SMOKING BEHAVIOUR, RISK PERCEPTION AND ATTITUDE TO ANTI-SMOKING LEGISLATION AMONG STUDENTS AT THE UNIVERSITY OF THE WESTERN CAPE

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A mini-thesis submitted in partial fulfilment of the requirements for the degree of M.A. (Research) Psychology in the Department of Psychology, University of the Western Cape

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October 2010

Keywords: smoking, tobacco use, Western Cape, students, risk perception, anti-smoking legislation, anti-tobacco policy, Information-Motivation-Behavioural (IMB) skills model, quantitative, cross-sectional survey.

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ABSTRACT

Tobacco use is a serious health concern globally as well as in South Africa. The Western Cape has an exceptionally high smoking rate in the country and literature indicates that 'Coloured' individuals and males are a high risk group for tobacco use. Moreover,

while adolescence is a key period for smoking experimentation, smoking habits tend to increase and individuals become regular smokers between the ages of 18 and 25. Since students usually fall into this age-group, 330 students from two first-year Psychology classes at the University of the Western Cape were part of the study. Non-probability sampling was used. The study investigated three aspects related to smoking, namely, smoking behaviour, risk perception and attitudes to anti-smoking legislation. The theoretical framework of the study was the Information-Motivation-Behavioural (IMB) skills model. The study was a quantitative one, making use of a cross-sectional survey design to obtain data about the three variables of interest. Responses to statements about risk perception and attitudes to anti-smoking legislation in the questionnaire were arranged on a three-point Likert scale. The inferential statistics used were one-sample t-tests and Chi-square analyses. The results showed an overall smoking prevalence of 16%, with twice as many females than males being smokers in the sample. 'Coloured' students in both genders had the highest smoking rate compared to all other race groups. The knowledge of the health risks of smoking were very high, however smokers had a lower perception of risk compared to non-smokers. Moreover, while there was a fair amount of support for anti-smoking legislation among smokers, smokers tended to show less support for legislation than non-smokers, especially to those parts of the legislation that affect them more directly. The results of the study indicate a clear connection between smoking behaviour and the effect it has on both risk perception as well as attitudes to anti-smoking legislation in individuals.

DECLARATION

I declare that "Smoking behaviour, risk perception and attitude to anti-smoking legislation among students at the University of the Western Cape" is my own work, that it has not been submitted before for any degree or examination at any other university, and that all sources I have utilised or cited have been indicated and acknowledged as complete references.

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Maša Popovac

ACKNOWLEDGEMENTS

I would like to extend my gratitude to the following individuals who have, in various ways, been a part of this journey with me and without whom this thesis would not have been possible.

To my supervisor, Prof. Kelvin Mwaba: You have been a guiding light in every step of this process and your knowledge and experience has been a true inspiration. Thank you.

To Jade, Janine, Ghouwa, Naiema, Renier and Rizwana, my fellow Masters research colleagues: Thank you for all your support, assistance and countless hours of discussions. This work has so much to do with all of you and I could not have picked better individuals to have shared this journey with.

To Chad: Thank you for your moti support, for always celebrating my achievements and for being such a p in my life over the past three years.

And finally, but most especially, to my parents and my brother, Boško: Thank you for your endless support, encouragement, patience and love throughout my life and every decision I make. We did it!

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CHAPTER 1: INTRODUCTION

The World Health Organization (WHO) reports that only two major global causes of death are increasing rapidly: death from AIDS and from tobacco (WHO, 2003a; Peltzer, 2008). Tobacco use is a pandemic, with a global estimate of 4.2 million deaths per year attributable to smoking (Northridge, 2001; WHO, 2003b; Greydanus & Patel, 2005). If current smoking trends continue, tobacco will become the leading cause of premature death worldwide by the year 2030, with 10 million people estimated to die from this addictive drug (WHO, 2003a; Peltzer, 2008; Northridge, 2001). In 1998, there were approximately 1.2 billion adult smokers[1] out of the world's 6 billion population (Anderson, 2006). Half of all smokers are predicted to die from tobacco-related causes, this is an estimated death toll of 500 million people alive today (Peltzer, 2008; WHO, 2003b; Laforge *et al*., 1998). In South Africa, smoking caused between 41 632 and 46 which accounts for 8-9% of all deaths in the year 2000 and ranked only third of mortality among 17 risk factors[2] (Groenewald, 2007). The Western Cape has the second highest[3] smoking rate in the country, with 48% of adults smoking (Madu & Matla, 2003; Peltzer, 2008; Reddy, Meyer-Weitz & Yach, 1996). The alarmingly high rate of smoking in the Western Cape is a cause for concern as one in five deaths in the province is due to tobacco-related causes (Reddy, Meyer-Weitz & Yach, 1996).

In South Africa, smoking is unequally distributed among population groups. The high smoking rate in the Western Cape is seen to reflect the rapid increase in smoking rates among the 'Coloured'[4] population in the past, the health implications of which are already reflected

[1] Note: only those aged 15 and above were surveyed, as a result this figure is expected to be higher.
[2] Sexually transmitted diseases ranked first and high blood pressure ranked second.
[3] The Northern Cape has the highest smoking rate with 55% of the adult population smoking.
[4] The term 'Coloured' was developed during the Apartheid era of South Africa and refers to individuals who are of mixed origin. In order to keep a race-focused and divided society the term was introduced as one of the four racial categories under the law of the time which included Blacks, Whites, Coloureds and Indians.

in the fact that there was a 100% increase in lung cancer mortality rates among 'Coloured' men and a 300% increase among 'Coloured' women over the past two decades (Madu & Matla, 2003; Reddy, Meyer-Weitz & Yach, 1996). Nationally, studies indicate that 'African', 'Indian' and 'Asian' youth use tobacco at lower rates than 'White' or 'Coloured' adolescents consistently over time and geographical location (Peltzer, 2008; Yach, McIntyre & Saloojee, 1992). The 'Coloured' population has the highest smoking rate in South Africa (59%), followed closely by 'Indians' (36%) and 'Whites' (35%) and lastly by the 'African' population (31%) (Reddy, Meyer-Weitz & Yach, 1996). More recently, in 2003, the recorded smoking figures were 46% for 'Coloureds', 28% for 'Whites', 27% for 'Asians'[5] and 19% for 'Africans' (Peltzer, 2008). The 1996 figures are slightly higher than the 2003 figures recorded for the racial groups in South Africa which shows a decrease in smoking among all groups, perhaps due to the extensive anti-smoking legislation and excise tax on cigarettes implemented during that time. This shows the responsible public health action on tobacco control by the South African government is beginning to show success (Reddy, 2004). However, despite the decrease, the 'Coloured' population still has a significantly higher smoking rate compared to all other race groups.

Evidence suggests that being male is the greatest predictor of tobacco use, with the overall global prevalence about four times higher among males (48%) than females (12%) (WHO, 2003b). In South Africa the smoking rate is similar to the global figures with 43% of men and 18% of women smoking (Peltzer, 2008). Due to the lower smoking prevalence rates among females, young girls represent a major untapped market for the tobacco industry and are at risk for marketing campaigns to draw in more smokers in this demographic (Baška, Warren, Bašková & Jones, 2009). In Europe, girls between 13-15 years old are showing increased smoking prevalence which may be a direct result of indirect marketing campaigns and

[5] In this study the Indian population formed part of the term 'Asian'.

promotions directed to this part of the population (Baška, Warren, Bašková & Jones, 2009). As such, anti-smoking campaigns should target different parts of the population in order to be effective. Studies have also found that females who smoke are more likely to have experienced depression or family violence than those who do not, with depression being strongly linked to smoking (Fernander, King & Price, 2006; WHO, 2003a; Patterson *et al.*, 2004). Furthermore, females are much more likely to smoke for weight control due to societal pressure to be thin and to hold this as a reason for smoking initiation (Fernander, King & Price, 2006; McCool, Cameron & Petrie, 2004; Honjo & Siegel, 2003). Women generally have a lower smoking rate compared to males across all racial groups in South Africa but, among women, 'Coloured' females have the highest smoking rate (37%) in South Africa (Peltzer, 2008).

The highest smoking rate occurs in the [illegible]f 25 to 54 years of age (Peltzer, 2008), however, adolescence is a key period for [illegible]behaviour resulting in smoking initiation (Greydanus & Patel, 2005). The mean age for smoking the first cigarette in a South African high school study was 14.54 years old (Madu & Matla, 2003). It is argued that while experimentation occurs in the teenage years, smoking habits tend to increase and individuals become regular smokers between the age of 18 and 25 (Baker, Brandon & Chassin, 2004; Patterson *et al.*, 2004). This is usually the age when students begin university. The tobacco industry is constantly seeking out new customers by targeting young adults, females as well as expanding into the developing world over the years. Tobacco industry documents show that the industry recognises young adulthood as an important transition time and, thus, executes various marketing strategies on and around campuses (Barbeau, Leavy-Sperounis & Balbach, 2004). As such, places where university students socialise such as nightclubs and bars are often the places where tobacco promotions are most active (Sepe, Ling & Glantz, 2002). Thus, exposure to tobacco promotions, both on campus and at other social events

around campus, has been associated with increased tobacco use by university students (Rigotti, Regan, Moran & Wechsler, 2003; Barbeau, Leavy-Sperounis & Balbach, 2004). Apart from promotions, university represents a progression into adulthood, independence and the freedom to make self-initiated choices, as well as the meeting of different peers which can contribute to smoking initiation (Graydanus & Patel, 2005; Rodriguez, Tscherne & Audrain-McGovern, 2007; Patterson *et al.*, 2004). Thus, this setting is an important one to consider as it acts as an important determinant of future smoking behaviour, often resulting in years and even decades of adult smoking.

Cigarette smoking leads to chronic exposure to many harmful chemicals including tar, nicotine, benzopyrene, carbon monoxide, arsenous oxide and radioactive polonium compounds (Greydanus & Patel, 2005). This chronic exposure eventually leads to significant risk for developing diseases such as emp[illegible]g cancer, other cancers including cancers of the larynx, head and neck, mouth, bla[illegible]agus, pancreas, stomach and kidney, and heart disease and other medical conditions (Western Cape Department of Health, 2006; Kuper, Boffetta & Adami, 2002; Greydanus & Patel, 2005; Pacella-Norman *et al.*, 2002). In 1998, South African death notification forms were revised to include the smoking status of the deceased. An examination into death notifications shows that there is a significantly increased relative risk (RR) of deaths for individuals who had smoked five years prior to their death due to lung cancer (RR=4.8)[6], chronic obtrusive pulmonary disease (RR=2.5), tuberculosis (RR=2.5), stomach cancer (RR=2.2), digestive diseases (RR=1.6) and heart disease (RR=1.7) (Sitas *et al.*, 2004; Reddy, 2004). Moreover, Sitas *et al.* (2004) concluded that, if smokers had the same death rates as non-smokers, 58% of lung cancer deaths, 37% of chronic obtrusive pulmonary disease deaths, 20% of tuberculosis deaths and 23% of vascular

[6] Relative Risk (RR) is a measure of how much a particular risk factor influences the risk of a specific outcome. It is defined as the ratio of the risk of disease or death among those exposed to a risk and those unexposed to that risk (Reddy, 2004). As such, a RR of 4.8 for lung cancer indicates that smokers are 4.8 times more likely to die from lung cancer compared to non-smokers.

deaths would have been avoided. With this in mind, it is evident that tobacco is the single most important risk factor in the impending chronic disease epidemic worldwide (Reddy, 2004; Michaud, Murray & Bloom, 2001).

A concern also lies in the risk perception of smokers who often deny or minimise their own risk of developing a tobacco-related disease. While smokers acknowledge the risks for other smokers, they almost always consider their own risk to be less severe (Weinstein, Slovic & Gibson, 2004). In countries like South Africa where there is already a high rate of infectious diseases like HIV/Aids, having to deal with increasing tobacco-related diseases as well puts a strain on the health care system of the country (Yach, Hawkes, Gould & Hofman, 2004). Smoking accounts for a "large burden of preventable diseases" in South Africa and, while the government has taken legislative action to discourage tobacco use since 1994 through the increase in excise tax, banning smoking in places, banning advertising and sponsorship of tobacco products and introducing warnings on tobacco packaging, it is still a major public health concern (Groenewald, 2007, p. 674; Madu & Matla, 2003).

1.1 Rationale

The importance of the current study is reflected in the health risks involved and the burden tobacco-related diseases place on health care systems in countries around the world. In countries like South Africa, with a high rate of infectious diseases, especially HIV/AIDS, dealing with an additional epidemic of tobacco-related diseases is having a devastating effect on resources as well as on individuals and their families. Moreover, by addressing some of the issues in smoking trends in a province with an exceptionally high smoking rate in the country can aid in policy making and interventions targeted at these specific high risk groups. The university setting is an important one to look at because literature suggests that the student age group is often when smoking behaviour increases. The University of the Western

Cape (UWC) setting provided an insight into smoking trends among individuals who may be considered to be at high risk. This study also looked at risk perception in young adults and their attitudes to anti-smoking legislation. This knowledge can help in extending anti-smoking policies and strategies to reduce smoking uptake in this age group as well as provide a better understanding of the psychological and social influences involved in the behaviour.

1.2 Research Question

The study focused on smoking behaviour, risk perception and attitude to anti-smoking legislation among UWC students. Thus, the research question is: *What are UWC students' smoking behaviours, perceptions of smoking and attitudes to anti-smoking legislation?*

1.3 Aims of the Study

The study investigated three important a ely, smoking behaviour, risk perception and attitudes to anti-smoking legislation mple of students at UWC. The aims of the study were:

1. To determine smoking behaviour among students.
2. To understand students' perceptions of health risks associated with smoking.
3. To establish students' attitudes toward anti-smoking legislation in South Africa.

The chapter that follows highlights the important literature with regard to anti-smoking legislation as well as risk perception. It also provides the theoretical framework for the study.

CHAPTER 2: LITERATURE REVIEW

2.1 Anti-Smoking Legislation

Although tobacco consumption is declining in higher-income developed countries, it seems to be rising in developing countries especially on the African continent. While the tobacco industry makes use of the continent to grow tobacco crops (in 1993 an estimated 500 000 tons of tobacco were grown in 33 African countries), it is now also promoting and marketing tobacco use among Africans (Pacella-Norman *et al.*, 2002; Yach, 1996; De Beyer, Lovelace & Yűrekli, 2001; Schmidt, 2007). Due to the threat that legislation and social change pose to the tobacco industry, they have "carefully cultivated market share by targeting children, members of minority groups, women, and increasingly, new customers in the developing world" (Koh, Joossens & Connolly, 2007, p. 1498; Yach & Paterson, 1994). This is worrisome because African countries are [illegible]ith high rates of infectious diseases such as HIV/AIDS and are at the same time a[illegible]n increase in cancers and respiratory and circulatory diseases caused by tobacco (De Beyer, Lovelace & Yűrekli, 2001; Martin, Steyn & Yach, 1992). This not only places a burden on already depleted health care services in lower-income countries, but leaves many poor families without any income when a breadwinner dies prematurely from smoking-related causes (WHO, 2003b; De Beyer, Lovelace & Yűrekli, 2001).

In 2003, the World Health Organization Framework Convention on Tobacco Control urged countries to adopt clean-air policies and other initiatives including price and tax increases on tobacco products, advertising bans and warning labels on tobacco packaging (Koh, Joossens & Connolly, 2007). In South Africa, health warnings were introduced for tobacco packaging and advertising in 1995 and, with the implementation of the Tobacco Products Control Amendment Act of 1999, smoking restrictions were placed in workplaces and other public

places and tobacco advertising and promotion was prohibited, including through sponsored events (Tobacco Products Amendment Act No. 12, 1999). Since legislation was first implemented, it has become stricter over the years.

2.1.1 Different aspects of anti-smoking legislation

The banning of tobacco advertising was an important step in legislation as advertising was seen to be playing a key role in the initiation and maintenance of smoking habits in adolescents through creating a positive image of smoking (Yach & Paterson, 1994; Northridge, 2001). When Yach and Paterson's article was published, five years before tobacco advertising was banned, the authors discussed the important role advertising played in the way in which health information reaches populations in developing countries and go on to say that "tobacco advertising distorts public health messages" (Yach & Paterson, 1994, p. 840). Due to the reduced coverage of to[illegible]ffects in the magazines carrying tobacco advertisements, the risks are underestim[illegible] to other public health issues (Yach & Paterson, 1994). Since then, the advertising of tobacco has been banned, but portrayal of smoking in films has come to the fore as influential in adolescent decision-making with regard to smoking. This medium has become influential in establishing or maintaining pro-smoking beliefs (McCool, Cameron & Petrie, 2004). Often filmmakers use smoking as a means of conveying a particular image of the character in the film including their "social status, lifestyle, sub-cultural affiliation, and emotional state" (McCool, Cameron & Petrie, 2004, p. 308). The images of a seductive woman or tough man smoking in a film are seen to influence adolescents, "lead actors or actresses who smoke are often likeable, rebellious, attractive and/or successful- role models bearing such characteristics are often used in direct tobacco advertising" (Edwards, Harris, Cook, Bedford & Zuo, 2004, p. 277; McCool, Cameron & Petrie, 2004; WHO, 2003a). As such, films are taking the place of cigarette advertising and this needs to be addressed. A study conducted by Edwards *et al.* (2004) found

that showing anti-smoking advertisements in a cinema before the screening of a movie with characters who smoke had an effect on the way in which adolescent girls perceived the smoking in the film. The girls in the study were less likely to perceive the smoking in the film as justified which showed that the anti-smoking advertisement tended to elicit negative thoughts about smokers and smoking. This is important because "youth's perceptions of smokers are highly predictive of their smoking behaviour" (Edwards, Harris, Cook, Bedford & Zuo, 2004, p. 280).

Excise tax is another important means of controlling tobacco use as it affects the affordability of cigarettes, especially for adolescents and low-income individuals (Yach, 1996; Abedian & Jacobs, 2001). It is argued to be the most effective method of curbing the prevalence of consumption of tobacco products and reducing the global burden of disease brought about by tobacco consumption (Guindon, Tobin 02; Levy, Chaloupka & Gitchell, 2004; Schmidt, 2007). Abedian and Jacobs (2 decrease in consumption over the years and at every point in time where a further tax increase occurred. According to Schmidt (2007), for every 10% rise in cigarette taxes, sales drop by 8%. Thus, excise tax is argued to be the strongest mechanism of controlling tobacco consumption. Increasing the price of cigarettes not only influences individuals to refrain from starting and thereby avoiding addiction, but it also induces current smokers to smoke less, persuades them to quit and prevents ex-smokers from starting again (Jha, Chaloupka, Corrao & Jacob, 2006; Guindon, Tobin & Yach, 2002).

