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ATTITUDES TOWARDS CIGARETTE SMOKING :- AN INVESTIGATION OF COGNITIVE DISSONANCE.

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Submitted in accordance with the regulations
for the degree of Master of Philosophy
in Psychology.

August, 1990

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ABSTRACT

The present study is an investigation of attitudes towards cigarette smoking. The first part of the study compared the attitudes of three groups of matched subjects, comprising of twenty seven current smokers, twenty seven non-smokers, and twenty one ex-smokers, as measured by a questionnaire. It was found that the current smokers were more likely to emphasise the benefits of smoking and de-emphasise the unfavourable outcomes of their habit than the other two groups. The ex-smokers were found to hold generally similar attitudes to the non-smokers. The second part of the study, compared the attitudes of very dissonant smokers and not very dissonant smokers, grouped on the basis of the distinction made by Mckennel and Thomas (1967). The very dissonant smokers were found to be more likely to fear the health risks of their habit, more likely to view their habit as an addiction and more likely to emphasise the positive consequences of smoking than the not very dissonant smokers. The results of both parts of the study were discussed with reference to dissonance theory, and it was concluded that they provide firm evidence for the usefulness of a dissonance interpretation of attitudes towards smoking.

INTRODUCTION

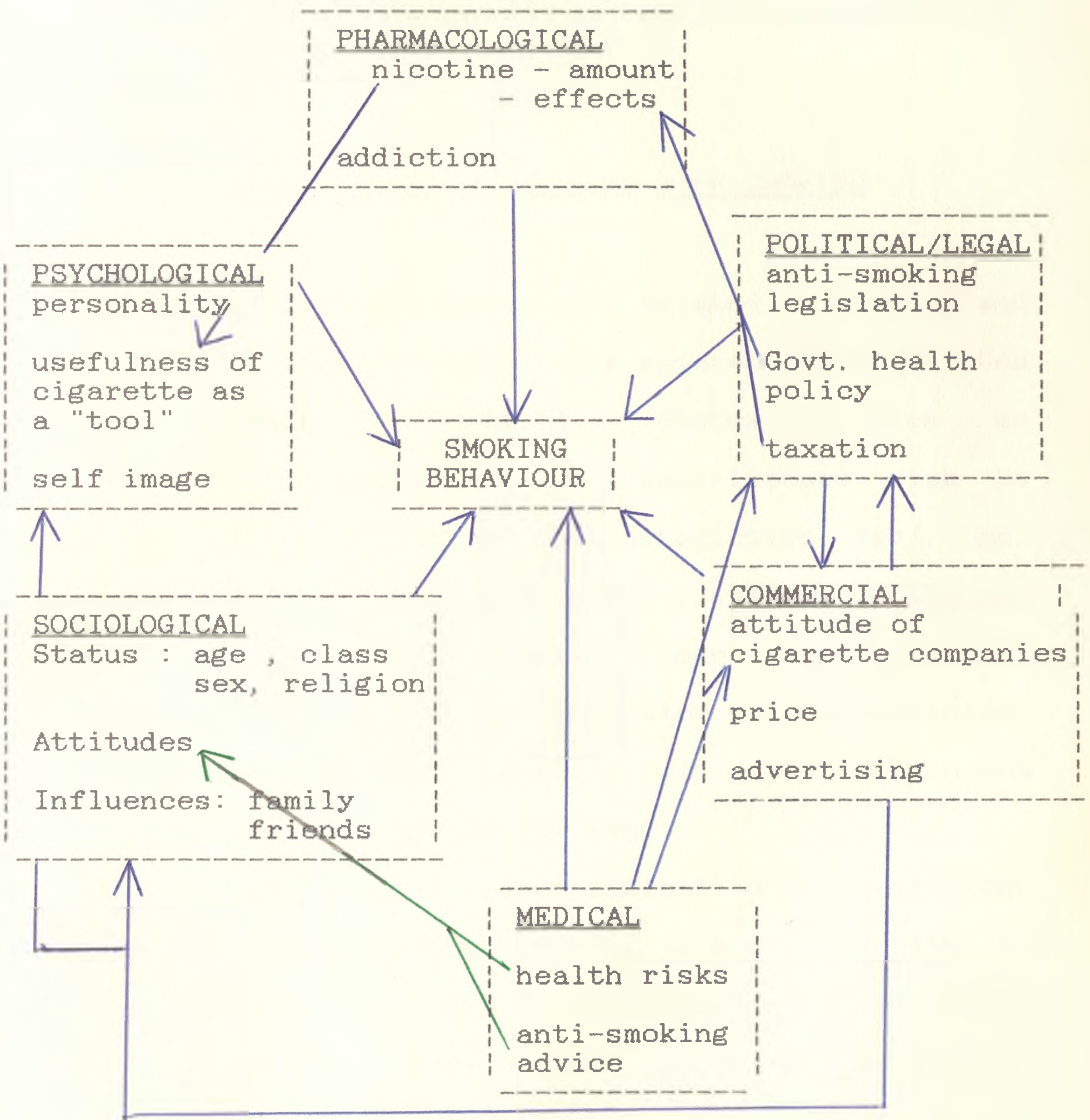
SMOKING BEHAVIOUR

To try to begin to understand the dynamics of smoking behaviour you have to look far beyond the hand of the cigarette smoker. Ashton and Stepney (1982) have commented that " cigarette smoking is surely one of the strangest of human behaviours" (pp. vii.). This statement is confirmed by the fact that almost half of the adult population currently engage in the act of smoking, an act which is neither necessary for the maintenance of life, nor for the satisfaction of cultural, social or spiritual needs. Furthermore it is an act which is widely acknowledged - by smokers and non-smokers, tobacco manufacturers and Government health officials alike - to be harmful to health. Never the less smokers have continued with their bizarre habit despite the efforts of the government and organisations such as ASH (Action on Smoking and Health), the Tobacco Research Council, and the World Health Organisation to educate them of the health risks and thus to persuade them to stop.

Not surprisingly the resistance of smokers towards changing their behaviour (ie. giving up cigarettes) in light of the health risks has become a subject of interest amongst social scientists researching health behaviour.

Smoking behaviour is a complex area with many different factors of influence. Ashton and Stepney (1982 pp viii) have neatly summarised the complex web of influences on smoking behaviour as illustrated in figure 1 below.

FIGURE 1 : FACTORS INFLUENCING SMOKING BEHAVIOUR



As figure 1 indicates , smoking is a complex behaviour and as such research in this area must narrow its interest to a small number of the above factors. Much of the research into psychosocial aspects of smoking has centred on the PSYCHOLOGICAL, SOCIOLOGICAL, and MEDICAL factors outlined in figure 1. One important area of this research has been concerned with the link between health risks, anti-smoking advice, and the attitudes held by smokers. (coloured in figure 1).

THE HEALTH RISKS ASSOCIATED WITH SMOKING

Reading through the literature related to smoking and health one message is startlingly apparent SMOKING CAN SERIOUSLY DAMAGE YOUR HEALTH. Statements such as "smoking is the greatest single self-imposed risk to health of all" (British Medical Association 1987, pp. 53), "smoking causes vast numbers of premature deaths and much chronic ill health", (Royal College of Physicians pp v.), and "smoking is a form of slow motion suicide" (Ashton and Stepney, 1982, pp viii), all contribute to the view that smoking is a dangerous habit.

Furthermore much epidemiological and biomedical research has confirmed that smoking is a serious risk to health, indeed on the basis of an extensive review of the published research, the Surgeon General's Report on

Smoking and Health (1964) in the United States, and the Royal College of Physicians report on Smoking and Health (1962) in Britain, came to the conclusion that smoking constitutes a definite health hazard.

In a more recent report of the Royal College of Physicians (1979) entitled " Smoking <u>or</u> Health", a comprehensive review of the research findings concerned with smoking and various health risks is presented. In summary the view of the Royal College of Physicians is that " cigarette smoking is still as important a cause of death as were the great epidemic diseases of the past". The report suggests that most "of the recent slow down in the rate of improvement of life expectancy, and half the difference in life expectancy between men and women", can be attributed to the fatal effects of smoking.

With respect to lung cancer the report states that the risk of death from lung cancer is related to the number of cigarettes smoked and the age of starting to smoke. Eysenck (1980) however has suggested that there is little evidence to suggest that the relationship between smoking and lung cancer is causative. Eysenck instead has suggested that genetic factors are of importance, namely the joint inheritance of a susceptibility to lung cancer and the desire to smoke. However it is difficult to reconcile this genetic hypothesis with the finding that incidences of lung cancer decreased amongst doctors who gave up smoking, after learning of the risks involved,

(Doll and Peto 1976). It is generally accepted that smoking is a major factor in the incidence of lung cancer. Smokers also put themselves at a five to ten times greater risk of developing cancer of the mouth or throat than non-smokers.

Cancer is not the only disease linked with smoking. Coronary Heart Disease (CHD) is a major cause of death in much of the developed world. Smokers under the age of sixty-five years are twice as likely to die of CHD as are non-smokers , and heavy smokers are about three and a half times as likely. Furthermore the rise in consumption of cigarettes among women is mirrored by a rise in their mortality rates from CHD. The seriousness of the CHD smoking link is reflected in the finding that sudden death can be the first manifestation of the disease, especially among young male smokers, (Kannel et al 1975). Stopping smoking reduces the risk of CHD in smokers under sixty-five years of age, as evident from the finding from the study of male doctors mentioned earlier (Doll and Peto 1976) that in comparison to the rising rate of deaths from CHD in the general population of men under sixty-five years of age, there has been a steady fall in CHD death rates in doctors of the same age, as a result of their giving up smoking..

Bronchitis and Emphysema are also major causes of death among smokers. Such diseases leave smokers with often severe breathing problems and particularly with the characteristic smokers cough. The damage to the lungs caused by both these diseases is often irreparable.

