. "In Search of How People Change: Applications to Addictive Behaviors." *American Psychologist.* 47: 1102-1114.

- Reddy, P., Meyer-Weitz, A., Yach, D. 1996. "Smoking status, knowledge of health effects and attitudes towards tobacco control in South Africa." *South African Medical Journal.* 87(11): 1389-1393

- Research Surveys. 1998. "The Conversion Model", Company pamphlet.

- Rindfleisch, A., Crockett, D.X. 1999. "Cigarette Smoking and Perceived Risk: A Multidimensional Investigation." *Journal of Public Policy and Marketing.* 18(2): 159-171

- Romano, P.S., Bloom, J., Syme, S.L. 1991. "Smoking, social support and hassles in an urban African-American community." *American Journal of Public Health.* 81(11): 1415-1422

- Rossi-Espagnet, A. 1984. "Primary Health Care in Urban Areas Reaching the Poor in Developing Countries." A State-of-the-Art report by UNICEF and WHO. SHS/84.4

- Rossi-Espagnet, A., Goldstein, G., Tabibzadeh, I. 1991. "Urbanization and Health in Developing Countries : Challenge for Health for All." *World Health Statistics Quarterly.* 44 : 187-244

- Ruble, D. N. & Seidman, E. 1966. "Social Transitions: Windows into Social Psychological Processes", chapter in E.T. Higgins and A. Kruglanski (Eds.), *Handbook of Social Processes*, New York: Guilford

- Ryan, M.J., Bonfield, E.H. 1975. "The Fishbein Extended Model and Consumer Behaviour." *Journal of Consumer Research*, 2(September): 118-136.

- Ryan, M.J., Bonfield, E.H. 1980. "Fishbein's Intention Model: A Test of External and Pragmatic Validity." *Journal of Marketing.* 44(Spring): 82-95.

- Saltzer, A.B. 1981. "Cognitive Moderators of the Relationship Between Behavioural Intentions and Behaviour." *Journal of Personality and Socia. Psychology.* 41(2): 260-271

- Seager, J.R. 1995. *Urban Health In Developing Countries, Progress and Prospects.* Earthscan Publications Limited, London.

- Seager, J.R. 1998. Personal discussions with Dr. John Seager, June 1998.

- Seager, J.R. 1992. 'Urbanisation and public health: The challenge, the effects and the need for intersectoral collaboration'. *The Civil Engineer in South Africa*, September

- Seftel, H., 1992. "Health consequences of passive smoking". Paper presented at the Seminar on Tobacco-free work-places: safer, healthier and more economical. 17 November, Johannesburg.

- Shaefer, M. 1993. "Health, environment and development: Approaches to drafting country-level strategies for human well-being under Agenda 21." Geneva. World Health Organisation.

- Sheeran, P., Orbell, S. 1999. "Augmenting the Theory of Planned Behaviour: Roles for Anticipated Regret and Descriptive Norms." *Journal of Applied Social Psychology.* 29(10): 2107-2143

- Sheppard, B.H., Hartwick, J., Warshaw, P.R. 1988. "The Theory of Reasoned Action: A Meta-Analysis of Past Research with Recommendations for Modifications and Future Research." *Journal of Consumer Research.* 15(December): 325-345.

- Sherif, M., Cantril, H. 1945. "The Psychology of Attitudes : I." *Psychological Review.* 52: 295-319

- Sherif, M., Cantril, H. 1946. "The Psychology of Attitudes : II." *Psychological Review.* 53: 1-24

- Sherif, M., Cantril, H. 1947. *The Psychological of Ego Involvements.* Wiley.

- Sherman, S.J., Corty, E., Olshavsky, R.W. 1984. "Predicting the Onset of Cigarette Smoking in Adolescents: A Longitudinal Study." *Journal of Applied Social Psychology.* 14(3): 224-243

- Shiffman, L.G., Kanuk, L.L. 1994. *Consumer Behaviour 5th Edition.* Prentice-Hall, Inc. Englewood Cliffs, New Jersey, 07632.

- Simpson, J. 1972. "The effects of urbanisation on purchasing behaviour. " Thesis (PhD), University of Cape Town.

- Smith, M.B. 1947. "The Personal Setting of Public Opinions: A Study of Attitudes Towards Russia." *Public Opinion Quarterly.* 11: 507-523

- South African Institute of Race Relations. 1989. "Race Relations Survey 1988/89." Johannesburg. pp xxiv-813.

- Stebbins, K. 1987. "Tonbacco or Health in the Third World: A Political Economy Perspective with Emphasis on Mexico." *International Journal of Health Services.* 17: 521-536

- Steenkamp, H.J., Jooste, P.L., Jordaan, P.C.J., Swanepoel, A.S.P., Roussouw, J.E. 1991. "Changes in smoking during a community-based cardiovascular disease intervention programme." *South African Medical Journal,* 79(March): 250-253

- Stephens, C. 1995. "The urban environment, poverty and health in developing countries." *Healthy Policy and Planning.* 10(2): 109-121.

- Stephens, C. 1996. "Healthy cities or unhealthy islands? : the health and social implications or urban inequality." *Environmental Urbanization.* 8(2): 9-30

- Stephens, C., Harpham, T. 1991. "Slum Improvement : Health Improvement?" Health Policy Unit, London School of Hygiene and Tropical Medicine, London.

- Stephens, C., Timaeus, I., Akerman, M *et al.* 1994. "Environment and health in developing countries : An analysis of intra-urban differentials using existing data." London School of Hygiene and Tropical Medicine.

- Steyn, K. 2001. Personal discussions with Dr. Krisela Steyn of the Medical Research Council of.South Africa.

- Steyn, K. 1996. "Comprehensive Tobacco Control Research Programme for South Africa." Medical Research Council, Chronic Diseases of Lifestyle Programme.

- Steyn, K., Bourne, L.T., Jooste,P.L.., Fourie, J.M., Lombard, C.J. and Yach, D. 1994. "Smoking in the Black Communitiy of the Cape Peninsula, South Africa." *East African Medical Journal.* December: 784-789

- Steyn, K., Jooste, P.I., Bourne, I., Fourie, J., Badenhorst, C.J., Bourne, D.E., Langenhoven, M.L., Lombard, C.J., Truter, I.I., Katzenellenbogen, J., Marais, M. and Oelofse, A. 1991. "Risk Factors

for Coronary Heart Disease in the Black Population of the Cape Peninsula." The BRISK study. *South African Medical Journal.* 79: 480

- Steyn, K., Yach, D., Stander, I., Fourie, J.M. 1997. "Smoking in urban pregnant women in South Africa." *South African Medical Journal.* 87(4): 460-463.

- Stick, S.M., Burton, P.R., Gurrin, L., Sly, P.D., LeSouef, P.N. 1996. "Effects of maternal smoking during pregnancy and a family history of asthma on respiratory function in newborn infants." *The Lancet.* 348(9034): 1060-1064

- Strader, M.K., Katz, B.M. 1990. "Effects of a persuasive communication on beliefs, attitudes, and career choice." *Journal of Social Psychology.* 130(2): 141-150

- Strebel, Peter., Kuhn, L., Yach, D. 1989. "Determinants of cigarette smoking in the black township population of Cape Town" *Journal of Epidemiology and Community Health.* 43: 209-213

- Strebel, Peter., Kuhn, L., Yach, D. 1989. "Smoking practices in the Black township population of Cape Town." *South African Medical Journal.* 75(9): 428-431

- Stuart, E.W., Terence, T., Engle, R.W. 1991. "A Program of Classical Conditioning Experiments Testing Variations in the Conditioned Stimulus and Context." *Journal of Consumer Research.* June: 1-12

- Surgeon General's Report. Satcher, D., M.D., PhD. 2001. "Women and Smoking : A report of the Surgeon General. Venters for Disease

Control and Prevention (CDC)." Location (URL): http://www.cdc.gov/tobacco/sgr_forwomen.htm

- Sutton, S. 1998. 'Predicting and explaining intentions and behaviour: how well are we doing?" *Journal of Applied Social Psychology.* 1998. 28(15): 1317-1338

- Tabibzadeh, I., Rossi-Espagnet, A., Maxwell, R. 1989. "Spotlight on the Cities. Improving urban health in developing countries." Geneva: World Health Organisation.

- Temple, N., Diehl, H., Ludington, A. 1996. *Health for the New Century.*

- The World Bank. 1991. "World Development Report 1991 : Poverty." Oxford. Oxford University Press.

- Thurstone, L.L. 1931. "The Measurement of Attitudes." *Journal of Abnormal and Social Psychology.* 26: 249-269

- Trafimow, D., Fishbein, Martin. 1994. "The moderating effect of behaviour type on the subjective norm-behaviour relationship." *Journal of Social Psychology.* 134(6): 755-763

- Triandis, H.C. 1964. "Exploratory factor analyses of the behavioural component of social attitudes." *Journal of Abnormal and Social Psychology.* 68: 420-430

- Triandis, H.C. 1971. *Attitude and Attitude Change.* New York: Wiley

- Triandis, H.C. 1975. "Culture training, cognitive complexity and interpersonal attitudes." In R. Brislin, S. Bochner, and W. Lonner (Eds.), *Cross-Cultural Perspectives on Learning.* Beverley Hills and New York: Sage and Wiley/Halstead. 39-77

- Triandis, H.C. , Vassiliou, V., Tanaka, Y., Shanmugan, A.V. 1972. *The Analysis of Subjective Culture.* New York: Wiley

- Troendle, J.F. 1995. "A Stepwise Resampling Method of Multiple Hypothesis Testing." *Journal of American Statistical Association.* 90(429): 370-378

- Tygerberg Municipality. 1998. "Population density figures and services available for suburbs within Khayelitsha." In Cape Town Metropolis.

- United Nations Centre for Human Settlements. 1996. *An urbanising world : global report on human settlements.* Oxford : Oxford University Press.

- Upton, M.N., Watt, G.C.M., Davey-Smith, G., McConnachie, A., Hart, C.L. 1998. "Permanent effects of maternal smoking on offsprings lung function." *The Lancet.* 352(9126): 453

- Urban Foundation. 1990. "Population Trends". Urban Debate 2010, Urban Foundation, Johannesburg.

- von Schirnding, Y.E.R., Yach, D., Blignaut, R., Mathews, C. (1991a). "Environmental Determinants of Acute Respiratory Symptoms and Diarrhoea in Young Coloured Children Living in Urban and Peri-

urban Areas of South Africa." *South African Medical Journal.* 79: 457-461

- Vorster, H.H., Venter, C.S., Kruger, H.S., Kruger, A., Malan N.T., Wissing, M.P., de Ridder, J.H., Veldman, F.J., Steyn, H.S., Margretts, B.M., MacIntyre, U. 2000. "The impact of urbanisation and the resultant demographic transition on the physical, physiological and mental health of Africans in the North West Province of South Africa in order to inform health policies and programmes." *South African Journal of Science.* 96(9/10): 505-515

- Waldron, I. 1991."Patterns and causes of gender differences in smoking." *Social Science and Medicine.* 32(9): 989-1005

- Waldron, I., Bratelli, G., Carriker L. 1998. "Gender differences in tobacco use in Asian, African and Latin American societies". *Social Science and Medicine.* 27: 1269-1275.

- Wallack, L., Montgomery, K. 1992. "Advertising for All by the Year 2000: Public Health Implications for less developed countries." *Journal of Public Health Policy.* 13(2): 204-223

- Warshaw, P.R. 1980. "A New Model for Predicting Behavioural Intentions: AN Alternative to Fishbein." *Journal of Marketing Research.* 17(May): 153-172

- Weekley, C.K. III., Klesges, R.C., & Reylea, G. 1992. "Smoking as a weight-control strategy and its relationship to smoking-status." *Addictive Behaviors,* 17: 259-271.

- WESGRO, 1999. *Khayelitsha Business District Investment Opportunities.* Report by the Western Cape Investments and Trade Promotion Agents, August 1999.

- West, S. 1992. "Does smoke get in your eyes?" *Journal of American Medical Association.* 268: 1025

- WHO. 1996a. "Tobacco Health: First Global Healthy Status Report." Geneva: World Health Organisation Tobacco or Health Programme.

- WHO. 1996b. "The Tobacco Epidemic: A Global Public Health Emergency." Tobacco Alert 1996. Geneva: World Health Organisation.

- Wilson, F., Ramphele, M. 1989. *Uprooting Poverty : The South African Challenge.* Cape Town : David Phillip

- World Health Organisation. 1993. "The Urban Health Crisis: Strategies for Health for all in the Face of Rapid Urbanisation: Report for the Technical Discussions at the Forty-Fourth World Health Assembly." Geneva: WHO.

- World Health Organisation. 1995. "Building a healthy city : A practitioner's guide." Geneva, WHO.

- World Health Organisation. 1995. World Health, 48th Year, No. 4, July-August

- World Health Organisation. 1996. "Creating healthy cities in the 21st century." (who/eos/96.9). Geneva: WHO

- Yach, D. 1989. "Urban marketing to promote disease or health?" *Critical Health.* 28: 37-43

- Yach, D. 1990. "Tobacco Induced Diseases in South Africa." *International Journal of Epidemiology.* 19(4): 1122-1123

- Yach, D. 1991. Community Health Research Group, MRC, "Smoking and health in South Africa : The position deteriorates." Document pre-pared for the Minister of National Health and Population Development, Dr R. Venter. October 2

- Yach, D. 1992. "The Colombus quincentenary – 500 years of expanding tobacco addiction." *South African Medical Journal.* 82: 224-226

- Yach, D., Coetzee, N., Hugo-Hamman, C.T., Fisher, S.A., Kibel. M.A. 1990a. "Identifying children at risk in peri-urban Cape Town." *South African J Epidemiol Infec.* 5(1): 6-8

- Yach, D., Joubert, G. 1988a "Deaths related to smoking in SA in 1984 and projected deaths among coloureds and backs in the year 2000" *South African Medical Journal.* 73: 400-402

- Yach, D., Joubert, G. 1988b. "Determinants and consequences of alcohol abuse and cigarette consumption in Mamre" *South African Medical Journal.* 74: 348-351

- Yach, D., Martin, G. 1993. "Tobacco Consumption: determinants and deterrents". *Continuing Medical Education*, 11 (5): 813 - 824.

- Yach, D., Mathews, C., Buch, E. 1990b. "Urbanisation and Health: Methodological Difficulties in Undertaking Epidemiological Research in Developing Countries". *Social Science and Medicine.* Vol. 4. pp 507-514.

- Yach, D., Paterson, G. 1994. "Tobacco advertising in South Africa with specific reference to magazines." *South African Medical Journal.* 84(12): 838-841

- Yach, D., Saloojee, Y., McIntyre, D. 1992. "Smoking in South Africa: the health and economic impact." *Tobacco Control.* 1: 272-280

- Yach, D., Townshend, G.S. 1988. "Smoking and health in South Africa." *South African Medical Journal.* 73(7): 391-399

APPENDICES

Appendix A – Photographs depicting each Housing Context

Informal, Unserviced Housing

Informal, Serviced Housing

Formal, Serviced Housing

Appendix B – List of Suburbs in Khayelitsha

Lists of the suburbs in Khayelitsha were obtained from the Tygerberg Municipality Office and even though are a couple of years out of date (1994) they proved very helpful. Below is a table of the data we received from them:

AREA	FORMAL NAME OF AREA	SERVICED/ UNSERVICED	FORMAL / INFORMAL	NO. OF SITES	POP. PER AREA
Bongweni		Serviced	Formal	179	1002
Ikwezi Park		Serviced	Formal	395	2568
Tembani		Serviced	Formal	183	1080
Washington Square		Serviced	Formal	341 (?)	6 (?)
Site C	Mxolisi Phetani	Serviced	Informal	3465	19058
Site C (B Occupant)	Mxolisi Phetani	Shared services	Informal	3465	19058
Site C Buffer & open areas	*	Unserviced	Informal	1974	10857
Town 1 Village 1		Serviced	Formal	2835	15167
Town 1 Village 1 (Demo)		Serviced	Formal	30	161
Town 1 Village 2		Serviced	Formal	2469	13209
Greenpoint	Greenpoint	Rudimentary / Unserviced	Informal	987	4481
Town 1 Village 3 (Site B)	Trevor Vilakazi	Serviced	Informal	3819	24442
Town 1 Village 3 (Site B)	Trevor Vilakazi	Serviced	Informal	3082	19725
Town 1 Village 3 (Site B) (P Selfhelp)	Trevor Vilakazi	Serviced	Informal	51	326
Town 1 Village 3 (L Selfhelp)	Trevor Vilakazi	Serviced	Informal	50	320
Town 1 Village 4 (Site B)	Victoria Myenge	Serviced	Informal	5101	32646
Town 1 Village 4 (Site B)	Victoria Myenge	Serviced	Informal	3191	20422
Town 1 Village 4 (Y Selfhelp)	Victoria Myenge	Serviced	Informal	101	646
Site B North		Unserviced	Informal	990	6336
Bermuda	Bermuda	Rudimentary / Unserviced	Informal	1042	4637
Town 2 Village 4C	Griffiths Mxenge	Serviced	Informal	1533	8738
Town 2 Village 4C (Selfhelp)	Griffiths Mxenge	Serviced	Informal	49	279
Silvertown		Rudimentary / Unserviced	Informal	1357	6039

Town 2 Village 1	Ilitha Park	Serviced	Formal	1618	8090
Town 2 Village 2A (I)	Harare	Serviced	Informal	1511	10124
Town 2 Village 2A (II)	Harare	Serviced	Informal	2801	18767
Town 2 Village 3	Mandela Park	Serviced	Formal	2450	14945
Town 2 Village 4A	Ekuphumleni	Serviced	Formal	219	1358
Town 2 Village 4B	Graceland	Serviced	Half informal	320	1104
Town 2 Village 4B	Graceland	Serviced	Half formal	178	1104

Town 3 Village 1		Undeveloped	Undeveloped	0	0
Town 3 Village 2		Undeveloped	Undeveloped	0	0
Town 3 Village 3A	Macassar	Serviced	Informal	2328	11517
Town 3 Village 3B (I)	Macassar	Serviced	Informal	980	4848
Town 3 Village 3B (II)	Macassar	Serviced	Informal	97	480
Town 3 Village 4	Macassar	Serviced	Informal	910	4550
Town 3 Village 5 IDT	Macassar	Serviced	Informal	3100	14074
Town 3 Village 5A	Macassar	Serviced	Informal	314	1426

Appendix C – Letters distributed in Xhosa and English

These were letters that were distributed on Medical Research Council of South Africa letterheads to community leaders and respondents in the suburbs of Khayelitsha where fieldwork was conducted.

