FACTORS INFLUENCING THE ADOPTION OF SMOKING BEHAVIOUR AMONG OUT-OF-SCHOOL ADOLESCENTS IN ADO-ODO/OTALOCAL GOVERNMENT AREA, OGUN STATE, NIGERIA

BY

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DEDICATION

This thesis is dedicated to:

The ALMIGHTY GOD

The Creator of all good things

The Giver of life and wisdom

ABSTRACT

Smoking among young people is an important public health problem. A lot of researches on smoking have been conducted on adolescents who are in schools, but those who are out-of-school have received scanty attention. The study objective was to document the factors influencing the adoption and maintenance of smoking behaviour among adolescents aged 10-20 years who are currently out of school but in one occupation or the other in Ado-Odo/Ota Local Government Area (LGA).

The study is descriptive with a cross-sectional approach. The LGA has six (6) health districts out of which three (3) were randomly selected. An inventory of occupational locations of these adolescents was conducted in the districts. One thousand two hundred and sixty-three (1,263) locations covering thirteen (13) occupations were obtained. Five hundred (500) locations were randomly selected as sample based on the proportions of locations per occupation. The inclusion criteria for the respondents were: Age range of 10 – 20 years; current out-of-school status and the subject must be involved in one of the occupations. One person was interviewed from each location by trained interviewers using a pre-tested semi-structured questionnaire. A total of 442 (88.4%) males and 58 (11.6%) females were interviewed.

The results showed that the mean age of the respondents is 18 years with S.D. of 2.1. A total of 124 (24.8%) respondents are current and 114 (22.8%) past smokers while 262 (52.4%) have never smoked. Of the 124 current smokers, 121 (97.6%) are males while 3(2.4%) are females. The corresponding percentages for past smokers are 88.6% and 11.4%. The mean age of exposure is 9years with a S.D. of 15.5 and was through friends, 111 (47.2%) media, 42(17.9%) and parents 27(11.5%) p = 0.00096. Among occupational groups, current smoking rates were: bus conductors 100%, motorcyclists 80%, welders 48.3%, printers 33.3%, vehicle repairers 26.4% and hair-dressers 3.75 (p = 0.00000). Of the current smokers 61 (49.2%) have parents who smoke while 63(50.8%) have non-smoking parents. Among past smokers, 92(80.7%) have parents who do not smoke, while 22(19.3%) have smoking parents 0.0000016). Among adolescents who maintained smoking 53 (85.5%) have friends who smoke while 9 (14.5%) do not have (p = 0.039). Of continuous smokers, 35 (56.5%) have masters who smoke while 27 (43.5%) don't have.

In conclusion, the adoption and maintenance of smoking behaviour is associated with social influences that include parents, friends and masters. Exposure to smoking is early and friends, media as well as parents were the main sources. Health education strategies for reducing the adoption of smoking behaviour should target these social influences.

Keywords: Smoking, Out-of-school adolescent, social influence, Ado-odo/Ota LGA.

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CERTIFICATION

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CHAPTER ONE
INTRODUCTION

BACKGROUND INFORMATION

Although the practice of smoking dates back to several centuries ago, it is now constituting a public health problem worldwide (Lam 1998). Cigarettes were invented in 1614 by beggars in Sevilla (Seville), Spain, a center for cigar production. The beggars collected scrap tobacco and rolled it in paper to form what today is called cigarettes. However, cigarettes did not become popular for two and half centuries. Snuff, cigar and pipes remained the most popular means of tobacco use until 1865 {Collins, Sussman, Rauch, Dent, Johnson. Hansen 1987}. Since then, smoking continued to grow in popularity until the 60s when awareness of it's health risks grew. Cigarette smoking causes 65-90 percent of all lung cancer cases (Royal College of Physicians 1992). In 1964, when a special report to the U.S. surgeon general first linked cigarette smoking with lung cancer, coronary artery disease and other ailments. Subsequently, cigarette smoking started to drop steadily in the U.S. and Europe. Due to this, cigarette manufacturers found new markets in Eastern Europe, Asia, Africa and the former Soviet Union (Taha and Ball 1980).