In South Africa, annual per capita cigarette consumption peaked at around 1 650 cigarettes per adult in the 1980s (Groenewald *et al.*, 2007). With the rapid increase in the excise tax on cigarettes the average retail price increased by R2.55 in 1993 to around R12.50 per pack in 2005; this has contributed to the decline in annual per capita cigarette consumption per adult to its current level which is less than 800 cigarettes (Groenewald *et al.*, 2007). Price increases

affect the behaviour of younger and poorer individuals more than the older and wealthier individuals. In South Africa, price increases directly affect young adults between 16 and 24 years old and lower income individuals (Guindon, Tobin & Yach, 2002; Abedian & Jacobs, 2001). Since smoking behaviour begins and becomes firmly established in adolescence, it is argued that any interventions that are effective in preventing smoking initiation and transition to regular, addicted smoking will have significant long-term public health benefits (Jha, Chaloupka, Corrao & Jacob, 2006; Levy, Chaloupka & Gitchell, 2004). Analysis of cigarette prices globally shows that cigarettes have become more expensive in most developed countries in the last ten years, but relatively more affordable in many developing countries (Guindon, Tobin & Yach, 2002). Even though South Africa has increased its excise tax to 50% of the retail price in 1997, the price of cigarettes is still extremely low relative to other countries (Abedian & Jacobs, 2001). Thus these authors suggest that there is still room to increase the tax of cigarettes even more in this country. Excise tax is beneficial because it can be put back into public health initiatives created to fund health promotion campaigns (Guindon, Tobin & Yach, 2002; Yach, 1996).

Restricting smoking in public places and private workplaces came about due to increased awareness of the consequences of passive smoking exposure, particularly among children (Jamrozik, 2005). Recently, in South Africa, this law was extended even further to include increased fines for smokers and establishments that break the smoking laws; no smoking is allowed in cars where there is a passenger under 12 years of age and parents are no longer allowed to sit in a smoking section of a restaurant with children (Tobacco Products Amendment Act No. 12, 1999; Langa, 2009). Moreover, introducing college campus halls and residences as smoke-free areas in the United States has had a substantial impact on smoking rates in students (Fisher, 2002). These laws not only protect non-smokers from passive smoking exposure but also reduce smokers' opportunities to smoke (Jha, Chaloupka,

Corrao & Jacob, 2006; Jamrozik, 2005). Limiting where individuals may smoke in the community significantly alters social norms for tobacco use; this results in a reduction of adolescent smoking initiation because it helps to counter the normative association of smoking as an acceptable adult behaviour (Wakefield & Forster, 2005; Jha, Chaloupka, Corrao & Jacob, 2006).

Another important strategy that has been implemented is the warning labels on tobacco packaging. These labels provide written warnings of the risks of tobacco consumption on health. When this legislation was first implemented there were precise specifications as to the size (25% of the packaging) and colour (only black and white) of the warning labels on tobacco packaging (Mahood, 1995). While many countries now have these written warning labels, Canada is one of the countries that has implemented graphic images on its tobacco packaging. This strategy has been encou World Health Organization in 2005 and the European Union, along with Australi ntries in Asia and South America as well as South Africa are looking to implement them (Peters *et al*., 2007). Some of the reasons for this are that graphic warning labels help consumers to appreciate the risks of smoking by creating unfavourable emotional associations with the behaviour, while the written labels fail to make these associations, fail to attract attention or make the health dangers sufficiently compelling (WHO, 2009; Peters *et al*., 2007; Argo & Main, 2004).

Peters *et al.* (2007) conducted a study comparing the written warning labels in the United States (similar to the ones in South Africa) and Canadian-style graphic labels to determine which had a bigger effect on a student sample. The Canadian-style graphic labels were shown to have a much bigger effect on the American students in the study while the written American labels were virtually ignored by the sample (Peters *et al.*, 2007). Hammond, Fong, McDonald, Brown and Cameron (2004) found that the smokers who reported greater fear or disgust for the graphic labels they encountered were more likely to either have quit, made an

attempt to quit or reduced their smoking at the follow up to the study. Thus, the greater the negative emotional reaction, the greater the effectiveness of the warning labels. Canada has had this system in place since 2000 and the warning labels cover 50% of the front and back packaging and also provide additional information inside the pack about resources for quitting (Peters *et al.*, 2007). It is precisely because of the emotions elicited by the images that creates a change in behaviour because seeing an image of the effects of smoking cannot be ignored as easily and this has an effect on the smoker's risk perception (Hammond, Fong, McDonald, Brown & Cameron, 2004; Schmidt, 2007). It is argued that graphic labels in South Africa will reach people with lower levels of education more effectively than written warnings have (WHO, 2009; Groenewald *et al*., 2007). South Africa is looking to implement graphic labels on tobacco packaging in the future.

Tobacco control policies, especially w[illegible]ned in a comprehensive program can substantially reduce smoking rates. An i[illegible]ason for implementing different policies is that they affect different demographic or smoking groups, for example, while tax increases affect young smokers and lower-income groups, restrictions on smoking in public may affect older smokers and those who are wealthier (Levy, Chaloupka & Gitchell, 2004; Davis, 1995).

2.1.2 Anti-smoking campaigns and future directions

Lynch, De Bruin, Cassimjee and Wagner (2009) conducted a study on fear appeal messages in anti-smoking advertising and smokers' reactions to them. This strategy relies on fear as a powerful motivator in persuading smokers to change their behaviour. The study found that smokers often reacted in anger or denial to these messages and equated the risks of smoking as no bigger than calculated risks taken every day, especially in a violent country like South Africa (Lynch, De Bruin, Cassimjee & Wagner, 2009). The study's findings highlight the importance of realistic messages, as unrealistic fear appeal messages encouraged participants

in the study to distance themselves from the messages. Another important point is that messages should focus on portraying the short-term risks of smoking instead of only relying on information pertaining to long-term consequences, which smokers often tend to dismiss or ignore (Beaudoin, 2002; Lynch, De Bruin, Cassimjee & Wagner, 2009; Johnston, Terry-McElrath, O'Malley & Wakefield, 2005). Furthermore, health communication should avoid negative depictions of smokers that "alienate them from the message being portrayed and instead communicate the positive consequences associated with not smoking" (Lynch, De Bruin, Cassimjee & Wagner, 2009, p. 18). These are important points to be taken into account for the future. In a review on various studies looking at the effects of anti-smoking advertising on youth smoking, it was found that graphically representing the effects of smoking, emphasising social norms against smoking and portraying the tobacco industry as manipulative positively influences adolescents and decreases smoking initiation (Wakefield, Flay, Nichter & Giovino, 2003; Johnston, Terry-McElrath, O'Malley & Wakefield, 2005).

An interesting aspect discussed by Yach (1996) is the important role of women in tobacco control. He argues that strategies for the future should include preventing smoking among women and making use of women to "lobby for legislation and enforce it through social pressure; promoting positive role models, such as successful women who do not smoke, to spread the message that it is smart not to smoke; and ensuring that health education programmes continuously reinforce anti-smoking attitudes and behaviours" (Yach. 1996, p. 35). This would ensure that women take the lead in protecting their own health and that of their families.

While the anti-smoking legislation has thus far played a pivotal role in altering smoking behaviour, future directions currently being discussed in South Africa with regard to legislation involve implementation of graphic warning labels on packaging as mentioned earlier, as well as the removal of the terms 'low tar', 'light' and 'mild'. The use of these

terms suggests that these cigarettes are less harmful, when in fact they pose the same risk as normal cigarettes and do not reduce the smoker's intake of tar or nicotine or risk of disease. (Langa, 2009; Dunlop & Romer, 2010; Jamrozik, 2005; Davis, 2005). It is also suggested that future campaigns should emphasise how light smokers also endanger their health. A study conducted in Norway found that smokers who smoked 1-4 cigarettes per day faced the same health problems later in life as did heavier smokers (Bjartveit & Tverdal, 2005). Other strategies include the introduction of cigarettes that self-extinguish which may reduce the risk of fires, the regulation of chemicals that can be added to tobacco products and requiring tobacco manufacturers to disclose the harmful additives used in the manufacturing process (Langa, 2009).

With all these strategies already in place and future strategies being discussed, Koh, Joosens and Connolly (2007, pp. 1497-1498) appropriate that:

"In short, the world has begun to reclaim smoker as the social norm. For too long, the tobacco industry has spent billions to normalise, market, and glamorise a behaviour that is now recognised as a tragic drug addiction... In the face of an escalating pandemic, a global haze may be starting to lift. We are witnessing a public health evolution in which the once-extraordinary is rapidly becoming the social norm".

2.1.3 Attitude to anti-smoking legislation

A study looking at students' opinions of tobacco control policies in America concluded that support was higher among non-smokers than smokers but that most policies had substantial support among smokers, with support being inversely related to tobacco consumption (Rigotti, Regan, Moran & Wechsler, 2003). Thus, support for policies was greater among smokers who planned to quit than amongst smokers who were not planning to quit and greater among lighter smokers than heavier smokers (Rigotti, Regan, Moran & Wechsler,

2003; Poland *et al.*, 2000). An important finding in this study is that there was a strong support for bans on smoking in campus buildings, housing and dining areas which suggests that students' perceptions of social norms have shifted as a result of changes in the wider society (Rigotti, Regan, Moran & Wechsler, 2003).

A South African study conducted in the Eastern Cape province found support for tobacco control policies, with a third of respondents saying the legislation was not tough enough and an overwhelming majority supported restrictions on smoking in public places, increases in tobacco tax and said that anti-smoking campaigns should be increased (Awotedu *et al.*, 2006). A decade earlier a study by Reddy, Meyer-Weitz and Yach (1996) also found support for the banning of tobacco advertising, with support being slightly higher in the non-smoking group, and a majority supported the ban on smoking in public places. Not surprisingly, the support for the increase in tax for tobacco products was significantly lower in the smoker group than the non-smoker group (Reddy, Meyer-Weitz &Yach, 1996). Smoking behaviour seems to be an important determinant of attitudes to anti-smoking legislation in the studies mentioned above. It is no surprise then that smokers show a less favourable attitude to anti-smoking legislation than do non-smokers. Similarly, risk perception is linked to smoking behaviour.

2.2 Risk Perception

Risk perception has been researched widely over the past few decades within a wide range of risk activities that can lead to serious illnesses, injury or death. These activities include drinking, drugs, the wearing of seatbelts while driving, sexual activity as well as smoking. Extensive research has been conducted that focuses, in particular, on adolescent risk perception and risk taking behaviour as many of the risks that adolescents take are health-related (Johnson, McCaul & Klein, 2002). Generally, it has been found that adolescents who

participated in an activity perceived the risks to be smaller, better known, and more controllable than did non-participants of that activity (Benthin, Slovic & Severson, 1993; Slovic, 2000; Romer & Jamieson 2001b). From a cognitive perspective, individuals who engage in a risky activity report greater knowledge of the risks involved, less fear of known risks, less risk to self compared to others involved in the same activity and higher participation in the activity by others (Benthin, Slovic & Severson, 1993; Weinstein, Slovic & Gibson, 2004). Moreover, from a social perspective, individuals tend to report greater peer influence, less desire for regulation for the activity by authorities and greater benefits of the behaviour relative to risks (Benthin, Slovic & Severson, 1993). Similarly, there is increasing exposure to positive images of smokers among peers and in the media (Romer & Jamieson, 2001a). Due to greater support for risk behaviour by peers, risky behaviour has been suggested to serve a variety of functions including leading to social maturity and establishing identity for adolescents (Jessor, 1984, as cited in Romer & Jamieson, 2001a; WHO, 2003b). These are important points to consider when studying behaviour and risk perception because smoking is usually initiated in adolescence. By the time risk is acknowledged or health declines, the adult smoker is already addicted, making quitting the behaviour extremely difficult.

Much debate arose in this area, especially due to the several highly publicised and controversial court cases that have come about in recent years in which tobacco companies were sued by smokers who had fallen ill due to their smoking behaviour (Chapman, 2002; Davis, 2005). The tobacco companies argued that people need to take responsibility for their own behaviour because they made a decision to smoke and were fully aware of the risks involved (Romer & Jamieson, 2001a; Chapman, 2002). Viscusi (1990; 1991) conducted several studies and found that smokers were aware of the risks of smoking and, in fact, overestimated their risk of getting lung cancer. Moreover, younger age groups had greater

risk perception than older age groups (Viscusi, 1990; 1991; Cohn, Macfarlane, Yanez & Imai, 1995). On this basis, Viscusi (1990; 1991) claims that the initiation of smoking is an informed choice, although in adolescence not necessarily a rational one. Romer and Jamieson (2001a) note that in America, 90% of adult smokers had their first cigarette before the age of 20. Thus, a key question is whether adolescents are developmentally competent to make decisions about risks, especially since brain development in adolescence is incomplete and this developmental period is characterised by impulsivity and sensation seeking (Reyna & Farley, 2006). The question has been raised by many researchers who suggest that smoking cannot be interpreted as a choice made in the presence of full information about the potential harm (Weinstein, Marcus & Moser, 2005; Slovic, 2000; Romer & Jamieson, 2001a; Martin, Steyn & Yach, 1992). These studies indicate that smokers have an unrealistic optimism (optimistic bias) about the health risks associated with smoking, and, while they acknowledge the risks for others, nearly always claim own risk is less (Weinstein, Marcus & Moser, 2005; Romer & Jamieson, 2001a; Slovic, 2000, 1998; Arnett, 2000). Since young smokers are found to under-appreciate their own risk of smoking in relation to perceived mortality risk, and that heavy smokers rate their health risk as no less severe than light smokers (Romer & Jamieson, 2001a), it is evident that smokers generally do not appreciate the nature of the consequences and the probabilities of those consequences (Slovic, 1998). This is of interest because optimistic bias is not a complete disregard for the potential risks involved in smoking, it is simply the lack of acknowledgement of those same risks as being personally relevant (Johnson, McCaul & Klein, 2002; Arnett, 2000). Furthermore, Weinstein, Marcus and Moser (2005) found that smokers overemphasised the controllability of the risks, for example, through exercise or taking vitamins, and tend to minimise responsibility by claiming uncontrollability, for example, genetics as largely responsible for cancer.

Slovic (2000) also opposes Viscusi's (1990, 1991) claim that the risk is fully understood by smokers and reflects rational choices because he argues that this view assumes that knowledge of smoking is assessed in terms of perceptions of the long-term risks. However, studies indicate that smokers often fail to consider the cumulative nature of the risk across these many small acts and that they hold misperceptions of the risks of becoming addicted to smoking (Slovic, 2000). Slovic (2000, p. 259) emphasises an important aspect of risk which is its cumulative nature, in which the individual is "exposed to a hazard repeatedly over time". Non-cumulative risk such as driving without a seat belt is different because the effects of this behaviour can occur instantly, namely, injury in an accident. Individuals tend to take more risks when health hazards are viewed as cumulative rather than non-cumulative (Diamond, 1990, as cited in Cohn, Macfarlane, Yanez & Imai, 1995). Smoking represents a cumulative risk because damage occurs one cigarette at a time with no perceived short-term risk by the smoker, thus the smoker does not perceive a health risk in smoking the next cigarette (Slovic, 1998; 2000). The repeated engagement in a risky behaviour without experiencing negative consequences produces a false sense of security which has an effect on risk perception of the individual (Weinstein, 1989, as cited in Johnson, McCaul & Klein, 2002). It is no surprise then that there exists a degree of denial about the short-term risks of smoking, especially among smokers, believing that smoking the next cigarette or only for a few years poses little or no risk (Slovic, 2000; Weinstein, Slovic & Gibson, 2004). In addition to this, young smokers also perceived themselves to be at little or no risk because they expected to stop smoking before any real damage to health occurs (Arnett, 2000). However, a high percentage of young smokers become addicted and continue to smoke for long periods of time (Slovic, 2000; Romer & Jamieson, 2001b). Thus, Slovic (2000, p. 259) argues that "this denial of short-term risks, coupled with a tendency observed in other studies for young smokers to underestimate the addictive properties of tobacco, indicates that many young

people do not really understand the risks from smoking cigarettes". In short, individuals may be equipped with the knowledge surrounding the dangers of smoking, however, their lack of acknowledgement of the dangers for themselves and their beliefs that they will quit before any serious health consequences occur is indicative of their lack of appreciation for their exposure to harm.

According to Gerrard, Gibbons, Benthin and Hessling (1996), individuals who smoke engage in many of these types of health-related cognitions by denying or minimizing their vulnerability to negative consequences of their behaviours in order to alleviate their anxiety. It has been found that smokers are very aware of the risks and have all the knowledge about the dangers of smoking, but deal with the contradiction between their knowledge of the risks and their behaviour by altering or manipulating their cognitions in specific ways (Gerrard, Gibbons, Benthin & Hessling, 1996). This is done by, firstly, convincing themselves that many others are taking the same risks as they are (i.e. normalising the behaviour) and, secondly, they avoid thinking about the dangers associated with their behaviour (decreasing their concerns about the risks) (Gerrard, Gibbons, Benthin & Hessling, 1996). The study also found that as participation in risky activities increased, health cognitions were altered accordingly by reporting higher prevalence rates of the behaviour and displaying decreased concern about the dangers of smoking. On the other hand, when the risk behaviour decreased or as individuals made attempts to quit the behaviour, their image of smokers, their perception of risk, as well as their concerns about the negative consequences increased (Gerrard, Gibbons, Benthin & Hessling, 1996). As such, it appears that changes in risk behaviours are associated with cognitive shifts that serve to maintain self-esteem and facilitate continued participation in that activity, thereby acting as a defence mechanism (Gerrard, Gibbons, Benthin & Hessling, 1996).