TOBACCO USAGE STUDY LAUNCHED IN THE WESTERN CAPE

The Medical Research Council (MRC) together with the University of Cape Town is to initiate a study to determine the degree of tobacco usage among African women of the Western Cape.

This study will test a trend that has been noticed, that migration to big cities has exposed African communities to a life-style that promotes the usage of tobacco, which can have health consequences.

Until recently, African women smoked the least out of all women in South Africa, but it seems that this may be changing.

"It is very important that we examine the rates of tobacco usage and the health effects that smoking and snuff may be having on the African community, so that measures can be taken to educate communities better as to the effects of tobacco on one's health and that of their children and families," says Prof. Dan Ncayiyana of the University of Cape Town.

The study, which will be conducted at the end of August and September of this year, and will involve 270 women, selected on a scientific basis as a representative sample of the population.

Prof. Dan Ncayiyana has appealed to community leaders to support this project. He said: "This study will have long term implications that will contribute to health education and help the government to implement sound tobacco control policy, preventing young children from smoking and enabling adults to make informed decisions about tobacco usage."

E N D S

If you have any further inquiries, please call Dr Amy Marks or Ms. Eleni Eleftheriou at (021) 406 1416.

UPHANDO NGOKUSETYENZISWA KWECUBA OLUMISEL WE ENTSHONA KOLONI

Imedical Reasearch Council (MRC) kunye neDyunivesithi yaseKapa GSB iza kuqalisa ngophando oluza kubonisa ubukho bobungozi bokufumana isifo semiphunga kumabhinqa asezidolophini amnyama kwiNtshona Koloni (Khayelitsha).

Oluphando luza kuvavanya isiqhelo esele siqwalaselwe ngoogqirha, sokuba ukufudukela kwiidolophu ezinkulu kwenze umtyhi kubantu abamnyama ofike wakhuthaza ukusetyenziswa kwecuba notywala, okunokuba neziphumo ezithile kwimpilo yabantu.

De kube kutshanje, amabhinqa amnyama ayekwinani eliphantsi kumabhinqa oMzantsi Afrika atshayayo, kodwa kukhangeleka ingathi oko kungatshintsha kwaye kunokungabi njalo.

"Kubalulekile ukuba siqwalasele indlela ekutshaywa ngayo ngabamnyama neziphumo zoko, ukuze sikwazi ukuthabatha amanyathelo okufundisa abantu malunga neziphumo zokutshaya kwimpilo yabo naleyo yabantwana babo neentsapho zabo," kutsho uProfesa Dan Ncayiyana weDyunivesthi yaseKapa.

Olu phando oluza kuqala kwiveki yesibini kuAugust luza kubandakanya abantu abangama-270, abonyulwe ngendlela yobungcali ndlela leyo eza kubabonisa njengabamele uluntu.

Uprofesa Ncayiyana wenze isicelo kwinkokeli zoluntu ukuba ziyixhase le projekti. Utshilo: "Olu phando luza kuba nefuthe eliya kuhlala ithuba elide oluza kwengeza ulwazi nemfundo kuluntu kwaye luncede urhulumente asebenzise iindlela eziphucukileyo zokulawula ukusetyenziswa kwecuba, kuthintelwa abantwana ukuba bangatshayi njalo."

Imibuzo ithunyelwe kuDr Marks oksnye uMs Eleftheriou kwa 406 1416

TO WHOM IT MAY CONCERN

_____ is the fieldworker in your area for the study on health, life-style and tobacco usage.

We would like to re-assure you that all information collected is confidential. You only need to give your name and address if you would like to.

Your co-operation is greatly appreciated.

Any enquiries can be directed to Dr Amy Marks during office hours at telephone number 406 1414 or to Ms Eleni Eleftheriou at 406 1416.

MHLALI OTHANDEKAYO

uNolubabalo Twalo ngumcwaningi oza kuba kule ngingqi yakho ngenjongo zoku phanda ngezempilo, nezokuziphatha malunga nokusetyenziswa kwecuba.

Siya kuthembisa ukuba yonke imininingwane osixelele yona iza kujongwa emfihlakalweni.

Kucelwa ukuba unike igamalakho ne nombolo yemfonomfono yakho ukuba uyathanda.

Sovuyiswa kakhulu yintsebenziswano yakho.

Imibuzo ingathunyelwa ku Dr. Amy Marks okanye ku Ms. Eleni Eleftheriou kwa 406 1414 / 406 1416.

Appendix D – Questionnaire Cover Sheets

HOUSES ON PLOT

NO	USED	RANDOM NO.S			
1		4	1	3	2
2		1	3	4	2
3		2	3	4	1
4		2	4	3	1
5		1	2	3	4
6		4	2	1	3
7		3	1	4	2
8		3	1	2	4
9		2	4	3	1
10		3	2	1	4
11		1	2	3	4
12		2	4	1	3
13		2	4	3	1
14		2	1	3	4
15		4	1	3	2

RESPONDENT REQUIRED

AGE: 15-35 YEARS
SEX: FEMALE
STATUS: SMOKING / NON-SMOKING

ELIGIBLE PEOPLE IN THE HOUSE

If there is more than one eligible respondent in the household, then record details below and choose from random numbers provided →

NO.	NAME	AGE	STATUS	BACK
1				
2				
3				
4				
5				

If chosen respondent is not available must call back twice before you move to next respondent. If callbacks are done and need to go to new household, then use extra name lists below:

NO.	NAME	AGE	STATUS	BACK
1				
2				
3				
4				
5				

NO.	NAME	AGE	STATUS	BACK
1				
2				
3				
4				
5				

DATE: ☐☐ / ☐☐ / ☐☐
STARTING TIME : ☐☐ : ☐☐ am / pm
ENDING TIME : ☐☐ : ☐☐ am / pm

INTERVIEWER NUMBER: ☐
INTERVIEW NUMBER: ☐☐☐

PLOT SELECTED

Record all plots visited and whether found a candidate there.

	CANDIDATE	DESCRIPTION OF PLOT
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

USED	RANDOM NUMBERS				
	1	5	4	3	2
	2	5	3	4	1
	5	4	1	3	2

NOTES:

HOUSES ON PLOT

NO	USED	RANDOM NO.S			
1		2	4	1	3
2		4	1	2	3
3		1	2	4	3
4		2	1	3	4
5		1	4	3	2
6		3	4	1	2
7		2	4	1	3
8		4	2	1	3
9		2	4	1	3
10		1	2	3	4
11		3	4	2	1
12		2	1	4	3
13		4	3	1	2
14		3	4	2	1
15		1	4	3	2

RESPONDENT REQUIRED

AGE: 36-65 YEARS
SEX: FEMALE
STATUS: SMOKING / NON-SMOKING

ELIGIBLE PEOPLE IN THE HOUSE

If there is more than one eligible respondent in the household, then record details below and choose from random numbers provided →

NO.	NAME	AGE	STATUS	BACK
1				
2				
3				
4				
5				

If chosen respondent is not available must call back twice before you move to next respondent. If callbacks are done and need to go to new household, then use extra name lists below:

NO.	NAME	AGE	STATUS	BACK
1				
2				
3				
4				
5				

NO.	NAME	AGE	STATUS	BACK
1				
2				
3				
4				
5				

DATE: ☐☐ / ☐☐ / ☐☐
STARTING TIME : ☐☐ : ☐☐ am / pm
ENDING TIME : ☐☐ : ☐☐ am / pm

INTERVIEWER NUMBER: ☐
INTERVIEW NUMBER: ☐☐☐

PLOT SELECTED

Record all plots visited and whether found a candidate there.

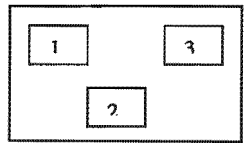
	CANDIDATE	DESCRIPTION OF PLOT
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

USED	RANDOM NUMBERS				
	2	4	3	5	1
	2	5	3	4	1
	4	3	5	1	2

NOTES:

INSTRUCTIONS FOR FILLING IN INFORMATION SHEETS FOR EACH QUESTIONNAIRE

STEP 1: Find the starting point / site and count the number of dwellings on it. You may have to ask someone where the site begins and ends. Number the dwellings in your head from left to right. For example, there are three dwellings on the site below:



This is the road

STEP 2: Use the random numbers in the table labeled **'HOUSES ON PLOT'** to decide which dwelling to approach first. Because there are 3 dwellings on this plot, we cross off the number 4 in the example below.

HOUSES ON PLOT

NO	USED	RANDOM NO.S			
		4	1	3	2
		1	2	3	4
		1	2	4	3
		2	1	3	4
		1	4	3	2

According to line 1 of this table, you must first approach dwelling number 1. If there is no-one who fits the respondent description in that household, then you must go to dwelling number 3 on the site. Again, if there is no eligible respondent you must go to dwelling number 2. If no-one is found to be interviewed on the whole site, then tick the **USED** column and go to the table marked **'PLOT SELECTED'.**

STEP 3: If no-one was found in the starting site, then fill in the table as follows:

PLOT SELECTED

Record all plots visited and whether found a candidate there.

	CANDIDATE	DESCRIPTION OF PLOT
1		
2		
3		
4		

You must fill in the starting point first. If no-one is found to be interviewed on the whole site then you must put a cross under **CANDIDATE** column and fill in 'SITE ON LEFT' in the **DESCRIPTION OF PLOT** column. This must be done each time you move to a new plot to track exactly where you have been.

STEP 4: Once you have found a dwelling on a site with an eligible respondent, you must check to see how many women live in that household that can fill the **RESPONDENT REQUIRED** description. If there is more than one, you must fill in their names and ages in the first table provided in order of oldest to youngest. If there are 2 eligible women for example:

ELIGIBLE PEOPLE IN THE HOUSE

If there is more than one eligible respondent in the household, then record details below and choose from random numbers provided ------- >

NO.	NAME	AGE	STATUS	BACK
1				
2				
3				
4				
5				

If chosen respondent is not available must call back once before you move to next respondent. If callbacks are done and need to go to new household, then use extra name lists below:

NO.	NAME	AGE	STATUS	BACK
1				
2				
3				
4				
5				

You must use the random number table on the right hand side of the page to help you choose which respondent out of the list to interview. In this case there are 2 eligible respondents. You must therefore cross out the 3,4,and 5 from the line of numbers. As the example shows below, you must interview respondent number 2. If she is not available while you are there you must do one call-back at a time when she is expected to be there. If she is not there when you call back, you may interview number 1 on the list.

If number 1 is not available on the call back, then you must tick the USED column in the random number table and move to either the next dwelling on the site, or the next site depending on your situation

USED	RANDOM NUMBERS				
	2	4	3	5	1
	2	5	3	4	1
	4	3	5	1	2

This is an example of the random number table that you will see on the right hand side of your page.

Don't forget to fill in the PLOT SELECTED table if you move to a new plot / site. There are another 2 tables on the form for lists of names. This is incase the situation as in the example above happens and you have to find a new household where there may be more than one eligible respondent.

STEP 5: You must also fill in the date, the time of the interview (starting and finishing) and your interview number. Interview numbers are as follows:

1 - Busi 2 - Phila (only took part in Phase 1)

3 - Hlonela 4 - Noma

PLEASE ENSURE THAT YOU FIND A RESPONDENT EXACTLY AS SHE IS DESCRIBED ON YOUR SHEET. PLEASE FOLLOW ALL INSTRUCTIONS CAREFULLY AND LOG / MARK ALL THE MOVES YOU MAKE VERY CLEARLY AND CAREFULLY. WE MUST BEABLE TO RETRACE YOUR STEPS AND FIND THE HOUSEHOLD IF WE NEED TO.

Appendix E – Questionnaire

Due to this study being embedded in a larger study, the full-length questionnaire is provided in this appendix. The questions specific to this study are printed in blue ink, the LURC (Latent Urban Rural Continuum) questions are printed in red ink and the Conversion Model questions are printed in green ink.

SCREENING QUESTIONS

Qala ngolu hlobo :
" Molweni igama lam ngu____kwaye ndenza uphando malunga nezifundo zempilo kumabhinqa onke eKapa nakwiziphaluka. Ndingavuya ukuba unokuthabatha inxaxheba kwezi zifundo kwaye igalelo lakho liya kunceda ekuphuculeni iqondo lwezempilo kumabhinqa asezilokishini. Andizi kulibhala igama lakho. Ndiza kwabelana ngolu lwazi ndiza kulufumana nabolu phando kodwa andizi kuxela ukuba wena utheni.Akunyanzelekanga ukuba uphendule imibuzo ukuba akuthandi kwaye ungaluqhawula olu phando nanini na ukuba ufuna njalo. Ndingaqhuba?

Start with the following :
" Hello my name is _____ and I am conducting research for a health study on women from all around Cape Town. It would be greatly appreciated if you would participate in the study and your input will help in the formulation of strategies to improve the health of women in the townships. I will not write down your name . I will be sharing the information I get from all the people I interview with the project, but I will not let anyone know what you as an individual said. You are not obliged to answer any question if you don't want to and you may stop the interview at any time. May I continue?

Inani labantu / Demographics

ID NO. ☐☐☐ 3

INTERVIEWER NO. ☐

Ndiza kuthanda ukukubuza iinkcukacha ezithile malunga nawe.
I would first like to ask you a few questions about yourself.

1) Wazalwa nini? Umhla *When were you born?*

Inyanga ☐☐ Unyaka ☐☐ Iminyaka kusuku lokuzalwa oludlulileyo ☐☐ ☐☐ 6

Month ☐☐ Year ☐☐ Age at last birthday (in years) ☐☐

Accurate = 1 Echanekileyo = 1	Estimate = 2 Uyathekelela = 2

☐

2) *What is your home language?* Luluphi ulwimi lwakowenu?

Xhosa	1
Zulu	2
Sotho	3
Tswana	4
English	5
Afrikaans	6
Okunye (Chaza)	7

☐

3) *What is your marital status?* Ubume bakho ngokomtshato?

Andizange ndatshata	1
Ndiyahlalisana	2
Sitshate ngokomthetho wesintu	3
Sithate isilungu	4
Wemka / wandishiya	5
Sohlukana	6
Saqhawula umtshato	7
Ndingumhlolokazi	8
Okunye (Chaza)	9

☐

Never married	1
Living together	2
Married - traditional	3
Married - civil	4
Deserted / abandoned	5
Separated	6
Divorced	7
Widowed	8
Other (specify)	9

4) *How many living children do you have?* Bangaphi abantwana abaphilayo onabo? ☐☐ ☐☐ 11

5) *How many people live with you here or are part of your household?*
Bangaphi abantu abahlala nawe okanye abayinxalenye yosapho? ☐☐ abantu ☐☐ 13

6) *Do many women drink Coca-Cola around here?* Amabhinqa amaninzi ascla iCoca-Cola apha?

Ewe =1	Hayi =2	☐ 14

Yes =1	No =1

7) *Do any of your female friends drink Coke?* Bakhona abahlobo bakho ababhinqileyo abasela iCoca-Cola

Ewe =1	Hayi =2	☐

8) *So, how many cups of Coca-Cola do you drink in a day?*
Wena usela iikomityi ezingaphi zeCoca-Cola ngemini? ☐☐ Iikomityi ☐☐

9) *In your area, do many men use snuff?* Amabhinqa amaninzi ayasisebenzisa isnuff?

Ewe =1	Hayi =2	☐

10) *Do any of your male friends use snuff?* Bakhona abahlobokazi bakho abasebenzisa isnuff?

Ewe =1	Hayi =2	☐ 19

11) *In your area, do many women use snuff?* Amabhinqa amaninzi ayasisebenzisa isnuff?

Ewe =1	Hayi =2	☐

12) *Do any of your female friends use snuff?* Bakhona abahlobokazi bakho abasebenzisa isnuff?

Ewe =1	Hayi =2	☐ 19

13) *So, have you ever used snuff before?* Wena, wakhe wasisebenzisa isnuff?

Ewe =1	Hayi =2	☐

14) *If yes, how many times a week do you use snuff?*
Ukuba uthi ewe, usisebenzisa kangaphi ngeveki isnuff? ☐☐ ngeveki ☐☐ 22

15) *Do many people use paraffin around here? Basebenzisa iparafini abantu abaninzi apha?*

Ewe =1	Hayi =2	☐
Yes =1	No =1	

16) *Do any of your female friends cook with paraffin? Abahlobokazi bakho bapheka ngeparafini?*

Ewe =1	Hayi =2	☐
Yes =1	No =1	

17) *So, how often do you cook with paraffin a week?*
Wena, upheka kangaphi ngeveki ngeparafini? ☐☐ ngeveki ☐☐ 26

18) *Do many men smoke cigarettes around here? Ayatshaya amabhinqa amaninzi apha?*

Ewe =1	Hayi =2	☐
Yes =1	No =1	

19) *Do any of your male friends smoke? Bakhona abahlobo bakho abangamabhinqa abatshaya isigarethi?*

Ewe =1	Hayi =2	☐
Yes =1	No =1	

20) *Do many women smoke cigarettes around here? Ayatshaya amabhinqa amaninzi apha?*

Ewe =1	Hayi =2	☐
Yes =1	No =1	

21) *Do any of your female friends smoke? Bakhona abahlobo bakho abangamabhinqa abatshaya isigarethi?*

Ewe =1	Hayi =2	☐
Yes =1	No =1	

22) *So, have you ever smoked a cigarette? Wena wakhe wasitshaya isigarethi?*

Ewe =1	Hayi =2	☐
Yes =1	No =1	

23) *If yes, how many cigarettes do you smoke a week? Ukuba uthi ewe, utshaya zibe ngaphi ngeveki?*
☐☐ ngeveki ☐☐ 31

THE INTERVIEW BEGINS HERE
UPHANDO LUQALA APHA

Qala apha ukubuza imibuzo.

Imibizo malunga nendawo yokuhlala

Ngoku ndiza kukubuza ngeendawo okhe wahlala kuzo nohlala kuyo ngoku.

24) Where were you born? Wazalelwa phi?

Iphondo / Province _____ ☐ 32

25) Were you born in / on? Wazalelwa e-

1	Lalini
2	Fama
3	Kwidolophana
4	Dolophini enkulu

☐

1	Rural Village
2	A Farm
3	A Small Town
4	A Large Town / City

26) Where did you spend most of your childhood? Wakhulela phi (de ube neminyaka eli-10)

1	elalini
2	efama
3	edolophini encinane
4	kwidolophi enkulu
0	Andazi

☐

1	In a rural village
2	On a farm
3	In a small town
4	In a large town / City
0	Don't Know

27) Before you lived here, where did you live? Was it ...? **Read out, single mention**
Ngaphambi kokuba uze kuhlala apha, wawuhlala phi? **Funda nganye**

1	Elalini yokwenyani
2	Kufutshane nedolophini ematyotyombeni
3	Kufutshane nedolophi, endlwini ephucukileyo.

☐ 35

1	In a more rural area
2	An area in or near a town, in a shack / squatter camp
3	An area in or near a town, in a proper house.