Statement of the Problem

Smoking is a major public health problem worldwide and a formidable barrier to development in many developing countries (Bellagio, 1994). Various researches have confirmed this statement a number of times and in diverse places all over the world. In the United States, the annual health-care cost for smoking-related illness is estimated to be $50 billion (Awake 1997). Smoking among adolescents and youth is on the increase (Arya and Bennett, 1970). In 1988, the proportion of regular smokers aged 11-15 in England was reported to be 8% and by 1996 it had increased to 13%. According to Walker and Bennett (1998), 82% of smokers take up the habit during teenage years and the increasing rate of young smokers will eventually affect adult smoking rates. If a downward trend in the level of adult smoking is to be established, there is need for reductions in the number of young people taking up smoking. Though, there is little epidemiological data on smoking in Nigeria, the behaviour is a problem and the

health consequences are not ignorable (Bandele, 1986). Nigeria and other developing countries are still battling with the problems of ntitrition, yet the heavy burden imposed by the preventable consequences of cigarette smoking is also being paid for (Bandele, 1986).Smoking one pack of cigarette daily costs a smoker at least Thirty-six thousand and five hundred Naira (#36,500.00) yearly (NCS 2004).Taha and Ball, (1980) describes smoking as an impending epidemic to Africa.There are studies done in Nigeria to show conclusive evidence on the prevalence of cigarette smoking among adolescents particularly secondary school students (13-18 years). This group has been severally implicated as the population at risk. A study by Elegbeleye and Femi Pearse (1976) in Lagos focused on secondary school adolescents found a prevalence of 40% among boys and 8.4% among girls. Bandele (1986) has reported a sharp increase in smoking in the developing countries like Nigeria, Brazil, and Pakistan. Willard (1982) found among 15-17 years male adolescents a prevalence of 20% in Sirilanka. Sofowora (1974) reported early smoking initiation among adolescents in Ibadan. He reported that they pick up the habit as early as 12-13 years. Considering the health dangers of the behaviour, there is need for concerted health education effort and information about influences and youth motivation to smoke or not to smoke. It has been documented that the lifestyle of young people usually involves greater risk-taking behaviour than those of other groups in the population (Bennet 1985). The best period in life, therefore, where any type of behaviour can be promoted or prevented is adolescence (Slovic 1998).

Willard (1982) showed that the highest percentage of young smokers were in vocational establishment like craft apprenticeship, pre-nursing and hairdressing outfits. In Nigeria, there is inadequate research on smoking among out-of-school adolescents who are involved in one occupation or the other. This study therefore focused on the determination of the factors influencing the adoption of smoking behaviour in this out-of-school group.

Research Questions

The research was designed to provide answers to the following questions.

1. Do occupations, age group, gender, ages of exposure and source of exposure have effect on smoking status?
2. Do occupation, religion, length of time in occupation, ages of exposure, source of exposure and parental smoking status have effect on smoking initiation among the adolescents?
3. Do friends' and master's smoking status have effect on smoking maintenance among the adolescents?

Rationale for the study

. Cigarette smoking during adolescence produces several health problems among young people including cough and phlegm production, an increased number and severity of respiratory illness, decreased physical fitness, an unfavorable lipid profile and potential retardation in the rate of lung growth and the level of maximum lung function. People who begin to smoke at an early age are more likely to develop severe levels of nicotine addiction than those who begin at a later age.

Tobacco use is associated with alcohol and illicit drug use and is generally the first drug used by young people who enter a sequence of drug use that can include alcohol, marijuana and harder drugs (USDHHS, 1994). Cigarette smoking is the most likely to become established during adolescence among all addictive behaviours. From the foregoing therefore, adolescents are considered high risk groups in smoking adoption. A lot of studies have been done on adolescents in schools, while those who are out-of-school have received minor attention. This study is focused on this group of adolescents who are not just out-of-school but currently in one occupation or the other. It is desirable to determine the predictors of smoking among this group of adolescents. This is needed as baseline information for the design of evidence-based anti-smoking education programmes.