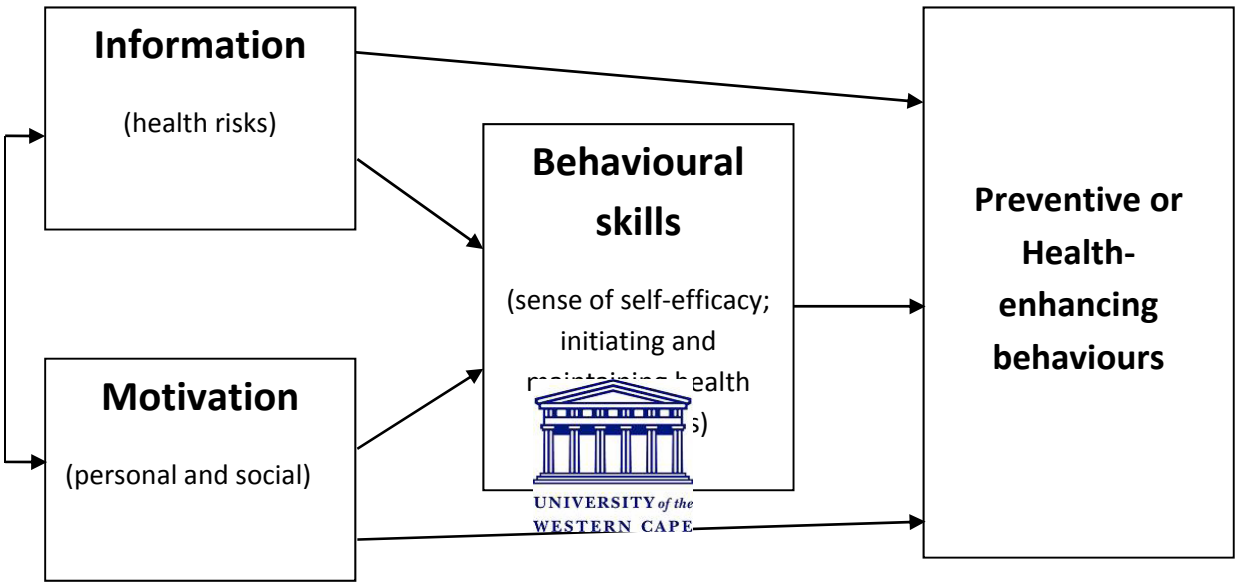
2.3 Theoretical Framework

The theoretical framework for the current study is the Information-Motivation-Behavioural (IMB) Skills Model. According to Osborn and Egede (2010), this model is a well-validated, comprehensive health behaviour change framework. It was developed by Fisher and Fisher in 1992 as part of the theories of health behaviour to understand HIV medication adherence in patients in order to design prevention strategies (Fisher, Fisher, Amico & Harman, 2006; Kalichman *et al*., 2001). Despite originally being a model used for HIV research, it has recently been broadly applied to other health promotion interventions (Kalichman *et al*., 2001; Osborn & Egede, 2010; Robertson, Stein & Baird-Thomas, 2006). The IMB Skills model is a cognitive-behavioural model and posits two cognitive and one behavioural factor in bringing about health behaviour change (Donenberg *et al.*, 2005).

According to the IMB Skills model, information, motivation and behavioural skills are fundamental determinants of preventi behaviours (Fisher, Fisher, Bryan & Misovich, 2002; Fisher & Fisher, 1992). This three-step approach implies that information about the health risks of smoking are an important element to "health-improving-behaviour change", but the individual receiving the information must also be motivated to act on this information and possess the necessary behavioural skills in order for risk reduction behaviour to occur (Kalichman *et al*., 2001, p. 59; Fisher & Fisher, 1992). Information and motivation can act as independent factors, i.e. an individual may have the necessary information about risks but have little motivation to act on those risks, similarly, an individual may be highly motivated but may not be well-informed, but often these factors affect each other (Donenberg *et al.*, 2005; Kalichman *et al.*, 2002). Information and motivation both influence risk reduction behaviour directly and indirectly through behavioural skills (Donenberg *et al.*, 2005; Robertson, Stein & Baird-Thomas, 2006). Moreover, behavioural skills are related to preventive or health-enhancing behaviours (whether this be in the form of adherence to

medication, condom use or quitting smoking) and information and motivation influence this behaviour and function through behavioural skills (Donenberg *et al.*, 2005; Robertson, Stein & Baird-Thomas, 2006).

Figure 1: The IMB Skills model



The focus surrounding smoking prevention and smoking behaviour in the past has most often been about providing information about the health risks involved. While this is an important prerequisite for smoking prevention, individuals must have both personal and social motivation (Fisher, Fisher, Bryan & Misovich, 2002; Anderson *et al.*, 2006). Personal motivation involves favourable attitudes toward not being involved in risky behaviour, the acknowledgement of personal vulnerability and consequences of that behaviour and the perceived benefits of risk reduction behaviours (Robertson, Stein & Baird-Thomas, 2006; Amico, Toro-Alfonso & Fisher, 2005; Avants, Warburton, Hawkins & Margolin, 2000). Social motivation is the perceived social support for not taking part in the behaviour as well as the perception regarding social norms and, thus, people's reactions towards that behaviour

(Robertson, Stein & Baird-Thomas, 2006; Fisher, Fisher, Bryan & Misovich, 2002). Motivation acts as a second prerequisite of smoking prevention and determines whether individuals who are well-informed will be inclined to act on what they know about the risks of smoking (Fisher, Fisher, Bryan & Misovich, 2002; Fisher, Fisher, Amico & Harman, 2006). The current study examines risk perception of cigarette smoking among students. According to the IMB Skills model, risk perception affects an individual's motivation to change their behaviour, thus, low risk perception in individuals may sustain or increase smoking as a result of the low perception of vulnerability of personal harm resulting from that behaviour. Similarly, anti-smoking legislation has become extensive and has helped to shift the perceived social norm of smoking cigarettes. This also aids motivation and may lead to an increased perceived cost-benefit ratio that affects behavioural change (Avants, Warburton, Hawkins & Margolin, 2000)

The third critical component of the model involves behavioural skills which determine whether well-informed and well-motivated individuals are capable of enacting a health-promoting action appropriately (Kalichman *et al*., 2001; Fisher, Fisher, Bryan & Misovich, 2002). It relies on particular skills or abilities for engaging in health behaviour and the individual's sense of self-efficacy in doing so (Fisher, Fisher, Bryan & Misovich, 2002; Amico, Toro-Alfonso & Fisher, 2005). Self-efficacy is a concept introduced by Bandura in his self-regulation theory and refers to a person's belief about their capabilities to exercise control over events that affect their lives (Brannon & Feist, 2000; Bandura, 1977). It determines whether a particular behaviour will be initiated, how much effort will be put into it and how long effort will be sustained when faced with obstacles and aversive experiences (Bandura, 1977). Thus, self-efficacy acts as an important determinant in behavioural skills leading to behaviour change. In short, the model posits that the extent to which an individual is well-informed, highly motivated and skilled determines the extent to which they are

expected to initiate and maintain patterns of health behaviour (Fisher, Fisher, Bryan & Misovich, 2002; Fisher & Fisher, 1992).

The IMB Skills model provides a framework for better understanding risk behaviours in individuals and can lead to the development of interventions that promote health-enhancing behaviours by educating, motivating and enhancing behavioural skills in individuals involved in risky behaviours (Kalichman *et al.*, 2002). Osborn and Egede (2010) state that interventions modelled after the IMB Skills model rely on first being aware of people's knowledge and motivation towards abehaviour and, thereafter, tailoring programs accordingly. As such, these interventions have been shown to be more effective in producing changes in behaviour than knowledge-based interventions that have been relied on previously (Osborn & Egede, 2010; Anderson *et al.*, 2006; Cornman, Schmiege, Bryan, Benziger & Fisher, 2007).

CHAPTER 3: METHODOLOGY

The study aimed to determine smoking behaviour, risk perceptions and attitudes to anti-smoking legislation among students at UWC. Since its aim was to obtain a general, broader understanding of the behaviours, perceptions and attitudes of UWC students, the study situated itself within a positivist paradigm using quantitative methodology.

3.1 Research Design

The study was a cross-sectional survey design, where data on behaviours, perceptions and attitudes of the sample were obtained at one point in time and the research was conducted using a questionnaire. The advantage of this approach was that one was able to collect data for a larger number of students, making the sample more representative of the student population (Babbie & Mouton, 200[illegible] 2008). Furthermore, a standardized questionnaire ensured that comparisons [illegible]de more accurately (Trochim, 2008). As a result, this design was best suited to reach the aims of the research question at hand.

3.2 Sample

The participants in the study consisted of two first-year Psychology classes at UWC. This introductory course was chosen as it often draws students from different faculties and is often taken as an elective. The overall number of respondents who elected to take part in the study was 330 students. The aim was to obtain responses from between 250 and 300 students, as a result the number that made up the sample was adequate for the study. There were substantially more female respondents (68.2%, n=225) than males (31.2%, n=103). This seems to be a general reflection of more females being drawn to courses in the Community and Health Sciences faculty. In terms of population groups, the majority of students were

'Coloured' (62.1%, n=205), followed by 'Africans' (30%, n=99). The remaining students were 'White' (4.5%, n=15), 'Indian' (2.4%, n=8) and 0.9% (n=3) fell in the 'Other' category.

One particular respondent had an issue with the racial categories on the questionnaire and felt that her race group was not captured accurately by the term 'African' as she considered all South Africans of all races to be 'African'. Instead, she would have preferred the term 'Black'. This feedback was important as it highlights the historical issues regarding race in South Africa and, in particular, the continued need to debate about these issues. Unfortunately, the racial categories are still important for research and in understanding which population groups are particularly at risk in South Africa as well as for the purpose of targeting specific groups of the population for interventions.

Figure 2: Population groups of the sam

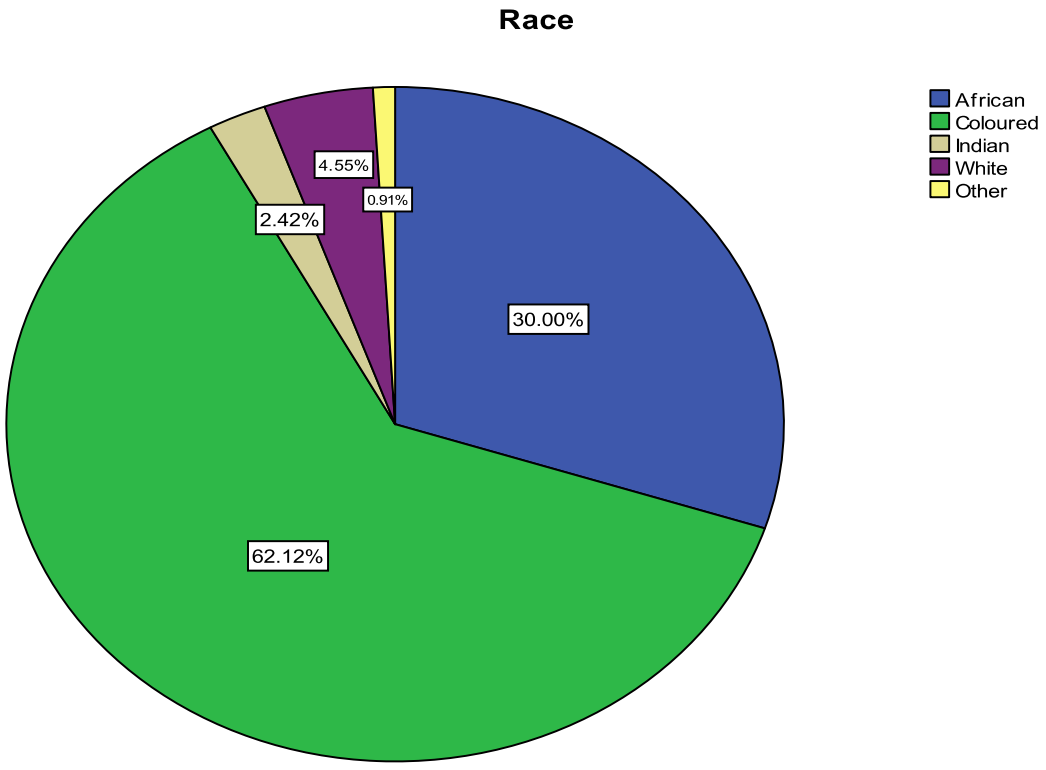


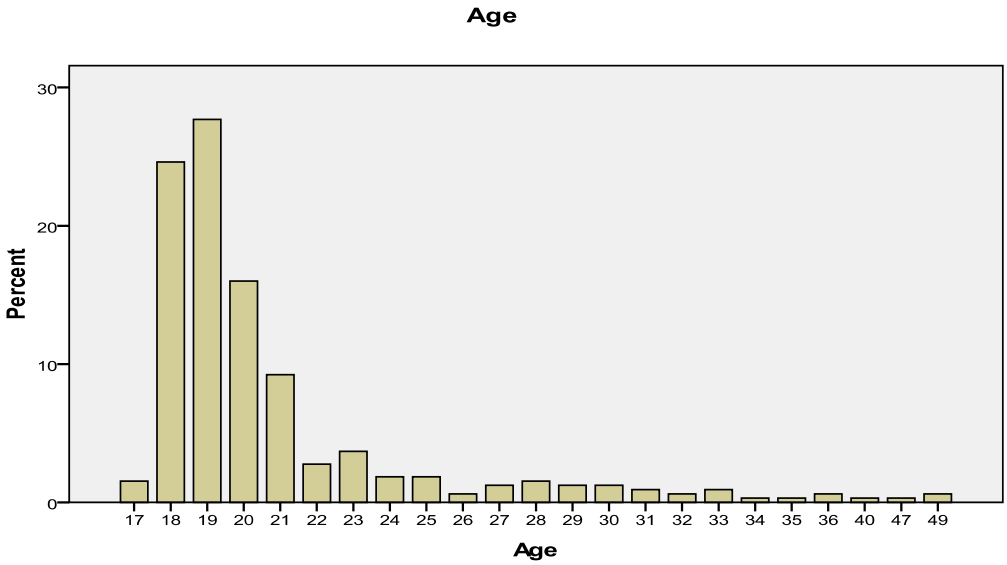
Table 1 (below) indicates the percentage for each gender per population group. It indicates that 'Coloured' females were the most highly represented group and made up more than half of the female sample (44.2% out of 68.6% of females, n=145). While 'Coloured' males made up 18% (n=59) of the sample, 'African' males were at 11.3% (n=37) and 'African' females were 18.6% (n=61) of the sample. 'White' males made up 1.5% (n=5) and 'White' females made up 3% (n=10) of the sample. 'Indian' males made up 0.6% (n=2) and females made up 1.8% (n=6) of the sample. Finally, only a small proportion, all female, claimed to be 'Other' with 0.9% (n=3) of the sample.

Table 1: Gender distribution for each population group

		Race				
		African	Coloured	Indian	White	Other	Total
Gender	Male	n=37 (11.3%)	n=59 (18.0%)	n=2 (.6%)	n=5 (1.5%)	n=0 (.0%)	n=103 (31.4%)
	Female	n=61 (18.6%)	n=145 (44.2%)	n=6 (1.8%)	n=10 (3.0%)	n=3 (.9%)	n=225 (68.6%)
Total		n=98 (29.9%)	n=204 (62.2%)	n=8 (2.4%)	n=15 (4.6%)	n=3 (.9%)	n=328 (100.0%)

The lowest reported age was 17 years old and the highest reported age was 49 years old. The mean age was 20.9 (≈21), with 79.1% of the sample being represented up to this age (i.e. the cumulative percentage between the lowest reported age, 17, and the mean, 21, is 79.1%). The majority of respondents (27.3%) were aged 19 (n=90), as can be expected at first-year level.

Figure 3: Age distribution of the sample



3.3 Sampling Procedure

Once permission was granted by the University's Senate Higher Degrees Committee, the lecturers of the respective first-year Psychology classes were approached to request permission to conduct the study. Thereafter, non-probability sampling was used to select the participants of the study. This sampling method relies on selecting participants based on availability (Babbie & Mouton, 2006). The lecturers of the two classes allowed the data collection to take place at the beginning of the lecture. The researcher first explained the purpose of the study to the students and invited them to participate in the study. Willing students received consent forms to sign and, thereafter, the questionnaires were distributed. The survey took approximately 15 minutes to complete.

3.4 Data Collection Tool

A survey was used to collect data from the participants. The application of questionnaires is a structured and standardized means of collecting data (Babbie & Mouton, 2006), making it ideal for the purpose of the current study. The tool that was used for this study was a developed questionnaire consisting of closed-ended questions. It was divided into three main sections, with each section focusing on one of the variables of the study, namely, smoking behaviour, risk perception and attitudes to anti-smoking legislation. A section for demographic information about the participant was included in section one.

In order to determine smoking behaviour, items on the questionnaire included questions such as: "Do you smoke?", "How many cigarettes, on average, do you smoke daily?", "How old were you when you started smoking?" and "Have you ever tried to quit?". Sections two and three focused on risk perception and attitudes to anti-smoking legislation respectively. They consisted of statements where participants indicated a level of agreement. A three-point Likert scale was used for this with categories 'agree', 'not sure' and 'disagree'. Likert scales offer standardised response categories in survey questionnaires (Trochim, 2008; Babbie & Mouton, 2006).

The statements in section two that determined risk perception were derived from a previous study (Awotedu *et al*., 2006) and established the participants' knowledge of the dangers of cigarette smoking. Some items included: "The dangers of smoking are exaggerated" and "Occasional smoking is not harmful to one's health". There were a total of eight statements in this section and two further items on risk perception asked the respondent to rate, using a percentage, the chances that a typical smoker will develop heart disease, lung cancer and lung disease (general outcome risk) and finally, the chances that they will develop heart disease, lung cancer and lung disease (comparative risk). These items were taken from the Smoking

Belief Survey conducted by Waltenbaugh and Zagummy (2004) to determine optimistic bias, perceived control over behaviour and factors influencing smoking behaviour. These two items were included in order to further establish whether smokers have a lower perception of risk compared to non-smokers as well as other smokers.