28) When did you first come to Cape Town? (If born in Cape Town,, give year of birth)
Waqala nini ukuza edolophini eKapa? Ukuba wazalelwa edolophini nika umnyaka nenyanga)

Umhla 19 ☐☐ ☐☐☐☐ 39

29) *If you were not born in a city, do you still have a house in your homeland or place of birth?*
Ukuba awuzalelwanga dolophini usenayo indlu yakho ezilalini okanye apho wazalelwa khona?

Ewe = 1	Hayi =2	☐
Yes =1	No =1	

30) *Have you spent any time periods away from the city, for at least a full year without a break, since you first arrived here?* Ukhe wahlala ngaphandle kwedolophu isithuba esingaka ngonyaka okoko wafika apha (okanye okoko wazalwa)

Ewe =1	Hayi =2	☐

31) *On average, how long do you spend away from Cape Town every year?*
Ubuncinane uye umke eKapa ithuba elingakanani? ☐☐ Iiveki *weeks* ☐☐ 43

32) *What are the reasons for your absence / leaving Cape Town?* Yintoni eyabangela ukuba umke eKapa?
1. _____ ☐☐ 45
2. _____ ☐☐ 47

33) *Why did you move here originally?* Kwakutheni ukuze uze apha?
1. _____ ☐☐ 49
2. _____ ☐☐

34) *Where do you regard your home as being now?* Uzixelela ukuba liphi ikhaya lakho ngoku?

1	Emaxhoseni	
2	Cape Town	☐

35) *Record type of Dwelling. Chaza indawo ahlala kuyo*

1	Yindlu / ligumbi
2	Umkhukhu / yeyamaplanga kodwa iphucukile
3	Inkampu yabangcuchalazi - indlu
4	Inkampu yabangcuchalazi - ityotyombe / umkhukhu
5	Ihostele
6	Enye (chaza) _____ ☐ 53

1	Proper "Formal" House/ Backroom /Room
2	Shack/Shanty next to formal house (*serviced site)*
3	Squatter camp - Proper house
4	- Shack/ Shanty
5	Hostel
4	Other (specify)……

36) *Which of the following statements apply to you?*
Kwezi nkcaza zilandelayo yiyiphi engqinelana nawe
(Umfundele. Kube kanye.Jija jika uluhlu lwemibuzo.)

1	Ndiwakha emlanjeni okanye edamini elikufuphi amanzi
2	Ndinempompo kwam esebenzis iborehole, iphiko okanye idama
3	Ndinempompo kwam onamanzi asuka kwamasipala ndinamanzi aabalekayo afumaneka kwimpompo
4	Ekufutshane kodwa ayikho endlwini yam

1	I fetch water from a nearby river or dam
2	I have running water in my home supplied by a borehole, windmill or dam.
3	I have running water in my home from a tap connected to a municipal water supply.
4	I only have running water available from a tap available nearby, but not in my home.

37) *Do you have electricity in your home? Unawo umbane endlwini yakho?*

Ewe =1	Hayi =2

38) *If yes, is it turned on? (Ukuba uthi ewe) loo mbane wakho uyasebenza ngoku?*

Ewe =1	Hayi =2

39) *Do you have a telephone in your home? Unayo imfonomfono*

Ewe =1	Hayi =2

57

40) *When did you last visit the following places, even if you did not buy or do anything there? Wagqibela* nini ukuya kwezi ndawo nokuba awuthenganga nto?**(Mfundele uphawule apho kuchaneke khona)**

		1 Andiz-ange	2 Kwiveki ephelileyo	3 Kwinyanga Ephelileyo	4 Kwiinya nga ezi-6	5 Kunyaka ophelileyo	
1	**Egaraji**						58
2	**Ikhemisti**						
3	**Iivenkile / okanye icinema**						
4	**Ibhanki / iBuilding Society**						
5	**Ivenkile yezinto zokusebenza / iHardware**						
6	**Irestyu / iHotele**						63
7	**Ivenkile yeempahla (impahla yamadoda)**						
8	**Ivenkile yeempahla (impahla yamakhoskazi)**						
9	**Ivenkile ethengisa izinto ezisetyenziswa endlini**						
10	**Ivenkile ethengisa iTVs ne radios**						67
11	**Ivenkile ethengisa izihlangu**						
12	**Ivenkile ethengisa ifurniture**						
13	**Ispaza**						
14	**Ishebeen / Tavern**						71

		Never	During last week	During last month	During last 6 mths	Last year
1	**Petrol Station**					
2	**Chemist / Pharmacist**					
3	**Shopping Centre with a cinema**					
4	**Bank / Building Society**					
5	**Shop selling Tools / Hardware**					
6	**Restaurant / Hotel**					
7	**Shop selling men's clothing**					
8	**Shop selling women's clothing**					
9	**Shop selling Household Appliances**					
10	**Shop selling TVs and radios**					
11	**Shop selling shoes**					
12	**Shop selling furniture**					
13	**Spaza**					
14	**Shebeen**					

41) *About how long does it take you to reach the nearest shop that sells food and groceries?*
Kukuthatha ixesha elingakanani ukuya kwivenkile ekufutshane ethengisa ukutya negrosari

1	Ngaphantsi kwemizuzu emi 5
2	Malunga nemizuzu emi-5
3	Malunga nemizuzu eli-10
4	Malunga ne-15 -20 yemizuzu
5	Imizuzu engama-30 nangaphezulu

72

1	Less than 5 minutes
2	About 5 minutes
3	About 10 minutes
4	About 15 to twenty minutes
5	30 minutes or longer

ID NO. ☐☐☐ 3

Intengiso / Ukubhengezwa

42) *Which types of tobacco products are sold in your area?*
Ziziphi iintlobo zecuba ezithengiswayo kwingingqi yakho?

1	Lelenqawe	
2	Lelisongwayo	
3	Lelihlafunwayo	
4	ISnuff	
5	Isigarethi	
6	Ezinye (Chaza) _____	9

1	Pipe tobacco
2	Rolled tobacco
3	Chewing Tobacco
4	Snuff
5	Cigarettes
6	Other (specify)_____

43) *Where can you buy tobacco products from? Unokuzithenga phi imveliso zecuba?*

1	ESupermarket	☐	10
2	KwiGeneral Dealers	☐	
3	KwiGrocery Stores	☐	
4	Ezikhefi	☐	
5	KwiSpaza	☐	
6	Kubathengisi nje	☐	
7	Friends or relatives	☐	16

1	Supermarkets
2	General Dealers
3	Grocery Stores
4	Cafes
5	Spazas
6	Hawkers
7	Other(specify)_____

44) *How much does a pack of 20's cost on average? Ibiza malini ipakethe ye-20?*

R☐,☐☐ (0 = Andazi) ☐.☐☐ 19

45) *How much is it for a single / loose cigarette, on average? Ixabisa malini isigarethi enye?*

R 0,☐☐ (0 = Andazi) ☐☐ 21

46) *Have you ever been given / received free cigarette samples? Wakhe wanikwa iisigarethi zasimahla?*

Ewe = 1	Hayi = 2	Andazi = 3	☐

Yes = 1	No = 2	Don't Know = 3	☐

47) *Are there any events in your area, such as sporting events that have been sponsored by tobacco co.'s?*
Kukho imidlalo ethile kwingingqi yenu exhaswa yinkampani yecuba okanye iisigarethi?

Ewe = 1	Hayi = 2	Andazi= 0	☐

48) *Are there any billboards in your area or at the places you go to?*
Kukho iibilllboards kwingingqi yakho okanye kwiindawo odla ngokuya kuzo?

Ewe =1	Hayi =2	☐

Yiya kumbuzo 49 (Go to)

49) *Which cigarettes or tobacco products are advertised on these billboards?*
Ziziphi iintlobo zesigarethi okanye zecuba ezibhengezwe apha kwezi billboards? _____ ☐☐

_____ ☐☐ 28

50) *Which of these apply to you?*
Yiyiphi ekuchaphazelayo? **Umfundele. Kube kanye ujikajika imibuzo.**

1	Asinaphepha lamihla yonke kwingingqi yethu	
2	Sinephepha elinye kwingingqi yethu, awekho amanye.	
3	Sinephepha lemihlangemihla kunye namanye nje	☐

1	We do not have a daily newspaper available in our area
2	We have just one daily newspaper in our area, and no other newspaper
3	We have a daily newspaper in our area as well as other newspapers

51) *How frequently do you read / listen / watch the following, even if not in own household?* Uzifunda kangaphi / umamele okanye ubukele ezi zinto zilandelayo nangona unokungabi nazo kweyakho indlu ?

		Rhoqo Every-day	Kanye ngeveki Once a week	Kanye ngenyanga Once a month	Kanye ngeenyanga ezi-6 Once every six months	Andikwenzi oko Never	
1	Amaphepha Newspaper						☐ 30
2	Imagazine Magazine(s)						☐
3	ITV Television						☐
4	IRadiyo Radio						☐ 33

Ngoku ndifuna ukukubuza malunga nokukhula kwakho nendawo owawusebenza kuyo ukuba ukhe wasebenza ngaphambili. ***I now want to ask you some questions about when you were growing up and about your workplace if you have ever worked before.***

52) *Do you live in a house where other people smoke cigarettes regularly?*
Uhlala kwindlu apho kutshaywa kakhulu khona?

Ewe =1	Hayi =2	☐ 34

53) *Do you have a job where other people smoke around you?*
Usebenza apho abanye betshaya phambi kwakho?

1 = Ewe	2 = Hayi	3 = Andisebenzi	☐

54) *Does anyone living in your household, including yourself, cough a lot or have a chronic cough?*
Kubantu abahlala nawe ingaba ukhona okhathazwa lukhohlo khohlo? Wena awukhohleli na?

Ewe =1	Hayi =2	☐

Behavioural Intention / Life-Style **Indlela yokuziphatha**

55) *When you were growing up, did any of your family / household members smoke?*
Ukukhula kwakho ukhona owayetshaya kusapho lwakho?

Ewe =1	Hayi =2	☐
Yes =1	No =1	

Yiya kumbuzo 59 (Go to)

56) *If yes, which of your family members smoked?*
Ukuba uthi ewe, ngubani owayetshaya kusapho lwakho? _____ ☐☐ ☐☐ 45

57) *Did they ever smoke around you? Babetshaya phambi kwakho?*

Ewe =1	Hayi =2	☐

58) *Did anyone in your family ever use snuff? Ukhona owakhe wasebenzisa isnuff kowenu?*

Ewe =1	Hayi =2	☐ 47

59) *Which of your family members used snuff?*
Ngubani kusapho lwakho owayesebenzisa isnuff? _____ ☐☐ ☐☐ 51

60) *Were you ever sent to buy cigarettes or snuff for your parents or their friends when you were growing up?*
Wakhe wathunywa isigarethi okanye isnuff ngabazali bakho / abazali babazali bakho okanye abahlobo babo ukukhula

kwakho?

Ewe =1	Hayi =2	

61) *How many regular smokers live in your household now?*
Bangaphi abatshaya isigxina abahlala kwakho ngoku (ungazibali ukuba nawe uyatshaya) ☐ abatshayayo ☐

62) *How many of them are female? Bangaphi ababhinqileyo?* ☐ ☐ 54

63) *How many people in your household use snuff? Bangaphi abantu endlwini yakho abatshaya isnuff?*
☐ abasebenzisa isnuff ☐

64) *So, do you smoke? Even if it is only once in a while or socially?*
Wena, uyatshaya? Nokuba kungezo mini okanye wenza nje?

1 = Ewe	2 = Hayi	3 =Ndanditshaya	☐ 56
Yiya kwimibuzo eluhlaza *(Go to blue questionnaire)*	**Yiya kwimibuzo etyheli** *(Go to yellow questionnaire)*	**Yiya kwimibuzo etyheli**	

PART 2 ICANDELO 2

Emva kwimibuzo yabatshayayo, abangatshayiyo nabasebenzisa isnuff gqithela kule mibuzo.

Social Norms Indlela yasentlalweni

65) What is your opinion of African women using the following? Is it? **Tick the correct response.**
Ucinga ntoni ngabafazi babamnyama abasebenzisa oku kulandelayo? **Phawula impendula echanekileyo.**

		Kuhle kakhulu	kuhle	andinamdla	kubi	kubi kakhulu	
1	Isigarethi						☐ 57
2	Inqawa						☐
3	iSnuff						☐
4	Icuba elihlafunwayo						☐ 60

		Very Good	Good	Alright	Bad	Very Bad
1	Cigarettes					
2	Pipe					
3	Snuff					
4	Chewing Tobacco					

66) *If a bride is known to smoke, will this lower the amount of the lobola?*
Ukuba umtshakazi uyaziwa ukuba uyatshaya oko kungathoba ixabiso lekhazi?

Ewe= 1	Hayi = 2	Andazi = 0	☐

67) *If a bride is known to use snuff, will this lower the amount of the lobola?*
Ukuba umtshakazi uyaziwa ukuba usebenzisa isnuff oko kungathoba ixabiso lekhazi?

Ewe = 1	Hayi = 2	Andazi = 0	☐ 62

68) *Do any of the following people around you smoke cigarettes?* Ukhona kwaba bantu otshaya isigarethi?

		Isigarethi			
		Ewe = 1	Hayi =2	Andazi = 0	
1	Umyeni okanye iqabane lakho				☐ 63
2	Utata				☐
3	Umama				☐
4	Abantwana Abangamantombazana				☐
5	Abantwana abangabafana				☐
6	Oobhuti				☐
7	Oosisi				☐
8	Abahlobo ababhinqileyo abasenyongweni				☐
9	Amabhinqa owaziyo				☐ 71

		Yes	No	Don't Know
1	**Your husband or partner**			
2	**Father**			
3	**Mother**			
4	**Female children**			
5	**Male children**			
6	**Brothers**			
7	**Sisters**			
8	**Friends**			
9	**Work Colleagues (if applicable)**			

69) *Do any of the following people around you use snuff?* Ukhona kwaba bantu usebenzisa isnuff?

		Isnuff			
		Ewe = 1	Hayi =2	Andazi = 0	
1	**Umyeni okaye iqabane lakho**				☐ 72
2	**Utata**				☐
3	**Umama**				☐
4	**Abantwana Abangamantombazana**				☐
5	**Abantwana abangabafana**				☐
6	**Oobhuti**				☐
7	**Oosisi**				☐
8	**Abahlobo ababhinqileyo abasebyongweni**				☐
9	**Amabhinqa owaziyo**				☐ 80

ID NO. ☐☐☐ 3

70) *How would each of the following people react if they saw you smoking?*
Bangaphatheka njani aba bantu ukuba banokukufumana utshaya?

		Isigarethi			
		Kakubi = 1	Akakhathali = 2	Angavuya = 3	
1	**Umyeni okanye iqabane**				☐ 4
2	**Utata**				☐
3	**Umama**				☐
4	**Abantwana abangamantombazana**				☐
5	**Abantwana abangabafana**				☐
6	**Oobhuti**				☐
7	**Oosisi**				☐
8	**Abahlobo ababhinqileyo abasenyongweni**				☐
9	**Amabhinqa owaziyo**				☐ 12

		Negatively	No reaction	Positively
1	**Husband or partner(s)**			
2	**Father**			
3	**Mother**			
4	**Female Children**			
5	**Male Children**			
6	**Brothers**			
7	**Sisters**			
8	**Friends**			
9	**Work Colleagues (if any)**			

71) *How would each of the following people react if they saw you using snuff?*
Bangaphatheka njani aba bantu ukuba banokukufumana usebenzisa isnuff?

		Isnuff			
		Kakubi = 1	**Akakhathali = 2**	**Angavuya = 3**	
1	**Umyeni okanye iqabane**				13
2	**Utata**				
3	**Umama**				
4	**Abantwana abangamantombazana**				
5	**Abantwana abangabafana**				
6	**Oobhuti**				
7	**Oosisi**				
8	**Abahlobo ababhinqileyo abasenyongweni**				
9	**Amabhinqa owaziyo**				21

72) *How do you view a black woman who smokes?* Ulithabatha njani ibhinqa elimnyama elitshayayo?

Andazi= 0	Kakubi = 1	Andikhathali= 2	Ndiyavuya = 3	22

Don't Know = 0	Negatively = 1	No Reaction = 2	Positively = 3

73) *How do you view a black man who smokes* Uyithabatha njani indoda etshayayo?

Andazi= 0	Kakubi = 1	Andikhathali= 2	Ndiyavuya = 3	23

74) *How do you view a black woman who uses snuff?* Umthatha njani obhinqileyo osebenzisa isnuff?

Andazi= 0	Kakubi = 1	Andikhathali = 2	Ndiyavuya= 3

75) *How do you view a black man who uses snuff?* Uyithatha njani indoda esebenzisa isnuff?

Andazi =0	Kakubi = 1	andikhathali =2	Ndiyavuya = 3	25

76) *Would you agree or disagree with the following statements?* Uyangqinelana nezi nkcaza zilandelayo?

c		Ndiyavuma = 1	Andivumi = 2	
1	Ukutshaya kuvumelekile kubafazi abadala			26
2	Yindlela elunguileyo yokuthoba umzimba			
3	Ubomi buyadika (*My life is boring*)			
4	Kulungile kumaChwama. Abelungu namaIndiya kodwa hayi kubafazi babantu abamnyama			
5	Icuba elingaqhumiyo alibonwa njengelibi			
6	ISnuff sinyanga intloko. iintlungu zomqala. ukudakumba nokudinwa kwengqondo.			31

		Agree = 1	Disagree = 2
1	Smoking is acceptable for older women.		
2	Chewing tobacco is a good way to lose weight		
3	I have a boring life (*My life is boring*)		
4	It is okay for coloured, white and asian women to smoke, but not for black women.		
5	Smokeless tobacco is not seen as being taboo.		
6	Snuff can relieve headaches, neck pain, stress and depression.		

77) *How much do you think about the idea that women are equal to men and should be allowed to do whatever a man does?*
Ucinga kangakanani ngalo mlomo wokuba abafazi balingana mnamadoda kwaye mabavunyelwe benze oko kwenziwa ngamadoda

1. Kakhulu	2. Njee	3.Andikhathali	4.Hayi Kangako	5. Andiwucingi	32

Social Influence Ifuthe lasekuhlaleni

78) *How many close female friends do you have here in Cape Town?* ☐☐ ☐☐ 34
Unabahlobokazi abangaphi abasenyongweni kuwe apha eKapa?