Objectives of the study

Broad Objective

To determine the factors influencing the adoption of smoking behaviour among out-of-school adolescents of ages 10-20 years in different occupations in Ado-Odo/Ota Local Government Area of Ogun State.

Specific Objectives

The specific objectives were to:

1. Determine the exposure of out-of-school adolescents of ages 10-20 years in different occupations to smoking behaviour.
2. Assess initiation and maintenance processes of smoking behaviour among out-of-school adolescents in different occupations in Ado-Odo/Ota LGA.
3. Determine the smoking status of the adolescents in different occupations in the Local Government Area.

Operational Definitions

Adoption: This means taking up smoking as a habit.

Smoking Behaviour: The art of inhaling and exhaling tobacco fumes from cigarette (Awake 1997).

Adolescents: There are young people of both sexes between the ages of 10-20 years.

Out-of-school: This means a status of not currently being in any educational institution as at the time of survey but learning or involved in one occupation or the other.

Initiation: The stage at which the adolescent begins to smoke.

Maintenance: Continuation of smoking behaviour.

Exposure: A general awareness about smoking behaviour through hearing of information or seeing those who smoke.

Smoking Status: This refers to the position of the subject in relation to smoking. It could be current, past or a non-smoking state.

Organization of the Text

The entire text is divided into five chapters. Chapter one is the introduction to the entire text. It covers the statement of the problem, the research questions, study rationale, research objectives and operational definitions. Chapter two is a review of literature on the subject of adolescent smoking. Chapter three describes the methodology employed in the study. The study design, study area, sampling and data collection procedures were all described. The chapter also describes the validity and reliability of instruments utilized in the study, data analysis, study limitations and ethical considerations.

Chapter four shows the findings of the study in prose as well as tables. Chapter five discusses the findings, makes conclusions as well as recommendations.

CHAPTER TWO
LITERATURE REVIEW

Introduction

Cigarette smoking is still considered the chief preventable cause of premature disease and death in the United States (Bartecchi, Mackenzie and Schrier, 1995). Considerable evidence indicates that the health problems associated with smoking are a function of the duration (years) and the intensity (amount) of use (NCS, 2004). Smoking one stick of cigarette shortens the life of a smoker by five and a half minutes (NCS,2004).The younger one begins to smoke, the more likely one is to be a current smoker as an adult (USDHHS, 1994). Cigarette smoking during adolescence appears to reduce the rate of lung growth and the level of maximum function that can be achieved. The behaviour has also been implicated in a number of acute and chronic medical problems including heart and lung diseases and several cancers (Beninger, 1999). Adolescent smokers report that they are significantly more likely than their non-smoking peers to experience shortness of breath, coughing spells, phlegm production, wheezing and overall diminished physical health (WHO, 1997).

Cigarette smoking is also associated with a range of social and psychological problems apart from health issues (Maziak and Mzayek, 1999). Some of such problems include risky behaviours such as drug use, unsafe sex,truancy constantly get into fights, carry weapons and participate in other deviant attitudes during adolescence.(Maziak and Mzayek, 1999).

The Nature of Adolescence

Adolescence is that period between the onset of puberty and the cessation of physical growth. It is a period of transition from childhood to adulthood and according to WHO (1965), it falls within the age limits of 10-20 years. Denshire (1986) describes it as a period of complex changes in physical growth and maturation and of transition from childhood dependency to adult autonomy. An overlap occurs between adolescents and youths. Youth is the period of transition from adolescence to adulthood and the United Nations Organisation has fixed 15 – 24 years as the age limit.Adolescence is a time when young people develop the skills and characteristics that increase or decrease the risk of intergenerational dependency (Moore and Miller, 1997).According to WHO (1981), youths and

adolescents are characterized by increased stability and more outwardly directed tasks and activities which include:

1. The formation of a firm capacity to make on-going commitments in personal relationship in the vocational sphere and in other social contexts.
2. A progressive assumption of greater responsibility in relation to parental figure.
3. Active commitment to working with established social structure.