Aside from the major causes of death associated with smoking outlined above, the total list of health risks is too long to detail here. Suffice to say that the following examples are representative. Smokers experience an increased incidence of -gastric and duodenal ulcers, of diseases of the mouth and gums , and of depression of the immune system. Mother who smoke during pregnancy risk delaying the growth of their unborn babies. Babies born to mothers who have smoked regularly during their pregnancy have an increased risk of still birth and death in the first week of life.

That smoking is a serious health risk then would not appear to be a disputable fact. So once the medical world had produced the statistics to back up the sentiment of King James in his famous attack on smoking over three centuries ago (see ECKHOLM 1977), it seemed a natural progression to take measures to increase public awareness of the health risks associated with smoking.

ANTI-SMOKING ADVICE

In the United States, after the publication of the report of the Surgeon General's Advisory Committee on Smoking and Health (mentioned earlier) a number of action programmes designed to educate the public regarding the health risks involved and to influence cigarette smokers habits were set up. In Britain a similar movement was evident, with organisations such as ASH (Action on Smoking and Health) being set up by the Department of Health and Social Security, to publicise anti-smoking advice. Similarly the Tobacco Research Council was set up to further investigate and promote the advantages of giving up smoking.

In addition to these initial educational measures, moves were made in the United States to regulate the advertising of cigarettes, so that adverts such as " More doctors smoke brand "X" than any other cigarette" were banned. (see Guthrie 1966). In Britain, the advertising of cigarettes was banned from the independent television network in August 1965.

Since the initial flurry of concern over putting forward the health risks of smoking a number of further measures have been adopted in Britain. In summary these have included passing legislation requiring the printing of a health warning on cigarette packets and

advertisements, and more recently passing legislation to allow explicit health warnings on cigarette packets and adverts. Increased awareness of the legislation making it illegal to sell cigarettes to people under sixteen years of age, and fines for retailers caught doing so. Continuation of health education programmes aimed at both children and adults. Banning of smoking in many public places such as shops, cinemas, theatres, and many public buildings, and on many modes of public transport, (see Royal College of Physicians 1979).

All of these anti-smoking measures had one goal in mind, to increase public awareness of the health risks of smoking, and in thus doing so to change behaviour, ie. to persuade current smokers to give up their habit and to persuade non-smokers never to take it up.

Were they effective? Perhaps the very fact that much research is still concerned with the attitudes of smokers hints that the answer to this question is somewhat negative.

THE ATTITUDES OF SMOKERS TO ANTI-SMOKING ADVICE

As detailed in the previous section there can be few smokers in the modern world who have not been exposed to information concerning the relationship between smoking, death and disease. Despite this, young people continue to be recruited into the ranks of smokers, and smokers

continue to struggle with the problem of quitting. Indeed the lack of effect the anti-smoking campaigns have had led Berstein (1969) to conclude that " the most interesting and at the same time disturbing conclusion drawn from a survey of recent smoking literature is that the health scares did far more to influence the research behaviour of psychologists and sociologists than they did to change the smoking behaviour of the general public."

This resistance towards change seen in the public has indeed sparked off much research amongst social scientists. Of interest to them has been the need to investigate whether people in general and smokers in particular have actually listened to and taken on board the evidence of the health risks of smoking. Some research has indicated that the knowledge of smokers about the risks they run is imperfect and incomplete, (Marsh 1985). Marsh found that many smokers flatly rejected any link between smoking and disease, with forty-five percent denying the smoking causes heart disease and thirty-three denying the link with lung cancer. Among many of the smokers in Marsh's study the links of smoking with disease were only accepted with qualifications. In line with Marsh's findings Eiser et al (1979) found that smokers were more inclined to underestimate the dangers of smoking and also to hold significantly more negative views about government anti-smoking campaigns than non-smokers.

However there have been a number of studies which indicated that a significant number of smokers are aware of the risks they run by smoking. One early study by Horn (1963) found that fifty percent of smokers agreed that cigarettes were responsible for lung cancer, with only twenty-nine percent rejecting the link outright.

Pervin and Yatko (1965) have also reported that smokers and non-smokers do not differ in their knowledge about the relationship between cancer and smoking. A further study conducted in Britain by National Opinion Polls (1978, cited in Aston and Stepney (1982), found that sixty-six percent of smokers thought that smoking could help cause lung cancer. And in line with these findings Russell and Feyerabend (1980) found that seventy-two percent of smokers believed the link between bronchitis and smoking, and fifty-two percent believed the heart disease smoking link. Further evidence from a study by Spelman and Ley (1966) found that ninety-two percent of smokers and non-smokers alike connected cigarette smoking and lung cancer, leading them to conclude that " both in the U.S and in Britain most people no longer try to dispute the evidence that there is a connection between the two. "

In balance the evidence would appear to indicate that smokers are aware of the health messages associated with smoking, and a significant number of them believe these messages. However it has become apparent that knowledge

and general belief of the health risks of smoking are not enough to encourage a change in smoking behaviour. Thus informational anti-smoking campaigns which focus on the health related dangers of smoking, assuming that such knowledge will inhibit non-smokers from starting to smoke, will convert smokers into non-smokers, and/or will convert heavy smokers into light smokers are not successful. The traditional anti-smoking campaigns not only assume that an awareness of the health risks of smoking is important in influencing smoking behaviour they also suggest that these health risks are the only factors of importance to smoking behaviour. However recent research has indicated that this need not be so. Loken (1982) has suggested that a person's beliefs about the health consequences of smoking need not be the major determinants of smoking behaviour. Instead she suggests that a persons overall "affect towards smoking may be some combination of the positive and negative consequences," (pp.616). Loken suggests that individuals who vary in their desire to smoke will also vary in their beliefs about smoking. Loken tested this by comparing the beliefs of heavy smokers, light smokers, and non-smokers to eight positive and eight negative outcomes of smoking. The positive items included statements such as "smoking helps keep my weight down " and " smoking helps me to relax". The negative items included statements such as " smoking causes bad breath" and " smoking is offensive

to others". (A full list of Loken's eight positive and negative outcomes can be found in the appendix within the questionnaire of this study). The three groups of subjects were found to differ significantly on all eight of the positive outcomes and six of the eight negative outcomes of smoking. Interestingly the two negative outcomes that were not significant pertained to health related outcomes, and in line with the research cited earlier indicated that all three groups strongly agreed that smoking is harmful to health, and increases smokers chances of developing cancer. The non-health related outcomes were the important factors in differentiating the three groups. In general the findings of Loken's study when summarised indicate that smokers in general are more likely to believe the positive outcomes of smoking than non-smokers, whereas non-smokers are more likely than smokers to believe the negative outcomes of smoking. The three groups beliefs about the negative health outcomes of smoking were not important determinants of their behaviour. It would be of interest to discover if and how the beliefs of ex-smokers differ for both smokers and non-smokers, this suggestion will be considered later.

Loken's study found that while the smokers were aware of the negative health consequences of their behaviour this awareness was not sufficient to change their behaviour as they were also well aware of the many positive outcomes their smoking had. The smokers may be

seen to have made the decision that the risk involved with their habit of smoking is an acceptable risk in light of their beliefs about the benefits.

SMOKING:- THREATS, RISKS AND COGNITIVE DISSONANCE

Research concerned with risk theory has discovered that sometimes very wide differences exist between, on the one hand the degree of risk for a given activity as measured by objective criteria, and on the other hand, the risk which is generally perceived, (Living With Risk). Smokers perceptions of the risks of smoking are one such case. It is important to stress one point here, smokers are generally well aware of the actual health hazards of their habit (as has been shown in many of the studies outlined earlier), it is their perceptions of how much of a risk these hazards are, in balance with all their other perceptions about smoking, that are discrepant from the objective risk measures.

Why should smokers underestimate the health risks they are running by smoking? A large body of research concerned with risk perception amongst smokers has tried to explain smokers attitudes in terms of Festinger's theory of Cognitive Dissonance, (Festinger 1957).

The concepts of cognitive dissonance and consonance emerged in the social psychology of the late 1950's as

part of a larger attempt at understanding attitude formation and change and the relationship between attitudes and behaviour. The underlying idea was that people desire consistency (consonance) amongst their attitudes and between their attitudes and their behaviour. If inconsistency exists (dissonance) so too exits the pressure to change behaviour. Dissonance is internal to the person, within his mind, and may not always be accessible to his consciousness.

Festinger in his book "A Theory of Cognitive Dissonance" (1957) used the smoker as an example of his theory - "let us now examine how dissonance may be reduced, using as an illustration the example of the habitual cigarette smoker who has learned that smoking is bad for his health. This knowledge is certainly dissonant with the cognition that he continues to smoke. If the hypothesis that there will be pressures to reduce dissonance is correct what would the person involved be expected to do?"

> " 1. He might simply change his cognition about his behaviour by changing his actions - ie. he might stop smoking. If he no longer smokes then his cognition of what he does will be consonant with the knowledge that smoking is bad for his health.
>
> 2. He might change his "knowledge" of the effects of smoking. this sounds like a peculiar way to put it, but it expresses well what must happen. He

might simply end up believing that smoking does not have any deleterious effects, or he might acquire so much "knowledge" pointing to the good effects that the harmful aspects become negligible. If he can manage to change his knowledge in either of these ways he will have reduced, or even eliminated the dissonance between what he knows and what he does." (Festinger 1957, pp. 5)

Festinger's theory has since been applied in a number of experimental studies of smoking behaviour, with promising results. Although there is little evidence of the straight forward denial of the medical risks of smoking as suggested by dissonance theory, there is evidence of more subtle forms of denial.