The final section in the questionnaire established the participants' attitudes to anti-smoking legislation. The statements in this section were adapted from the Smoking Policy Inventory (SPI) which is a 35-item scale that measures attitudes towards tobacco control policies on five dimensions, namely advertising and promotion, public education, laws and penalties, taxes and fees and restrictions on smoking (Doucet, Velicer & Laforge, 2007). Two items were selected from each of the five dimensions making up a total of ten statements. Items included: "There should be an increase in taxes for all tobacco products" and "Tobacco products should not be advertised at the store". Some items were altered to a different context and others were reworded for the sample. For example, one item on the SPI is "Smoking should be banned in all restaurants and cafeterias", this was altered to "Smoking should not be banned in clubs and nightclubs". Moreover, some words that might be difficult to understand for students who do not have English as a first language were simplified from the original inventory. Some of the items were also worded negatively. According to Laforge *et al.* (1998), there is evidence to support this instrument is internally consistent and valid across different populations. The inventory has a high internal validity with a coefficient alpha ranging from 0.83 to 0.92 for each of the sub-scales and has also been used for bigger studies on international samples in order to make comparisons between countries, including South Africa (Velicer, Laforge, Levesque & Fava, 1994).

The questionnaire was piloted on a small sample of first-year Psychology students to establish whether there were any difficulties in understanding the items or instructions.

Results showed that the questionnaire was simple enough to understand, this is further reflected in the low number of missing items in the data.

3.5 Data Analysis

The Statistical Package for the Social Sciences 17 (SPSS-17) was used to capture and analyse the data. Descriptive and inferential statistics were conducted in order to understand the students' behaviours, perceptions and attitudes to smoking. According to Babbie and Mouton (2006), descriptive statistics summarise a set of sample observations. Thus, descriptive statistics were conducted in order to describe the characteristics of the sample and the responses to the three key variables in terms of smoking behaviour, race and gender. Inferential statistics, on the other hand, make inferences about the larger population from which the sample is drawn (Babbie & Mouton, 2006). Inferential statistics were used in order to test for significant differences as well as associations among the key variables of the study. More specifically, one-sample t-tests were conducted for questions 9 and 10 of risk perception in order to compare the means between the smoking and non-smoking groups. Chi-square analyses were also conducted for each of the statements for the risk perception and anti-smoking legislation sections. The chi-square statistic is appropriate for use when the level of measurement is categorical (Field, 2009) in order to determine whether a relationship exists between two categorical variables (Pretorius, 2007).

3.6 Ethical Considerations

The study relied on informed and voluntary participation. Consent forms were signed by the students before the questionnaire was filled out. This informed them of the nature of the study as well as potential risks or benefits of being part of the study. In this way it was ensured that the participants were able to make an informed decision on whether to participate in the research or not. Participants had a choice to participate in the study and this was made clear

to them prior to the research data being collected. Moreover, it was made clear that participants reserve the right to withdraw from the study at any time without any consequence to them. It was explained that the study is in no way connected to the course, this is important as potential participants may have worried that their choice not to participate may affect their marks in the psychology course they are enrolled in.

The study was anonymous and confidential. The researcher did not know the participants and the questionnaire did not require the participants' names. Thus, the questionnaire itself is anonymous. Due to the necessity of consent forms, names of the participants were required on those, but the consent form was separate from the questionnaire. The researcher was the only one, along with the supervisor, to have access to the names on the consent forms and these were kept under strict confidentiality.

The participants were not harmed or  any way, physically, psychologically, socially or emotionally. There were also risks related to participation in the study. However, it was ensured that, if issues arose, the student would be referred for counselling at the Student Counselling Centre on campus. The researcher's values or beliefs were not imposed on the participants in any way. Information about smoking or available services was also made available on the participants' request. Furthermore, the study results were made available for interested participants.

A potential benefit for the participants in the study was the exposure to scientific research. Many students in various faculties at UWC will either be required to conduct a scientific study at some point or to draw on scientific studies. Thus, the study may have been beneficial in terms of the learning process.

CHAPTER 4: RESULTS

The study sought to obtain information with regard to smoking behaviour, risk perception and attitudes to anti-smoking legislation among students at UWC. While the three variables are interrelated, they will be presented separately in this section.

4.1. Smoking Behaviour

The overwhelming majority of the students in the sample were non-smokers (83.6%, n=54) with only 16.4% (n=276) indicating that they smoked cigarettes. Of those who smoked in the sample, 5.2% (n=17) were male and 11% (n=36) were female. Non-smoking males made up 26.2% (n=86) of the sample and non-smoking females made up 57.6% (n=189).

Figure 4: Smokers and non-smokers in

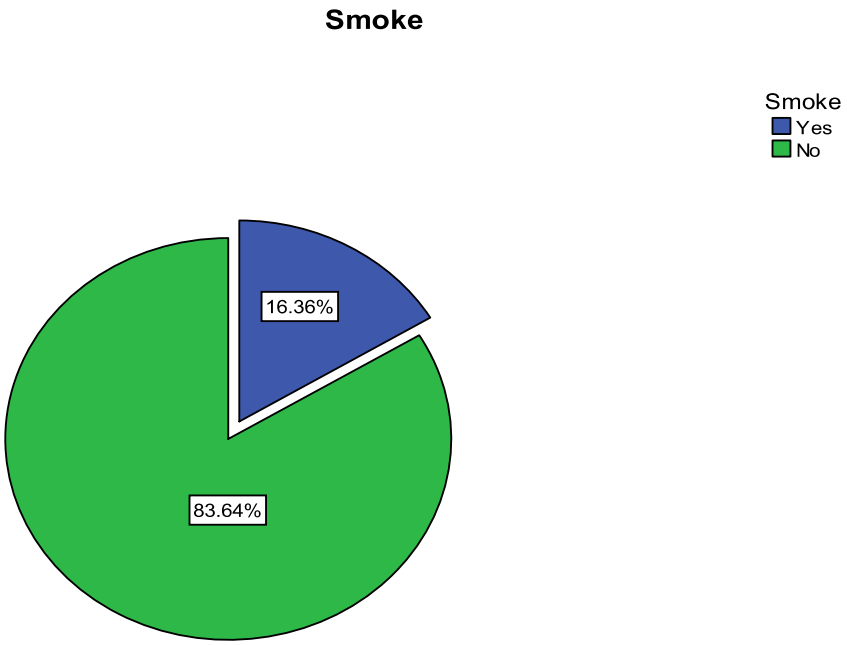


Table 2: Smokers and non-smokers according to gender

		Smoke		
		Yes	No	Total
Gender	Male	n=17 (5.2%)	n=86 (26.2%)	n=103 (31.4%)
	Female	n=36 (11.0%)	n=189 (57.6%)	n=225 (68.6%)
Total		n=53 (16.2%)	n=275 (83.8%)	n=328 (100.0%)

Smokers and non-smokers were also distributed differently in terms of population groups. 'Coloured' respondents had the highest smoking rate in the sample with 12.1% (n=40) of smokers, followed by the 'African' population (2.7%, n=9). The 'Indian' and 'White' population groups had similar smoking r % (n=2) and 0.9% (n=3) respectively. In each population group there were fewer non-smokers.

Table 3: Smokers and non-smokers according to population groups

		Race					
		African	Coloured	Indian	White	Other	Total
Smoke	Yes	n=9 (2.7%)	n=40 (12.1%)	n=2 (.6%)	n=3 (.9%)	n=0 (.0%)	n=54 (16.4%)
	No	n=90 (27.3%)	n=165 (50.0%)	n=6 (1.8%)	n=12 (3.6%)	n=3 (.9%)	n=276 (83.6%)
Total		n=99 (30.0%)	n=205 (62.1%)	n=8 (2.4%)	n=15 (4.5%)	n=3 (.9%)	n=330 (100.0%)

A closer look at population groups, gender and smoking indicates that 'Coloured' females have a much higher incidence of smokers (13.3%, n=30) than females of other population groups. 'African' females made up 1.3% (n=3) of smokers, followed by 'White' females (0.9%, n=2) and 'Indian' females (0.4%, n=1). Similarly and following the same pattern, 'Coloured' males had higher incidences of smokers than males from other population groups with 9.7% (n=10). 'African' males had 4.9% (n=5) of smokers and 'Indian' and 'White' males each had 1% (n=1) of smokers.

Table 4: Smokers and non-smokers according to gender and population group

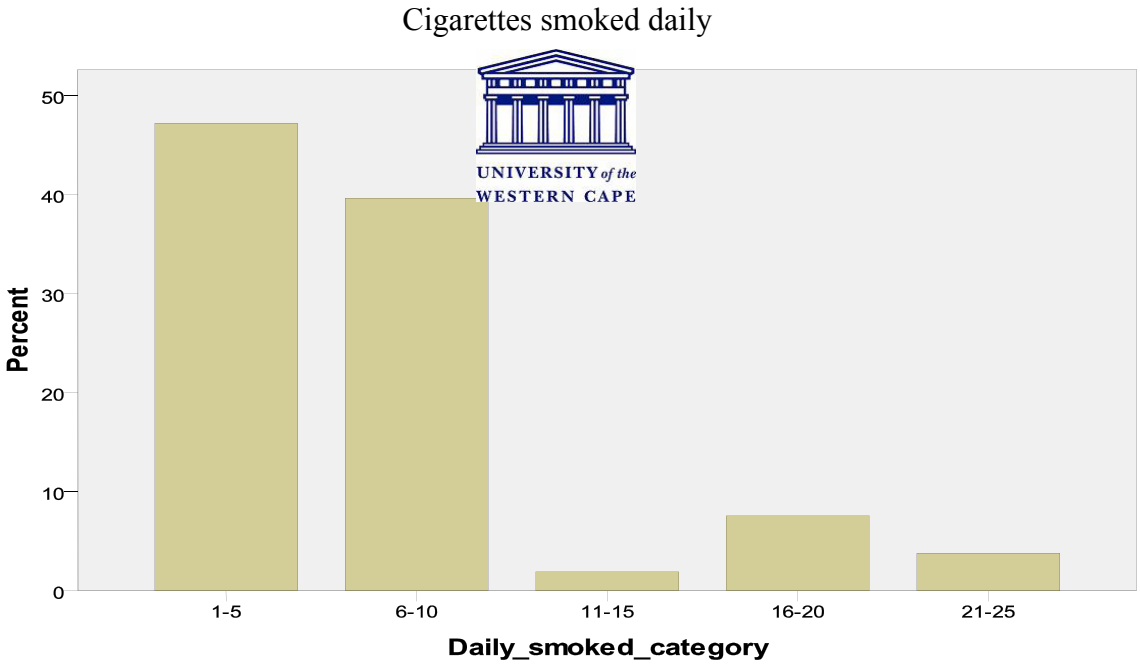
Gender			Race					Total
			African	Coloured	Indian	White	Other	
Male	Smoke	Yes	n=5 (4.9%)	n=9 (8.7%)	n=1 (1.0%)	n=1 (1.0%)		n=17 (16.5%)
		No	n=32 (31.1%)	n=49 (47.6%)	n=1 (1.0%)	n=4 (3.9%)		n=86 (83.5%)
	Total		n=37 (35.9%)	n=59 (57.3%)	n=2 (1.9%)	n=5 (4.9%)		n=103 (100.0%)
Female	Smoke	Yes	n=3 (1.3%)	n=30 (13.3%)	n=1 (.4%)	n=2 (.9%)	n=0 (.0%)	n=36 (16.0%)
		No	n=58 (25.8%)	n=115 (51.1%)	n=5 (2.2%)	n=8 (3.6%)	n=3 (1.3%)	n=189 (84.0%)
	Total		n=61 (27.1%)	n=145 (64.4%)	n=6 (2.7%)	n=10 (4.4%)	n=3 (1.3%)	n=225 (100.0%)

The number of cigarettes smoked on average per day varies among the smokers with a range of one to 25 being reported. The mean of the sample of smokers is seven cigarettes daily. Of the 53 smokers, 86.8% (n=46) smoke 10 cigarettes or less per day

Table 5: Number of cigarettes smoked daily

Daily smoked	Frequency	Percent of smokers	Cumulative Percent
1-5	25	47.2	47.2
6-10	21	39.6	86.8
11-15	1	1.9	88.7
16-20	4	7.5	96.2
21-25	2	3.8	100.0
Total	53	100.0	

Figure 5: Number of cigarettes smoked daily



Respondents who smoke were also asked if they had ever attempted to stop smoking. An overwhelming 81.1% (n=43) reported that they had previously tried to quit. Finally, smokers were asked to report the age when they started to smoke. The age of initiation into cigarette smoking ranged from an alarming five years old to 20 years old. The mean age was 14.9.

4.2 Risk perception

1. The dangers of smoking are exaggerated

When asked whether the dangers of smoking are exaggerated, 60.8% (n=200) of the sample disagreed, 23.7% (n=78) agreed and 15.5% (n=51) were not sure. The majority (62.5%, n=172) of those who disagreed with the statement were non-smokers and just over a half of smokers (51.9%, n=28) disagreed with the statement. Of those who agreed that the dangers of smoking were exaggerated, 35.2% (n=19) were smokers and 31.1% (n=17) of them smoked between 1 and 10 cigarettes per day, 21.5% (n=59) were non-smokers.

Table 6: Smokers' and non-smokers' responses

		Risk_1 of smoking are ed.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=19 (35.2%)	n=7 (13.0%)	n=28 (51.9%)	n=54 (100.0%)
	No	n=59 (21.5%)	n=44 (16.0%)	n=172 (62.5%)	n=275 (100.0%)
Total		n=78 (23.7%)	n=51 (15.5%)	n=200 (60.8%)	n=329 (100.0%)

More females disagreed with the statement (67.9%, n=152) than males (46.6%, n=48) and males had higher responses of 'not sure' (21.4%, n=22) and 'agree' (32%, n=33) than females with 12.9% (n=29) and 19.2% (n=43) respectively.

Table 7: Responses according to gender

		Risk_1: The dangers of smoking are exaggerated.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=33 (32.0%)	n=22 (21.4%)	n=48 (46.6%)	103 100.0%
	Female	n=43 (19.2%)	n=29 (12.9%)	n=152 (67.9%)	224 100.0%

Table 8 on the following page displays the differences in responses per population group. 'White' respondents indicated the most 'disagree' answers to the statement (73.3%, n=11), followed by 'Coloured' respondents (63.4%, n=130), 'African' respondents (55.1%, n=54) and finally the 'Indian' respondents (37.5%, n=3). Of those who agreed that the dangers of smoking were exaggerated, 50% (n=4) were 'Indian', 32.7% (n=32) were 'African', 19.5% (n=40) were 'Coloured' and 13.3% (n=2) were 'White'.

Table 8: Responses per population group

		Risk_1: The dangers of smoking are exaggerated.			
		Agree	Not_sure	Disagree	Total
Race	African	n=32 (32.7%)	n=12 (12.2%)	n=54 (55.1%)	n=98 (100.0%)
	Coloured	n=40 (19.5%)	n=35 (17.1%)	n=130 (63.4%)	n=205 (100.0%)
	Indian	n=4 (50.0%)	n=1 (12.5%)	n=3 (37.5%)	n=8 (100.0%)
	White	n=2 (13.3%)	n=2 (13.3%)	n=11 (73.3%)	n=15 (100.0%)
	Other	n=0 (.0%)	n=1 (33.3%)	n=2 (66.7%)	n=3 (100.0%)

2. Occasional smoking is not harmful to

The next statement asked respondents whether occasional smoking is not harmful to one's health. A vast majority (76%, n=250) disagreed with the statement, implying that occasional smoking is in fact harmful. Of the remaining respondents, 16.4% (n=54) were not sure and 7.6% (n=25) agreed that occasional smoking was not harmful to one's health. While disagreeing with the statement is high in both smokers (68.5%, n=37) and non-smokers (77.5%, n=213), non-smokers still have a higher 'disagree' response in comparison. More smokers in the sample reported to be unsure (22.2%, n=12) than non-smokers (15.3%, n=43) and smokers also displayed slightly higher 'agree' responses (9.3%, n=5) than non-smokers (7.3%, n=20). All of the smokers who agreed or were not sure about the statement smoked up to 10 cigarettes per day, while the smokers who smoke between 11 and 15 cigarettes per day all disagreed with the statement.

Table 9: Smokers' and non-smokers' responses

		Risk_2: Occasional smoking is not harmful to one's health.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=5 (9.3%)	n=12 (22.2%)	n=37 (68.5%)	n=54 (100.0%)
	No	n=20 (7.3%)	n=42 (15.3%)	n=213 (77.5%)	n=275 (100.0%)
Total		n=25 (7.6%)	n=54 (16.4%)	n=250 (76.0%)	n=329 (100.0%)

There did not appear to be much difference with regard to gender as males tended to disagree with the statement only slightly more than females (77.7%, n=80 versus 75.4%, n=169). Fewer males reported to be 'not sure' w=15) compared to females (17%, n=38). No major difference between the gende th the 'agree' response, males had 7.8% (n=8) and females had 7.6% (n=17).

Table 10: Responses according to gender

		Risk_2			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=8 (7.8%)	n=15 (14.6%)	n=80 (77.7%)	n=103 (100.0%)
	Female	n=17 (7.6%)	n=38 (17.0%)	n=169 (75.4%)	n=224 (100.0%)

'Coloured' and 'African' respondents were most likely to disagree with the statement with 77.1% (n=158) and 76.5% (n=75) respectively. This is followed by 'White' (66.7%, n=10)

and ‘Other’ (66.7%, n=2) respondents and finally by ‘Indian’ (62.5%, n=5) respondents. Those who agreed that occasional smoking is not harmful to health were 25% (n=2) ‘Indian’, 13.3% (n=2) ‘White’, 7.1% (n=7) ‘African’ and 6.8% (n=14) ‘Coloured’.

Table 11: Responses per population group

		Risk_2: Occasional smoking is not harmful to one’s health.			
		Agree	Not_sure	Disagree	Total
Race	African	n=7 (7.1%)	n=16 (16.3%)	n=75 (76.5%)	n=98 (100.0%)
	Coloured	n=14 (6.8%)	n=33 (16.1%)	n=158 (77.1%)	n=205 (100.0%)
	Indian	n=2 (25.0%)	(1	=5 .5%)	n=8 (100.0%)
	White	n=2 (13.3%)	(20.0%)	=10 (66.7%)	n=15 (100.0%)
	Other	n=0 (.0%)	n=1 (33.3%)	n=2 (66.7%)	n=3 (100.0%)

3. There is proof that smoking causes lung cancer, heart disease and lung disease.

An overwhelming majority (91.5%, n=301) of the sample agreed with this statement. 4.6% (n=15) claimed to be unsure and 4% (n=13) disagreed with the statement. Interestingly, more smokers agreed with the statement (96.3%, n=52) compared to non-smokers (90.5%, n=249) and more non-smokers disagreed with the statement (4.4%, n=12) compared to smokers (1.9%, n=1).