79) *How many of them smoke?* Bangaphi abatshayayo ? ☐☐ ☐

80) *How many of them use snuff?* Bangaphi abasebenzisa isnuff? ☐☐ ☐ 36

81) To your knowledge, which brands of cigarettes are smoked mainly by _____? Ngokolwazi lwakho ziziphi iintlobo zesigarethi ezitshaywa kakhulu nga-------?(sebenzisa enye yezi ntlobo zilandelayo)

1	Abafazi		☐☐☐☐40
2	Amadoda		☐☐☐☐
3	Amantombazana		☐☐☐☐48
4	Amakhwenkwe		☐☐☐☐ 52

82) *Is it acceptable for men to smoke in front of whom ever they wish?*
Kwamkelekile na ukuba amadoda atshaye naphambi kukabani na?

Ewe =1	Hayi =2		53

83) *Why?* Ngoba?_____ ☐☐

84) *Is it acceptable for women to smoke in front of whom ever they wish?*
Kwamkelekile na ukuba amabhinqa atshaye naphambi kukabani na?

Ewe =1	Hayi =2		56

85) Why? Ngoba? _____ ☐☐ 58

86) *Is it acceptable for men to use snuff in front of whom ever they wish?*
Kwamkelekile na ukuba amadoda atshaye isnuff phambi kukabani na?

Awasisebenzisi = 3	Ewe =1	Hayi =2	

87) Why? Ngoba? _____ ☐☐

88) Is it acceptable for women to use snuff in front of whom ever they wish?
Kwamkelekile na ukuba amabhinqa asebenzise isnuff naphambi kukabani na?

Ewe =1	Hayi =2	

89) Why? Ngoba?_____ ☐☐

90) *Where do men mostly / usually smoke? (multiple responses acceptable)?*
Amadoda adla ngokutshaya phi kakhulu? (Iimpendulo eziliqela zamkelekile)

1	Awazisebenzisi		
2	Ekhaya	☐	65
3	Ezimokolweni nakwiindawo zentselo	☐	
4	Emsebenzini	☐	
5	Ngasese / ngokuziba / xa bebodwa	☐	
6	Kwizithuthi zikawonke wonke	☐	

91) Where do women usually smoke?
Amabhinqa adla ngokutshaya ndawoni? (Iimpendulo eziliqela zamkelekile)

1	Awazisebenzisi		
2	Ekhaya	☐	70
3	Ezimokolweni nakwiindawo zentselo	☐	
4	Emsebenzini	☐	
5	Ngasese / ngokuziba / xa bebodwa	☐	
6	Kwizithuthi zikawonkewonke	☐	
7	Kwizimdlu zangasese / egumbini lokuhlamba	☐	75

92) *Where do men usually use snuff?*
Amadoda adla ngokusisebenzisela phi isnuff? (Iimpendulo eziliqela zamkelekile)

1	Awazisebenzisi	
2	Ekhaya	☐ 76
3	Ezimokolweni nakwiindawo zentselo	☐
4	Emsebenzini	☐
5	Ngasese / ngokuziba / xa bebodwa	☐
6	Kwizithuthi zikawonkewonke	☐ 80

ID NO. ☐☐☐ 3

93) Where do women usually use snuff?
Amabhinqa adla ngokusisebenzisa phi isnuff? (Iimpendulo eziliqela zamkelekile)

1	Awazisebenzisi	
2	Ekhaya	☐ 4
3	Ezimokolweni nakwiindawo zentselo	☐
4	Emsebenzini	☐
5	Ngasese / ngokuziba / xa bebodwa	☐
6	Kwizithuthi zikawonkewonke	☐
7	Kwizindlu zangasese/ kwigumbi lokuhlamba	☐ 9

Attitude

94) *What sort of affect do you think smoking has on a person's health?*
Ucinga ukuba ukutshaya kwenza ntoni empilweni yomntu?

1.Very Good	2. Good	3. No Effect	4. Bad	5. Very Bad	
Ilunge kakhulu	*Ilungile*	*Akwenzi nto*	*Ayilunganga*	*Ayilunganga konke*	☐

95) *Why do you think that women smoke?*
Ngokokwakho zinto zini ezibalulekileyo ngokutshaya (ukuba zikho)

_____ ☐☐
_____ ☐☐ 14

96) *In your opinion what are the negative effects, if any, of smoking?*
Ngokokwakho zinto zini ezingalunganga ngokutshaya, ukuba zikho?

_____ ☐☐
_____ ☐☐ 18

97) *Why do you think that women use snuff?*
Ngokokwakho zinto zini ezibalulekileyo ngokutshaya isnuff ukuba zikho?

_____ ☐☐
_____ ☐☐ 22

98) *In your opinion what are the negative effects, if any, of using snuff?*
Zinto zinti ezingalunganga malunga nokutshaya isnuff, ukuba zikho?

_____ ☐☐
_____ ☐☐ 26

99) *I will read you a number of statements that may or may not apply to the people living around you here. For each one, please tell me whether you agree or disagree that it applies to the people in this area.*
Ndiza kukufundela iinkcaza eziliqela ezinokuba zizinto ezenzekayo apho okanye ezingenzekiyo.
Ndifuna undixelele kwinkcaza nganye ukuba uyavumelana nayo kusini na.

	People around here: **Abantu apha:**	***Agree*** **Ndiyavuma**	***Disagree*** **Andivumi**	
1	*Do not know much about events elsewhere in the country* Abazi nto kangako malunga nezinto eziqhubeka kwamanye amazwe			☐ 27
2	*Do only a limited number of things in their day-to-day lives* Benza izinto ezimbalwa zesiqhelo			☐
3	*Are concerned mainly with having enough to eat* Bajonge nje ukuba balale betyile			☐
4	*Are concerned mainly with money* Bazijongele imali kuphela			☐
5	*Are concerned mainly with old age* Bazijongele ukuguga			☐ 31

Religion **Inkolo**

100) *Are you a member of a church or religion?* Ulilungu lecawe?

Ewe =1	Hayi =2	☐ 32

101) *Which one?* Eyiphi? _____ ☐☐ 34

102) *How many years have you been a member?* Uneminyaka emingaphi ulilungu? ☐☐ ☐☐

103) *How often do you attend church or religious gatherings?*
Uya kangaphi ecaweni okanye kwiintlanganiso zecawe ngeveki? ☐☐ per month ☐☐

104) *What does your religion say about smoking? Does it agree or disagree with smoking?*
Ithini inkonzo yakho malunga nokutshaya? Iyangqinelana nakho okanye hayi?

Iyangqinelana =1	Ayingqinelani =2	☐ 39

105) *What do you think of these teachings?* Ucinga ntoni ngale mfundiso?

1.Very Good *Intle kakhulu*	2. Good *Intle*	3. Neutral *Andinaluvo*	4. Bad *Ayilunganga*	5. Very Bad *Ayilunganga konke*	☐

106) *What does your religion say about using snuff? Does it agree or disagree with using snuff?*
Ithini inkonzo yakho ngokusebenzisa isnuff? Iyavumelana noko okanye hayi?4

Iyavuma=1	Ayivumi =2	☐

107) *What do you think of these teachings?* Ucinga ntoni ngale mfundiso?

1.Very Good *Intle kakhulu*	2. Good *Intle*	3. Alright *Ilungile*	4. Bad *Ayilunganga*	5. Very Bad *Ayilunganga konke*	☐ 42

Education **Imfundo**

108) *What is the highest standard you passed at school?* Ufunde kangakanani?
Liliphi inqanaba eliphezulu oliphumelelelyo?

1	Andifundanga / No education
2	NguSub-A / Class 1
3	NguSub B / Class 2
4	NguStd 1
5	NguStd 2
6	NguStd 3
7	NguStd 4
8	NguStd 5
9	NguStd 6 / Form I
10	NguStd 7 / Form II
11	NguStd 8 / Form III / NTC I / J.C.
12	NguStd 9 / Form IV / NTC II
13	NguStd 10 / Form V / S.C.

☐☐ 44

Employment **Inggesho**

109) *Do you work for money or goods at all?* Usebenzela imali okanye impahla (andisebenzi = 00)?

Ewe =1	Hayi =2

☐

Yiya kumbuzo 115 (Go to)

110) *Are you a ____?* Ungu -

1	Mfazi ohlala ekhaya
2	Mfundi
3	Mntu okhubazekileyo (akunakusebenza)
4	Akuqeshwanga (akunakusebenza)
5	Udla umhlalaphantsi
6	Okunye (Chaza)_____

☐

111) *Are you looking for work?* Ukhangela umsebenzi?

Ewe =1	Hayi =2

☐ 47

Yiya kumbuzo 115 (Go to)

112) *For how long have you been unemployed?* Lithuba elingakanani ungase benzi?

Time period: ☐☐ *Years* Iminyaka ☐☐ *Months* Iinyanga ☐☐ ☐☐ 51

113) (i) *Describe your last job:* Chaza umsebenzi wakho wokugqibela_____ ☐☐ 53

Yiya kumbuzo 143 (Go to)

114) (i) *Describe the work you do for…* Chaza umsebenzi owenzela…

1 = Money Imali	2 = Goods Impahla	3 = Both Zombini	00 = Not Applicable Andisebenzi

☐

_____ ☐☐

(*e.g. shopkeeper, painter, taxi / bus-driver, salesman, gardener, builder*)
(umz. unovenkile, ngumpeyinti, umqhubi weteksi / webhasi, umthengisi, unogadi, umakhi)

115) *Do you send money / goods to anyone back home (not in city)?*
Uyayithumela imali okanye iimpahla ekhaya?

Ewe =1	Hayi =2

☐ 57

116) *What is your personal monthly income (after tax), whether you get it from your work, your children, your husband or whoever??* Wamkela malini ngenyanga nokuka uyinikwa ngabantwana bakho, umyeni wakho, okanye ndcuba ngubani? **(Bonisa ophendulayo amakhadi anemivuzo yenyanga)**

0	Andazi
1	R1 - R99
2	R100 - R199
3	R200 - R299
4	R300 - R399
5	R400 - R499
6	R500 - R599
7	R600 - R699
8	R700 - R799
9	R800 - R899
10	R900 - R999
11	R1000 and above
12	Uyala ukuphendula

☐☐ 59

117) *Where or from which sources do you get most of your own spending money*? Uyifumana phi imali ikakhulu?

_____ ☐☐

118) *How many people including your children (if any) are dependent on you / do you have to support?* Bangaphi abantwana bakho kudityaniswa nawe abaxhomekeke kuwe ukuba bakhona / bangaphi abantu obondlayo?

☐☐ abantwana ☐☐ 63

119) *Taken together, what is the total amount of money that is earned through various economic activities, & received from official sources,relatives and friends,by all household members in an average month.* Xa idibene yonke yimalini eniyifumanayo ngenyanga kudibene naleyo niyiphiwa zizizalwane naleyo ivela kumagosa karhulumente **(Bonisa ophendulayo amakhadi anemivuzo yenyanga)**

0	Andazi
1	R1 - R199
2	R200 - R399
3	R400 - R599
4	R600 - R799
5	R800 - R999
6	R1000 - R1199
7	R1200 - R1399
8	R1400 - R1599
9	R1600 - R1799
10	R1800 - R1999
11	R2000 and above
12	Uyala ukuphendula

☐☐ 65

THANK YOU VERY MUCH FOR TAKING PART IN THIS STUDY. WE APPRECIATE YOUR TIME AND EFFORT. AS A SMALL TOKEN OF OUR APPRECIATION, WE GIVE YOU THIS KEY-RING AND A SAMPLE OF A SWANKIE LOOK BODY LOTION.

For check back purposes, would you be willing to give a contact telephone number where my supervisor could get hold of you to check that I was here? Tel: _____ Name: _____

NON-SMOKER'S QUESTIONNAIRE IMIBUZO YABANGATSHAYIYO

Ask these questions to non-smokers only. Buza le mibuzo kwabangatshayiyo

ID NO. ☐☐☐ 3

NS1) *I understand that you do not smoke, but tell me was there ever a time in your life when you smoked, even if it was just once or occassionally?* Ndiyazi ukuba akutshayi, kodwa ndifuna ukuqonda ukuba wakhe watshaya na, nokuba kwakukanye okanye usenza nje?

Ewe =1	Hayi =2	☐

Yiya kumbuzo NS5 (Go to)

NS2) ***(If yes)*** *How old were you when you first tried a cigarette?*
(Ukuba uthi ewe) wawungakanani ukuqala kwakho isigarethi? ☐☐ iminyaka ubudala ☐☐

NS3) *How many cigarettes do you think that you used to smoke per week?*
Zingaphi iisigarethi owawuzitshaya ngeveki? ☐☐☐ iisigarethi ☐☐☐

NS4) *Why do you not smoke anymore?* Kutheni ungatshayi nje ngoku?_____ ☐☐ 11
_____ ☐☐

NS5) *Some people smoke, and some people don't. Now thinking about yourself - do you ever think about starting to smoke, or is it something you don't think about at all?* Abanye abantu bayatshaya, abanye abatshayi. Cinga ngawe - ukhe ucinge ukuba uqalise ukutshaya, okanye yinto ongayicingi tu.

1	Ndicinga ngayo maxa wonke
2	Ndicinga ngayo kakhulu
3	Andicingi ngayo kakhulu
4	Andicingi ngayo tu

☐ 14

1	I think about it all the time
2	I think about it a lot
3	I don't think about it a lot
4	I don't think about it at all

☐ 14

NS6) *I' m going to read you three ststements about smoking. Please tell me which one is the closest to your opinion.* Ndiza kukufundela iinkcaza ezi-3 malunga nokutshaya. Nceda undixelele ukuba yiyiphi esondeleyo kwimbono yakho.

1	Zininzi zizathu zokuqalisa ukutshaya
2	Zininzi izizathi zokungatshayi
3	Zikho zombini: Zininzi izizathu zokungaqalisi zikwaninzi nezokuqalisa ukutshaya

☐

1	There are many reasons to start smoking
2	There are many reasons never to start smoking
3	Bit of both: reasons to start and also reasons never to start smoking

☐

NS7) *I want you to think about all the different things you do in your life for pleasure. Now think about smoking - how much pleasure do you think that you would get from smoking?*
Ndifuna ucinga ngazo zonke izinto ozenzayo zokuzonwabisa. Ngoku cinga ngokutshaya - ucinga ukuba kungakonwabisa kangakanani ukutshaya?

1	Ndicinga ukuba ndingakonwabela ngaphezu kwento yonke.
2	Ndingakonwabela kakhulu kodwa kukho nezinye izinto ndingazonwabela nangaphezulu.
3	andinako ukukonwabela, zininzi iznto ezibhetele.
4	Andinakho ukukonwabela tu.

1	I would be one of the things I would enjoy the most
2	I would enjoy it a lot but there are other things I would enjoy more
3	I wouldn't really enjoy it, other things are better
4	I wouldn't enjoy it at all

NS8) *You are a person who does not smoke. I am going to read three statements. Please tell me which one comes closest to how you feel:* Ungumntu ongatshayiyo. Ndiza kukufundela iinkcaza ezi-3. Nceda undixelele ukuba yiyiphi esondeleyo kwindlela oziva ngayo.

1	Ndingaphatheka kakubi ukuba ndingatshaya.
2	Ndingavuya ukuba ndingatshaya
3	Zikho zombini: ndinokuva kakubi kanti ke ndingakonwabela kananjalo.

17

1	I would feel bad about myself if I started smoking
2	I would feel good about myself if I started smoking
3	Bit of both: in some ways I would feel good but in others I would feel bad

NS9) *Suppose you started to smoke: I am going to read two statements. Which one do you think would be most like you?* Masithi uyaqalisa ukutshaya: Ndiza kukufundela iinkcaza ezimbini:. Yiyiphi ocinga ukuba ihambisana nawe?

Ukutshaya kungahambisana nempilo yam:

1	Kakuhle kakhulu okanye
2	Kancinci

18

Smoking would fit into my life:

1	Very well
2	Just a little
3	Not at all

18

Ukutshaya kungayonakalisa impilo yam:

1	Maxa wonke okanye
2	Kancinci

19

Smoking would interfere with my life:

1	All the time
2	Just a little

19

NS10) *Do you think that you _____?* Ucinga ukuba _____?

1	Akunakuphinda utshaye kwakhona	**Yiya kumbuzo (a) ngezantsi**
2	Ndinokuzama ngenye imini	**Yiya kumbuzo (b) ngezantsi**
3	Ndiyafuna ukutshaya kodwa ngenxa yezizathu ezithile andinako	**Yiya kumbuzo (c) ngezantsi**

☐ 20

(a) *Why?* Ngoba? _____

_____ **Yiya kumbuzo NS11** ☐☐ 22

(b) *What do you think could make you try one day?*
Yintoni ocinga ukuba ingakwenza uzame kwakhona ngenye imini? _____

_____ **Yiya kumbuzo NS11** ☐☐

(c) (i) *Why do you want to smoke?* Kutheni ufuna ukutshaya nje? _____

_____ ☐☐ 26

(ii) *Why can you not smoke even though you want to?* Kutheni ungenakutshaya nangona ufuna nje? _____

_____ ☐☐

NS11) *Do you think that there is anything that could ever make you become a regular smoker?*
Ucinga ukuba ikhona into enokukwenza utshaye rhoqo?

Don't Know = 9	Ewe =1	Hayi =2	☐

NS12) ***(If yes)*** *What?* Ukuba uthi ewe yintoni? _____

_____ ☐☐ 31

NS13) *So, do you use snuff? Even if it is only once in a while or socially?*
Uyasisebenzisa isnuff nokuba kungelo xesha nje?