One such study by Spelman and Ley (1966) asked smokers and non-smokers to complete a multiple choice questionnaire on the causes, symptoms, treatment and prognosis of ten common diseases, one of which was lung cancer. The smokers and non-smokers did not differ in their knowledge of the causes and symptoms, and with nine out of ten of the diseases there was no difference in there estimates of prognosis. However with respect to lung cancer, heavy smokers (fifteen cigarettes a day or more) underestimated the poor prognosis for the disease. Sixty percent of the light- and non-smokers chose the

correct prognosis (" usually die within 2-3 years of cancer being diagnosed"), whilst only thirty-five percent of the heavy smokers did so. The smokers while correctly perceiving their increased risk of contracting lung cancer, never the less over estimated the chances of their survival.

Eiser, Sutton and Wober (1979) have also found that smokers while generally accepting the health risks of their habit, differ from non-smokers in the detailed evaluation of the risks involved. Whilst ninety percent of non-smokers believed that smoking was " really as bad as they say" only fifty percent of smokers agreed with this. Smokers were also found to be less enthusiastic about anti-smoking campaigns, more assertive of the individuals right to put his own health at risk, and more likely to question the benefits of giving up.

There is therefore evidence to suggest that smokers reduce dissonance by only qualified acceptance of the evidence linking smoking with death and disease.

Festinger's theory also suggests that subjective enhancement of the value of smoking so as to balance its negative associations might be a strategy employed by smokers to reduce dissonance. There is clear evidence from the research literature to indicate that this is indeed the case.

Loken's (1982) study mentioned earlier found that heavy smokers, light smokers, and non-smokers differed in

their perceptions of the negative and positive outcomes of smoking. Loken asked the three groups of subjects to rate initially how likely they believed each of the eight positive and negative outcomes of smoking were. She found that the three groups ratings differed on all eight positive outcomes and on six of the eight negative outcomes. Heavy smokers were found to be more likely to believe the eight positive outcomes than non-smokers, and light smokers were more likely to believe four of the eight positive outcomes than non-smokers. Also both heavy and light smokers were significantly less likely to believe four of the eight negative outcomes than non-smokers.

Loken also asked the three groups of subjects to rate how favourably they saw each of the positive and negative outcomes of smoking to be. Most of the differences were found between the heavy smokers and the non-smokers. Heavy smokers were less likely to unfavourably evaluate many of the negative outcomes of smoking (eg. the potential health effects, the offence to others, and the bad odour) than non-smokers. The heavy smokers actually perceived the risk that smoking increases your chances of getting cancer as less negative than non-smokers. In general Loken found that the smokers (particularly the heavy smokers) were more likely to believe and favourably value the positive outcomes of smoking than the non-

smokers. The non-smokers on the other hand were more likely to believe and unfavourably value the negative outcomes of smoking, in line with Festinger's theory.

Further evidence supporting dissonance theory comes from a study by Mausner and Platt (1971) in which American college students were asked to rate how much they valued certain statements of outcomes, such as being nervous, getting lung cancer, living longer, concentrating well, and getting along with friends. They were also asked to say how likely they expected that starting to smoke, continuing to smoke, or giving up smoking would contribute to achieving these outcome. Combining an individuals value score with his expectancy rating gave a measure of the usefulness (or subjective expected utility) to the individual of smoking or non-smoking. The patterns of subjective utilities were broadly consistent with the reasons smokers gave for smoking. Thus subjects who smoked to relieve tension, for example, believed that stopping smoking would produce difficulties in tension reduction. Difference in the subjective utility scores for continued smoking were also consistent with existing smoking status. Compared to non-smokers, smokers both valued the psychological effects of smoking more highly and had a greater expectation that smoking would achieve these effects. Smokers therefore had greater faith than non-smokers in the usefulness of continued smoking. Interestingly despite the increased value placed on

smoking by the smokers they were found to rate giving up the habit more highly than continuing to smoke. This indicates that the pressure for change still remained, despite the high value placed on the habit. In terms of dissonance theory the results are supportive, indicating that smokers make use of their "knowledge " of the positive effects of smoking to account for their behaviour in a dissonance reducing way.

Questioning smokers has shown that they are generally aware of the health consequences of smoking, it would make sense never the less in terms of dissonance reduction if they tended where possible to avoid exposure to health risk information. Brock (1965) gave a group of smokers the opportunity to do this and compared their responses with that of a similar group of non-smokers. Brock asked all of the subjects to rank a serious of titles of magazine articles in the order in which they would be interested in reading them. Of relevance here are two of the thirteen titles:- "Smoking leads to lung cancer" and "Smoking does not lead to lung cancer". In one condition subjects expected that they would have to read the articles, in the other condition they did not. Brock found that when the smokers expected that they would have to read the articles, they showed a greater interest in the denial of the smoking cancer link than in its assertion, that is they showed a preference for dissonance

reducing material. The smokers however did not avoid exposure to the dissonance increasing message (asserting the smoking cancer link), showing roughly the same level of interest in it as the non-smokers.

In a second study in this area by Brock and Balloun (1967) smokers and non-smokers were required to listen to a series of tape recorded messages which were partially masked by static. They were asked to evaluate the sincerity and persuasiveness of various talks, which they were told had been recorded on a small portable machine which was unfortunately prone to electrical interference. By pressing a button the subjects could momentarily remove the static. The amount of static removed was taken as a measure of the subjects interest in the talk. The results were in line with dissonance theory. The smokers were found to remove more static than non-smokers from the tape disputing the smoking cancer link, and to remove less static than non-smokers from the tape affirming the smoking cancer link. The evidence from both of the studies by Brock suggests that smokers, even if they were prepared to be exposed to dissonance producing information they were not necessary willing to attend to it.

There has been some research which has claimed to dispute the cognitive dissonance explanation of smokers attitudes to their behaviour. Bernstein, for example, suggests that the evidence is not unequivocal and cites results which contradict the dissonance theory explanation

of attitudes towards smoking , for example Feather (1962), and Straits (1965). Brock and Balloun (1967) have challenged this conclusion suggesting that methodological differences are responsible for these "discrepant" results. Brock and Balloun emphasise that the context (past, present, or future) of the presentation of information in a study is a very important variable. They suggest that subjects' confrontation with the discrepant information must be presently under way within the study in order to get a dissonance reducing response. It is apparent that a distinction must be made between studies measuring selective <u>exposure</u>, that is attention to the message at all versus non attention, and selective <u>attention</u>, that is current exposure to the message but with attention limited to parts of the message only. When smokers are actually exposed to risk information, dissonance avoidance may be readily demonstrable. (see for example; Brock and Balloun, (1967), Festinger, (1957), Cohen et al (1959), Swinehart and Kirsch (1960), and Zagona and Zurcher (1965)).

In balance the evidence indicates that smokers do use dissonance reducing strategies when faced with information regarding the health risks of smoking. These strategies do not appear to simply involve a straightforward denial of the health risks, rather they include a variety of strategies. In summary smokers are more likely to

emphasise the positive aspects of smoking and to "play down" the negative aspects, and also to avoid disconcerting information about their habit while attending to consistent information. Smokers have also been found to reduce dissonance by reducing the personal relevance of the health threats (Pervin and Yatko (1965). This finding that numerous modes of reducing dissonance may be employed by smokers is in line with a theory of smoking proposed by Tomkins (1966). Tomkins' model suggests that for the smoker to change his behaviour he must answer all of the following questions positively;- "Is my smoking really a threat?", "Is the threat important enough for me to do anything about?", "Is it threatning to me?", and "Can I do anything about it?". The absence of agreement with any one of these questions can serve to inhibit action to stop smoking. Tomkins' model, then suggests that the smoker may find an " excuse" for his behaviour at any point in answering these questions and so has open to him a number of ways of reducing dissonance concerning his smoking behaviour.

SMOKING AS AN ADDICTION

More recently research has suggested that smokers may adopt yet another strategy in their bid to reduce dissonance. This strategy involves the denial of personal

control over behaviour. In this way the smoker may be able to reconcile his continued smoking with his knowledge of the health risks involved by simply concluding that he is addicted to smoking, and that any attempt to give up is beyond his control.

In a survey of attitudes towards smoking aimed at determining how readily people would describe smokers as cigarette addicts Eiser et al (1977) noted that it would be surprising if the description was thought appropriate for people who participated in a "lawful, economically legitimised, and vastly popular activity like smoking" (pp. 329). Never the less the findings held that eighty percent of non-smokers thought that smokers were addicted to cigarettes and fifty percent of smokers themselves agreed. Furthermore this study found that that people who labelled smokers as addicts considered smoking more difficult to give up than those who did not think this description was justified. Amongst smokers themselves, those who were trying to give up considered themselves as less addicted than those not trying to change their behaviour. Of course it may be that the views of smokers not currently trying to give up are based on their previous unsuccessful attempts to do so, in which case their view of themselves as addicts might seem reasonable. However the possibility that their lack of effort at giving up "stemmed from their view of smoking as an irreversible addiction cannot be excluded." (Eiser et al

1977, pp.329).

Eiser (1982) suggests that " in terms of conventional behavioural and pharmacological criteria, the label of "addiction" can be applied to cigarette smoking as appropriately as it can to the use of other legal and illegal drugs such as alcohol and opiates." (pp. 282). He cites the difficulties smokers have in giving up, and pharmacological evidence of nicotine addiction (see also Ashton and Stepney (1982)). However Eiser draws an important distinction between the idea of smoking as a "medical" addiction and smoking as an addiction in the popular stereotypical sense of the term. This popular view suggests that once an addictive drug has been used " there is little hope of the user being able to escape from its clutches ever again" (pp. 283). The drug user addiction is seen as a sickness that can only be cured by medical intervention. What is more, once the smoker has defined himself as "sick", he has an explanation which accounts for his behaviour that absolves him from personal responsibility of taking action to change it.