Table 12: Smokers' and non-smokers' responses

		Risk_3: There is proof that smoking causes lung cancer, heart disease and lung disease.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=52 (96.3%)	n=1 (1.9%)	n=1 (1.9%)	n=54 (100.0%)
	No	n=249 (90.5%)	n=14 (5.1%)	n=12 (4.4%)	n=275 (100.0%)
Total		n=301 (91.5%)	n=15 (4.6%)	n=13 (4.0%)	n=329 (100.0%)

The number of cigarettes smoked daily did not appear to affect the response to the statement. Once again gender did not seem to play a role as males agreed with the statement 93.2% (n=96) of the time and females agreed [illegible]03) of the time. Slightly more females tended to disagree (4.5%, n=10) compare[illegible]2.9%, n=3).

Table 13: Responses according to gender

		Risk_3: There is proof that smoking causes lung cancer, heart disease and lung disease.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=96 (93.2%)	n=4 (3.9%)	n=3 (2.9%)	n=103 (100.0%)
	Female	n=203 (90.6%)	n=11 (4.9%)	n=10 (4.5%)	n=224 (100.0%)

All of the 'White' respondents in the sample agreed with the statement (100%, n=15), followed by 'Coloured' respondents (91.7%, n=188), 'African' respondents (89.8%, n=88)

and 'Indian' respondents (87.5%, n=7). Only 'African' and 'Coloured' respondents had 'not sure' responses with 5.1% (n=5) and 4.9% (n=10) respectively. Finally, 5.1% (n=5) of 'African' respondents, 3.4% (n=7) of 'Coloured' respondents and one 'Indian' respondent disagreed with the statement.

Table 14: Responses per population group

		Risk_3: There is proof that smoking causes lung cancer, heart disease and lung disease.			
		Agree	Not_sure	Disagree	Total
Race	African	n=88 (89.8%)	n=5 (5.1%)	n=5 (5.1%)	n=98 (100.0%)
	Coloured	n=188 (91.7%)	[illegible]	=7 4%)	n=205 (100.0%)
	Indian	n=7 (87.5%)	[illegible]	=1 .5%)	n=8 (100.0%)
	White	n=15 (100.0%)	n=0 (.0%)	n=0 (.0%)	n=15 (100.0%)
	Other	n=3 (100.0%)	n=0 (.0%)	n=0 (.0%)	n=3 (100.0%)

4. Second-hand smoke is harmful to a non-smoker's health

The vast majority (90.3%, n=297) of respondents agreed with this statement, while 6.1% (n=20) were not sure and 3.6% (n=12) disagreed. No differences were evident when smokers and non-smokers were compared as 88.9% (n=48) of smokers and 90.5% (n=249) of non-smokers agreed, 5.6% (n=3) of smokers and 6.2% (n=17) of non-smokers were not sure and slightly more smokers disagreed (5.6%, n=3) compared to non-smokers (3.3%, n=9).

Table 15: Smokers' and non-smokers' responses

		Risk_4: Second-hand smoke is harmful to a non-smoker's health.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=48 (88.9%)	n=3 (5.6%)	n=3 (5.6%)	n=54 (100.0%)
	No	n=249 (90.5%)	n=17 (6.2%)	n=9 (3.3%)	n=275 (100.0%)
Total		n=297 (90.3%)	n=20 (6.1%)	n=12 (3.6%)	n=329 (100.0%)

Males and females responded fairly similarly. 91.3% (n=94) of males and 90.2% (n=202) of females agreed, 4.9% (n=5) of males and 6.7% (n=15) of females were not sure and 3.9% (n=4) of males and 3.1% (n=7) of females disagreed.

Table 16: Responses according to gender

		Risk_4: Second-hand smoke is harmful to a non-smoker's health.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=94 (91.3%)	n=5 (4.9%)	n=4 (3.9%)	n=103 (100.0%)
	Female	n=202 (90.2%)	n=15 (6.7%)	n=7 (3.1%)	n=224 (100.0%)

Coloured' respondents were most likely (93.7%, n=192) to agree with the statement, followed by 'White' respondents (93.3%, n=14), 'Indian' respondents (87.5%, n=7) and finally the 'African' respondents (82.7%, n=81). 'African' respondents had the most 'not sure' responses (11.2%, n=11), followed by 'Coloured' respondents (3.9%, n=8) and one 'White' respondent. Finally, 6.1% (n=6) of 'African' respondents disagreed with the statement, 2.4% (n=5) of 'Coloured' respondents disagreed and one 'Indian' respondent disagreed.

Table 17: Responses per population group

		Risk_4: Second-hand smoke is harmful to a n… alth.			
		Agree	N…	…agree	Total
Race	African	n=81 (82.7%)	n=11 (11.2%)	n=6 (6.1%)	n=98 (100.0%)
	Coloured	n=192 (93.7%)	n=8 (3.9%)	n=5 (2.4%)	n=205 (100.0%)
	Indian	n=7 (87.5%)	n=0 (.0%)	n=1 (12.5%)	n=8 (100.0%)
	White	n=14 (93.3%)	n=1 (6.7%)	n=0 (.0%)	n=15 (100.0%)
	Other	n=3 (100.0%)	n=0 (.0%)	n=0 (.0%)	n=3 (100.0%)

5. Smokers become more addicted the more they smoke

In the sample overall, 81% (n=265) agreed that smokers become more addicted the more they smoke, 14.1% (n=46) were not sure and 4.9% (n=16) disagreed. A large majority of both smokers (81.1%, n=43) and non-smokers (81%, n=222) agreed with the statement, however,

of the remaining smokers, more tended to disagree (11.3%, n=6 compared to 3.6%, n=10 of non-smokers), while the remaining non-smokers tended to be unsure (15.3%, n=42 compared to 7.5%, n=4 of smokers). All of the smokers that disagreed or were not sure about the statement smoked up to 10 cigarettes daily, while those that smoked between 11 and 25 cigarettes daily all agreed with the statement.

Table 18: Smokers' and non-smokers' responses

		Risk_5: Smokers become more addicted the more they smoke.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=43 (81.1%)	n=4 (7.5%)	n=6	n=53 (100.0%)
	No	n=222 (81.0%)	n= (15.0%)	)	n=274 (100.0%)
Total		n=265 (81.0%)	n=46 (14.1%)	n=16 (4.9%)	n=327 (100.0%)

A chi-square analysis indicated that the differences between smokers and non-smokers in the sample was statistically significant (p=0.027) X^2 (2) =7.25.

There was no difference between males and females. 79.4% (n=81) of males and 81.6% (n=182) of females agreed. 14.7% (n=15) of males and 13.9% (n=31) of females were not sure and 5.9% (n=6) of males and 4.5% (n=10) of females disagreed.

Table 19: Responses according to gender

		Risk_5: Smokers become more addicted the more they smoke.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=81 (79.4%)	n=15 (14.7%)	n=6 (5.9%)	n=102 (100.0%)
	Female	n=182 (81.6%)	n=31 (13.9%)	n=10 (4.5%)	n=223 (100.0%)

The 'African' respondents had the most incidences of 'agree' responses with 88.8% (n=87), followed by 'White' respondents (80%, n=12), 'Coloured' respondents (78.3%, n=159) and finally 'Indian' respondents with the lowest 'agree' responses (50%, n=4). 'Indian' respondents tended to be the most unsure about this statement with 25% (n=2) choosing this response, followed by 'Coloured' respo  %, n=34), 'White' respondents (13.3%, n=2) and 'African' respondents had the re' responses with 8.2% (n=8) choosing this response. Finally, 25% (n=2) of 'Indian' respondents, 4.9% (n=10) of 'Coloured' respondents, 3.1% (n=3) of 'African' respondents and one 'White' respondent disagreed with the statement. Responses per population group are tabulated on the following page (Table 20).

Table 20: Responses per population group

		Risk_5: Smokers become more addicted the more they smoke.			
		Agree	Not_sure	Disagree	Total
Race	African	n=87 (88.8%)	n=8 (8.2%)	n=3 (3.1%)	n=98 (100.0%)
	Coloured	n=159 (78.3%)	n=34 (16.7%)	n=10 (4.9%)	n=203 (100.0%)
	Indian	n=4 (50.0%)	n=2 (25.0%)	n=2 (25.0%)	n=8 (100.0%)
	White	n=12 (80.0%)	n=2 (13.3%)	n=1 (6.7%)	n=15 (100.0%)
	Other	n=3 (100.0%)	n=0 (.0%)	n=0 (.0%)	n=3 (100.0%)

6. Each cigarette smoked has an effect on

86.3% (n=284) of the sample agreed with this statement, 11.9% (39) were not sure and only 1.8% (n=6) disagreed. A closer look at this statement indicates that smokers and non-smokers had very similar responses with 83.3% (n=45) of smokers and 86.9% (n=239) of non-smokers agreeing that each cigarette smoked has an effect on the body. The remaining 14.8% (n=8) of smokers and 11.3% (n=31) of non-smokers were not sure and 1.9% (n=1) of smokers and 1.8% (n=5) of non-smokers disagreed with the statement. 87.5% (n=7) of the smokers who were not sure of the statement, smoked between 1 and 5 cigarettes per day.

Table 21: Smokers' and non-smokers' responses

		Risk_6: Each cigarette smoked has an effect on the body.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=45 (83.3%)	n=8 (14.8%)	n=1 (1.9%)	n=54 (100.0%)
	No	n=239 (86.9%)	n=31 (11.3%)	n=5 (1.8%)	n=275 (100.0%)
Total		n=284 (86.3%)	n=39 (11.9%)	n=6 (1.8%)	n=329 (100.0%)

No major differences occurred between males and females. 87.3% (n=89) of males and 85.8% (n=193) of females agreed with the statement. More females (12.9%, n=29) were unsure compared to males (9.8%, n=10) and 2.9% (n=3) of males and 1.3% (n=3) of females disagreed with the statement.

Table 22: Responses according to gender

		Risk_6: Each cigarette smoked has an effect on the body.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=89 (87.3%)	n=10 (9.8%)	n=3 (2.9%)	n=102 (100.0%)
	Female	n=193 (85.8%)	n=29 (12.9%)	n=3 (1.3%)	n=225 (100.0%)

All of the population groups in the sample answered fairly similarly. 86.9% (n=86) of 'African' respondents, 87.3% (n=178) of 'Coloured' respondents, 87.5% (n=7) of 'Indian' respondents and 73.3% (n=11) of 'White' respondents agreed with the statement. Of those who responded with 'not sure', 11.1% (n=11) were 'African', 11.8% (n=24) were 'Coloured', 12.5% (n=1) were 'Indian' and 13.3% (n=2) were 'White'. Of those who disagreed, two respondents in each group were 'African', 'Coloured' and 'White', and none were 'Indian'.

Table 23: Responses per population group

		Risk_6: Each cigarette smoked has an effect on the body.			
		Agree	Not sure	Disagree	Total
Race	African	n=86 (86.9%)	(1	=2 0%)	n=99 (100.0%)
	Coloured	n=178 (87.3%)	(11.8%)	=2 (1.0%)	n=204 (100.0%)
	Indian	n=7 (87.5%)	n=1 (12.5%)	n=0 (.0%)	n=8 (100.0%)
	White	n=11 (73.3%)	n=2 (13.3%)	n=2 (13.3%)	n=15 (100.0%)
	Other	n=2 (66.7%)	n=1 (33.3%)	n=0 (.0%)	n=3 (100.0%)

7. Smoking takes years off a smoker's life

For this statement, two thirds of respondents (66.6%, n=219) agreed, more than a quarter (28%, n=92) were not sure and 5.5% (n=18) disagreed. More non-smokers (68.4%, n=188) than smokers (57.4%, n=31) agreed. 24.1% (n=13) of smokers and 28.7% (n=79) of non-smokers were not sure. Moreover, a higher proportion of smokers (18.5%, n=10) than non-

smokers (2.9%, n=8) disagreed with this statement. Of the smokers who disagreed with the statement, 15.1% (n=8) smoked between 1 and 10 cigarettes per day and 3.8% (n=2) smoke between 21 and 25 cigarettes per day.

Table 24: Smokers' and non-smokers' responses

		Risk_7: Smoking takes years off a smoker's life.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=31 (57.4%)	n=13 (24.1%)	n=10 (18.5%)	n=54 (100.0%)
	No	n=188 (68.4%)	n=79 (28.7%)	n=8 (2.9%)	n=275 (100.0%)
Total		n=219 (66.6%)	n=[illegible] (28.[illegible]%)	[illegible]	n=329 (100.0%)

A chi-square analysis indicated that the differences between smokers and non-smokers in the sample was statistically significant (p=0.00) X^2 (2) =21.26.

Females tended to agree more (69.8%, n=157) than males (58.8%, n=60) and males tended to be more unsure (36.3%, n=37) than females (24.4%, n=55). No major difference was found between males (4.9%, n=5) and females (5.8%, n=13) in terms of disagreement with the statement.

Table 25: Responses according to gender

		Risk_7: Smoking takes years off a smoker's life.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=60 (58.8%)	n=37 (36.3%)	n=5 (4.9%)	n=102 (100.0%)
	Female	n=157 (69.8%)	n=55 (24.4%)	n=13 (5.8%)	n=225 (100.0%)

Most 'White' respondents agreed with the statement (73.3%, n=11), followed by 'Coloured' respondents (68.6%, n=140), 'Indian' respondents (62.5%, n=5) and 'African' respondents (61.6%, n=61). 'African' respondents had the most 'not sure' responses (34.3%, n=34), followed by 'White' respondents (26.7%, n=4), 'Coloured' respondents (25.5%, n=52) and 'Indian' respondents (12.5%, n=1). Of t isagreed, 5.9% (n=12) were 'Coloured', 4% (n=4) were 'African', two respon Indian' and none were 'White'. These results are tabulated on the following page (Table 26).

Table 26: Responses per population group

		Risk_7: Smoking takes years off a smoker's life.			
		Agree	Not_sure	Disagree	Total
Race	African	n=61 (61.6%)	n=34 (34.3%)	n=4 (4.0%)	n=99 (100.0%)
	Coloured	n=140 (68.6%)	n=52 (25.5%)	n=12 (5.9%)	n=204 (100.0%)
	Indian	n=5 (62.5%)	n=1 (12.5%)	n=2 (25.0%)	n=8 (100.0%)
	White	n=11 (73.3%)	n=4 (26.7%)	n=0 (.0%)	n=15 (100.0%)
	Other	n=2 (66.7%)	n=1 (33.3%)	n=0 (.0%)	n=3 (100.0%)

8. Smokers can quit easily

Two thirds of respondents disagreed with this statement (65.7%, n=216), a quarter (25.2%, n=83) were not sure and 9.1% (n=30) agreed that smokers can quit easily. Of those who agreed with the statement, almost a quarter were smokers (24.1%, n=13) while only 6.2% (n=17) of non-smokers agreed. Non-smokers tended to be more unsure (29.1%, n=80) than smokers (5.6%, n=3). Despite this, a majority of both smokers (70.4%, n=38) and non-smokers (64.7%, n=178) do not agree that smokers can quit easily.

Table 27: Smokers' and non-smokers' responses

		Risk_8: Smokers can quit easily.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=13 (24.1%)	n=3 (5.6%)	n=38 (70.4%)	n=54 (100.0%)
	No	n=17 (6.2%)	n=80 (29.1%)	n=178 (64.7%)	n=275 (100.0%)
Total		n=30 (9.1%)	n=83 (25.2%)	n=216 (65.7%)	n=329 (100.0%)

A chi-square analysis indicated that the difference in responses between smokers and non-smokers in the sample was statistically significant (p=0.00) X^2 (2) =25.98.

An important aspect to consider is whether a difference in opinion on this statement between smokers who have tried to quit and those who have not. An analysis into this shows that 81.4% (n=35) of smokers who had tried to quit and 20% (n=2) of smokers who had not tried to quit disagree with the statement. Smokers who had not previously made a quit attempt had a 70% (n=7) 'agree' response to the statement, while only 14% (n=6) of smokers who had previously made a quit attempt agreed. Smokers who were unsure about the statement included 10% (n=1) of those who had not tried to quit and 4.7% (n=2) of smokers who tried to quit.

Table 28: Responses according to smokers' quit attempts

		Risk_8: Smokers can quit easily.			
		Agree	Not_sure	Disagree	Total
Quit	Yes	n=6 (14.0%)	n=2 (4.7%)	n=35 (81.4%)	n=43 (100.0%)
	No	n=7 (70.0%)	n=1 (10.0%)	n=2 (20.0%)	n=10 (100.0%)

A chi-square analysis determined that that there is a statistically significant (p=0,001) difference between smokers who had tried to quit and those that had not tried to quit X^2 (2) =25.98.

There did not appear to be a great difference in response between males and females to this statement. 68.6% (n=70) of males and 6[illegible]5) of females disagreed that smokers can quit easily, 22.5% (n=23) of males and [illegible]58) of females were not sure and 8.8% (n=9) of males and 9.3% (n=21) of females agreed.

Table 29: Responses according to gender

		Risk_8: Smokers can quit easily.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=9 (8.8%)	n=23 (22.5%)	n=70 (68.6%)	n=102 (100.0%)
	Female	n=21 (9.3%)	n=58 (25.8%)	n=146 (64.9%)	n=225 (100.0%)

In terms of population groups, those who disagreed were 100% (n=8) 'Indian' respondents, 86.7% (n=13) 'White' respondents, 68.1% (n=139) 'Coloured' respondents and just over a

half of ‘African’ respondents (56.6%, n=56). ‘African’ respondents had the most ‘not sure’ responses (34.3%, n=34), followed by 22.1% (n=45) of ‘Coloured’ respondents and 13.3% (n=2) of ‘White’ respondents. Finally, 9.8% (n=20) of ‘Coloured’ respondents, 9.1% (n=9) of ‘African’ respondents and no ‘Indian’ or ‘White’ respondents agreed with the statement.