Ewe =1	Hayi =2	☐ 32
Yiya kumbala pink *(Go to pink questionnaire)*	**Buyela kwicandelo 2 (limhlophe)** *(Return to Part 2)*	

SMOKERS QUESTIONNAIRE IMIBUZO YABATSHAYAYO

Ask this questionnaire to smokers only. Buza le mibuzo kwabatshayayo qha

ID.NO. ☐☐☐ 3

S1) *How many cigarettes do you think you smoke per week?*
Zingaphi iisigarethi owawuzitshaya ngeveki? ☐☐☐ iisigarethi ☐☐☐

S2) *Where do you usually smoke?* **(multiple mentions)** Udla ngokutshayela ndawoni (iimpendulo eziliqela)

1	Ekhaya	☐
2	Esimokolweni nakwiindawo zentselo	☐
3	Emsebenzini	☐
4	Ngasese / xa ndindedwa	☐
5	Ngokuziba	☐
6	Kwizithuthi zikawonkewonke	☐
7	Kwigumbi langasese / kwigumbi lokuhlamba	☐
8	Ezinye (chaza) _____	☐ 14

S3) *What makes you able to smoke in these places?* Kutheni utshaya kwezi ndawo nje?_____ ☐☐
_____ ☐☐

S4) *Where will you not smoke?* Yiyiphi indawo ongenakutshaya kuyo? **(Iimpendulo eziliqela)**

1	Ekhaya	☐
2	Esimokolwezni nakwiindawo zentselo	☐
3	Emsebenzini	☐
4	Ngasese / xa ndindedwa	☐
5	Ngokuziba	☐
6	Kwizithuthi zikawonkewonke	☐
7	Phambi kwabantu abadala	☐
8	Kwindlu yangasese nakwigumbi lokuhlamba	☐
9	Ezinye (Chaza)) _____	☐ 27

S5) *Why will you not smoke there?* Kutheni ungenakutshaya apho?_____ ☐☐
_____ ☐☐

S6) *With who do you usually smoke?* Udla ngokutshaya nabani?

1	Usually smoke alone	☐
2	Nabahlobo	☐
3	Nendisebenza nabo	☐
4	Neqabane	☐
5	Nabazali nosapho	☐
6	Ezinye (Chaza) _____	☐ 37

S7) *With whom do you not smoke?* Ngubani ongenakutshaya naye?

1	Nabahlobo	☐
2	Nendisebenza nabo	☐
3	Neqabane	☐
4	Nabazali nosapho	☐
5	Ezinye (Chaza) _____	☐ 42

S8) *Why can you not smoke around these people?* Kutheni ungenakutshaya phambi kwaba bantu?

_____ ☐☐ 44

_____ ☐☐ 46

S9) *Do you ever get annoyed by other people criticising your smoking habit?*
Uyacaphuka xa abanye abantu begxeka indlela otshaya ngayo?

Andazi = 0	Ewe =1	Hayi = 2	☐ 47

S12) *Why do you smoke?* Kutheni utshaya?_____

_____ ☐☐

S13) *What made you start smoking?* Yintoni eyakwenza utshaye?_____

_____ ☐☐ 51

S14) *In what quantities do you usually buy cigarettes?* ***(multiple mentions)***
Uzithenga kangakanani iisigarethi? **(iimpendulo eziliqela)**

1	Nganye nganye	☐
2	10's	☐
3	20's	☐
4	30's	☐
5	Iibhokisi ezina-10	☐
6	Ezinye (Chaza) _____	☐ 57

S15) *Where do you usually buy your cigarettes from?* ***(multiple mentions)***
Uzithenga phi iisigarethi zakho **(iimpendulo eziliqela)**

1	eSupermarket	☐
2	Kwigeneral dealer	☐
3	Kwigrocery store	☐
4	Ekhefi	☐
5	eSpaza	☐
6	KwiiHawkers	☐
7	Friend or relative	☐ 64

S16) *How often do you buy cigarettes?* Uzithenga kangaphi iisigarethi?

1	Mihla le	
2	Ngeveki	
3	Ngenyanga	
4	Xa ndinemali	☐ 65

S17) *Which brands / makes of cigarettes do you mainly smoke?* Ziziphi iisigarethi ozitshayayo?

_____ ☐☐☐☐ 69

S18) *So would you say you* _____*?* Ke ngoku ungathi ?

1	Mihla le		
2	Maxa wambi	**yiya kumbuzo Q S20**	☐ 70

S19) *On average, what number of the following items do you smoke daily?*
Utshaya zibe ngaphi kwezi zilandelayo ngosuku

Iisigarethi ezenziwe efektri	____ manufactured cigarettes	☐☐
Iizoli	____ hand-rolled cigarettes	☐☐
Inqawe	____ pipe-fulls of tobacco	☐☐

S20) *Would you like to be able to smoke more than you do now?*
Ungathanda ukutshaya ngaphezu kokuba usenza ngoku?

Ewe =1	Hayi =2		
		☐	77

S21) *Do you feel that smoking is having any effect on your personal health?*
Ucinga ukuba ukutshaya kuyayichaphazela impilo yakho?

Ewe =1	Hayi =2		
		☐	78

S22) *If yes, how so?* Ukuba uthi ewe njani?_____

_____ ☐☐ 80

ID.NO. ☐☐☐ 3

S23) *Do you believe that you could stop smoking at any time if you wished to do so?*
Uyakholelwa ukuba ungayeka nanini ana ukutshaya ukuba uyafuna?

Ewe =1	Hayi =2	
		☐

S24) ***(If no)*** *Why not?* (Ukuba uthi hayi) ngoba?_____

_____ ☐☐

S25) *How old were you when you smoked your first cigarette??* Waqala nini ukutshaya? ☐☐ Iminyaka ☐☐ 8

S26) *Some people smoke and some people don't. Now thinking about yourself - do you ever think about giving up smoking, or is it something that you don't think about at all?*
Abanye abantu bayatshaya kwaye abanye abatshayi. Ngoku xa ucinga ngawe - Ukhe ucinga ngokuyeka ukutshaya, okanye yinto ongacingi tu ngayo?

1	Ndiyacinga ngayo maxa wonke	
2	Ndicinga ngayo kakhulu	
3	Andicingi ngayo kakhulu	
4	Andicingi ngayo tu	☐ 9

1	I think about it all the time	
2	I think about it a lot	
3	I don't think about it a lot	
4	I don't think about it at all	☐ 9

S27) *I' m going to read you three ststements about smoking. Please tell me which one is the closest to your opinion.* Ndiza kukufundela iinkcaza ezintathu malunga nokutshaya. Ndixelele ukuba yiyiphi esondele kakhulu kwimbono yakho

1	Kunezizathu ezininzi zokuyeka ukutshaya	
2	Kunezizathu ezininzi zokuqhuba utshaya	
3	Zikho zombini: Kunezizathu ezininzi zokuyeka kwaye zikwaninzi nezokungayeki.	☐

1	There are many reasons to stop smoking
2	There are many reasons to carry on smoking
3	Bit of both: reasons to stop and carry on smoking

☐

S28) *When you think about all the different things you do in your life for pleasure, where does smoking fit in?* Xa ucinga ngazo zonke izinto ozenzayo ebomini bakho zokuzonwabisa, ukutshaya kunxa yiphi?

1	*Kuyenye yezinto endizonwabela kakhulu*
2	Ndiyakonwabela kodwa kukho nezinye endizonwabela kakhulu
3	Andikonwabeli, zininzi izinto ezibhetele.
4	Andikonwabeli tu.

☐

1	It is one of the things I enjoy the most
2	I enjoy it a lot but there are other things I enjoy more
3	I don't really enjoy it, many other things are better
4	I don't enjoy it at all

☐

S29) *You are a person who smokes. I am going to read you three statements. Please tell me which one comes closest to how you feel .* Ungumntu otshayayo. Ndiza kukufundela iinkcaza ezintathu. Nceda undixelele ukuba yiyiphi esondeleyo kolu hlobo uva ngalo

1	It would
2	Ukutshaya kundenza ndizive ndizisola - ndinqwenela ukuyeka.
3	Zikho zombini: nghendlela ethile kundenza ndizive ndidlamkile, kanti ke ngezinye kundenza ndizive ndizisola

☐ 12

1	Smoking makes me feel good about myself
2	Smoking makes me feel bad about myself
3	Bit of both: smoking makes me feel good and bad about myself

☐

S30) *I am going to read you two statements. Which one do you agree with most?*
Ndiza kukufundela iikcaza ezimbini. Yiyiphi ongqinelana nayo kakhulu?

Ukutshaya kuhambisana nempilo yam:

1	Kakuhle okanye
2	Kancinci

☐ 13

Smoking fits into my life:

1	Very well
2	Just a little

☐ 13

Ukutshaya kuphazamisa impilo yam:

1	Maxa wonke okanye
2	Kancinci

☐

Smoking interfere's with my life:

1	All the time
2	Just a little

☐

S31) *Do you want to carry on smoking?* Uyafuna ukuqhubeka nokutshaya?

Ewe =1	Hayi =2

☐ 15

S32) ***(If yes)*** *For how long?* (kuba uthi ewe) ixesha elingakanani?

1	Umphelo
2	De ndicinge ukuyeka
3	Iinyanga ezimbalwa
4	Iminyaka embalwa
5	Okunye (Chaza) _____
0	Andazi

☐ 16

S33) *Have you ever tried to quit smoking?* Wakhe wazama ukuyeka?

Ewe =1	Hayi =2

☐ 17

S34) Were you successful? Waphumelela?

Ewe =1	Hayi =2

☐

S35) *What, if anything, would make you stop smoking?* Yintoni enokukuyekisa?_____

_____ ☐☐ 20

S36) *So, do you use snuff? Even if it is only once in a while or socially?*
Uyasisebenzisa isnuff? Nokuba kukanye emva kwethuba elide?

Ewe =1	Hayi =2

☐ 21

Yiya kwimibuzo esephepheni elityheli *(Go to pink questionnaire)*

Buyela kwicandelo 2 (limhlophe) *(Return to white - Part 2)*

SNUFF USERS QUESTIONNAIRE IMIBUZO YABATSHAYA ISNUFF

ID NO. ☐☐☐ 3

U1) *Do you use any of the following regularly? (i.e. every day or at least once a week)*
Uyazisebenzisa ezi ilandelayo rhoqo? (yonke imihla le okanye kanye ngeveki)

		Ewe	Hayi	
1	Isnuff			☐
2	icuba elihlafunwayo			☐
3	Inqawa			☐

U2) *Have you ever used snuff daily?* Wakhe wasisebenzisa isnuff yonke imihla?

Ewe =1	Hayi =2		
		☐	7

Yiya kumbuzo U9

U3) *On average what no. of the following items do / did you use per day?*
Wawusebenzisa zibe ngaphi kwezi zilandelayo ngosuku?

		Inani	
1	iSnuff (ngomlomo)		☐☐
2	iSnuff (ngempumlo		☐☐
3	icuba elihlafunwayo		☐☐

U4*) Do you now use snuff* _____*?* Uyasisebenzisa ngoku isnuff_____?

1	Mihla yonke		
2	Maxa wambi	**Yiya kumbuzo U8**	
3	Nakancinci	**Yiya kumbuzo U8**	☐

U5) *For how long have you used snuff daily?* Unexesha elingakanani usebenzisa isnuff?

1	Ngaphantsi konyaka	
2	Unyaka okanye ngaphezulu kodwa ngaphantsi kwemibini	
3	2 okanye ngaphezulu kodwa ngaphantsi kwemi-3	
4	3 okanye ngaphezulu kodwa ngaphantsi kwemi-5	
5	5 okanye ngaphezulu kodwa ngaphantsi kwe-8	
6	8 okanye ngaphezulu kodwa ngaphantsi kwe-12	
7	12 okanye ngaphezulu kodwa ngaphantsi kwe-15	
8	15 nangaphezulu	☐ 15

U8 (I) Would you like to be using nuff more than you do? Uyafuna ukuqhubeka?

Ewe =1	Hayi =2	
		☐

U6) How long has it been since you last used snuff? Wagqibela nini ukusebenzisa isnuff?

1	Usuku
2	Ngaphantsi kweveki
3	Ngaphantsi kwenyanga
4	Inyanga nangaphezulu kodwa ngaphantsi kweenyanga ezi-6

5	Iinyanga ezi-6 nangaphezulu kodwa ngaphantsi konyaka	
6	Unyaka nangaphezulu kodwa ngaphantsi kwemi-5	
7	5 nangaphezulu kodwa ngaphantsi kweli-10	
8	10 nangaphezulu	☐ 17

U7) *Where do / did you usually use snuff?* Wawudla ngokusisebenzisa phi isnuff?

1	Ekhaya	☐ 18
2	Ezimokolweni nakwiindawo zentselo	☐
3	Emsebenzini	☐
4	Xa ndindedwalone	☐
5	Ngokuzifihla	☐
6	Kwizithuthi zikawonkewonke	☐
7	Okunye (cacisa)_____	☐ 24

U8) *Where will / would you not use snuff?* Yiyiphi indawo ongenakusebenzisa kuyo isnuff?

1	Ekhaya	☐
2	Ezimokolweni nakwiindawo zentselo	☐
3	Ekhaya	☐
4	Xa ndindedw	☐
5	Ngokuzifihla	☐
6	Kwizithuthi zikawonkewonke	☐
7	Phambi kwabantu abadala	☐
8	Okunye (chaza)_____	☐ 32

U9) *Why will / would you not use snuff in these places?* Kutheni ungenakusebenzisa isnuff kwezi ndawo?

_____ ☐☐

_____ ☐☐ 36

U10) *With whom do / did you usually use snuff?* Udla ngokusisebenzisa nabani?

1	Nabahlobo	☐
2	Nendisebenza nabo	☐
3	Neqabane	☐
4	Nabazali nosapho	☐
5	Abanye (chaza))_____	☐ 41

U11*) With whom do / did you not use snuff?* Ngubani ongenakusisebenzisa naye isnuff?

1	Ngabahlobo	☐
2	Nendisebenza nabo	☐
3	Neqabane	☐
4	Nabazali nosapho	☐
5	Abanye (Chaza) _____	☐ 46

U12) *Why can / could you not use snuff around these people?*
Kutheni ungenakusebenzisa isnuff phakathi kwaba bantu? _____

_____ ☐☐ 48

U13) *Why do / did you use snuff?* Kutheni usebenzisa isnuff?_____

_____ ☐☐

U14) *What made you start using snuff*? Yintoni eyabangela ukuba usebenzise isnuff? _____

_____ ☐☐ 52

U15) *In what quantities do / did you usually buy snuff?* Udla ngokusithenga kangakanani?_____

_____ ☐☐ 54

U16) *Where do / did you usually buy snuff from?* Udla ngokusithenga phi?

1	ESupermarket	☐	55
2	eGeneral dealer	☐	
3	KwiGrocery store	☐	
4	Ekhefi	☐	
5	eSpaza	☐	
6	Kwihawkers	☐	
7	Friends & relatives	☐	61

U17) *At what age did you start using snuff?* Waqala nini ukusebenzisa isnuff ? ☐☐ iminyaka ☐☐

Uchanile = 1	Uyaqikelela = 2	☐	64

IF RESPONDENT HAS ALREADY GIVEN UP USING SNUFF, THEN RETURN TO PART 2
UKHUBA UMBUZWA WAYEKA UKUSEBENZISA ISI SNUFF, PHINDELA KWICANDELO 2 LEMIBUZO (LIMHLOPHE)

U18) *Do you intend to carry on using snuff?* Ufuna ukuqhubeka nokusebenzisa isnuff?

Ewe =1	Hayi =2	☐

U19) ***(If yes)*** *For how long?* Ukuba uthi ewe, ithuba elingakanani?

1	Umphelo	☐	66
2	De ndicinge ukuyeka		
3	Iinyanga ezimbalwa		
4	Iminyaka embalwa		
5	Okunye (Chaza)_____		
9	Andazi		

U20) *Have you ever tried to quit using it?* Wakhe wazama ukuyerka?

Ewe =1	Hayi =2	☐	67

U21) *What would make you stop using snuff?* Yintoni enokukuyekisa?_____

_____ ☐☐

U22) *Do you believe that you could stop using snuff at any time if you wished to do so?*
Ucinga ukuba ungasiyeka nanini na ukuba ucinge njalo?

Ewe =1	Hayi =2	☐

U23) ***(If no)*** *Why not?* Ukuba uthi hayi, ngoba?_____

_____ ☐☐ 72

PHINDELA KWICANDELO 2 LEMIBUZO (LIMHLOPHE)

RETURN TO PART 2 OF THE QUESTIONNAIRE (WHITE)

QUESTION 116

0	Andazi
1	R1 - R99
2	R100 - R199
3	R200 - R299
4	R300 - R399
5	R400 - R499
6	R500 - R599
7	R600 - R699
8	R700 - R799
9	R800 - R899
10	R900 - R999
11	R1000 and above
12	Uyala ukuphendula

QUESTION 119

0	Andazi
1	R1 - R199
2	R200 - R399
3	R400 - R599
4	R600 - R799
5	R800 - R999
6	R1000 - R1199
7	R1200 - R1399
8	R1400 - R1599
9	R1600 - R1799
10	R1800 - R1999
11	R2000 and above
12	Uyala ukuphendula

Appendix F – Fieldworkers' Manual

FIELDWORKERS' MANUAL

INTRODUCTION

This manual is to help you both during the training and while you are in the field.

Your work as a fieldworker will involve the following tasks:

(1) Finding specific sites (plots) in the areas of Khayelitsha which have been chosen for the

study.

(2) Selecting people for the study from the site once you have found it.

(3) Asking these people the questions from the questionnaire.

This manual is a guide to the methods and rules you will use for all these tasks except that of administering the questionnaire. You will be given a separate manual for this.

EQUIPMENT YOU SHOULD HAVE

1. a 30cm pencil case
2. a sharpener
3. 2 HB pencils
4. a clipboard
5. Maps of areas visiting

SAMPLING INSTRUCTIONS

Selecting specific sites and people for the study in the correct way is just as important as asking the questions. The process of selecting people for a study is known as sampling.

What is sampling ?

When we do research we want to find out information about a specific group of people. We call this group the study population. In this initial study, the study population is all the people who live in Khayelitsha.

We want to find out as much about the study population as possible regarding the subject we are researching. One way of doing this would be to interview every person Khayelitsha, but this would be very difficult as it would take up too much time and money and it would be almost impossible to find every single person and interview them.

A more practical way to get information is to select people from a population who best represent that population as a whole. This is called sampling and can be just as good as using the whole population if done correctly. The group of people chosen for the study is called the sample.

Different methods can be used to select a sample from a population. The methods used depend on many things such as the size of the population and the subject being researched.

SAMPLE FOR THIS STUDY

The sample for this study has already been selected. There are 330 respondents, 90 of which will be used to test the questionnaire.

The sample has been selected so that the people to be interviewed are spread out evenly throughout Khayelitsha. We call the people that will be interviewed respondents and in this study all the respondents must be female and Xhosa speaking.

We want to interview 80 people from areas with formal housing and services, 80 people from areas with informal housing and services, and 80 people from areas with informal housing and no services. We must also ensure that half the people in each area (40 out of the 80) are between the ages of 11 and 24 years, while the other half are between the ages of 25 and 65 years.

This method of ensuring a certain number of respondents are interviewed that all between a certain age group, is called a quota. Usually, it is left up to the interviewers to fill in quota forms and ensure that the right number of each age group is interviewed for the study. However, for this study the exact description of the respondent that must be interviewed will be clearly marked on the cover page of each questionnaire.