Eiser and his colleagues have conducted much of the research concerned with smokers views of their habit as an addiction. One area of this research has linked the likelihood of a smoker labelling himself as addicted with the idea that smokers can be grouped into two groups, namely "dissonant" smokers and "consonant" smokers. (see

McKennell and Thomas (1967)).The term "dissonant" smoker relates to current smokers who say they would like to give up smoking, their continued smoking is therefore dissonant from their attitude. Smokers who do not wish to give up smoking are termed "consonant" smokers as they experience no dissonance between their attitudes concerned with giving up smoking and their smoking behaviour. Notably the idea of "dissonant" and "consonant" smokers does not relate directly to Festinger's theory of cognitive dissonance (since he suggested that dissonance was due tothe smokers fears of the health consequences of the habit), instead these concepts have their roots in the work of Mckennell and Thomas (1967). However Eiser et al (1978a) have found that "dissonant" smokers also have a greater perceived level of dissonance regarding their smoking behaviour than "consonant" smokers brought about by their increased perception of the seriousness of the of the health risks they run. Indicating that the dissonant and consonant classifications are relevant to Festinger's views on dissonance in smokers. Returning to the inertest in smoking as an addiction, Eiser et al (1978) grouped smokers into two groups (dissonant and consonant) on the basis of their desire to give up their habit, and compared the likelihood that of each group to label themselves as addicted to cigarettes. The dissonant smokers were found to be more likely to label themselves as addicted compared with the consonant smokers. This result suggests that the

use of the label of addiction among dissonant smokers serves as a means of dissonance reduction, and hence gives the smoker as excuse for continuing to smoke.

Further evidence as to the beliefs of dissonant smokers comes from Eiser's(1982) finding that very dissonant smokers show greater fears of the effects of smoking (greater dissonance) and also express less confidence in their ability to give up when compared with less dissonant smokers. Eiser suggests that very dissonant smokers are rarely committed to their wish to give up smoking since they already have " an armoury of reasons for why they could not do so easily".(pp.294).

SUMMARY OF THE RESEARCH FINDINGS CONCERNED WITH SMOKING BEHAVIOUR AND ATTITUDES

As the preceding discussions indicate studies investigating the attitudes of smokers have proved very helpful in explaining the actual behaviour of smokers. In summary these findings have indicated that:-

1. Most smokers are well aware of the health hazards of smoking.

2. Awareness of the health hazards alone is not sufficient to change smoking behaviour.

3. Smokers attitudes towards their habit appear to reflect an internal need to reduce the dissonance between what they know (the risks of their habit) and what they do (continue to smoke).

4. Smokers employ a variety of different strategies on order to reduce this dissonance.

5. Smokers can be classified into two groups "dissonant" smokers and "consonant" smokers. Dissonant smokers can be characterised by their wish to give up smoking despite continuing to smoke, their increased perception of the seriousness of the health risks of smoking, and an increased level of dissonance regarding their smoking behaviour. Consonant smokers state that they do not wish to give up smoking, they have lower levels of fear regarding the health consequences of smoking, and also exhibit a lower level of dissonance regarding their smoking behaviour than dissonant smokers.

6. Dissonant smokers have been shown in a few studies to be more likely to rate themselves as addicted to smoking than consonant smokers. It has been suggested that dissonant smokers have an "armoury" of dissonance reducing excuses for their continued smoking.

The first four findings of the general smoking behaviour and attitude research are of interest to research considering how attitudes change when smokers do manage to give up. Ex-smokers hold a unique position in smoking research as they are an example of the comparatively small number of smokers who have actually managed to give up. As such their attitudes are very important. The differences to be found between current smokers and ex-smokers attitudes could prove important in helping smokers to give up, by pin-pointing just how ex-smokers change their attitudes when they change their behaviour. Some questions of interest here relate to the ex-smokers' attitudes to the positive and negative outcomes of smoking. Do ex-smokers place less emphasis on the positive outcomes of smoking than smokers? And do they also place more emphasis on the negative outcomes of smoking than smokers? Are both these attitude changes present together in ex-smokers? If dissonance theory is successful in explaining smoking behaviour, then the expected finding should reflect the resolution of dissonance experienced by the ex-smoker on giving up. The ex-smokers smoking behaviour should no longer be dissonant from his knowledge and if dissonance theory can explain his behaviour it should follow that the ex-smoker no longer has any need of dissonance reducing strategies.

THE FIRST AIM:- THE DIFFERENCES BETWEEN THE ATTITUDES OF SMOKERS, NON-SMOKERS AND EX-SMOKERS.

The first aim of this study is to investigate this prediction by comparing how the attitudes of smokers, ex-smokers and non-smokers differ with regard to the positive and negative outcomes of smoking outlined by Loken (1982). Of particular interest is to investigate whether the ex-smokers attitudes can be predicted from dissonance theory, that is do the ex-smokers views differ from the smokers views?, and do the ex-smokers hold similar view to the non-smokers?, with regard to the positive and negative outcomes of smoking.

The fifth and sixth findings outlined in the summary of the general research findings detailed earlier were concerned with dissonant and consonant smokers. This distinction is useful to research trying to gain some understanding of why of the many smokers who say they want to give up (dissonant smokers) so many have failed to do so. Much of the research literature concerned with smoking cessation methods has concluded that the attitudes of the smoker are very important in the process of successfully giving up. In particular in the preparation stage of a smoking cessation plan, much emphasis is placed on "increasing the smokers motivation to quit by

pointing out the risks of continued smoking and the benefits of quitting, and by building confidence that he or she can be successful." (Smoking Cessation Methods 1987, pp. 132). Emphasis is usually heavily placed on the enhancement of self-attributions, and in the belief that the smoker has control over his/her habit. Interestingly the research findings indicate that many smokers state that they do wish to stop smoking, that is they show a verbal motivation to do so, however moving any further towards their goal appears to represent a first stumbling block. The attitudes of these smokers beyond their reported wish to stop smoking, should therefore give some insight into their failure to give up.

THE SECOND AIM :- THE STRATEGIES USED BY DISSONANT AND CONSONANT SMOKERS

The attitudes of interest in the second aim of this study are those concerned with the strategies the dissonant smokers employ to account for their continued smoking, and to reduce their dissonance. The specific strategies of interest are those concerned with the self labelling of addiction noted by Eiser and his colleagues and the attitudes towards the positive and negative outcomes of smoking detailed by Loken. The specific aims are to investigate whether dissonant smokers more likely

to use the excuse of addiction to their habit than consonant smokers? Also do dissonant smokers place more emphasis on the positive outcomes of smoking, and less emphasis on the negative outcomes than consonant smokers. Of further interest is to investigate whether "dissonant" and "consonant" smokers differ with respect to their perceptions of the health risks of their habit.

METHOD

METHOD

SUBJECTS

Seventy five adult volunteers took part in this study. The subjects formed three groups; current smokers, ex-smokers, and non-smokers. The characteristics of the current smokers and ex-smokers related to their smoking behaviour can be found in Table A of appendix I. The non-smokers were adults who stated that they never smoke. The three groups were matched on the basis of the following characteristics:- sex, age, marital status, and profession. (Table B. in appendix I details the characteristics of each group in relation to these variables.)

PROCEDURE

The subjects were recruited from the students of Strathclyde University and from members of the general public in and around Glasgow. The experimenter approached each of the subjects and after briefly detailing what the study involved asked them if they would be willing to take part. The questionnaire took on average fifteen minutes to complete, and all subjects completed the questionnaire at the initial time of being approached. Prior to completing the questionnaire the experimenter explained to the subjects how to use the rating scales . The subjects

completed the questionnaire on their own, however the experimenter was available to answer any questions they had.

MEASURES

Respondents were asked to indicate their age, sex, marital status, and profession, in order to match the subject groups. The subjects' smoking status, and some further details of their smoking habits were obtained, (see Table A. in appendix I).

The main part of the questionnaire, which all subjects answered included measures of sixteen behavioural beliefs about smoking, and sixteen outcome evaluations of smoking, both taken from Loken's (1982) questionnaire. The behavioural belief measures gave an indication of how likely the subject felt each statement was to be related to smoking, (eg. How likely do you think smoking is to keep your weight down, or to be offensive to others?). The outcome evaluation measures gave an indication of the favourability of each statement as seen by the subjects, (that is, the subjects were answering the general question "How favourable an outcome of smoking do you consider each statement to be?). The same eight positive and eight negative outcomes related to smoking were rated for both of these measures, (see appendix II for a copy of the

questionnaire).

The rating scale for all thirty two measures was a seven point bipolar scale, ranging from +3 to -3. The sixteen behavioural beliefs were measured on a likely-unlikely scale. The sixteen outcome evaluations were measured on a positive-negative (favourability) scale.

The group of current smokers within the study also completed Eiser's (1982) questionnaire entitled "How do you feel about stopping smoking." This questionnaire contained twenty statements to be rated in terms of four categories:- "not at all how I feel", "a little like I feel", "quite like I feel", and "a lot like I feel".

Finally, the group of current smokers where asked to indicate how much they would like to give up smoking on a three choice question taken from Eiser et al (1977), ranging from " not at all" to "very much". This measure allowed the smokers to be classified in terms of the dissonant and consonant groupings discussed in the introduction.

All of the subjects were thanked for taking part in the study and their questionnaires were collected and scored.

SCORING

The questionnaire allowed the subjects to be classified into three groups:- smokers, ex-smokers, and non-smokers. These groups were then matched in terms of the variables mentioned earlier and detailed in Table A of the appendix.

The behavioural beliefs for all subjects were scored firstly for the degree of the agreement with the general positive outcomes and also for the general negative outcomes. The subjects scores for the individual positive and negative outcomes were added together to give the general positive and negative scores. The subjects scores for each individual positive and negative outcome were also noted.

In a similar way the outcome evaluations were scored for the overall favourability of the general positive and negative outcomes, as well as for the sixteen individual outcomes.