Table 30: Responses per population group

		Risk_8: Smokers can quit easily.			
		Agree	Not_sure	Disagree	Total
Race	African	n=9 (99.1%)	n=34 (34.3%)	n=56 (56.6%)	n=99 (100.0%)
	Coloured	n=20 (9.8%)	n=45 (2	n=139 .1%)	n=204 (100.0%)
	Indian	n=0 (.0%)		=8 .0%)	n=8 (100.0%)
	White	n=0 (.0%)	n=2 (13.3%)	n=13 (86.7%)	n=15 (100.0%)
	Other	n=1 (33.3%)	n=2 (66.7%)	n=0 (.0%)	n=3 (100.0%)

Table 31: Overall responses to each statement related to risk perception

1. The dangers of smoking are exaggerated.	60.8% Disagree
2. Occasional smoking is not harmful to one’s health.	76% Disagree
3. There is proof that smoking causes lung cancer, heart disease and lung disease.	91.5% Agree
4. Second-hand smoke is harmful to a non-smoker’s health.	90.3% Agree
5. Smokers become more addicted the more they smoke.	81% Agree

6. Each cigarette smoked has an effect on the body.	86.3% Agree
7. Smoking takes years off a smoker's life.	66.6% Agree
8. Smokers can quit easily.	65.7% Disagree

The last two questions in the risk perception section of the questionnaire asked respondents what they think the chances are that a typical smoker will develop heart disease, lung cancer and lung disease and what they think the chances are that they will develop each of those illnesses. Respondents were required to answer this question using a percentage value and a comparison was made between smokers and non-smokers. A one sample t-test was conducted and showed statistically significant (p=0.00) differences between smokers and non-smokers as well as differences in the way smokers viewed themselves in relation to other smokers. A statistically significant difference was fo[illegible]n of the three diseases. Overall, smokers rated themselves as having a lesser chan[illegible] each of the illnesses than other smokers and non-smokers rated the risks of smokers as being much higher compared to smokers.

Smokers in the sample gave a mean percentage of 46.5% as the chances that a typical smoker would develop heart disease, while non-smokers rated the risks at a mean of 57.1%. When asked what the chances are that they would develop heart disease, smokers rated themselves at 37.6% and non-smokers at 29.2%. Heart disease was the lowest rated of the three illnesses by both smokers and non-smokers. Smokers rated the chances of a typical smoker getting lung cancer as 59.3% and their own chances as 48.8%. Meanwhile, non-smokers rated the chances of a typical smoker getting lung cancer at 73.1% and their own chances as 28.7%. According to smokers, the chances that a typical smoker would get lung disease is 55.6% and their own chances of getting lung disease is 45.7%. Non-smokers, on the other hand, responded that the chances of a typical smoker getting lung disease is 72% and their own chances are 28.2%.

Table 32: Descriptive statistics for smokers and non-smokers for each disease[7]

One-Sample Statistics

Smoke		N	Mean	Std. Deviation	Std. Error Mean
Yes	Typical_smoker_HD	54	46.50	22.179	3.018
	You_HD	54	37.57	23.430	3.188
	Typical_smoker_LC	54	59.33	22.920	3.119
	You_LC	54	48.80	23.651	3.219
	Typical_smoker_LD	54	55.56	23.101	3.144
	You_LD	54	45.67	23.757	3.233
No	Typical_smoker_HD	268	57.15	24.903	1.521
	You_HD	264	29.16	26.234	1.615
	Typical_smoker_LC	270	73.16	20.354	1.239
	You_LC	265	28.66	27.658	1.699
	Typical_smoker_LD	268	72.04	22.245	1.359
	You_LD	264	28.25	28.384	1.747

Three t-tests were conducted, one for each disease, and a comparison was made between smokers and non-smokers. Table 33 indicates that each of the tests is statistically significant (p=0.000).

Table 33: T-test results showing mean difference and statistical significance

One-Sample Test

		Test Value = 0					
						95% Confidence Interval of the Difference	
Smoke		t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Yes	Typical_smoker_HD	15.407	53	.000	46.500	40.45	52.55
	You_HD	11.785	53	.000	37.574	31.18	43.97
	Typical_smoker_LC	19.023	53	.000	59.333	53.08	65.59
	You_LC	15.161	53	.000	48.796	42.34	55.25
	Typical_smoker_LD	17.672	53	.000	55.556	49.25	61.86
	You_LD	14.126	53	.000	45.667	39.18	52.15
No	Typical_smoker_HD	37.567	267	.000	57.146	54.15	60.14
	You_HD	18.060	263	.000	29.159	25.98	32.34
	Typical_smoker_LC	59.058	269	.000	73.156	70.72	75.59
	You_LC	16.869	264	.000	28.660	25.31	32.01
	Typical_smoker_LD	53.014	267	.000	72.037	69.36	74.71
	You_LD	16.169	263	.000	28.246	24.81	31.69

[7] HD= heart disease, LC= lung cancer, LD= lung disease

4.3. Anti-smoking legislation

1. There should be an increase in taxes for all tobacco products

Overall in the sample 64.7% (n=213) of respondents agreed with the statement, 21.6% (n=71) disagreed and 13.7% (n=45) were not sure. Only 27.8% (n=15) smokers agreed while 72% (n=198) of non-smokers agreed. Two thirds (66.7%, n=36) of smokers disagreed while only 12.7% (n=35) of non-smokers disagreed with the statement. From the respondents who said they were unsure about the statement, 5.6% (n=3) were smokers and 15.3% (n=42) were non-smokers.

Table 34: Smokers' and non-smokers' responses

		Anti_smoking_legI be an increase in taxes for all tobacco products.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=15 (27.8%)	n=3 (5.6%)	n=36 (66.7%)	n=54 (100.0%)
	No	n=198 (72.0%)	n=42 (15.3%)	n=35 (12.7%)	n=275 (100.0%)
Total		n=213 (64.7%)	n=45 (13.7%)	n=71 (21.6%)	n=329 (100.0%)

A chi-square analysis determined that there is a statistically significant (p=0.000) difference between smokers and non-smokers and their responses to this statement X^2 (2) =77.60.

Smokers who smoke between one and 5 cigarettes and 6 to 10 cigarettes per day were most likely to disagree with the statement (68%, n=17 and 76.4%, n=16 respectively) as well as

heavier smokers who smoke between 21 and 25 cigarettes daily (100%, n=2 disagree). Smokers who smoked between 11 and 20 cigarettes daily had the highest positive response to the statement in the smoking group.

Respondents were fairly similar in gender. Those who agreed with this statement were 68.6% (n=70) male and 63.1% female. 21.6% (n=22) of males and 21.3% (n=48) of females disagreed and a further 9.8% (n=10) of males and 15.6% (n=35) of females were not sure.

Table 35: Responses according to gender

		Anti_smoking_leg1: There should be an increase in taxes for all tobacco prod...			
		Agree	Not_	ree	Total
Gender	Male	n=70 (68.6%)	n= (9.	2 %)	n=102 (100.0%)
	Female	n=142 (63.1%)	n=35 (15.6%)	n=48 (21.3%)	n=225 (100.0%)

With regard to the population groups, those who agreed were 73.7% (n=73) 'African', 66. 7% (n=2) 'Other', 62.7% (n=128) 'Coloured', 46.7% (n=7) 'White' and 37.5% (n=3) 'Indian'. 33.3% (n=5) of 'White' respondents, 33.3% (n=1) of 'Other' respondents, 25% (n=2) of 'Indian' respondents, 22.1% (n=45) of 'Coloured' respondents and 18.2% (n=18) of 'African' respondents disagreed. Finally, of those who were not sure about the statement, 37.5% (n=3) were 'Indian', 20% (n=3) were 'White', 15.2% (n=31) were 'Coloured' and 8.1% (n=8) were 'African.

Table 36: Responses per population group

		Anti_smoking_leg1: There should be an increase in taxes for all tobacco products.			
		Agree	Not_sure	Disagree	Total
Race	African	n=73 (73.7%)	n=8 (8.1%)	n=18 (18.2%)	n=99 (100.0%)
	Coloured	n=128 (62.7%)	n=31 (15.2%)	n=45 (22.1%)	n=204 (100.0%)
	Indian	n=3 (37.5%)	n=3 (37.5%)	n=2 (25.0%)	n=8 (100.0%)
	White	n=7 (46.7%)	n=3 (20.0%)	n=5 (33.3%)	n=15 (100.0%)
	Other	n=2 (66.7%)	n=0 (.0%)	n=1 (33.3%)	n=3 (100.0%)

2. Tobacco products should not be adver[illegible]ront of the store

Overall 60.8% (n=200) of the sample agreed with this statement, 20.1% (n=66) were not sure and 19.1% (n=63) disagreed. Fewer smokers (44.4%, n=24) than non-smokers (64%, n=176) agreed. 38.9% (n=21) of smokers and 15.3% (n=42) of non-smokers disagreed and 16.7% (n=9) of smokers and 20.7% (n=57) of non-smokers are not sure.

Table 37: Smokers' and non-smokers' responses

		Anti_smoking_leg2: Tobacco products should not be advertised at the front of the store.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=24 (44.4%)	n=9 (16.7%)	n=21 (38.9%)	n=54 (100.0%)
	No	n=176 (64.0%)	n=57 (20.7%)	n=42 (15.3%)	n=275 (100.0%)
Total		n=200 (60.8%)	n=66 (20.1%)	n=63 (19.1%)	n=329 (100.0%)

A chi-square analysis determined that there is a statistically significant (p=0.000) difference between smokers and non-smokers and their responses to this statement X^2 (2) =16.36.

Males and females in the sample had 

responses. 60.8% (n=62) of males and 60.4% (n=136) of females agreed with the statement, 18.6% (n=19) of males and 20.9% (n=47) of females were not sure and 20.6% (n=21) of males and 18.7% (n=42) of females disagreed with the statement.

Table 38: Responses according to gender

		Anti_smoking_leg2: Tobacco products should not be advertised at the front of the store.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=62 (60.8%)	n=19 (18.6%)	n=21 (20.6%)	n=102 (100.0%)
	Female	n=136 (60.4%)	n=47 (20.9%)	n=42 (18.7%)	n=225 (100.0%)

The majority of respondents in each population group agreed with the statement. 68.7% (n=68) of 'African' respondents, 66.7% (n=2) of 'Other' respondents, 62.5% (n=5) of 'Indian' respondents, 57.4% (n=117) of 'Coloured' respondents and 53.3% (n=8) of 'White' respondents agreed with the statement. Those who disagreed with the statement were 40% (n=6) 'White', 19.1% (n=39) 'Coloured, 17.2% (n=17) 'African', 12.5% (n=1) 'Indian' and none were 'Other'. Those who were not sure were 23.5% 'Coloured' and 14.1% (n=14) 'African'. Two 'Indian' respondents, one 'White' respondent and one 'Other' respondent also reported to be unsure.

Table 39: Responses per population group

		Anti_smoking_le oducts should not be ad front of th			
		Agree	Not_sure	Disagree	Total
Race	African	n=68 (68.7%)	n=14 (14.1%)	n=17 (17.2%)	n=99 (100.0%)
	Coloured	n=117 (57.4%)	n=48 (23.5%)	n=39 (19.1%)	n=204 (100.0%)
	Indian	n=5 (62.5%)	n=2 (25.0%)	n=1 (12.5%)	n=8 (100.0%)
	White	n=8 (53.3%)	n=1 (6.7%)	n=6 (40.0%)	n=15 (100.0%)
	Other	n=2 (66.7%)	n=1 (33.3%)	n=0 (.0%)	n=3 (100.0%)

3. People who sell tobacco to minors should be prosecuted

When asked whether people who sell tobacco to minors should be prosecuted, 78.1% (n=257) of the sample agreed, 12.2% (n=40) were not sure and 9.7% (n=32) disagreed. Smokers and non-smokers did not vary greatly in their responses, with 78.5% (n=216) of non-smokers and 75.9% (n=41) of smokers agreeing, 11.6% (n=32) of non-smokers and 14.8% (n=8) of smokers reported being unsure, and 9.8% (n=27) of non-smokers and 9.3% (n=5) of smokers disagreed.

Table 40: Smokers' and non-smokers' responses

		Anti_smoking_leg3: People who sell tobacco to mi... prose...			
		Agree	Not_...ee		Total
Smoke	Yes	n=41	n=...		n=54
		(75.9%)	(14.8%)	(9.3%)	(100.0%)
	No	n=216	n=32	n=27	n=275
		(78.5%)	(11.6%)	(9.8%)	(100.0%)
Total		n=257	n=40	n=32	n=329
		(78.1%)	(12.2%)	(9.7%)	(100.0%)

With regard to gender, 74.5% (n=76) of male respondents and 80% (n=180) of female respondents agreed, 11.8% (n=12) of males and 12.4% (n=28) of females were not sure and 13.7% (n=14) of males and 7.6% (n=17) of females disagreed with the statement.

Table 41: Responses according to gender

		Anti_smoking_leg3: People who sell tobacco to minors should be prosecuted			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=76 (74.5%)	n=12 (11.8%)	n=14 (13.7%)	n=102 (100.0%)
	Female	n=180 (80.0%)	n=28 (12.4%)	n=17 (7.6%)	n=225 (100.0%)

There did not appear to be much difference in response according to population groups. 87.5% (n=7) of 'Indian' respondents, 80.4% (n=164) of 'Coloured' respondents, 74.7% (n=74) of 'African' respondents and 66.7% (n=10, n=2) of both 'White' and 'Other' respondents agreed that people who sell tobacco to minors should be prosecuted. A further 11.1% (n=11) of 'African' respondents,) of 'Coloured respondents, two 'White' respondents and one 'Indian' respondent while 20% (n=3) of 'White' respondents, 14.1% (n=14) of 'African' respondents and 10.8% (n=22) of 'Coloured' respondents were not sure.

Table 42: Responses per population group

		Anti_smoking_leg3: People who sell tobacco to minors should be prosecuted			
		Agree	Not_sure	Disagree	Total
Race	African	n=74 (74.7%)	n=14 (14.1%)	n=11 (11.1%)	n=99 (100.0%)
	Coloured	n=164 (80.4%)	n=22 (10.8%)	n=18 (8.8%)	n=204 (100.0%)
	Indian	n=7 (87.5%)	n=0 (.0%)	n=1 (12.5%)	n=8 (100.0%)
	White	n=10 (66.7%)	n=3 (20.0%)	n=2 (13.3%)	n=15 (100.0%)
	Other	n=2 (66.7%)	n=1 (33.3%)	n=0 (.0%)	n=3 (100.0%)

4. Smokers should be allowed to smoke in public buildings

In the sample, overall, 89.1% (n=293) disagreed that smokers should be allowed to smoke in public buildings, 7.9% (n=26) agreed and 3% (n=10) were not sure. Among smokers, 22.2% (n=12) agreed while only 5.1% (n=14) of non-smokers agreed and 72.2% (n=39) of smokers disagreed while an overwhelming majority of non-smokers (92.4%, n=254) disagreed.

Table 43: Smokers' and non-smokers' responses

		Anti_smoking_leg4: Smokers should be allowed to smoke in public buildings			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=12 (22.2%)	n=3 (5.6%)	n=39 (72.2%)	n=54 (100.0%)
	No	n=14 (5.1%)	n=7 (2.5%)	n=254 (92.4%)	n=275 (100.0%)
Total		n=26 (7.9%)	n=10 (3.0%)	n=293 (89.1%)	n=329 (100.0%)

A chi-square analysis determined that there is a statistically significant (p=0.000) difference between smokers and non-smokers and their responses to this statement X^2 (2) =20.16.

Among female respondents 92% (n=207 

hat smokers should be allowed to smoke in public buildings and 83.3% (n=85) of male respondents disagreed. 2.2% (n=5) of females compared to 4.9% (n=5) of males were not sure and 5.8% (n=13) of females and 11.8% (n=12) of males agreed with the statement.

Table 44: Responses according to gender

		Anti_smoking_leg4: Smokers should be allowed to smoke in public buildings			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=12 (11.8%)	n=5 (4.9%)	n=85 (83.3%)	n=102 (100.0%)
	Female	n=13 (5.8%)	n=5 (2.2%)	n=207 (92.0%)	n=225 (100.0%)

According to population groups, all 'Indian', 'White' and 'Other' respondents disagreed that smokers should be allowed to smoke in public buildings, while a high proportion of both 'Coloured' and 'African' respondents disagreed (88.7%, n=181 and 86.9%, n=86 respectively). Of the remaining 'African' respondents 9.1% (n=9) agreed with the statement and 4% (n=4) were not sure and of the remaining 'Coloured' respondents 8.3% (n=17) agreed and 2.9% (n=6) were not sure.

Table 45: Responses per population group

		Anti_smoking_leg4: Smokers should be allowed to smoke in public buildings			
		Agree	Not sure	Disagree	Total
Race	African	n=9 (9.1%)	(4.0%)	n=86 (86.9%)	n=99 (100.0%)
	Coloured	n=17 (8.3%)	(2.9%)	n=181 (88.7%)	n=204 (100.0%)
	Indian	n=0 (.0%)	n=0 (.0%)	n=8 (100.0%)	n=8 (100.0%)
	White	n=0 (.0%)	n=0 (.0%)	n=15 (100.0%)	n=15 (100.0%)
	Other	n=0 (.0%)	n=0 (.0%)	n=3 (100.0%)	n=3 (100.0%)

5. The dangers of second-hand smoke should be made more public

Overall, the response to this statement was that 81.2% (n=267) of respondents agreed, 9.7% (n=32) were not sure and 9.1% (n=30) disagreed. A very high proportion of both smokers (83.3%, n=45) and non-smokers (80.7%, n=222) agreed, while 11.1% (n=6) of smokers and

9.5% (n=26) of non smokers were not sure and 5.6% (n=3) of smokers and 9.8% (n=27) of non-smokers disagreed.