The sampling has been designed in theory but the fieldworkers will make sure it is carried out in practice. The methods and rules in this manual have been worked out to help you to do this. Following these methods and rules may at times seem difficult and unnecessary, but the success of the study depends on it.

SAMPLING METHODS AND RULES

We will now discuss how you will go about sampling.

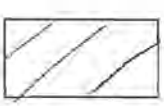
Sampling will now involve: (1) Finding a marked site in the township.

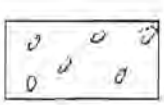
(2) Selecting people from the site.

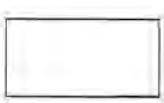
1. FINDING A MARKED SITE IN THE TOWNSHIP

The sites are plots which have been chosen for the study and have been marked on housing maps. They are all residential plots and are either formal or informal, and serviced or unserviced. The instructions below will explain which areas of Khayelitsha have been randomly chosen and how you must go about finding each site.

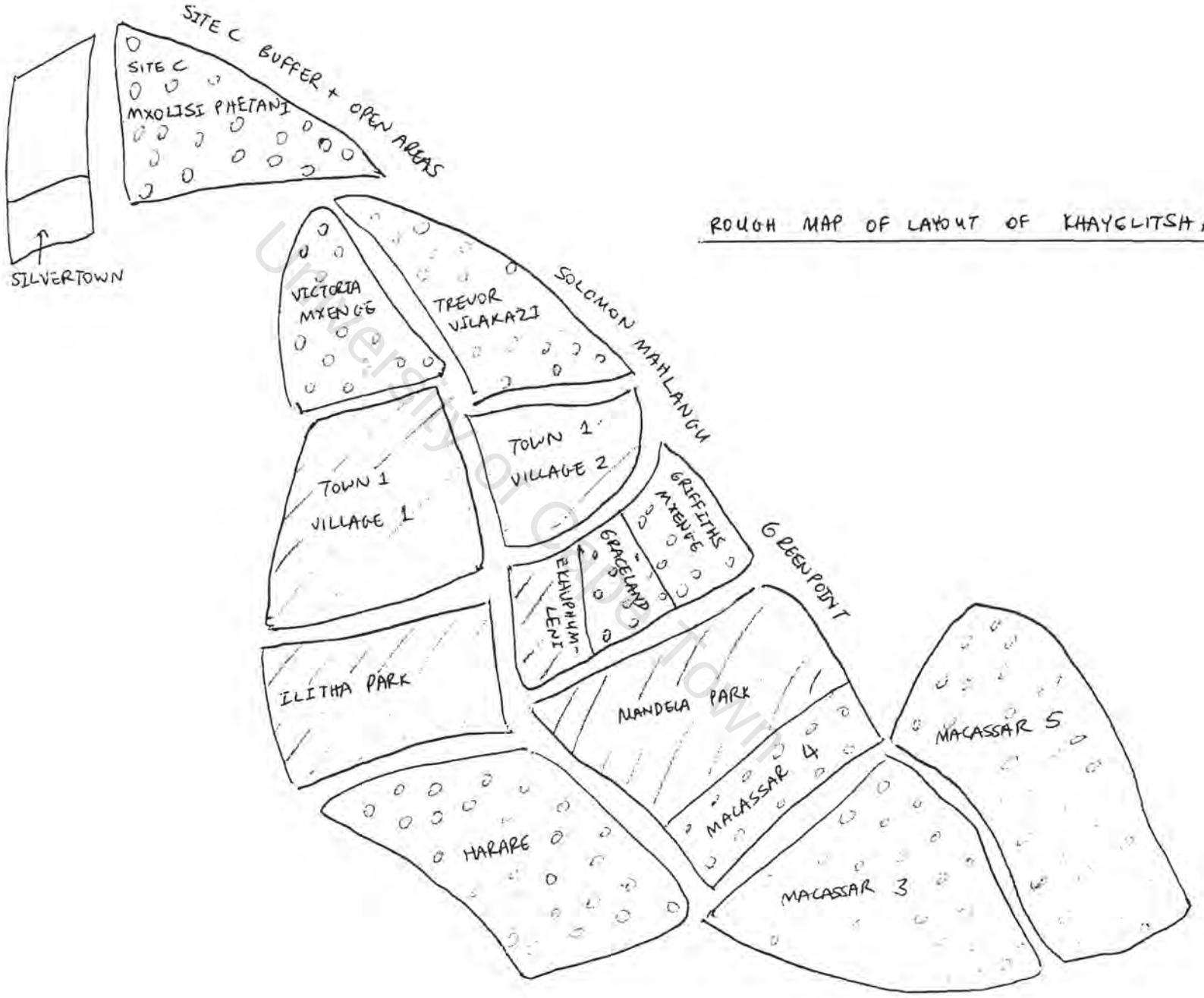
(1) We have divided Khayelitsha according to its different suburbs. A map of Khayelitsha showing each of these areas can be found on the following page. We have shaded the suburbs that we will be going into in grey and have marked the different housing types according to the following patterns:

 Formal housing, formal services

 Informal housing, formal services

 Informal housing, rudimentary services / unserviced

ROUGH MAP OF LAYOUT OF KHAYELITSHA



(2) We have randomly chosen 6 representative suburbs of each housing type for the study. They are as follows:

Phase 1: Checking the Questionnaire

In each of these suburbs 10 interviews will be conducted - 5 of each age group.

Formal, serviced area - Tembani

Informal, serviced area - Griffiths Mxenge

Informal, unserviced area - Bongani

Phase 2: Checking Final Questionnaire and Fieldworker Reliability

In each of these suburbs 10 interviews will be conducted - 5 of each age group, after which the same 10 respondents will be interviewed by a second interviewer.

Formal, serviced area - Washington Square

Informal, serviced area - Trevor Vilakazi

Informal, unserviced area - Endlovini

Phase 3: Main Study

In each of these suburbs 20 interviews will be conducted - 10 of each age group

Formal, serviced area - 1. Town 1, Village 1

2. Town 1, Village 2

3. Ilitha Park

4. Mandela Park

Informal, serviced area - 1. Victoria Mxenge

2. Harare

3. Macassar

4. Graceland / Mxolisi Phetani

Informal, unserviced area - 1. Site C Buffer & open areas

2. Greenpoint

3. Solomon Mahlangu

4. Silvertown

THIS IS HOW YOU WILL WORK

You will work one team of three fieldworkers and the team will work in one suburb at a time. Team members must arrange to meet somewhere each morning and will then enter the suburb together.

Each team member will then visit one of the marked sites in the suburb / area. These sites will be the starting points from which you will look for people for the study. When the interviews for the area have been completed (in some cases this may take more than one day), the team will move onto the next suburb / area it has been assigned to. In each suburb there will be 20 interviews to be done. This means that each day, 2 interviewers will do 7 interviews and 1 will do 6 interviews (Total = 20).

You will be given maps of the areas you will be entering so that it will be somewhat easier to find the designated sites. In certain cases, such as with Site C Buffer and open areas and the new squatter camp near Town 3 Village 2A, it may be more difficult to find respondents because there are no maps available for these areas.

2. WHAT TO DO WHEN YOU HAVE REACHED THE SITE

You must now choose people for the study from those living on the site. If there are many people living on the site, this may require a number of steps which are listed below. However, in many cases there will only be one household living on the site - if so you can go straight to step 3.

STEP 1. CHOOSING A MAIN DWELLING

When you arrive at the site, it is important that you first determine the number of dwellings on it. If there is more than one dwelling, then they must be numbered by you from left to right (if standing in the road and facing them) and you must use the random tables provided to choose which dwelling to approach first. (You will learn how to use these tables in the training)

Please note: If you are in a formal, serviced area then you must not interview anyone living in an informal dwelling in the area. Likewise, if you are in an area marked for our study as an informal area, then you must not interview anyone in that area who lives in a formal house.

STEP 2. CHOOSING A HOUSEHOLD

Enter the dwelling and introduce yourself. Speak to a responsible person and find out if there is more than one household living in the dwelling. A household is defined as a group of people who eat together. Also ask who is at home. If there is more than one household with people at home, pick a household from these using the random number table provided (as you did in Step 1).

STEP 3. CHOOSING PEOPLE FROM THE HOUSEHOLD

For this step you will need to look at the description of the respondent required for the interview. You will find this on the information sheet attached to each questionnaire. A Xhosa speaking female must be chosen in the age group described for each interview. It is very important that the correct age respondents are interviewed so please ensure that the right respondent is chosen for each interview.

If there is more than one person in the chosen household who fits the respondent description, then write down all the names of the eligible people in the spaces provided on the information cover sheet on the questionnaire. Then, using the random number table provided for that section, choose a respondent to be interviewed.

Remember to ask about all members of the household including those who are not home at the time of your first visit. If there is a person who fits the respondent description and they are not home or available, two call-backs at different times of the day and / or week must be made before a substitute is found. If a substitute must be found, the same strict instructions for moving to an adjacent site must be followed.

RULE FOR MOVING TO AN ADJACENT SITE

The rule for moving to an adjacent site is that you will go to the house which is on your left as you leave the first site (i.e. if you are facing the road). Remember that will only move to an adjacent site if there is no one suitable for an interview on the first site.

INFORMAL, UNSERVICED SQUATTER AREAS

You will visit certain shack and squatter areas which have been marked on the map, but for which we have no formal site plans / maps. You will have to select a certain number of dwellings from each area. You must do this as randomly as possible, making sure that you choose the dwellings from all over the area. You must choose dwellings from central parts of the area as well as from the edges.

You will then go on to each dwelling that you have selected and proceed as you would at sites in the mapped areas.

PROPOSED SCHEDULE FOR INTERVIEWING PROCESS

DATE	AREA / SUBURB	NO. OF INTERVIEWS	MEET TODAY?
PHASE 1:			
3/9/98 THU	TEMBANI	10 - GROUP A	
	GRIFFITHS MXENGE	10 - GROUP B	
4/9/98 FRI	BONGANI	10 - GRP A&B	*YES - 3PM*
PHASE 2:			
7/9/98 MON	WASHINGTON SQUARE	10 - GROUP B	
	TREVOR VILAKAZI	10 - GROUP A	
8/9/98 TUE	SITE C - OCCUPANT B	10 - GRP A & B	
	WASHINGTON SQUARE	10 - GROUP B	
	TREVOR VILAKAZI	10 - GROUP A	
9/9/98 WED	SITE C - OCCUPANT B	10 - GRP A & B	
	DO BACK-CHECKS	GROUP A & B	TOMORROW - 10
10/9/98 TH	*MEET AT GSB TO DISC*	*USS ISSUES &*	*TO PLAN FINAL*
	STAGE OF INTERVIEW	*ING.*	

PROPOSED SCHEDULE FOR INTERVIEWING PROCESS

DATE	AREA / SUBURB	NO. OF INTERVIEWS	REMEMBER
MON 12 OCT	SITE C BUFFER & OPEN AREAS	20	PHONE PAT
TUES 13 OCT	GREENPOINT	20	VISIT PAT
WED 14 OCT	SOLOMON MAHLANGU	20	PHONE PAT
THUR 15 OCT	SILVERTOWN	20	VISIT PAT
FRI 16 OCT	HARARE	20	PHONE PAT
SAT & SUN	CALL-BACKS		
MON 19 OCT	VICTORIA MXENGE	20	VISIT PAT
TUES 20 OCT	MXOLISI PHETANI	20	PHONE PAT
WED 21 OCT	MACASSAR	20	VISIT PAT
THUR 22 OCT	ILITHA PARK	20	PHONE PAT
FRI 23 OCT	TOWN 1, VILLAGE 1	20	VISIT PAT
SAT & SUN	CALL-BACKS		
MON 26 OCT	TOWN 1, VILLAGE 2	20	PHONE PAT
TUE 27 OCT	MANDELA PARK	20	VISIT PAT
WED 28 OCT	SHOULD FINISH OFF PROJECT		

Appendix G – Factor Analyses for Constructs in Model Investigated

Factor Analysis – Media Usage Exposure

Communalities

	Initial	Extraction
Often read newspaper	1.000	.748
Often read magazine	1.000	.694
Often watch TV	1.000	.283

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.725	57.499	57.499	1.725	57.499	57.499
2	.864	28.802	86.301			
3	.411	13.699	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
Often read newspaper	.865
Often read magazine	.833
Often watch TV	.532

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

Factor Analysis – Product Usage Exposure (Growing up and Current)

Communalities

	Initial	Extraction
no regular smokers in hh now	1.000	.555
% female friends smoking	1.000	.714
% female houshold smokers	1.000	.763
growing up, anyone in hh smoke? s-55	1.000	.828
ever sent to buy cigs. or snuff when growing up? s-60	1.000	.801

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues		
Component	Total	% of Variance	Cumulative %
1	2.300	46.000	46.000
2	1.362	27.232	73.232
3	.598	11.951	85.183
4	.421	8.420	93.603
5	.320	6.397	100.000

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.300	46.000	46.000	1.853	37.055	37.055
2	1.362	27.232	73.232	1.809	36.177	73.232
3						
4						
5						

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component	
	1	2
no regular smokers in hh now	.739	
% female friends smoking	.664	.523
% female houshold smokers	.625	.611
growing up, anyone in hh smoke? s-55	.639	-.648
ever sent to buy cigs. or snuff when growing up? s-60	.717	-.535

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Rotated Component Matrix[a]

	Component	
	1	2
no regular smokers in hh now	.599	.443
% female friends smoking	.841	
% female houshold smokers	.874	
growing up, anyone in hh smoke? s-55		.910
ever sent to buy cigs. or snuff when growing up? s-60	.150	.882

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Component Transformation Matrix

Component	1	2
1	.723	.690
2	.690	-.723

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Factor Analysis – Product Usage Exposure (Reduced into one factor)

Communalities

	Initial	Extraction
no regular smokers in hh now	1.000	.547
% female friends smoking	1.000	.441
% female houshold smokers	1.000	.390
ever sent to buy cigs. or snuff when growing up? s-60	1.000	.515
growing up, anyone in hh smoke? s-55	1.000	.408

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.300	46.000	46.000	2.300	46.000	46.000
2	1.362	27.232	73.232			
3	.598	11.951	85.183			
4	.421	8.420	93.603			
5	.320	6.397	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
no regular smokers in hh now	.739
% female friends smoking	.664
% female houshold smokers	.625
ever sent to buy cigs. or snuff when growing up? s-60	.717
growing up, anyone in hh smoke? s-55	.639

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

Factor Analysis – Normative Expectations

Communalities

	Initial	Extraction
Sister react to you smoking	1.000	.926
Close female friends react to you smoking	1.000	.819
Female aquaintences react to you smoking	1.000	.790
how would your husband / partner react if he saw you smoking? n70-1	1.000	.779
how would your father react if he saw you smoking? n70-2	1.000	.810
how would your mother react if she saw you smoking? n70-3	1.000	.804
how would your daughters react if they saw you smoking? n70-4	1.000	.916
how would your son(s) react if they saw you smoking? n70-5	1.000	.912
how would your brother(s) react if they saw you smoking? n70-6	1.000	.938

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.695	85.495	85.495	7.695	85.495	85.495
2	.592	6.580	92.075			
3	.349	3.876	95.951			
4	.187	2.077	98.028			
5	8.005E-02	.889	98.917			
6	4.668E-02	.519	99.436			
7	2.733E-02	.304	99.740			
8	1.483E-02	.165	99.905			
9	8.582E-03	9.536E-02	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
Sister react to you smoking	.962
Close female friends react to you smoking	.905
Female aquaintences react to you smoking	.889
how would your husband / partner react if he saw you smoking? n70-1	.883
how would your father react if he saw you smoking? n70-2	.900
how would your mother react if she saw you smoking? n70-3	.897
how would your daughters react if they saw you smoking? n70-4	.957
how would your son(s) react if they saw you smoking? n70-5	.955
how would your brother(s) react if they saw you smoking? n70-6	.969

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

Factor Analysis – Attitude towards Black Women Smoking

Communalities

	Initial	Extraction
Opinion of African women smoking	1.000	.659
View black women smoking	1.000	.828
smoking is acceptable for older women? n76-1	1.000	.693

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.180	72.653	72.653	2.180	72.653	72.653
2	.544	18.149	90.802			
3	.276	9.198	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
Opinion of African women smoking	.812
View black women smoking	.910
smoking is acceptable for older women? n76-1	.832

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Rotated Component Matrix[a]

a. Only one component was extracted. The solution cannot be rotated.