The responses of the smokers to the questionnaire related to how they feel about stopping smoking, were coded from 0 to 3 for each question. Factor analysis of these scores revealed one factor related to addiction (as Kiser also had found), and the subjects were given a score in terms of the variables of importance to this factor :- an addiction score. A second factor related to the perception of health risks related to smoking was found,

and subjects were similarly given a score for this factor on the basis of their responses to the statements of importance:- a health-risk score. (These two factors will be considered in more detail within the results section and can be found within appendix II.).

Finally the smokers answers to the multiple choice question concerning their wish to give up smoking were coded.

SUMMARY OF VARIABLES

a. Behavioural Beliefs of all three groups (smokers, non-smokers, and ex-smokers): general and individual, positive and negative.

b. Outcome Evaluations of all three groups (smokers, non-smokers, and ex-smokers): general and individual, positive and negative.

c. Behavioural Beliefs of the two groups of smokers (dissonant, and consonant).

d. Outcome Evaluations of the two groups of smokers (dissonant and consonant).

e. Addiction scores for the two groups of smokers.

f. Health Risk scores for the two groups of smokers.

All of the measures were coded in numerical form and entered into the Data Entry programme of the SPSSpc microcomputer package, to allow statistical analysis of the results.

RESULTS

The analysis of the results can be categorised into two main sections; I. analysis of the differences in attitudes between smokers, non-smokers, and ex-smokers, and, II. analysis of the differences in attitudes among smokers.

I. ANALYSIS OF THE DIFFERENCES IN THE ATTITUDES OF SMOKERS, NON-SMOKERS, AND EX-SMOKERS.

The analysis of the attitudes of the three groups (smokers, non-smokers, and ex-smokers), consists of two components: (1) analysis of the subjects responses to the sixteen behavioural beliefs, and (2) analysis of the subjects responses to the sixteen outcome evaluations.

(1) Differences between the smokers, non-smokers, and ex-smokers in terms of their behavioural beliefs.

The analysis of the differences in behavioural beliefs took two forms, a) analysis of the general positive and negative beliefs scores, and b) analysis of the individual positive and negative scores.

a) Analysis of the general behavioural beliefs of the three groups.

TABLE 1. Mean scores, Analysis of Variance, and Newman Keuls Tests, for the general positive and negative behavioural beliefs of the groups of smokers, non-smokers, and ex-smokers.

BEHAVIOURAL BELIEFS	CURRENT SMOKERS	NON-SMOKERS	EX-SMOKERS	F
MEAN POSITIVE	9.19 a,b	-4.93 a,c	3.67 b,c	23.46**
MEAN NEGATIVE	16.56 a,b	20.74 a	19. 76 b	7.36**

Notes. 1) Values in the same row that share common subscripts differ significantly ($p < 0.05$).

2) ** = significant at $p<0.001$.

Table 1. contains the general mean scores and analysis of variance of each group for the positive and negative outcomes of smoking. The Newman Keuls tests revealed that the three groups differed significantly in their beliefs towards the positive outcomes of smoking. Current smokers were more likely to believe that smoking led to positive outcomes than both non-smokers and ex-smokers. Ex-smokers were also found to be more likely to believe the positive outcomes than the non-smokers.

In terms of the three groups believes towards the negative outcomes of smoking, the current smokers' beliefs differed significantly from the other two groups. The current smokers were significantly less likely to believe the negative outcomes of smoking than both the non-smokers and the ex-smokers. There was no difference between the beliefs of the ex-smokers and the non-smokers regarding the negative outcomes of smoking.

b) Analysis of the individual behavioural beliefs of the three groups of subjects.

Table 2. (over page) contains the individual mean belief scores and analysis of variance of the three groups for each positive and negative outcome of smoking. The Newman Keuls Tests revealed that the current smokers were significantly more likely to believe six of the positive outcomes than the non-smokers, (related to, keeping weight down, reducing tension, helping to interact, tasting pleasant, helping relaxation, and helping concentration). The current smokers were also more likely than the ex-smokers to believe four of the positive outcomes, (related to helping to interact, tasting pleasant, helping relaxation, and helping concentration). The ex-smokers' beliefs regarding the positive outcomes were found to differ from the non-smokers on six of the eight outcomes, (relating to keeping weight down, reducing tension,

TABLE 2. Mean scores, Analysis of Variance, and Newman Keuls tests for the individual positive and negative behavioural beliefs of the smokers, non-smokers, and ex-smokers.

BEHAVIOURAL BELIEF	CURRENT SMOKERS	NON-SMOKERS	EX-SMOKERS	F
Keeps weight down	0.70 a	-0.70a,b	0.62 b	5.18*
Reduces tension	1.96 a	0.63a,b	1.76 b	6.10*
Helps interactions	0.63a,b	-1.52a,c	-0.33b,c	12.95**
>Peer acceptance	-0.44	-1.26	-0.52	1.62
Makes use of hands	1.37	0.63	0.86	1.97
Tastes pleasant	1.56 a,b	-2.15a,c	-0.33 b,c	48.76**
Aids relaxation	2.26 a,b	-0.30a,c	1.29 b,c	25.37**
Aids concentration	1.59 a,b	-1.34a,c	0.33 b,c	16.80**
Causes bad breath	1.67 a	2.60 a	2.00	5.42*
Harmful to health	2.50 a,b	2.92 a	2.95 b	8.34**
Is expensive	2.30	2.37	1.76	2.06
Causes cancer	2.44 a,b	2.85 a	3.00 b	5.27*
Offensive	1.22 a,b	2.41 b	2.14 a	5.71*
Breathing problems	2.37	2.48	2.86	2.35
> Dependency	1.92	2.37	2.25	0.77
Bad odour	1.74 a,b	2.81 a	2.19 b	7.02*

Notes 1. Values in the same row that share common subscripts differ significantly ($p<0.05$).

2. * = significant at $p<0.05$; ** = $p<0.001$.

aids interactions, tastes pleasant, aids relaxation, and aids concentration).

Regarding the three groups beliefs concerning the negative outcomes of smoking, the Newman Keuls Tests revealed that the smokers were less likely to believe five of the eight outcomes than the non-smokers, (related to bad breath, health risks, increased risk of cancer, offence to others, and bad odour). The smokers were also found to be less likely to believe four of the eight negative outcomes than the ex-smokers, (relating to the health risks, the increased risk of cancer, the offence to others, and the bad odour). The non-smokers and the ex-smokers beliefs regarding the negative outcomes of smoking did not differ significantly.

(2). Differences between the smokers, non-smokers, and ex-smokers outcome evaluations of smoking behaviour.

The analysis of the differences in outcome evaluations between the three groups took two forms; a) analysis of the general positive and negative evaluation scores, and b) analysis of the individual positive and negative scores.

a). Analysis of the general outcome evaluations of the three groups.

TABLE 3. Mean scores, Analysis of Variance, and Newman Keuls tests of the general positive and negative outcome evaluations of the groups of smokers, non-smokers, and ex-smokers.

OUTCOME EVALUATIONS	CURRENT SMOKERS	NON-SMOKERS	EX-SMOKERS	F
MEAN POSITIVE	11.96 a,b	3.04 a	5.38 b	10.39**
MEAN NEGATIVE	-16.81	-20.30	-18.19	2.00

Notes. 1. Values in the same row that share common subscripts differ significantly ($p<0.05$).

2. ** = significant at $p<0.001$.

Table 3 contains the mean scores and analysis of variance of the evaluations three subject groups for the positive and negative outcomes of smoking. The Newman Keuls tests revealed that the current smokers saw the positive outcomes as more favourable than both the non-smokers and the ex-smokers. There was no difference between the non-smokers and ex-smokers evaluations of the positive outcomes of smoking. Regarding the negative outcomes, all three groups were similar in their evaluations.

b). Analysis of the individual outcome evaluations of the three groups .

Table 4. over page, contains the individual mean evaluation scores and analysis of variance of the three groups for the positive and negative outcomes of smoking.

With regard to the positive outcomes, the Newman Keuls tests revealed that current smokers evaluated six of the eight outcomes more favourably than the non-smokers, (relating to, keeping weight down, reducing tension, giving you something to do with your hands, tasting pleasant, aiding relaxation, and aiding concentration). The smokers evaluations were also found to differ from the ex-smokers in terms of five of the eight positive outcomes (relating to all of those above except keeping your weight down). In all cases the smokers evaluations were more favourable than the ex-smokers evaluations. No differences were found between the evaluations of the non-smokers and the ex-smokers.

With regard to the negative outcomes, although the general negative outcome evaluations of the three groups did not differ, the groups' evaluations were found to differ on three of the eight individual outcomes. Smokers were found to evaluate the negative outcomes concerning smoking leading to increased dependency , leaving a bad odour on clothes, and being offensive to others less

TABLE 4. Mean scores, Analysis of Variance, and Newman Keuls tests for the individual positive and negative outcome evaluations of the smokers, non-smokers, and ex-smokers.

OUTCOME EVALUATION	CURRENT SMOKERS	NON-SMOKERS	EX-SMOKERS	F
Keeps weight down	1.41 a	0.150a	1.14	4.74*
Reduces tension	2.11 a,b	0.78a	1.24 b	6.98*
Helps interactions	1.00	0.33	0.19	2.85
>Peer acceptance	1.00	0.26	0.19	2.61
Makes use of hands	0.89 a,b	0.11 a	-0.19 b	7.05*
Tastes pleasant	1.56 a,b	0.075a	0.57 b	7.346**
Aids relaxation	2.07 a,b	0.740a	1.14 b	8.387**
Aids concentration	1.92 a,b	0.67 a	1.14 b	6.10*
Causes bad breath	-2.26	-2.67	-2.62	2.92
Harmful to health	-2.48	-2.78	-3.00	2.27
Is expensive	-1.89	-1.63	-1.65	1.49
Causes cancer	-2.52	-2.56	-2.95	1.15
Offensive	-1.07a,b	-2.33 a	-2.76 b	7.32**
Breathing problems	-2,56	-2.74	-2.90	2.42
> Dependency	-1.74a,b	-2.74 s	-2.38 b	8.10**
Bad odour	-1.70a,b	-2.48 a	-2.38 b	9.33**

Notes 1. Values in the same row that share common subscripts differ significantly (p<0.05).