Table 46: Smokers' and non-smokers' responses

			Anti_smoing_leg5: The dangers of second-hand smoke should be made more public.			
			Agree	Not_sure	Disagree	Total
Smoke	Yes	Count	n=45	n=6	n=3	n=54
		% within Smoke	(83.3%)	(11.1%)	(5.6%)	(100.0%)
	No	Count	n=222	n=26	n=27	n=275
		% within Smoke	(80.7%)	(9.5%)	(9.8%)	(100.0%)
Total		Count	n=267	n=32	n=30	n=329
		% within Smoke	(81.2%)	(9.7%)	(9.1%)	(100.0%)

A large number of both females (82.2%, n=185) and males 78.4% (n=80) agreed that the danger of second-hand smoke should be made more public. Of the remaining female respondents 10.7% (n=24) were not sure and 7.1% (n=16) disagreed. Of the remaining male respondents 7.8% (n=8) were not sure and 13.7% (n=14) disagreed.

Table 47: Responses according to gender

		Anti_smoing_leg5: The dangers of second-hand smoke should be made more public.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=80	n=8	n=14	n=102
		(78.4%)	(7.8%)	(13.7%)	(100.0%)
	Female	n=185	n=24	n=16	n=225
		(82.2%)	(10.7%)	(7.1%)	(100.0%)

A smaller proportion of 'African' (64.6%, n=64) and 'Other' (66.7%, n=2) respondents agreed with the statement compared to 'Indian' (100%, n=8), 'Coloured' (88.2%, 180) and 'White' (86.7%, n=13) respondents. No 'Indian', 'White' or 'Other' respondents disagreed with the statement and a small proportion of 'Coloured' (3.4%, n=7) respondents disagreed. However, nearly a quarter (23.2%, n=23) of 'African' respondents disagreed. Of those that were not sure about the statement 13.3% (n=2) were 'White', 12.1% (n=12) were 'African', 8.3% (n=17) were 'Coloured' and one was 'Other'.

Table 48: Responses per population group

		Anti_smoing_leg5: The dangers of second-hand smoke should be made mor			
		Agree	N	agree	Total
Race	African	n=64 (64.6%)	n=12 (12.1%)	n=23 (23.2%)	n=99 (100.0%)
	Coloured	n=180 (88.2%)	n=17 (8.3%)	n=7 (3.4%)	n=204 (100.0%)
	Indian	n=8 (100.0%)	n=0 (.0%)	n=0 (.0%)	n=8 (100.0%)
	White	n=13 (86.7%)	n=2 (13.3%)	n=0 (.0%)	n=15 (100.0%)
	Other	n=2 (66.7%)	n=1 (33.3%)	n=0 (.0%)	n=3 (100.0%)

6. There should be a complete ban on tobacco advertising

When asked whether there should be a complete ban on tobacco advertising, 44.1% (n=145) of the sample agreed, 31.6% (n=104) were not sure and nearly a quarter (24.3%, n=80) disagreed. There is a difference in response between smokers and non-smokers as only 27.8%

(n=15) of smokers agreed compared to 47.3% (n=130) of non-smokers. Of the remaining smokers, 25.9% (n=14) were not sure compared to 32.7% (n=90) of non-smokers, and close to a half of smokers (46.3%, n=25) disagreed with the statement compared to 20% (n=55) of non-smokers.

Table 49: Smokers' and non-smokers' responses

		Anti_smoking_leg6: There should be a complete ban on tobacco advertising			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=15 (27.8%)	n=14 (25.9%)	n=25 (46.3%)	n=54 (100.0%)
	No	n=130 (47.3%)	n=90 (32.7%)	n=55 (20.0%)	n=275 (100.0%)
Total		n=145 (44.1%)	n=104 (31.6%)	n=80 (24.3%)	n=329 (100.0%)

A chi-square analysis determined that there is a statistically significant (p=0.000) difference between smokers and non-smokers and their responses to this statement X^2 (2) =17.39.

Less than a half of both males and females agreed with the statement with 46.1% (n=47) and 42.7% (n=96) respectively. Of the remaining male respondents 26.5% (n=27) were not sure and 27.5% (n=28) disagreed. Of the remaining female respondents 34.2% (n=77) were not sure and 23.1% (n=52) disagreed.

Table 50: Responses according to gender

		Anti_smoking_leg6: There should be a complete ban on tobacco advertising			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=47 (46.1%)	n=27 (26.5%)	n=28 (27.5%)	n=102 (100.0%)
	Female	n=96 (42.7%)	n=77 (34.2%)	n=52 (23.1%)	n=225 (100.0%)

According to population groups, 48.5% (n=48) of 'African' respondents, 46.7% (n=7) of 'White' respondents, 42.2% (n=86) of 'Coloured' respondents and two 'Indian' and 'Other' respondents agreed that there should be a complete ban on tobacco advertising. A higher proportion of those who disagreed with the statement were 'White' (40%, n=6) compared to 31.3% (n=31) of 'African' respondents, [illegible]f 'Indian' respondents and 19.6% (n=40) of 'Coloured' respondents who were le[illegible] disagree with the statement. Finally, of those who were not sure, 50% (n=4) were 'Indian', 38.2% (n=78) were 'Coloured', 20.2% (n=20) were 'African' and 13.3% (n=2) were 'White'. These results are tabulated on the following page (Table 51).

Table 51: Responses per population group

		Anti_smoking_leg6: There should be a complete ban on tobacco advertising			
		Agree	Not_sure	Disagree	Total
Race	African	n=48 (48.5%)	n=20 (20.2%)	n=31 (31.3%)	n=99 (100.0%)
	Coloured	n=86 (42.2%)	n=78 (38.2%)	n=40 (19.6%)	n=204 (100.0%)
	Indian	n=2 (25.0%)	n=4 (50.0%)	n=2 (25.0%)	n=8 (100.0%)
	White	n=7 (46.7%)	n=2 (13.3%)	n=6 (40.0%)	n=15 (100.0%)
	Other	n=2 (66.7%)	n=0 (.0%)	n=1 (33.3%)	n=3 (100.0%)

7. Smoking should not be controlled in b tclubs

Half of all respondents (50.2%, n=165) disagreed with this statement, while 27.7% (n=91) were not sure and 22.2% (n=73) agreed. Nearly twice as many smokers (37%, n=20) agreed compared to non-smokers (19.3%, n=53). Of the remaining smokers 20.4% (n=11) were not sure compared to 29.1% (n=80) of non-smokers and fewer smokers (42.6%, n=23) disagreed with the statement compared to 51.6% (n=142) of non-smokers.

Table 52: Smokers' and non-smokers' responses

		Anti_smoking_leg7: Smoking should not be controlled in bars and night clubs.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=20 (37.0%)	n=11 (20.4%)	n=23 (42.6%)	n=54 (100.0%)
	No	n=53 (19.3%)	n=80 (29.1%)	n=142 (51.6%)	n=275 (100.0%)
Total		n=73 (22.2%)	n=91 (27.7%)	n=165 (50.2%)	n=329 (100.0%)

A chi-square analysis determined that the difference between smokers and non-smokers was statistically significant (p=0.015) X^2 (2) =8.39.

A higher proportion of males (27.5%, n=[illegible] with the statement compared to females (19.1%, n=43). 23.5% (n=24) of males a[illegible]n=67) of females were not sure and 49% (n=50) of males and 51.1% (n=115) of females disagreed that smoking should not be controlled in bars and nightclubs.

Table 53: Responses according to gender

		Anti_smoking_leg7: Smoking should not be controlled in bars and night clubs.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=28 (27.5%)	n=24 (23.5%)	n=50 (49.0%)	n=102 (100.0%)
	Female	n=43 (19.1%)	n=67 (29.8%)	n=115 (51.1%)	n=225 (100.0%)

Of the 'African' respondents 50.5% (n=50) disagreed with the statement, 29.3% (n=29) were not sure and 20.2% (n=20) agreed. Among the 'Coloured' respondents 48% (n=98) disagreed, 28.9% (n=59) were not sure and 23% (n=47) agreed with the statement. Among the 'Indian' respondents, 75% (n=6) disagreed with the statement, 25% (n=2) were not sure and none agreed. 66.7% (n=10) of 'White' respondents disagreed, none were unsure and 33.3% (n=5) agreed with the statement.

Table 54: Responses per population group

		Anti_smoking_leg7: Smoking should not be controlled in bars and night clubs.			
		Agree	Not sure	Disagree	Total
Race	African	n=20 (20.2%)	[illegible]	=50 [illegible].5%)	n=99 (100.0%)
	Coloured	n=47 (23.0%)	n=59 (28.9%)	n=98 (48.0%)	n=204 (100.0%)
	Indian	n=0 (.0%)	n=2 (25.0%)	n=6 (75.0%)	n=8 (100.0%)
	White	n=5 (33.3%)	n=0 (.0%)	n=10 (66.7%)	n=15 (100.0%)
	Other	n=1 (33.3%)	n=1 (33.3%)	n=1 (33.3%)	n=3 (100.0%)

8. A license should be required to sell cigarettes

Most of the respondents in the sample (76%, n=250) agreed that a license should be required to sell cigarettes, a further 12.5% (n=41) were not sure and 11.6% (n=38) disagreed. There was a difference in response between smokers and non-smokers. While a large majority (79.6%, n=219) of non-smokers agreed with this statement, just over a half of smokers

(57.4%, n=31) agreed. Only 7.6% (n=21) of non-smokers disagreed with the statement while 31.5% (n=17) of smokers disagreed. A similar proportion of non-smokers and smokers were not sure, with 12.7% (n=35) and 11.1% (n=6) respectively.

Table 55: Smokers' and non-smokers' responses

		Anti_smoking_leg8: A license should be required to sell cigarettes.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=31 (57.4%)	n=6 (11.1%)	n=17 (31.5%)	n=54 (100.0%)
	No	n=219 (79.6%)	n=35 (12.7%)	n=21 (7.6%)	n=275 (100.0%)
Total		n=250 (76.0%)	n=41 (12.[illegible]%)	n=38	n=329 (100.0%)

A chi-square analysis determined that the difference between smokers and non-smokers was statistically significant (p=0.000) X^2 (2) =25.25.

More female respondents agreed with the statement (79.6%, n=179) compared to males (68.6%, n=70), 15.7% (n=16) of males and 11.1% (n=25) of females were not sure and 15.7% (n=16) of males disagreed compared to 9.3% (n=21) of females.

Table 56: Responses according to gender

		Anti_smoking_leg8: A license should be required to sell cigarettes.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=70 (68.6%)	n=16 (15.7%)	n=16 (15.7%)	n=102 (100.0%)
	Female	n=179 (79.6%)	n=25 (11.1%)	n=21 (9.3%)	n=225 (100.0%)

All 'Other' respondents, 78.4% (n=160) of 'Coloured' respondents, 75% (n=6) of 'Indian' respondents, 72.7% (n=72) of 'African' respondents and 60% (n=9) of 'White' respondents agreed with the statement. Of the respondents who were not sure, 13.7% (n=28) were 'Coloured', 13.3% (n=2) were 'White', 12.5% (n=1) were 'Indian' and 10.1% (n=10) were 'African'. Those who disagreed with the statement were 26.7% (n=4) 'White', 17.2% (n=17) 'African', 12.5% (n=1) 'Indian' and 7.8% [illegible] oloured'.

Table 57: Responses per population group

		Anti_smoking_leg8: A license should be required to sell cigarettes.			
		Agree	Not_sure	Disagree	Total
Race	African	n=72 (72.7%)	n=10 (10.1%)	n=17 (17.2%)	n=99 (100.0%)
	Coloured	n=160 (78.4%)	n=28 (13.7%)	n=16 (7.8%)	n=204 (100.0%)
	Indian	n=6 (75.0%)	n=1 (12.5%)	n=1 (12.5%)	n=8 (100.0%)
	White	n=9 (60.0%)	n=2 (13.3%)	n=4 (26.7%)	n=15 (100.0%)
	Other	n=3 (100.0%)	n=0 (.0%)	n=0 (.0%)	n=3 (100.0%)

9. The government should step up a mass anti-smoking campaign

A large proportion of respondents agreed with this statement (72%, n=237), 17.3% (n=57) were not sure and 10.6% (n=35) disagreed with the statement. There was a big difference between smokers and non-smokers. Only 33.3% (n=18) of smokers agreed with the statement compared to 79.6% (n=219) of non-smokers, 29.6% (n=16) of smokers were not sure compared to 14.9% (n=41) of non-smokers and 37% (n=20) of smokers disagreed with the statement compared to 5.5% (n=15) of non-smokers.

Table 58: Smokers' and non-smokers' responses

		Anti_smoking_leg9: The government should step up a ı ing camp			
		Agree	Not_ ee		Total
Smoke	Yes	n=18	n=	)	n=54
		(33.3%)	(29.6%)	(37.0%)	(100.0%)
	No	n=219	n=41	n=15	n=275
		(79.6%)	(14.9%)	(5.5%)	(100.0%)
Total		n=237	n=57	n=35	n=329
		(72.0%)	(17.3%)	(10.6%)	(100.0%)

A chi-square analysis determined that the difference between smokers and non-smokers was statistically significant (p=0.000) X^2 (2) =61.4.

More female respondents (76%, n=171) agreed with the statement compared to males (63.7%, n=65), 20.6% (n=21) of males were not sure compared to 15.6% (n=35) of females and a higher proportion of males (15.7%, n=16) disagreed compared to females (8.4%, n=19).

Table 59: Responses according to gender

		Anti_smoking_leg9: The government should step up a mass anti-smoking campaign.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=65 (63.7%)	n=21 (20.6%)	n=16 (15.7%)	n=102 (100.0%)
	Female	n=171 (76.0%)	n=35 (15.6%)	n=19 (8.4%)	n=225 (100.0%)

With regard to population groups, 'White', 'Coloured' and 'Other' respondents had the lowest agree responses (53.3%, n=8; 67.2%, n=137; 66.7%, n=2 respectively). 'African' and 'Indian' respondents had the highest agree responses with 83.8% (n=83) and 87.5% (n=7) respectively. The respondents who were not sure were 33.3% (n=1) 'Other', 26.7% (n=4) 'White', 21.1% (n=43) 'Coloured', 12.5% (n=7) 'Indian' and 8.1% (n=8) 'African'. Those who disagreed with the statement were 20.0% (n=3) 'White', 11.8% (n=24) 'Coloured', 8.1% (n=8) 'African' and no 'Indian' or 'Other' respondents disagreed. These results are tabulated on the following page (Table 60).

Table 60: Responses per population group

		Anti_smoking_leg9: The government should step up a mass anti-smoking campaign.			
		Agree	Not_sure	Disagree	Total
Race	African	n=83 (83.8%)	n=8 (8.1%)	n=8 (8.1%)	n=99 (100.0%)
	Coloured	n=137 (67.2%)	n=43 (21.1%)	n=24 (11.8%)	n=204 (100.0%)
	Indian	n=7 (87.5%)	n=1 (12.5%)	n=0 (.0%)	n=8 (100.0%)
	White	n=8 (53.3%)	n=4 (26.7%)	n=3 (20.0%)	n=15 (100.0%)
	Other	n=2 (66.7%)	n=1 (33.3%)	n=0 (.0%)	n=3 (100.0%)

10. Tobacco taxes should be used to pay elated health care costs

Most respondents (72.2%, n=236) agreed with the statement, 12.2% (n=40) were not sure and 15.6% (n=51) disagreed. Among the smokers in the sample, 66.7% (n=36) agreed, 14.8% (n=8) were not sure and 18.5% (n=10) disagreed. Among non-smokers in the sample, 73.3% (n=200) agreed with the statement, 11.7% (n=32) were not sure and 15% (n=41) disagreed.

Table 61: Smokers' and non-smokers' responses

		Anti_smoking_leg10: Tobacco taxes should be used to pay for smoke-related health care costs.			
		Agree	Not_sure	Disagree	Total
Smoke	Yes	n=36 (66.7%)	n=8 (14.8%)	n=10 (18.5%)	n=54 (100.0%)
	No	n=200 (73.3%)	n=32 (11.7%)	n=41 (15.0%)	n=273 (100.0%)
Total		n=236 (72.2%)	n=40 (12.2%)	n=51 (15.6%)	n=327 (100.0%)

Males and females responded fairly similarly to the statement with 71% (n=71) of males and 72.9% (n=164) females agreeing, 12% of both males (n=12) and females (n=27) reporting being not sure and 17% (n=17) of males n=34) of females disagreed.

Table 62: Responses according to gender

		Anti_smoking_leg10: Tobacco taxes should be used to pay for smoke-related health care costs.			
		Agree	Not_sure	Disagree	Total
Gender	Male	n=71 (71.0%)	n=12 (12.0%)	n=17 (17.0%)	n=100 (100.0%)
	Female	n=164 (72.9%)	n=27 (12.0%)	n=34 (15.1%)	n=225 (100.0%)

All 'Indian' respondents (n=8) agreed with the statement as well as 73.4% (n=149) of 'Coloured' respondents, 70.4% (n=69) of 'African' respondents', 60% (n=9) of 'White' respondents and one 'Other' respondent. Those who were unsure were 13.3% (n=27)

'Coloured', 12.2% (n=12) 'African' and 6.7% (n=1) 'White'. No 'Indian' or 'Other' respondents reported to be unsure. Of the respondents that disagreed with the statement, two were 'Other', 33.3% (n=5) were 'White', 17.3% (n=17) were 'African' and 13.3% (n=27) were 'Coloured'.