Appendix H – Summary of Descriptive Analyses

Age Cross-tabulated and Correlated with all Constructs below it in the Model

	Level Begin	Level End	p	Spearman correlation	Interpretation
Media Usage Exposure	cage	cs51.1 - how often read newspaper(s)	0.034	-0.168	
	cage	cs51.2 - how often read magazine(s)	0.001	-0.236	> age < read magazines (greater the age the less read magazines)
	cage	cs51.3 - how often watch TV	0.561	-0.055	
Growing Up Product Usage Exposure	cage	s_55 when growing up, did anyone in your household smoke	0.809	Cramer's V 0.042	
	cage	s_60 ever sent to buy cigarettes or snuff for others while growing up	0.347	Cramer's V 0.094	
Current Product Usage Exposure	cage	cfrnd % female friends that smoke	0.409	0.089	
	cage	cfema % household smokers that are female	0.289	0.090	
	cage	cs61 no. of smokers in household	0.750	-0.075	
Attitude towards Black Women Smoking	cage	n76_1 - acceptable for older women to smoke	0.0001	0.234	> age > acceptable for older women to smoke (higher age, more likely to say acceptable for older women to smoke)
	cage	cn65_1 opinion of Black women smoking	0.101	0.138	
	cage	cn72 - how view a black women who smokes	0.0001	0.304	> age more positively view black women who smokes
Normative Expectations	cage	n70_1 reaction of husband if saw her smoking	0.0001	0.303	> age, < reaction from husband (as get older, husband is more likely to have no reaction)
	cage	n70_2 reaction of father if saw her smoking	0.0001	0.271	> age, < reaction from husband (as get older, father is more likely to have no reaction)
	cage	n70_3 reaction of mother if saw her smoking	0.001	0.25	> age, < reaction from husband (as get older, mother is more likely to have no reaction)
	cage	n70_4 reaction of daughter(s) if saw her smoking	0.0001	0.262	> age, < reaction from husband (as get older, daughter(s) more likely to have no reaction)
	cage	n70_5 reaction of son(s) if saw her smoking	0.001	0.243	> age, < reaction from husband (as get older, son(s) more likely to have no reaction)
	cage	n70_6 reaction of brother(s) if saw her smoking	0.0001	0.276	> age, < reaction from husband (as get older, brother(s) more likely to have no reaction)
	cage	n70_7 reaction of sister(s) if saw her smoking	0.0001	0.296	> age, > positive (as age increases, sisters become more positive towards smoking)
	cage	n70_8 reaction of close female friends if saw her smoking	0.0001	247	> age, > positive (as age increases, female friends become more positive towards smoking)
	cage	n70_9 reaction of female acquiantances if saw her smoking	0.001	0.245	> age, > positive (as age increases, female acquaintances become more positive towards smoking)
Lifesytle Commitment	cage	CM_BI - Conversion Model / Lifestyle Commitment	0.167	0.131	
Smoking Behaviour	cage	s_64 - So, do you smoke? Even if it is only once in a while or socially?	0.043	Cramer's V 0.159	> age, > likelihood of being a smoker

Income Cross-tabulated and Correlated with all Constructs below it in the Model

	Level Begin	Level End	p	Spearman correlation	Interpretation
Media Usage Exposure	ce_119 household income	cs51.1 - how often read newspaper(s)	0.0001	0.183	> income, > newspaper reading
	ce_119 household income	cs51.2 - how often read magazine(s)	0.0001	0.24	> income, > magazine reading
	ce_119 household income	cs51.3 - how often watch TV	0.001	0.211	> income, > TV watching
Growing Up Product Usage Exposure	ce_119 household income	s_55 when growing up, did anyone in your household smoke	0.002	Cramer's V 0.250	> income < likelihood of someone smoking in household when growing up
	ce_119 household income	s_60 ever sent to buy cigarettes or snuff for others while growing up	0.0001	Cramer's V 0.307	> income < likelihood that was sent to buy cigarettes for others when growing up
Current Product Usage Exposure	ce_119 household income	cfrnd % female friends that smoke	0.087	-0.169	
	ce_119 household income	cfema % household smokers that are female	0.026	-0.171	> income < % household smokers that are female
	ce_119 household income	cs61 no. of smokers in household	0.131	-0.124	
Attitude towards Black Women Smoking	ce_119 household income	n76_1 - acceptable for older women to smoke	0.033	-0.153	> income, > likelihood to disagree
	ce_119 household income	cn65_1 opinion of African women smoking	0.085	0.005	
	ce_119 household income	cn72 - how view a black women who smokes	0.580	-0.073	
Normative Expectations	ce_119 household income	n70_1 reaction of husband if saw her smoking	0.199	-0.076	
	ce_119 household income	n70_2 reaction of father if saw her smoking	0.137	-0.103	
	ce_119 household income	n70_3 reaction of mother if saw her smoking	0.117	-0.121	
	ce_119 household income	n70_4 reaction of daughter(s) if saw her smoking	0.222	-0.051	
	ce_119 household income	n70_5 reaction of son(s) if saw her smoking	0.236	-0.071	
	ce_119 household income	n70_6 reaction of brother(s) if saw her smoking	0.148	-0.047	
	ce_119 household income	n70_7 reaction of sister(s) if saw her smoking	0.148	-0.047	
	ce_119 household income	n70_8 reaction of close female friends if saw her smoking	0.108	-0.137	
	ce_119 household income	n70_9 reaction of female acquiantances if saw her smoking	0.163	-0.131	
Lifesytle Commitment	ce_119 household income	CM_BI - Conversion Model / Lifestyle Commitment	0.060	-0.032	
Smoking Behaviour	ce_119 household income	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.252	Cramer's V 0.119	

Education Cross-tabulated and Correlated with all Constructs below it in the Model

	Level Begin	Level End	p	Spearman correlation	Interpretation
Media Usage Exposure	cl108cod	cs51.1 - how often read newspaper(s)	0.0001	0.257	> education > read newspaper
	cl108cod	cs51.2 - how often read magazine(s)	0.0001	0.371	> education > read magazines
	cl108cod	cs51.3 - how often watch TV	0.003	0.194	> education > watch TV
Growing Up Product Usage Exposure	cl108cod	s_55 when growing up, did anyone in your household smoke	0.0001	Cramer's V 0.268	< education > likelihood that someone smoked in her household when growing up
	cl108cod	s_60 ever sent to buy cigarettes or snuff for others while growing up	0.003	Cramer's V 0.193	< education > likelihood that was sent to buy cigarettes or snuff for others when growing up
Current Product Usage Exposure	cl108cod	cfrnd % female friends that smoke	0.001	-0.225	< education > % of female friends smoke
	cl108cod	cfema % household smokers that are female	0.129	-0.098	
	cl108cod	cs61 no. of smokers in household	0.125	-0.132	
Attitude towards Black Women Smoking	cl108cod	n76_1 - acceptable for older women to smoke	0.0001	-0.276	< education > likelihood to agree that smoking is acceptable for older women
	cl108cod	cn65_1 opinion of African women smoking	0.032	-0.139	< education > likelihood to have a positive opinion of African women who smoke
	cl108cod	cn72 - how view a black women who smokes	0.0001	-0.309	< education > likelihood to view black women who smoke positively
Normative Expectations	cl108cod	n70_1 reaction of husband if saw her smoking	0.0001	-0.314	> education > likelihood husband will react negatively if saw her smoking
	cl108cod	n70_2 reaction of father if saw her smoking	0.0001	-0.294	> education > likelihood father will react negatively if saw her smoking
	cl108cod	n70_3 reaction of mother if saw her smoking	0.0001	-0.277	> education > likelihood mother will react negatively if saw her smoking
	cl108cod	n70_4 reaction of daughter(s) if saw her smoking	0.0001	-0.307	> education > likelihood daughter(s) will react negatively if saw her smoking
	cl108cod	n70_5 reaction of son(s) if saw her smoking	0.0001	-0.292	> education > likelihood son(s) will react negatively if saw her smoking
	cl108cod	n70_6 reaction of brother(s) if saw her smoking	0.0001	-0.317	> education > likelihood brother will react negatively if saw her smoking
	cl108cod	n70_7 reaction of sister(s) if saw her smoking	0.0001	-0.334	> education > likelihood sister will react negatively if saw her smoking
	cl108cod	n70_8 reaction of close female friends if saw her smoking	0.0001	-0.269	> education > likelihood female friends will react negatively if saw her smoking
	cl108cod	n70_9 reaction of female acquiantances if saw her smoking	0.0001	-0.269	> education > likelihood female acquaintances will react negatively if saw her smoking
Lifesytle Commitment	cl108cod	CM_BI - Conversion Model / Lifestyle Commitment	0.215	-0.153	
Smoking Behaviour	cl108cod	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.004	Cramer's V 0.186	< education, > likelihood of being a smoker

Housing Context Cross-tabulated and Correlated with all Constructs below it in the Model

	Level Begin	Level End	p	Spearman correlation	Interpretation
Media Usage Exposure	housing context	cs51.1 - how often read newspaper(s)	0.852	0.036	
	housing context	cs51.2 - how often read magazine(s)	0.324	0.092	
	housing context	cs51.3 - how often watch TV	0.0001	0.493	> HC the more watch TV
Growing Up Product Usage Exposure	housing context	s_55 when growing up, did anyone in your household smoke	0.0001	Cramer's V 0.267	> HC > likelihood that no-one smoked in the household while growing up
	housing context	s_60 ever sent to buy cigarettes or snuff for others while growing up	0.0001	Cramer's V 0.459	> HC > likelihood that was never sent to buy cigarettes or snuff for others while growing up
Current Product Usage Exposure	housing context	cfmd % female friends that smoke	0.0001	-0.328	> HC < % female friends that smoke
	housing context	cfema % household smokers that are female	0.0001	-0.255	> HC < % smokers in household are female
	housing context	cs61 no. of smokers in household	0.023	-0.215	> HC > likelihood that there are no regular smokers in the household now
Attitude towards Black Women Smoking	housing context	n76_1 - acceptable for older women to smoke	0.0001	-0.247	> HC > likelihood to disagree that it is acceptable for older women to smoke
	housing context	cn65_1 opinion of African women smoking	0.013	-0.188	> HC > likelihood to have a negative opinion of African women smoking
	housing context	cn72 - how view a black women who smokes	0.0001	-0.257	> HC > lihelihood to have a negative view of black women who smoke
Normative Expectations	housing context	n70_1 reaction of husband if saw her smoking	0.0001	-0.258	> HC > likelihood that husband would react negatively if he saw her smoking
	housing context	n70_2 reaction of father if saw her smoking	0.003	-0.221	> HC > likelihood that father would react negatively if he saw her smoking
	housing context	n70_3 reaction of mother if saw her smoking	0.003	-0.217	> HC > likelihood that mother would react negatively if he saw her smoking
	housing context	n70_4 reaction of daughter(s) if saw her smoking	0.0001	-0.254	> HC > likelihood that daughter(s) would react negatively if he saw her smoking
	housing context	n70_5 reaction of son(s) if saw her smoking	0.0001	-0.266	> HC > likelihood that son(s) would react negatively if he saw her smoking
	housing context	n70_6 reaction of brother(s) if saw her smoking	0.0001	-0.251	> HC > likelihood that brother(s) would react negatively if he saw her smoking
	housing context	n70_7 reaction of sister(s) if saw her smoking	0.001	-0.238	> HC > likelihood that sister(s) would react negatively if he saw her smoking
	housing context	n70_8 reaction of close female friends if saw her smoking	0.0001	-0.298	> HC > likelihood that close female friends would react negatively if he saw her smoking
	housing context	n70_9 reaction of female acquiantances if saw her smoking	0.0001	-0.293	> HC > likelihood that female acquaintances would react negatively if he saw her smoking
Lifesytle Commitment	housing context	CM_BI - Conversion Model / Lifestyle Commitment	0.0001	-0.212	> HC < intent to smoke
Smoking Behaviour	housing context	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.311	lower the HC, > likelihood of being a smoker

LURC Cross-tabulated and Correlated with all Constructs below it in the Model

	Level Begin	Level End	p	Spearman correlation	Interpretation
Media Usage Exposure	clurc	cs51.1 - how often read newspaper(s)	0.0001	0.299	> LURC > read newspapers
	clurc	cs51.2 - how often read magazine(s)	0.0001	0.288	> LURC > read magazines
	clurc	cs51.3 - how often watch TV	0.0001	0.407	> LURC the more watch TV
Growing Up Product Usage Exposure	clurc	s_55 when growing up, did anyone in your household smoke	0.001	Cramer's V 0.239	> LURC > likelihood that no-one smoked in the household while growing up
	clurc	s_60 ever sent to buy cigarettes or snuff for others while growing up	0.0001	Cramer's V 0.430	> LURC > likelihood that was never sent to buy cigarettes or snuff for others while growing up
Current Product Usage Exposure	clurc	cfrnd % female friends that smoke	0.002	-0.238	> LURC < % female friends that smoke
	clurc	cfema % household smokers that are female	0.0001	-0.215	> LURC < % smokers in household are female
	clurc	cs61 no. of smokers in household	0.024	-0.192	> LURC > likelihood that there are no regular smokers in the household now
Attitude towards Black Women Smoking	clurc	n76_1 - acceptable for older women to smoke	0.0001	-0.239	> LURC > likelihood to disagree that it is acceptable for older women to smoke
	clurc	cn65_1 opinion of African women smoking	0.020	-0.057	> LURC > likelihood to have a negative opinion of African women smoking
	clurc	cn72 - how view a black women who smokes	0.0001	-0.243	> LURC > lihelihood to have a negative view of black women who smoke
Normative Expectations	clurc	n70_1 reaction of husband if saw her smoking	0.0001	-0.261	> LURC > likelihood that husband would react negatively if he saw her smoking
	clurc	n70_2 reaction of father if saw her smoking	0.007	-0.179	> LURC > likelihood that father would react negatively if he saw her smoking
	clurc	n70_3 reaction of mother if saw her smoking	0.013	-0.175	> LURC > likelihood that mother would react negatively if he saw her smoking
	clurc	n70_4 reaction of daughter(s) if saw her smoking	0.001	-0.199	> LURC > likelihood that daughter(s) would react negatively if he saw her smoking
	clurc	n70_5 reaction of son(s) if saw her smoking	0.001	-0.211	> LURC > likelihood that son(s) would react negatively if he saw her smoking
	clurc	n70_6 reaction of brother(s) if saw her smoking	0.003	-0.195	> LURC > likelihood that brother(s) would react negatively if he saw her smoking
	clurc	n70_7 reaction of sister(s) if saw her smoking	0.006	-0.182	> LURC > likelihood that sister(s) would react negatively if he saw her smoking
	clurc	n70_8 reaction of close female friends if saw her smoking	0.0001	-0.274	> LURC > likelihood that close female friends would react negatively if he saw her smoking
	clurc	n70_9 reaction of female acquiantances if saw her smoking	0.0001	-0.269	> LURC > likelihood that female acquaintances would react negatively if he saw her smoking
Lifesytle Commitment	clurc	CM_BI - Conversion Model / Lifestyle Commitment	0.0001	-0.361	> LURC < intent to smoke
Smoking Behaviour	clurc	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.001	Cramer's V 0.251	lower the cLURC, > likelihood of being a smoker

	Level Begin	cs51_1 How often do you read a newspaper			cs51_2 How often do you read magazine(s)			cs51_3 How often do you watch TV		
	Level End	p	Spearman correlation	Interpretation	p	Spearman correlation	Interpretation	p	Spearman correlation	Interpretation
Attitude towards Black Women Smoking	n76_1 - acceptable for older women to smoke	0.608	-0.033		0.253	-0.074		0.002	-0.202	More watch TV the > likelihood that will disagree that smoking is acceptable for older women
	cn65_1 opinion of African women smoking	0.001	0.213	More read newspaper(s) the more likihood of having a positive opinion of African women smoking	0.526	0.041		0.766	0.066	
	cn72 - how view a black women who smokes	0.874	-0.010		0.293	-0.068		0.032	-0.138	More watch TV the more likelihood of having a negative view of black women smoking
Growing Up Product Usage Exposure	s_55 when growing up, did anyone in your household smoke	0.024	Cramer's V 0.146	More read newspaper(s) the more likelihood that no-one smoked in your household when growing up	0.021	Cramer's V 0.149	More read magazine(s) the more likelihood that no-one smoked in your household when growing up	0.003	Cramer's V 0.191	More watch TV the greater the likelihood that no-one smoked in her household when growing up
	s_60 ever sent to buy cigarettes or snuff for others while growing up	0.001	Cramer's V 0.216	More read newspaper(s) more likelihood that was never sent to buy cigarettes or snuff for others when growing up.	0.088	Cramer's V 0.110		0.0001	Cramer's V 0.319	likelihood that was never sent to buy cigarettes or snuff for others when growing up.
Current Product Usage Exposure	cfmd % female friends that smoke	0.851	-0.013		0.283	-0.075		0.015	-0.171	The more watch TV the smaller the % of female friends that smoke
	cfema % household smokers that are female	0.878	0.010		0.636	-0.031		0.022	-0.149	The more watch TV the smaller the % of smokers in the household are female
	cs61 no. of smokers in household	0.651	-0.059		0.452	-0.053		0.231	-0.098	
Normative Expectations	n70_1 reaction of husband if saw her smoking	0.192	-0.084		0.067	-0.118		0.001	-0.219	The more watch TV the more likelihood of her husband reacting negatively if he saw her smoking
	n70_2 reaction of father if saw her smoking	0.331	-0.063		0.269	-0.071		0.0001	-0.272	The more watch TV the more likelihood of her father reacting negatively if he saw her smoking
	n70_3 reaction of mother if saw her smoking	0.476	-0.046		0.358	-0.059		0.0001	-0.260	The more watch TV the more likelihood of her mother reacting negatively if he saw her smoking
	n70_4 reaction of daughter(s) if saw her smoking	0.688	-0.026		0.411	-0.053		0.0001	-265.000	likelihood of her daughter(s) reacting negatively if he saw her smoking
	n70_5 reaction of son(s) if saw her smoking	0.865	-0.011		0.513	-0.042		0.0001	-0.255	The more watch TV the more likelihood of her son(s) reacting negatively if he saw her smoking
	n70_6 reaction of brother(s) if saw her smoking	0.566	-0.037		0.284	-0.069		0.0001	-0.255	The more watch TV the more likelihood of her brother(s) reacting negatively if he saw her smoking
	n70_7 reaction of sister(s) if saw her smoking	0.417	-0.053		0.213	-0.081		0.0001	-0.265	The more watch TV the more likelihood of her sister(s) reacting negatively if he saw her smoking
	n70_8 reaction of close female friends if saw her smoking	0.544	-0.039		0.266	-0.072		0.001	-0.219	likelihood of her female friends reacting negatively if he saw her smoking
	n70_9 reaction of female acquiantances if saw her smoking	0.578	-0.036		0.407	-0.054		0.002	-0.205	likelihood of her female acquaintances reacting negatively if he saw her smoking
Lifestyle Commitment	CM_BI - Conversion Model / Lifestyle Commitment	0.010	-0.200	More read newspaper(s) thye < intent to smoke	0.445	-0.079		0.001	-0.201	More watch TV the < the intent to smoke
Smoking Behaviour	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.287	Cramer's V 0.069		0.562	Cramer's V 0.038		0.049	Cramer's V 0.127	less watch TV, > likelihood of being a smoker
Bonferroni's Correction, correct significance level = 0.05 / 3 measures = 0.016										

Media Usage Exposure variables Cross-tabulated and Correlated with all Constructs below it in the Model