2. * = significant at p<0.05; ** = p<0.001.

negatively than both the non-smokers and the ex-smokers. No differences were found between the evaluations of the non-smokers and the ex-smokers regarding the negative outcomes of smoking.

II. ANALYSIS OF THE DIFFERENCES IN ATTITUDES AMONG SMOKERS .

The analysis of the attitudes of the current smokers alone in terms of the "dissonant" and "consonant" groupings consisted of a number of components. Firstly the smokers were grouped in terms of their stated wish to give up smoking. Interestingly very few of the smokers (n=2) indicated that they did not want want to give up their habit, meaning that the "dissonant" and "consonant" groupings could not be applied. However, in order to continue the analysis of the attitudes of interest, the smokers were grouped in terms of the follow two categories;

Group A.(n=13). "Very Dissonant Smokers". The smokers in this group indicated that they would like to give up smoking "very much".

Group B.(n=14)." Not Very Dissonant Smokers" The smokers in this group indicated that they did not want to give up (n=2), or only wanted to give up smoking somewhat (n=12).

The analysis of the differences between the attitudes of these two groups consisted of four components; a) analysis of the groups' views of the health risks of smoking, b) analysis of the groups' views of their habit as an addiction, c) analysis of the groups' beliefs regarding the positive and negative outcomes of smoking, and finally d) analysis of the groups' evaluations of the positive and negative outcomes of smoking.

a) Smokers Perceptions of the Health Risks of their Habit

The smokers perceptions of the health risks of their habit were obtained from their answers to the "How do you feel about stopping smoking " questionnaire (see appendix). Factor analysis of this questionnaire revealed one factor related to the health risks of smoking. The four statements of importance to this factor were,

i) "I think you have to smoke a lot more than I do to put your health at risk." (negative loading).

ii) "If I gave up smoking I'd expect to feel a lot healthier." (positive loading).

iii) "I'm frightened about what smoking may be doing to me." (positive loading).

iv) "I know that some people die because they smoke, but I think most smokers stay just as healthy as non-smokers." (negative loading).

(See appendix II for a list of the factor loadings).

Each individual was given a health risk score based on their responses to these four statements. The health risk scores of the group of "very dissonant smokers" were then compared with those of the group of "not very dissonant smokers". Table 5 below contains the mean health risk scores and significance for the two groups of smokers.

TABLE 5. "Very Dissonant Smokers" and "Not Very Dissonant Smokers" Mean Health Risk Scores and Significance Test, (independent samples t-test).

	"VERY" DISSONANT SMOKERS"	"NOT VERY DISSONANT SMOKERS"	t
MEAN HEALTH RISK SCORE	4.23	1.42	3.64**

Note. ** = significant at $p<0.001$.

The "very dissonant smokers" were found to show significantly higher health risk scores than the "not very dissonant smokers", indicating that they exhibit a higher level of fear of the health risks regarding their smoking habit.

b) Smokers' Perceptions of their Habit as an Addiction.

In a similar analysis to that of the health risks, the smokers perceptions of their habit as an addiction were obtained from their answers to the "How do you feel about stopping smoking" questionnaire. Factor analysis of the responses to this questionnaire revealed one factor related to addiction. The six statements of importance to this factor were;

i) " I really want to stop smoking but I need someone to tell me how to do it" (positive loading).

ii) "I think if my smoking as a sickness that has to be cured". (positive loading).

iii) "I'm not going to be able to give up smoking unless someone helps me". (positive loading).

iv) "I don't think I could give up smoking if it proved too difficult or distressing. (positive loading).

v) "What I feel I really need is a pill or some sort of medicine that will stop me wanting to smoke". (positive loading).

vi) " I find that smoking helps me to cope when I've got problems". (positive loading).

(See appendix II for a list of the factor loadings).

Each individual smoker was given an addiction score based on their responses to these six statements. The addiction scores of the "very dissonant smokers" were then compared with those of the "not very dissonant smokers". Table 6 below contains the mean addiction scores and the significance for the comparison between the two groups.

TABLE 6. "Very dissonant smokers" and "Not very dissonant smokers" mean addiction scores and significance test, (independent samples t-test).

	"VERY" DISSONANT SMOKERS"	"NOT VERY DISSONANT SMOKERS"	t
MEAN ADDICTION SCORE	16.85	9.64	4.81**

Note. ** = significant at $p<0.001$.

The "very dissonant smokers" were found to rate their smoking habit higher on the addiction factor than the "not very dissonant smokers", indicating that they were were more likely to see themselves as addicted to their smoking habit.

c) Smokers Beliefs Concerning the Positive and negative outcomes of smoking.

The responses of the smokers to the eight positive and eight negative outcomes of smoking were analysed in terms of the two groupings of "very dissonant smokers" and " not very dissonant smokers". Table 7 contains the mean belief scores and significance tests of both groups.

TABLE 7. Mean Belief Scores (general positive and general negative) and Significance Tests (independent samples t-test) for the groups of "very dissonant smokers" and "not very dissonant smokers".

BEHAVIOURAL BELIEF	"VERY DISSONANT SMOKERS"	"NOT VERY DISSONANT SMOKERS"	t
MEAN POSITIVE OUTCOMES	12.31	6.29	2.46*
MEAN NEGATIVE OUTCOMES	16.54	16.57	-0.02

Note. * = significant at $p<0.05$.

The beliefs of the "very dissonant smokers" were found to differ from those of the "not very dissonant smokers" with regard to the general positive outcomes of smoking only. The "very dissonant smokers" were significantly more likely to believe the positive outcomes of smoking than the "not very dissonant smokers".

d) Smokers Evaluations of the positive and negative outcomes of smoking.

The outcome evaluation responses of the smokers to the eight positive and negative outcomes of smoking were similarly analysed in terms of the two groups of smokers. Table 8 contains the mean evaluation scores and significance tests for both groups.

TABLE 8. Mean Outcome Evaluation Scores (general positive and general negative) and significance tests (independent samples t-test) for the groups of "very dissonant smokers" and "not very dissonant smokers"

OUTCOME EVALUATION	"VERY DISSONANT SMOKERS"	"NOT VERY DISSONANT SMOKERS"	t
MEAN POSITIVE OUTCOMES	12.54	11.43	0.39
MEAN NEGATIVE OUTCOMES	-15.77	-17.79	0.92

No significant differences were found between the evaluation of the two groups of smokers, regarding both the positive and the negative outcomes of smoking.

DISCUSSION

1. The differences between the attitudes of smokers, non-smokers and ex-smokers.

The current smokers, non-smokers, and ex-smokers were found to differ with respect to their belief structures. Non-smokers were least likely to believe that smoking could lead to favourable outcomes, and more likely than the current smokers to believe that smoking could lead to unfavourable outcomes. Furthermore non-smokers were less favourable in their evaluations of the positive consequences than the current smokers. The ex-smokers were between the current smokers and the non-smokers with respect to the strength of their beliefs about the positive outcomes of smoking, but tended to concur with the non-smokers in their beliefs about the negative consequences of the habit. With regard to the outcome evaluations, particularly the positive outcomes, the ex-smokers evaluations were less positive than the current smokers evaluations. They did not, however, differ from the non-smokers with regard to the positive evaluations. Finally, the current smokers, as indicted above, were found to be more likely to believe the positive outcomes and less likely to believe the negative outcomes than both of the other two groups. With regard to the outcome

evaluations, the current smokers were more likely to positively value the positive outcomes than both the non-smokers and the ex-smokers. All three groups were similar in their evaluations of the negative outcomes of smoking.

In terms of dissonance theory these findings are generally supportive. The current smokers were found to show a higher appreciation of the benefits of their smoking (both through their beliefs and their evaluations), than the other two groups, which is in line with the view that such attitudes serve the purpose of reducing dissonance. The current smokers were also less likely to believe the negative outcomes of their habit and although their <u>general</u> evaluations of the negative outcomes did not differ from those of the other two groups, they were found to be less negative in their evaluations of three of the eight <u>individual</u> outcomes. The current smokers, then, appear to reduce dissonance in two ways, by emphasising the benefits of their habit, while playing down the hazards. Interestingly the current smokers were less likely to believe two of the health risks of their habit, that it could increase their chances of developing cancer, and that it is generally harmful to their health, than the other two groups. This finding is in contrast to much of the previous research which has indicated that smokers do know of the health risks they run, (for example, Horn (1963), and Spelman and

Ley (1966)). However, a few more recent studies, for example Marsh (1985), and Eiser (1982) have found that smokers beliefs regarding the health risks of their habit differ from those of non-smokers. This finding hints at the suggestion that the attitudes of smokers today may have changed from the attitudes of smokers in the 1960's, when the health scares of smoking were new and shocking.

Despite the fact that the smokers were more likely to emphasise the benefits of their habit than the other two groups, in general they rated the unfavourable outcomes more negatively than they rated the favourable outcomes positively. This indicates that in order to reduce dissonance the smokers need not have an overall positive view of their habit. Of course, the smokers beliefs in the positive value of their habit may be much more important to them than their beliefs as to the unfavourable consequences it has. If this is so then one would expect even small favourable consequences to outweigh large unfavourable ones.