Table 63: Responses per population group

		Anti_smoking_leg10: Tobacco taxes should be used to pay for smoke-related health care costs.			
		Agree	Not_sure	Disagree	Total
Race	African	n=69 (70.4%)	n=12 (12.2%)	n=17 (17.3%)	n=98 (100.0%)
	Coloured	n=149 (73.4%)	n=27 (13.3%)	n=27 (13.3%)	n=203 (100.0%)
	Indian	n=8 (100.0%)	n=0 (.0%)	n=0 (.0%)	n=8 (100.0%)
	White	n=9 (60.0%)	n=1 (6.7%)	n=5 (33.3%)	n=15 (100.0%)
	Other	n=1 (33.3%)	n=0 (.0%)	n=2 (66.7%)	n=3 (100.0%)

Table 64: Overall responses to each statement related to anti-smoking legislation

1. There should be an increase in taxes for all tobacco products.	64.7% Agree
2. Tobacco products should not be advertised at the front of the store.	60.8% Agree
3. People who sell tobacco to minors should be prosecuted.	78.1% Agree
4. Smokers should be allowed to smoke in public buildings.	89.1% Disagree
5. The dangers of second-hand smoke should be made more public.	81.2% Agree
6. There should be a complete ban on tobacco advertising.	44.1% Agree

7. Smoking should not be controlled in bars and nightclubs.	50.2% Disagree
8. A license should be required to sell cigarettes.	76% Agree
9. The government should step up a mass anti-smoking campaign.	72% Agree
10. Tobacco taxes should be used to pay for smoke-related health care costs.	72.2% Agree

CHAPTER 5: DISCUSSION AND CONCLUSION

5.1 Discussion

The results of the study showed an overall smoking prevalence of 16%. This is lower than the 26% reported by Awotedu *et al.* (2006) who looked at several tertiary institutions in the Eastern Cape province. Literature indicates that, globally, males smoke tobacco at much higher rates than females (WHO, 2003b). However, results in this study showed that more female students smoked and that they had more than double the smoking rate of male students (11% compared to 5.2% of male smokers). There has been widespread discussion about the narrowing of the gender gap over the past few decades, especially in Africa, and the results of this study may reflect this particular issue. Tobacco industry documents have shown that marketing is specifically targeted to developing countries, to females, as well as young adults (Pacella-Norman *et al*., 200

Consistent with other studies (Awotedu *et al.*, 2006; Madu & Matla, 2003; Reddy, Meyer-Weitz & Yach, 1996) the 'Coloured' students in the sample had the highest smoking rate (12%), followed by 'African' students (2.7%) and a very low smoking prevalence among 'White' (0.9%) and 'Indian' (0.6%) students in the sample. While the 'Coloured' students had a lower smoking prevalence rate than the national figures show for that population group, it is nevertheless a reflection of these broader national trends. Moreover, the results show that 'Coloured' females had a much higher smoking rate than females of other population groups. 'Coloured' females had a smoking rate of 13.3%, far higher than the 1.3% of 'African' females, 0.9% of 'White' females and 0.4% of 'Indian' females. These results are consistent with the national findings reported by Peltzer (2008). Following the same pattern, 'Coloured' males had higher incidences of smokers compared to all other population groups. The smoking rate for 'Coloured' males was 9.7% compared to 4.9% of 'African' males and 1% of

both ‘White’ and ‘Indian’ males. This serves as further evidence that ‘Coloured’ students are a high-risk group for tobacco use.

Another important issue to highlight with regard to smoking behaviour in this study is that the mean age of smoking initiation was 14.9, similar to the mean age of 14.5 from a South African high school study (Madu & Matla, 2003). This is consistent with the extensive literature that recognises adolescence as a key period for smoking initiation. Since ‘Coloured’ individuals represent a high risk group for tobacco use and females in this group are particularly at risk compared to females of other population groups, interventions should be targeted to adolescents from this population group to minimise smoking uptake at this critical period. Most students in the current study were 19 years old and the average age was 21. Studies suggest that individuals become regular smokers between the ages of 18 and 25 (Baker, Brandon & Chassin, 2004). As such, smoking cessation interventions and strategies could be implemented for students who are about to enter university as part of an orientation programme to avoid smoking habit formation.

The knowledge of the risks of smoking is generally very good among the students in the study. For example, 91% of students agreed that there was proof that smoking causes lung cancer, heart disease and lung disease. This is higher than the 72% reported in the study conducted by Awotedu *et al.* (2006). While most of the risk perception statements reflected very good knowledge of the risks of smoking, there were three particular statements with lower percentages. Only 61% disagreed with the statement that the dangers of smoking are exaggerated, 66% disagreed that smokers can quit easily and 67% agreed that smoking takes years off a smoker’s life. The remaining responses showed more ‘not sure’ than ‘agree’ responses to all three of these statements. As such, students’ opinions were less concrete to these statements and this may reflect the need to provide more knowledge to the public about those less talked about aspects of smoking risk.

Overall the differences in opinion were less related to gender and race and more related to the smoking behaviour of an individual. There were three particular statements that showed significant differences between smokers and non-smokers. The first of these is 'Smokers become more addicted the more they smoke'. More smokers tended to disagree with this statement compared to non-smokers, and, lighter smokers tended to disagree more than heavier smokers. A possible reason for this is that heavier smokers may have personal experience related to this, whereas lighter smokers may not consider themselves addicted and may feel more in control as a result. The second statement 'Smoking takes years off a smoker's life' also showed that smokers tended to disagree more than non-smokers. However, nearly a quarter of both smokers and non-smokers were unsure about this statement. The third statement 'Smokers can quit easily' had nearly a quarter of smokers (24%) agreeing compared to only 6% of non-smokers. Among smokers, those who had previously tried to quit made up an ov majority (81%) of those who disagreed that smokers can quit easily, while thos not tried to quit made up 70% of agree responses to the statement. It appears that individuals who had previously made a quit attempt realise, from personal experience, the difficulty that smoking addiction presents for stopping the behaviour. On the other hand, smokers who had not made a quit attempt still perceive themselves as being in control and able to stop smoking whenever they make a choice to do so.

Even more evidence into the differences in risk perception between smokers and non-smokers occurs when comparing how the students rated a typical smoker's risk and their own risk of developing heart disease, lung cancer and lung disease. For both smokers and non-smokers, lung cancer was the illness with the highest perceived risk, followed closely by lung disease, and heart disease had a much lower perceived risk compared to the other two. Perhaps the association of heart disease as a risk for smoking is less obvious than illnesses

occurring directly in the lungs. When comparing the differences between smokers and non-smokers it was a general pattern, across all three diseases, that smokers rated the risk for a typical smoker to be much lower than did non-smokers. Moreover, while smokers rated their own risk for developing each of the three diseases as being higher than that of non-smokers, smokers rated their own risk as being lower than the risk for a typical smoker. These results are consistent with the literature on risk perception (Weinstein, Marcus & Moser, 2005; Slovic, 2000; Romer and Jamieson, 2001a; Martin, Steyn & Yach, 1992) which indicates the optimistic bias about the health risks involved in smoking. Optimistic bias does not involve a complete disregard for the risks but is simply the lack of acknowledgement of those same risks as being personally relevant (Arnett, 2000). This optimistic bias clearly emerges from the current results. One smoker in the current study made comments throughout the questionnaire explaining why he responded in specific ways. In order to explain why he rated his own risk of disease lower than that [redacted] smoker, he noted that he is very active. This rationalisation process is consistent with Weinstein, Marcus and Moser's (2005) claim that smokers overemphasise the controllability of the risks.

The discussion thus far fits into the theoretical framework of the study. The Information-Motivation-Behavioural (IMB) Skills model suggests that knowledge about the risks of smoking is not enough to create a change in behaviour. The knowledge of the risks of smoking was very high in this study, however, smokers tend to be unsure about whether they become more addicted the more they smoke, whether smoking takes years off a smoker's life and whether smokers can quit easily. Their lowered perception of risk of disease compared to a typical smoker is also indicative of the health-related cognitions that may be playing a role. Health-related cognitions, as discussed by Gerrard, Gibbons, Benthin and Hessling (1996) are altered to fit a particular behaviour, thus, denying or minimising one's vulnerability to the negative consequences associated with a behaviour acts as a defence in order to alleviate

anxiety. Moreover, when a smoker makes a quit attempt their perception of the risks usually increase (Gerrard, Gibbons, Benthin & Hessling, 1996), this acts as an important element associated with motivation to change a behaviour. The IMB Skills model requires that knowledge and, both personal and social, motivation is present in order to alter risky behaviours.

The attitudes towards anti-smoking legislation were generally favourable in the current study. A vast majority of students in the study disagreed that smokers should be allowed to smoke in public buildings and agreed that the dangers of second-hand smoke should be made more public, that people who sell tobacco to minors should be prosecuted, that a license should be required to sell cigarettes and that tobacco taxes should be used to pay for smoke-related health care costs. The majority (72%) also agreed that the government should step up a mass anti-smoking campaign, however, this w[illegible]n that reported by Awotedu *et al.* (2006) in the Eastern Cape (82.5%). In compari[illegible]gh responses to the previous statements, a lower proportion of students believed that there should be an increase in taxes for all tobacco products (65%; this is also lower than the 74% reported in the Eastern Cape by Awotedu *et al.*, 2006) and that tobacco products should not be advertised at the front of the store (61%). Only half of the students believed that smoking should be controlled in bars and nightclubs and less than half (44%) believed that there should be a complete ban on tobacco advertising.

Differences in attitudes towards anti-smoking legislation were also less related to gender and race and more related to the smoking status of the individual. Seven out of the ten statements for this section of the study indicate a significant difference between smokers and non-smokers. Only the statements ‘People who sell tobacco to minors should be prosecuted’, ‘The dangers of second-hand smoke should be made more public’ and ‘Tobacco taxes should be used to pay for smoke-related health care costs’ had the most similar response rates for both

smokers and non-smokers. As can be expected, smokers showed more negative attitudes towards those parts of the legislation that affected them more directly such as taxes and restrictions. Most smokers (72% compared to 13% of non-smokers) disagreed that there should be an increase in taxes for all tobacco products. These findings are consistent with the literature (Reddy, Meyer-Weitz & Yach, 1996; Rigotti, Regan, Moran & Wechsler, 2003). Moreover, smokers were more likely to hold the attitude that smoking should not be controlled in bars and nightclubs and that they should be allowed to smoke in public buildings. This is interesting because smokers in the current study supported the idea that the dangers of second-hand smoke be made more public and the legislation for restricting smoking is largely to protect non-smokers from passive smoking exposure. While they are largely in favour of one of the aspects related to laws and penalties (people who sell tobacco to minors should be prosecuted), they are more likely to disagree that a license should be required to sell cigarettes. Once again, this is because this can affect smokers more directly in terms of their access to cigarettes. With regard to public education, smokers felt that the dangers of second hand smoke should be made more public, but disagreed that there should be a mass anti-smoking campaign by the government. Finally, with regard to advertising and promotion, smokers tended not to support a ban on advertising or a ban of advertising tobacco products at the front of the store.

Despite non-smokers having a more positive attitude towards anti-smoking legislation, there is a substantial amount of support for policies among smokers. Reflecting once more on the theoretical framework of the study it becomes clear that anti-smoking legislation plays a role in shaping the motivation of an individual to change their behaviour. While perception of risk can act as a form of personal motivation to change, anti-smoking legislation is a form of social motivation because it alters the perception that smoking is a social norm. The knowledge of the risks of smoking, which is clearly present among the students in this study,

paired with personal acknowledgement of the risks and the wider societal laws act as motivators to seek out support and influence behaviour change. This is because motivation acts on the perceptions of the cost-benefit ratio that impacts on behaviour change.

The discussion of the findings highlights various important aspects. Firstly, contrary to previous studies which suggest that the majority of students would be smokers, the present study found that this was not the case. In fact, only 16% of the sample were smokers. However, the present study found that 'Coloured' students were more likely to smoke than students from other population groups as is evident in previous studies. Secondly, previous studies also suggest that the majority of students would have a low risk perception of tobacco smoking. The results in the present study, however, indicate that the majority of students have a good understanding of the risks of smoking but, while smokers showed good knowledge of the risks, their perception lity to specific diseases showed that they underestimated the risks of smoking cig s, the present study found that smokers have a lower risk perception compared to non-smokers. This is consistent with the literature that claims optimistic bias among smokers. Finally, with regard to anti-smoking legislation, previous studies suggest that the majority of students who smoke have a negative attitude towards anti-smoking legislation. This is consistent with the findings of the present study because, even though there is a fair amount of support for legislation among smokers, smokers tended to show less support for legislation compared to non-smokers. Thus, the present study indicates that there is a clear connection between smoking behaviour and the effect it has on both risk perception and attitudes to anti-smoking legislation in the individual.

5.2 Conclusion

Smoking is a serious health concern in South Africa as well as globally. This section provides a brief summary of the main findings and several suggestions for interventions are made. It also presents some of the limitations of the study which can be addressed in future research on the topic in order to expand the knowledge in this field.

From the results of this study, along with the literature and the theoretical framework through which this problem has been viewed, there are several important points that have been raised. Firstly, the study shows that smoking behaviour affects both risk perception as well as attitudes to anti-smoking legislation in individuals. Secondly, 'Coloured' students are shown to be the high risk group for smoking behaviour among students at UWC. Moreover, the results indicated that females show more smoking behaviour than males. While this may be as a result of more females being pr[illegible]e sample, it nevertheless indicates the possibility that the gender gap has been [illegible]ong this age group, which is a concern. The current study indicates that smokers initiated the behaviour as young adolescents, supporting the literature claiming that this developmental period is characterised by experimentation. Furthermore, the students who formed part of the current study were selected as a result of the literature claiming that young adulthood is a period when smoking habits tend to form and individuals become regular smokers. As such, both young adolescence and young adulthood should be focal developmental periods for interventions for this risky behaviour.

There is a need to create interventions and strategies for adolescents in the Western Cape in order to decrease smoking uptake at this risky period, as well as the necessity of reinforcing these interventions at the critical period of young adulthood. Targeting 'Coloured' individuals in the Western Cape, as they represent a high risk group, is of importance. At an institution

such as UWC, implementing an anti-smoking campaign at orientation for beginning students would be ideal. The interventions and campaigns should not only focus on the long-term risks of disease, but also discuss the short-term risks as well as the positive consequences associated with not smoking. This information serves to increase an individual's perception of risk as this acts as an important personal motivator for behaviour change. Moreover, ensuring that anti-smoking laws are implemented effectively on campus is important as it influences social motivation to change. Another aspect to focus on is the behavioural skills necessary in changing a behaviour effectively. Offering support and encouragement on campus, for example, for failed quit attempts in the past and advice for quitting, enhances an individual's sense of self-efficacy in making a change.

5.3 Limitations and recommendations for future research

Some of the limitations of the study inc  npling method that was used. The study made use of non-probability samplinged on selecting participants based on availability on a particular day. As such, many respondents may have been missed. Also, it is possible that students who were more interested in the topic were more likely to take part in the study, rather than a completely representative sample. Therefore, caution is required when applying the findings of this study to other populations besides a similar sample of university students. Other limitations include reflexivity issues associated with self-report data; students may over-report or under-report based on what they assume the researcher wants to hear or how they would like to be perceived with regard to the social norm, even though the questionnaire is anonymous and confidential. Some recommendations for future studies would be to expand on the sample by including students from various faculties as well as students at different study levels, including both undergraduate and postgraduate students. This would aid in capturing a more fully representative university sample, than this study was able to do.

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APPENDIX A: Student information letter and consent form

LETTER INVITING YOU TO PARTICIPATE IN A STUDY ABOUT CIGARETTE SMOKING BEHAVIOUR, PERCEPTIONS AND ATTITUDES TO ANTI-SMOKING LEGISLATION.

Researcher: Maša Popovac- Research Psychology Masters Programme

Dear Student,

I am currently doing my research psychology masters at UWC and am conducting a study looking at smoking behaviour, perceptions and attitudes among students at this university. Your participation in this study will be of great value because it will provide a better understanding of the psychological and social influences involved in the behaviour and will help to extend knowledge on this topic.

Your participation in this study is voluntary and involves the completion of a short questionnaire. It should take you approximately 10 minutes to complete. You will not be required to put your name on the questionnaire, this ensures that your resp completely anonymous. You are entitled to withdraw from the study at any time in the p you wish to do so.

Your assistance with this research will be greatly appreciated.

Should you have any questions regarding the study or wish to have access to the results, please email me at 2959749@uwc.ac.za or contact Prof. Mwaba (supervisor) at kmwaba@uwc.ac.za.

Regards,

Maša Popovac

I_____ *(name)* understand that participation in this study is voluntary, that I may withdraw at any time and that my responses on the questionnaire will be anonymous.

Signature: _____

Date: _____

APPENDIX B: Questionnaire

Smoking behaviour, risk perception and attitude to anti-smoking legislation among students at UWC

DO NOT write your name on this questionnaire as we wish to retain your anonymity. Please also note that participation is voluntary. There are 3 sections in the questionnaire, please complete all sections.

SECTION 1:

In the questions below fill in the NUMBER which applies to you in the box beside the question.

A. Your sex: **1.** Male **2.** Female

B. Your age:

C. Your race:

1. African **2.** Coloured **3.** Indian **4.** Other (specify):.....

D. Do you smoke? **1.** Yes **2.** No

E. If you do smoke: How many cigarettes, on average, do you smoke daily?

F. If you do smoke: Have you ever tried to quit? **1.** Yes **2.** No

G. If you do smoke: How old were you when you started smoking?

SECTION 2:

For the following statements, please fill in the appropriate number in the box next to the question. Please read each statement carefully. See the key below:

1. Agree 2. Not sure 3. Disagree

1. The dangers of smoking are exaggerated.

2. Occasional smoking is not harmful to one's health.

3. There is proof that smoking causes lung cancer, heart disease and lung disease.

[KEY: 1. Agree 2. Not sure 3. Disagree]

4. Second-hand smoke is harmful to a non-smoker's health. ☐

5. Smokers become more addicted the more they smoke. ☐

6. Each cigarette smoked has an effect on the body. ☐

7. Smoking takes years off a smokers life. ☐

8. Smokers can quit easily. ☐

Please answer the following 2 questions to the best of your knowledge using a percentage value (0-100%) in each of the blanks provided.

9. What do you think the chances are that a **typical smoker** will develop:

Heart disease ___% Lung cancer ___% Lung disease ___%

10. What do you think the chances are that **you** will develop:

Heart disease ___% Lung cancer ___% I ___%

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SECTION 3:

For the following statements, please fill in the appropriate number in the box next to the question. Please read each statement carefully. See the key below:

1. Agree 2. Not sure 3. Disagree

1. There should be an increase in taxes for all tobacco products. ☐

2. Tobacco products should not be advertised at the front of the store. ☐

3. People who sell tobacco to minors should be prosecuted. ☐

4. Smokers should be allowed to smoke in public buildings. ☐

5. The dangers of second-hand smoke should be made more public. ☐

6. There should be a complete ban on tobacco advertising. ☐

7. Smoking should not be controlled in bars and night clubs. ☐

8. A license should be required to sell cigarettes. ☐

9. The government should step up a mass anti-smoking campaign. ☐

10. Tobacco taxes should be used to pay for smoke-related health care costs. ☐

THANK YOU FOR PARTICIPATING IN THIS STUDY!