	Level Begin	s_55 When growing up did anyone in household smoke?			s_60 Ever sent to buy cigarettes/snuff for others while you were growing up?		
	Level End	p	Cramer's V	Interpretation	p	Spearman correlation	Interpretation
Attitude towards Black Women Smoking	n76_1 - acceptable for older women to smoke	0.012	0.162	If anyone smoked in household when growing up, more likely to agree tha smoking is acceptable for older women	0.002	0.205	If was sent to buy cigarettes/snuff for others while growing up, more likely to agree tha smoking is acceptable for older women
	cn65_1 opinion of African women smoking	0.002	0.202	If anyone smoked in household when growing up, more likely to have a positive opinion of African women who smoke	0.056	0.124	
	cn72 - how view a black women who smokes	0.033	0.138	If anyone smoked in household when growing up, more likely to have a positive view of black women who smoke	0.014	0.158	If was sent to buy cigarettes/snuff for others while growing up, more likely to have a positive view of black women who smoke
Normative Expectations	n70_1 reaction of husband if saw her smoking	0.121	0.100		0.002	0.204	
	n70_2 reaction of father if saw her smoking	0.048	0.128	If anyone smoked in household when growing up, more likely that father will have no reaction if he saw her smoking	0.010	0.167	If was sent to buy cigarettes/snuff for others while growing up, more likely that father will have no reaction if he saw her smoking
	n70_3 reaction of mother if saw her smoking	0.011	0.165	If anyone smoked in household when growing up, more likely that mother will have no reaction if he saw her smoking	0.005	0.181	If was sent to buy cigarettes/snuff for others while growing up, more likely that mother will have no reaction if he saw her smoking
	n70_4 reaction of daughter(s) if saw her smoking	0.035	0.136	If anyone smoked in household when growing up, more likely that daughter(s) will have no reaction if he saw her smoking	0.003	0.193	If was sent to buy cigarettes/snuff for others while growing up, more likely that daughter(s) will have no reaction if he saw her smoking
	n70_5 reaction of son(s) if saw her smoking	0.025	0.145	If anyone smoked in household when growing up, more likely that son(s) will have no reaction if he saw her smoking	0.001	0.206	If was sent to buy cigarettes/snuff for others while growing up, more likely that son(s) will have no reaction if he saw her smoking
	n70_6 reaction of brother(s) if saw her smoking	0.025	0.145	If anyone smoked in household when growing up, more likely that brother(s) will have no reaction if he saw her smoking	0.001	0.206	If was sent to buy cigarettes/snuff for others while growing up, more likely that brother(s) will have no reaction if he saw her smoking
	n70_7 reaction of sister(s) if saw her smoking	0.012	0.163	If anyone smoked in household when growing up, more likely that sister(s) will have a positive reaction if he saw her smoking	0.001	0.220	If was sent to buy cigarettes/snuff for others while growing up, more likely that close female friends will have a positive reaction if he saw her smoking
	n70_8 reaction of close female friends if saw her smoking	0.057	0.123		0.002	0.204	If was sent to buy cigarettes/snuff for others while growing up, more likely that sister(s) will have a positive reaction if he saw her smoking
	n70_9 reaction of female acquiantances if saw her smoking	0.032	0.139	If anyone smoked in household when growing up, more likely that female acquaintances will have a positive reaction if he saw her smoking	0.0001	0.227	If was sent to buy cigarettes/snuff for others while growing up, more likely that female acquaintances will have a positive reaction if he saw her smoking
Lifestyle Commitment	CM_BI - Conversion Model / Lifestyle Commitment	0.567	0.143		0.010	0.195	If was sent to buy cigarettes/snuff for others while growing up, more likely that will have a greater intent to smoke
Smoking Behaviour	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.065	0.119		0.003	0.192	If were sent to buy cigarettes or snuff fo others when growing up, > likelihood of being a smoker
Bonferroni's Correction, correct significance level = 0.05 / 5 measures = 0.01 (Growing Up & Current Social Context)							

Growing Up Product Usage Exposure Cross-tabulated and Correlated with all Constructs below it in the Model

	Level Begin	cfrnd - Percentage of female friends that smoke			cfema - Percentage of household's smokers that are female			No. of regular smokers in household currently		
	Level End	p	Spearman correlation	Interpretation	p	Spearman correlation	Interpretation	p	Spearman correlation	Interpretation
Attitude towards Black Women Smoking	n76_1 - acceptable for older women to smoke	0.0001	0.429	> % female friends smoke more likely to agree that aceptable for older women to smoke	0.0001	0.546	The higher the % smokers in household are female, more likely to agree that aceptable for older women to smoke	0.0001	0.266	The more regular smokers live in the household currently, more likely to agree that aceptable for older women to smoke
	cn65_1 opinion of African women smoking	0.0001	0.336	> % female friends smoke more likely to have a positive opinion of African women who smoke	0.0001	0.319	The higher the % smokers in household are female, more likely to have a positive opinion of African women who smoke	0.0001	0.302	The more regular smokers live in the household currently, more likely to have a positive opinion of African women who smoke
	cn72 - how view a black women who smokes	0.0001	0.561	> % female friends smoke more likely to view black women who smoke positively	0.0001	0.486	The higher the % smokers in household are female, more likely to view black women who smoke positively	0.004	0.217	The more regular smokers live in the household currently, more likely to view black women who smoke positively
Normative Expectations	n70_1 reaction of husband if saw her smoking	0.0001	0.505	> % female friends smoke more likely for husband to have no reaction if saw her smoking	0.0001	0.476	The higher the % smokers in household are female, more likely for husband to have no reaction if saw her smoking	0.0001	0.320	The more regular smokers live in the household currently, more likely for husband to have no reaction if saw her smoking
	n70_2 reaction of father if saw her smoking	0.0001	0.323	> % female friends smoke more likely for father to have no reaction if saw her smoking	0.0001	0.306	The higher the % smokers in household are female, more likely for father to have no reaction if saw her smoking	0.012	0.190	The more regular smokers live in the household currently, more likely for father to have no reaction if saw her smoking
	n70_3 reaction of mother if saw her smoking	0.0001	0.323	> % female friends smoke more likely for mother to have no reaction if saw her smoking	0.0001	0.296	The higher the % smokers in household are female, more likely for mother to have no reaction if saw her smoking	0.005	0.210	The more regular smokers live in the household currently, more likely for mother to have no reaction if saw her smoking
	n70_4 reaction of daughter(s) if saw her smoking	0.0001	0.389	> % female friends smoke more likely for daughter(s) to have no reaction if saw her smoking	0.0001	0.268	The higher the % smokers in household are female, more likely for daughter(s) to have no reaction if saw her smoking	0.015	0.187	The more regular smokers live in the household currently, more likely for daughter(s) to have no reaction if saw her smoking
	n70_5 reaction of son(s) if saw her smoking	0.0001	0.415	> % female friends smoke more likely for son(s) to have no reaction if saw her smoking	0.0001	0.303	The higher the % smokers in household are female, more likely for son(s) to have no reaction if saw her smoking	0.006	0.207	The more regular smokers live in the household currently, more likely for son(s) to have no reaction if saw her smoking
	n70_6 reaction of brother(s) if saw her smoking	0.0001	0.415	> % female friends smoke more likely for brother(s) to have no reaction if saw her smoking	0.0001	0.303	The higher the % smokers in household are female, more likely for brother(s) to have no reaction if saw her smoking	0.006	0.207	The more regular smokers live in the household currently, more likely for brother(s) to have no reaction if saw her smoking
	n70_7 reaction of sister(s) if saw her smoking	0.0001	0.389	> % female friends smoke more likely for sister(s) to have a positive reaction if saw her smoking	0.0001	0.268	The higher the % smokers in household are female, more likely for sister(s) to have a positive reaction if saw her smoking	0.015	0.187	The more regular smokers live in the household currently, more likely for sister(s) to have a positive reaction if saw her smoking
	n70_8 reaction of close female friends if saw her smoking	0.0001	0.561	> % female friends smoke more likely for close female friends to have a positive reaction if saw her smoking	0.0001	0.476	The higher the % smokers in household are female, more likely for close female friends to have a positive reaction if saw her smoking	0.0001	0.301	The more regular smokers live in the household currently, more likely for close female friends to have a positive reaction if saw her smoking
	n70_9 reaction of female acquiantances if saw her smoking	0.0001	0.549	> % female friends smoke more likely for female acquaintances to have a positive reaction if saw her smoking	0.0001	0.496	The higher the % smokers in household are female, more likely for female acquaintances to have a positive reaction if saw her smoking	0.0001	0.323	The more regular smokers live in the household currently, more likely for female acquaintances to have a positive reaction if saw her smoking
Lifesytle Commitment	CM_BI - Conversion Model / Lifestyle Commitment	0.0001	0.414	> % female friends smoke the greater the intention to smoke	0.0001	0.407	The higher the % smokers in household are female, the greater the intention to smoke	0.001	0.260	The more regular smokers live in the household currently, the greater the intention to smoke
Smoking Behaviour	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	0.658	> % Female friends that smoke, > likelihood of being a smoker	0.0001	0.658	> % of household smokers are female, > likelihood of being a smoker	0.0001	0.323	The more regular smokers live in the household currently, the greater the likelihood of being a smoker
Bonferroni's Correction, correct significance level = 0.05 / 5 measures = 0.01 (Growing Up & Current Social Context)										

Current Product Usage Exposure Cross-tabulated and Correlated with all Constructs below it in the Model

	Level Begin	n76_1 Acceptable for older women to smoke? 0=dis 1=agr			cn65_1 Opinion of African women smoking			cn72 How view a Black women who smokes		
	Level End	p	Spearman correlation	Interpretation	p	Spearman correlation	Interpretation	p	Spearman correlation	Interpretation
Lifesytle Commitment	CM_BI - Conversion Model / Lifestyle Commitment	0.0001	0.484	If agree that acceptable for older women to smoke, the greater the intent to smoke	0.0001	0.316	If have positive opinion of African women smoking, the greater the intent to smoke	0.0001	0.553	If have positive view of black women who smoke, the greater the intent to smoke
Smoking Behaviour	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.568	If agree that smoking acceptable for older women, > likelihood of being a smoker	0.0001	Cramer's V 0.469	If have positive opinion of African women who smoke, > likelihood of being a smoker	0.0001	Cramer's V 0.685	If have positive view of black women who smoke, > likelihood of being a smoker
Bonferroni's Correction, correct significance level = 0.05 / 3 measures = 0.016										

Normative Expectations Cross-tabulated and Correlated with Behavioural Intent

	Level Begin	Level End	p	Spearman correlation	Interpretation
Lifesytle Commitment	n70_1 reaction of husband if saw her smoking	CM_BI - Conversion Model	0.0001	0.504	If the husband has no reaction to her smoking, she is more likelt to have a greater intent to smoke
	n70_2 reaction of father if saw her smoking	CM_BI - Conversion Model	0.0001	0.315	If her father has no reaction to her smoking, she is more likelt to have a greater intent to smoke
	n70_3 reaction of mother if saw her smoking	CM_BI - Conversion Model	0.0001	0.333	If her mother has no reaction to her smoking, she is more likelt to have a greater intent to smoke
	n70_4 reaction of daughter(s) if saw her smoking	CM_BI - Conversion Model	0.0001	0.358	If her daughter(s) have no reaction to her smoking, she is more likelt to have a greater intent to smoke
	n70_5 reaction of son(s) if saw her smoking	CM_BI - Conversion Model	0.0001	0.376	If her son(s) have no reaction to her smoking, she is more likelt to have a greater intent to smoke
	n70_6 reaction of brother(s) if saw her smoking	CM_BI - Conversion Model	0.0001	0.358	If her brother(s) have no reaction to her smoking, she is more likelt to have a greater intent to smoke
	n70_7 reaction of sister(s) if saw her smoking	CM_BI - Conversion Model	0.0001	0.342	If her sister(s) have a positive reaction to her smoking, she is more likelt to have a greater intent to smoke
	n70_8 reaction of close female friends if saw her smoking	CM_BI - Conversion Model	0.0001	0.496	If her close female friends have a positive reaction to her smoking, she is more likelt to have a greater intent to smoke
	n70_9 reaction of female acquiantances if saw her smoking	CM_BI - Conversion Model	0.0001	0.494	If her female acquaintances have a positive reaction to her smoking, she is more likelt to have a greater intent to smoke
Smoking Behaviour	n70_1 reaction of husband if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.617	If husband likely to have no reaction if saw her smoking, > likelihood of being a smoker
	n70_2 reaction of father if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.41	If father likely to have no reaction if saw her smoking, > likelihood of being a smoker
	n70_3 reaction of mother if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.397	If mother likely to have no reaction if saw her smoking, > likelihood of being a smoker
	n70_4 reaction of daughter(s) if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.441	If daughter(s) likely to have no reaction if saw her smoking, > likelihood of being a smoker
	n70_5 reaction of son(s) if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.467	If son(s) likely to have no reaction if saw her smoking, > likelihood of being a smoker
	n70_6 reaction of brother(s) if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.467	If brother(s) likely to have no reaction if saw her smoking, > likelihood of being a smoker
	n70_7 reaction of sister(s) if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.441	If sister(s) likely to have a positive reaction if saw her smoking, > likelihood of being a smoker
	n70_8 reaction of close female friends if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.617	If close female friends likely to have a positive reaction if saw her smoking, > likelihood of being a smoker
	n70_9 reaction of female acquiantances if saw her smoking	s_64 - So, do you smoke, even if it is only once in a while or socially?	0.0001	Cramer's V 0.63	If female acquaintances likely to have a positive reaction if saw her smoking, > likelihood of being a smoker
Bonferroni's Correction, correct significance level = 0.05 / 9 measures = 0.0055					

All Constructs Cross-Tabulated and Correlated with Smoking Behaviour (Var s_64)

	Level Begin	Level End	p	Cramer's V	Interpretation
Age	s_64 So do you smoke?	cage	0.043	0.162	> age, > likelihood of being a smoker
Income	s_64 So do you smoke?	ce_119	0.252	0.119	
Education	s_64 So do you smoke?	cl_108	0.004	0.186	< education, > likelihood of being a smoker
	s_64 So do you smoke?	l_108	0.066	0.151	
Urbanisation	s_64 So do you smoke?	Housing Context	0.0001	0.311	lower the HC, > likelihood of being a smoker
	s_64 So do you smoke?	cLURC	0.001	0.251	lower the cLURC, > likelihood of being a smoker
	s_64 So do you smoke?	LURC	0.003	0.312	lower the LURC, > likelihood of being a smoker
Media Exposure	s_64 So do you smoke?	cs51.1 - how often read newspaper(s)	0.287	0.069	
	s_64 So do you smoke?	cs51.2 - how often read magazine(s)	0.562	0.038	
	s_64 So do you smoke?	cs51.3 - how often watch TV	0.049	0.127	less watch TV, > likelihood of being a smoker
Attitude towards Black Women Smoking	s_64 So do you smoke?	n76_1 - acceptable for older women to smoke	0.0001	0.568	If agree that smoking acceptavble for older women, > likelihood of being a smoker
	s_64 So do you smoke?	cn65_1 opinion of Black women smoking	0.0001	0.469	If have positive opinion of African women who smoke, > likelihood of being a smoker
	s_64 So do you smoke?	cn72 how view a black woman who smokes	0.0001	0.685	If have positive view of black women who smoke, > likelihood of being a smoker
Growing Up Product Exposure	s_64 So do you smoke?	s_55 when growing up, did anyone in your household smoke	0.065	0.119	
	s_64 So do you smoke?	s_60 ever sent to buy cigarettes or snuff for others while growing up	0.003	0.192	If were sent to buy cigarettes or snuff fo others when growing up, > likelihood of being a smoker
Current Product Exposure	s_64 So do you smoke?	cfrnd % female friends that smoke	0.0001	0.658	> % Female friends that smoke, > likelihood of being a smoker
	s_64 So do you smoke?	cfema % household smokers that are female	0.0001	0.658	> % of household smokers are female, > likelihood of being a smoker
	s_64 So do you smoke?	cs61 no. of smokers in household	0.0001	0.322	>number of smokers in household, > likelihood of being a smoker
Normative Expectations	s_64 So do you smoke?	n70_1 reaction of husband if saw her smoking	0.0001	0.617	If husband likely to have no reaction if saw her smoking, > likelihood of being a smoker
	s_64 So do you smoke?	n70_2 reaction of father if saw her smoking	0.0001	0.410	If father likely to have no reaction if saw her smoking, > likelihood of being a smoker
	s_64 So do you smoke?	n70_3 reaction of mother if saw her smoking	0.0001	0.397	If mother likely to have no reaction if saw her smoking, > likelihood of being a smoker
	s_64 So do you smoke?	n70_4 reaction of daughter(s) if saw her smoking	0.0001	0.441	If daughter(s) likely to have no reaction if saw her smoking, > likelihood of being a smoker
	s_64 So do you smoke?	n70_5 reaction of son(s) if saw her smoking	0.0001	0.467	If son(s) likely to have no reaction if saw her smoking, > likelihood of being a smoker
	s_64 So do you smoke?	n70_6 reaction of brother(s) if saw her smoking	0.0001	0.467	If brother(s) likely to have no reaction if saw her smoking, > likelihood of being a smoker
	s_64 So do you smoke?	n70_7 reaction of sister(s) if saw her smoking	0.0001	0.441	If sister(s) likely to have a positive reaction if saw her smoking, > likelihood of being a smoker
	s_64 So do you smoke?	n70_8 reaction of close female friends if saw her smoking	0.0001	0.617	If close female friends likely to have a positive reaction if saw her smoking, > likelihood of being a smoker
	s_64 So do you smoke?	n70_9 reaction of female acquiantances if saw her smoking	0.0001	0.630	If female acquaintances likely to have a positive reaction if saw her smoking, > likelihood of being a smoker
Lifesytle Commitment	s_64 So do you smoke?	CM_BI - Conversion Model / Lifestyle Commitment	0.0001	0.962	The > the intent to smoke, the > likelihood of her being a smoker

Appendix I – Linear Regression

Univariate Generalised Linear Model

Univariate Analysis of Variance

Between-Subjects Factors

		Value Label	N
View black women smoking	1	Negative	154
	2	Positive / No Reaction	45
Female aquaintences react to you smoking	1	Negative	165
	2	Positive	34
smoking is acceptable for older women? n76-1	.00	disagree	177
	1.00	agree	22
% female friends smoking	0	0%	166
	1	> 0%	33

Tests of Between-Subjects Effects

Dependent Variable: conversion - deleted 158 and 173

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	331.345[a]	4	82.836	58.749	.000
Intercept	885.094	1	885.094	627.728	.000
CN72	19.965	1	19.965	14.160	.000
CN70.9	5.500	1	5.500	3.900	.050
N76_1	13.621	1	13.621	9.661	.002
CFRND	23.463	1	23.463	16.640	.000
Error	273.539	194	1.410		
Total	1627.000	199			
Corrected Total	604.884	198			

a. R Squared = .548 (Adjusted R Squared = .538)

Parameter Estimates

Dependent Variable: conversion - deleted 158 and 173

Parameter	B	Std. Error	t	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	5.749	.282	20.411	.000	5.194	6.305
[CN72=1]	-1.281	.340	-3.763	.000	-1.952	-.610
[CN72=2]	0[a]	.	.	.	.	.
[CN70.9=1]	-.683	.346	-1.975	.050	-1.365	-9.228E-04
[CN70.9=2]	0[a]	.	.	.	.	.
[N76_1=.00]	-1.116	.359	-3.108	.002	-1.824	-.408
[N76_1=1.00]	0[a]	.	.	.	.	.
[CFRND=0]	-1.118	.274	-4.079	.000	-1.659	-.578
[CFRND=1]	0[a]	.	.	.	.	.

a. This parameter is set to zero because it is redundant.