The findings concerning the views of the current smokers are generally supportive of a dissonance theory interpretation of attitudes towards smoking. What of those attitudes of the ex-smokers? If the attitudes of the ex-smokers are in line with the dissonance view then they should be similar to the views of the non-smokers, that is it is predicted that the ex-smokers on giving up smoking should no longer have need of dissonance reducing

strategies. Notably, one major assumption of this prediction is that the groups of ex-smokers would have held similar views to those of the group of current smokers before they gave up their habit, that is, that the ex-smokers were not somehow unique smokers. Previous evidence is somewhat limited regarding this matter as few longitudinal studies of smoking behaviour and attitudes have been carried out. However as far as can be discerned from the literature, ex-smokers do not appear to have been somehow unique smokers. Generally the results are supportive of the prediction made from dissonance theory, The ex-smokers were found to hold similar believes to the non-smokers regarding the negative outcomes of smoking. Both groups also evaluated the positive outcomes similarly, and held similar negative beliefs regarding all of the eight individual negative outcomes, in contrast to the views of the current smokers. The ex-smoker then on giving up their habit, appear to have little need of these dissonance reducing strategies and change their attitudes to reflect their resolved dissonance.

There was one finding concerning the ex-smokers beliefs, however which was not as expected. The ex-smokers beliefs regarding the positive outcomes were found to lie in between the smoker and the non-smokers. The fact that the ex-smokers were less likely than the current smokers to believe the positive outcomes is in line with dissonance theory. However, why should the ex-smokers be

more likely to believe the positive consequences than the non-smokers if both groups are similar regarding their need (or lack of need) to reduce dissonance. It is difficult to explain this finding. It may simply represent the ex-smokers awareness through experience that smoking can lead to positive outcomes. Alternatively it may be possible that the non-smokers are reducing dissonance in themselves brought about by the fact that they do not smoke by de-emphasising any benefits the habit might have. However, the ex-smokers would seem just as likely to employ this strategy to resolve any dissonance between their giving up the habit and their views of the favourable consequences it can have.

Despite this one 'unexplainable' result, the findings are generally supportive of a dissonance theory explanation of attitudes towards smoking. Current smokers were found to reduce the dissonance regarding their continued smoking and their knowledge that it can have negative consequences by, most importantly emphasising the positive benefits they can reap from the weed, and also by de-emphasising the unfavourable outcomes they are likely to experience. Furthermore, the attitudes of the ex-smokers were generally consistent with the view that they should no longer require to reduce dissonance since their behaviour is no longer dissonant from their attitudes.

II. The differences in attitudes amoung smokers.

Smokers have been found to differ with regard to their wish to give up the habit, (that is very dissonant and not very dissonant smokers). However it has become increasingly more likely that this is not the only variable that smokers attitudes differ with regard to. The two groups of smokers in this study were found also to differ with regard to their perceptions of the health risks of their habit. Those smokers who wanted to give up smoking very much (the very dissonant smokers) were more likely to fear the associated health risks than those smokers who were less serious about giving up, (the not very dissonant smokers), in line with an earlier finding of Eiser (1982). This suggests that the very dissonant smokers will also experience a higher level of dissonance between their attitudes regarding the health risks and their continued smoking than the not very dissonant smokers. The findings of this study suggest that the smokers who would like to give up their habit do tend to employ more dissonance reducing strategies, which can be seen as a response towards the reduction of their high level of dissonance.

One such strategy is to attribute their continued smoking to the fact that they have become addicted to the habit. The media first offered the cigarette smoker the excuse of addiction, and surprisingly he accepted it. By doing so the dissonant smoker was able to absolve himself from having any control over his habit, and particularly from taking any steps towards giving it up. If the dissonant smoker can convince himself that he is an addict, and he seems to be able to do so quite readily, then he can reduce his dissonance. Characteristic of the 'addicted smoker' in this study was his wish to stop smoking but his need for help, advice, and a magical pill was stopping him from doing anything about this.

The use of the addiction attribution was not the only method used by the dissonant smokers to reduce their dissonance. The dissonant smokers were also found to differ from the not very dissonant smokers with regard to the strength of their beliefs as to the positive consequences of smoking. The dissonant smokers were found to be significantly more likely to believe that smoking could lead to positive consequences. This suggests that the dissonant smokers employ more than one strategy in order to reduce their dissonance, (that is claiming to be addicted <u>and</u> emphasising the positive outcomes of their habit). This is in line with Eiser's suggestion that the dissonant smokers have an armoury of excuses to account for their continued smoking.

The fact that these differences were found between the two groups of smokers despite the fact that they could not be classified as dissonant and consonant is important. The lack of any evidence for the use of a strategy of de-emphasising the negative consequences of the habit by the dissonant smokers may be due to the fact that there was no consonant group in this study, that is there were few smokers who stated that they did not want to give up smoking at all. It may be that a comparison of the dissonant smokers with such a consonant groups would reveal a difference in their attitudes towards the unfavourable outcomes of smoking. Also since it has already been established that the dissonant smokers show a high level of fear of the health risks, one would not expect a difference here. However, this may not be the case for the other unfavourable outcomes, which could be important in distinguishing the two groups.

In summary the results of the second part of this study indicate that cognitive processes are important to the process of giving up smoking. More specifically, the attitudes of those smokers who state that they want to give up smoking, seem point to one reason why they have not yet done so. These attitudes can be seen as a response to reducing the dissonance that exists between their wish to give up, their fears of the health risks of their smoking, and their continuation with the habit.

Dissonance theory was also found to be useful in the interpretation of the difference between the attitudes of smokers, non-smokers, and ex-smokers. Suggesting that smokers reduce the dissonance produced by their fears of the risks of the habit by emphasising the positive consequences of their smoking, and playing down the negative consequences.

A general overall criticism of the present study is the relatively small numbers of subjects within each group, especially within the two groups of smokers. Also with regard to the relevance of the results to the general population, note must be taken of the fact that the majority of subjects were aged between 19 and 29 years and that they were not evenly distributed across all professions. A more extensive and larger survey would help to clarify the present findings. A second problem concerns the two groups of smokers, and as mentioned earlier, the results could have been clearer if a dissonant\consonant distinction could have been made. There also exists an inherent difficulty when studying the concept of cognitive dissonance, and this is that it cannot be measured directly. Dissonance is an internal 'trait' to the individual an as such any evidence of the existence of dissonance must be gleamed from indirect means, namely the attitudes and behaviour of the individuals.

In view of these limitations the present study should be treated as a pilot study on which to base future research. As such it has thrown up some interesting findings to be followed up. For example, how do the attitudes of the dissonant and consonant smokers compare with those of the non-smokers and ex-smokers? What further strategies, if any, do dissonant smokers employ to reduce their dissonance? How best can dissonant smokers move towards their goal of giving up, and what attitude changes take place? This latter suggestion may be most easily studied by means of a longitudinal design.

In conclusion the findings of this study support the view that an individuals attitudes towards smoking are important in understanding his/her smoking behaviour, and suggest that dissonance theory offers a comprehensive model to account for these attitudes.

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APPENDIX I

TABLE A. Smoking characteristics of the groups of current smokers and ex-smokers.

No. of cigarettes currently/previously smoked, (per day).	CURRENT SMOKERS (%)	EX-SMOKERS (%)
< 10	25.92	23.81
10 - 20	37.03	33.33
20 - 30	22.22	19.05
30 - 40	11.11	23.81
> 40	3.70	0.00
No. of years been a regular smoker?		
< 1	0.00	
2 - 5	25.92	N/A
6 - 10	33.33	
> 10	40.74	
No. of years since giving up smoking?		
< 1/2		9.52
1/2 - 1	N/A	38.09
1 - 5		42.86
>5		9.52

TABLE B. Characteristics of the three Groups.

	CURRENT SMOKERS		NON SMOKERS		EX SMOKERS	
	n	(%)	n	(%)	n	(%)
No. in group.	27		27		21	
Sex : Male	13	(48)	13	(48)	11	(52)
Female	14	(52)	14	(52)	10	(48)
Age : < 18	0	(0)	1	(4)	0	(0)
19 - 29	15	(56)	18	(67)	11	(52)
30 - 39	5	(19)	4	(15)	4	(19)
40 - 49	3	(11)	3	(11)	4	(19)
50 - 59	1	(4)	0	(0)	1	(5)
> 60	2	(7)	1	(4)	1	(5)
Marital Status: Married	11	(41)	11	(41)	10	(48)
Single	14	(56)	15	(56)	10	(48)
Divorced	2	(7)	1	(4)	1	(5)
Profession : Professional/ Business.	7	(26)	9	(33)	6	(29)
Clerk/sales/ secretary.	3	(11)	4	(15)	3	(14)
Skilled	2	(7)	2	(7)	1	(5)
Semi-skilled	3	(11)	2	(7)	2	(10)
Unskilled	1	(4)	1	(4)	0	(0)
Student	7	(26)	7	(26)	6	(29)
Housewife	4	(15)	2	(7)	3	(15)
Unemployed	0	(0)	0	(0)	0	(0)

APPENDIX II

FACTOR ANALYSIS OF EISER'S QUESTIONNAIRE.

The factor analysis (varimax rotation) of the questionnaire entitled " How do you feel about stopping smoking" revealed two factors of importance to this study, (and five factors in total). The following lists the statements of importance to both of these factors and the loadings of each statement in brackets.

FACTOR 1: THE ADDICTION FACTOR

1. I really want to stop smoking but I need someone to tell me how to do it. (0.86520).
2. I think of my smoking as a sickness that has to be cured. (0.83994).
3. I'm not going to be able to give up smoking unless someone helps me. (0.80949).
4. I don't think I could give up smoking if it proved too difficult or distressing. (0.75170).
5. What I feel I really need is some sort of pill or medicine that will stop me wanting to smoke. (0.72406).
6. I find smoking helps me to cope when I've got problems. (0.71682).

FACTOR 2: THE HEALTH RISKS FACTOR.

1. I think you have to smoke a lot more than I do to put your health at risk. (-0.70138).

2. If I gave up smoking I'd expect to feel a lot healthier. ((0.67592).

3. I'm frightened about what smoking may be doing to me. (0.64273).

4. I know that some people die because they smoke but I think that most smokers stay just as healthy as non-smokers. (-0.62205).

APPENDIX III

The following appendix lists the questions answered by the subjects and the written instructions that accompanied the questionnaire.

INSTRUCTIONS

I am a research student at Strathclyde University and I am interested in your attitudes about smoking (whether or not you yourself are a smoker). This questionnaire contains some general questions about yourself along with some specific questions about smoking.

In most of the questions I am interested in your opinion, so there are no right or wrong answers. Whatever you think I would like to hear it.

You will not have to answer all of the questions, just those that apply to you, so please follow the instructions carefully throughout the questionnaire.

THANK YOU.

KAREN RALSTON.

Please tick one box only for each question from 1} to 5}.

1} ARE YOU
Male? []
Female? []

2} HOW OLD ARE YOU?
18 years and under []
19 to 29 years old []
30 to 39 years old []
40 to 49 years old []
50 to 59 years old []
60 years and over []

3} ARE YOU
Married? []
Single? []
Divorced? []
Widowed? []
Separated?[]

4} WHAT IS YOUR PROFESSION?
[] Professional, Technical.
[] Small Businessman/woman.
[] Clerk/Typist/Secretary.
[] Skilled Worker.
[] Semiskilled Worker.
[] Unskilled worker.
[] Farmer.
[] Salesman/woman.
[] Student.
[] Unemployed.
[] Housewife/husband.

5} ARE YOU A SMOKER? (Please tick one box then go to the question indicted here.)

[] I am a current smoker............GO TO QUESTION 6
[] I am an ex-smoker................GO TO QUESTION 7
[] I am someone who never smokers....GO TO QUESTION 8

6}
Smokers, please answer parts A and B of question 6.

A. How many cigarettes do you smoke on average each day?

[] less than 10 cigarettes per day.
[] 10 to 20 cigarettes per day.
[] 20 to 30 cigarettes per day.
[] 30 to 40 cigarettes per day.
[] over 40 cigarettes per day.

6}
B How long have you been a regular smoker?

[] less than one year.
[] 2 to 5 years.
[] 6 to 10 years.
[] over 10 years.

Smokers, please go to question 8 now.

7}
Ex-smokers please answer both parts of this question.

A. How long is it since you gave up smoking?

[] less than 6 months.
[] 6 months to 1 year.
[] 1 to 5 years.
[] over 5 years.

B. How much on average did you smoke each day?

[] less than ten cigarettes per day.
[] 10 to 20 cigarettes per day.
[] 20 to 30 cigarettes per day.
[] 30 to 40 cigarettes per day.
[] over 40 cigarettes per day.

Ex-smokers, please got to question 8 now.

All subjects should answer questions 8 and 9.

8}
CAN YOU READ EACH OF THE FOLLOWING STATEMENTS AND DECIDE HOW MUCH YOU THINK EACH ONE IS LIKELY TO BE A CONSEQUENCE OF SMOKING.

The scale for making you rating is a seven point scale ranging from +3 to -3. You should circle the number that you feel best represents your opinion.

As a guide the scale should be read as follows:-

+3 = very likely
+2 = quite likely
+1 = slightly likely
0 = neither likely nor unlikely
-1 = slightly unlikely
-2 = quite unlikely
-3 = very unlikely

For example, if you think that smoking is very likely to cause cancer you would circle +3, if you think that smoking is quite unlikely to cause bad breath you would circle -2, and so on.

SMOKING.....

	likely					unlikely	
a. Helps keep you weight down.	3	2	1	0	-1	-2	-3
b. Causes bad breath.	3	2	1	0	-1	-2	-3
c. Relieves nervous tension.	3	2	1	0	-1	-2	-3
d. Is harmful to you health.	3	2	1	0	-1	-2	-3
e. Is expensive.	3	2	1	0	-1	-2	-3
f. Leads to peer acceptance.	3	2	1	0	-1	-2	-3
g. Increases your chances of developing cancer.	3	2	1	0	-1	-2	-3
h. Gives you something to do with your hands.	3	2	1	0	-1	-2	-3
i. Is offensive to others.	3	2	1	0	-1	-2	-3
j. Helps you interact easily	3	2	1	0	-1	-2	-3
k. Is a pleasant taste	3	2	1	0	-1	-2	-3
l. Causes breathing problems	3	2	1	0	-1	-2	-3
m. Is relaxing							
n. Increases dependency on cigarettes	3	2	1	0	-1	-2	-3
o. Helps you concentrate	3	2	1	0	-1	-2	-3
p. Leaves a bad odour on clothes	3	2	1	0	-1	-2	-3

Now please go on to the next question (9), over the page.

9} This question requires you to read each statement that you saw in question 8 again, this time however you have to decide whether you think each statement is a positive consequence of smoking or a negative consequence.

Again the rating scale you will use is a seven point scale ranging from +3 to -3. As a guide you should read the scale as follows:-

+3 = very positive consequence.
+2 = quite positive consequence.
+1 = slightly positive consequence.
0 = neither a positive nor a negative consequence.
-1 = slightly negative consequence.
-2 = quite negative consequence.
-3 = very negative consequence.

For example if you think that the fact that smoking might cause bad breath is a slightly negative consequence of the habit then you would circle -1, if you think that the fact that smoking might help you to relax is a very positive consequence then you would circle +3, and so on.

Please circle the number on the scale that best represents your opinion.

	Positive				negative		
a. Helps keep you weight down.	3	2	1	0	-1	-2	-3
b. Causes bad breath.	3	2	1	0	-1	-2	-3
c. Relieves nervous tension.	3	2	1	0	-1	-2	-3
d. Is harmful to you health.	3	2	1	0	-1	-2	-3
e. Is expensive.	3	2	1	0	-1	-2	-3
f. Leads to peer acceptance.	3	2	1	0	-1	-2	-3
g. Increases your chances of developing cancer.	3	2	1	0	-1	-2	-3
h. Gives you something to do with your hands.	3	2	1	0	-1	-2	-3
i. Is offensive to others.	3	2	1	0	-1	-2	-3
j. Helps you interact easily	3	2	1	0	-1	-2	-3
k. Is a pleasant taste	3	2	1	0	-1	-2	-3
l. Causes breathing problems	3	2	1	0	-1	-2	-3
m. Is relaxing							
n. Increases dependency on cigarettes	3	2	1	0	-1	-2	-3
o. Helps you concentrate	3	2	1	0	-1	-2	-3
p. Leaves a bad odour on clothes	3	2	1	0	-1	-2	-3

If you are a smoker can you please continue with the questions over the page.

If you are a non-smoker or an ex-smoker, thank you for completing the questionnaire, please ignore the remaining questions and let the experimenter know that you have finished.

Smokers only should answer this question.

10} The following 20 questions relate to how you feel about stopping smoking, Can you decide how much you agree with each statement using the following scale as a guide.

0 = not at all how I feel
1 = a little like I feel
2 = quite like I feel
3 = a lot like I feel

For example, if you feel that you very much "resent other people who tell you that you should not smoke" then you would circle 4 - a lot like I feel. If you feel that the you are not at all "frightened about what smoking may be doing to you" then you would circle 1 - not at all how I feel.

Please read each statement and circle the number that best represents your opinion.

	NOT AT ALL HOW I FEEL	A LITTLE LIKE I FEEL	QUITE LIKE I FEEL	A LOT LIKE I FEEL
a. I'm frightened about what smoking may be doing to me.	1	2	3	4
b. Even if I stopped smoking I'm sure other people would persuade me to start again.	1	2	3	4
c. I resent other people telling me that I should not smoke.	1	2	3	4
d. I don't think I could give up smoking if it proved too difficult or distressing.	1	2	3	4
e. I've never made a serious effort to give up smoking	1	2	3	4

	NOT AT ALL HOW I FEEL	A LITTLE LIKE I FEEL	QUITE LIKE I FEEL	A LOT LIKE I FEEL
f. If life were easier I'd have less need to smoke.	1	2	3	4
g. I feel I'm being constantly got at nowadays because I am a smoker.	1	2	3	4
h. I know that some people die because they smoke, but I think that most smokers stay just as healthy as non-smokers.	1	2	3	4
i. I'd like to give up smoking if I could do so easily.	1	2	3	4
j. If I really wanted to I could give up smoking.	1	2	3	4
k. I'm not going to be able to give up smoking unless someone helps me.	1	2	3	4
l. I think you have to smoke a lot more than I do to put your health at risk.	1	2	3	4
m. I'd feel very ashamed if I tried to give up smoking and failed.	1	2	3	4
n. If I gave up smoking I'd expect to feel a lot healthier than I do now.	1	2	3	4
o. I find smoking helps me to cope when I've got problems.	1	2	3	4
p. I think of my smoking as a sickness that has to be cured.	1	2	3	4

	NOT AT ALL HOW I FEEL	A LITTLE LIKE I FEEL	QUITE LIKE I FEEL	A LOT LIKE I FEEL
q. I think the government should do more to persuade people not to smoke.	1	2	3	4
r. What I feel I really need is a pill or some sort of medicine that will stop me wanting to smoke.	1	2	3	4
s. I feel that others are partly to blame for the fact that I became a smoker.	1	2	3	4
t. I really want to stop smoking, but I need somebody to tell me how to do it.	1	2	3	4

Smokers, please now answer the last question below.

11} How much would you like to give up smoking? (please tick one box).

[] not at all
[] somewhat
[] very much

Thank you for completing the questionnaire. Please let me know that you have finished then hand back your questionnaire.

Karen Ralston.