Adolescents usually search for personal identity and want freedom and independence of thought and action. They however continue to have strong dependence on their parents and suffer from feelings of loss of separation from them. This makes them to identify with their peers and tend to yield to peer pressure and conform to peer group values, behaviour and tastes in food, clothing and entertainment (Denshire, 1986).

The internal pressures are mainly physiologic and emotional while external pressures originate from peers, parents, teachers and the wider society (Covey and Tam, 1990). Evans et.al (1978), suggested that the increase in instinctual life, upsets the physical balance achieved by the end of childhood causing internal emotional upheaval and leading to a greatly increased vulnerability of the personality. Coleman (1980) observed that such a state of affairs is associated with two other factors. Firstly, the individuals awakening sexuality which leads him or her to the process of disengagement, that is, looking outside the family setting for appropriate "love object", thus severing the emotional ties with the parents. Within the social group, the adolescent may experience all feelings so essential for growth such as stimulation, empathy, belongingness, the opportunity for role-playing, identification and the sharing of guilt and anxiety (Coleman 1980).

Adolescents have difficulty differentiating between ideas that are unique to the self and those that are universal to mankind. This is called Personal Fable Theory of Elkind (1978). This leads to a belief that the adolescent is immortal and is manifested in them usually rationalizing that although bad things can happen to others, they will not happen to them because they are "so special". This sense of immortality makes adolescents to do things, which they have heard that it is dangerous to them even if they have heard it on long term basis. Lee and

Buchanan-Oliver (2000) examined adolescents in New Zealand. They found out that despite the fact that adolescents have heard long-term messages that are easy to comprehend, yet they still adopted the smoking behaviour. Some adolescents said "if we are told, it goes in one ear and out the other". Adolescents, though hear that smoking is bad, yet do it. Johnston, O'Malley and Bachman (1995) concluded that it is either adolescents appear to be blasé about such implications for themselves or are generating counter-arguments to challenge the information provided by Public Health Campaigners. Adolescents receive information but they will still try it and then think it is not really that bad.

Duplessi (2005) proposes that the adolescent goes through a cognitive construction called "imaginary audience". That is, the adolescent assumes that others are as admiring or as critical of the individual as she/he is of herself/himself. The adolescent believes that she/he is the center of attention, operating on a stage on which she/he is the principal actor and the world is the audience (Looft, 1971). Image is of great concern to an adolescent, they are self-conscious and also have desire to conform to their peer group. They are more conscious of the association with perceived appetite suppression and perceived social desirability than concerned with the negative effects of smoking (Hall, Turnstall, Vila and Duffy, 1992). In America, younger women are taking up cigarette smoking for reasons concerning their looks despite warnings about the health consequences (French and Perry, 1996). This issue of image is a main factor leading to initiation of smoking among teens (Beede and Lawson 1991).

Role models and peer pressure also affects the decision to adopt one behaviour or not by adolescents (Sargent and Madeline, 2001). It has also been widely noted that social influence such as peer pressures is an important predictor of smoking initiation (Kandel, Kessler, Margulies, 1978; Fredman, Ludisten and Biglan 1985).

Bandura (1986) has further developed the theory of cognitive mediation as an important factor in the understanding of adolescent adoption of certain behavioural patterns. Flay et al (1994) noted that adolescents who observe role models taking drugs show an effect on their behaviour and have their outcome expectations and self-efficacy modified. This means they form beliefs about the consequences of an action, make judgements about how well they can execute the course of action and develop skills related to this behaviour e.g. where to buy

cigarettes. Adolescents who do not smoke tend to select friends who do not smoke (Fisher & Bauman 1988). Kandel (1978) showed that friends are capable of discouraging as well as encouraging anti-social behaviour in adolescents.

Social and Health Problems of Young People

According to Population Reports (1985), more than one billion of the nearly five billion people in the world are between the ages of 10 and 19. One in every seven persons in the developed countries are between these ages while the corresponding number in developing countries is one in four. From the same report, the social challenges that face young people are education, employment marriage and reproductive health (Leventhal and Cleary, 1980). Health problems emanate from increased exposure to drinking, smoking, drug abuse and other sophisticated activities, which are also disastrous. Regarding education, both developed and developing countries emphasize formal education to achieve at least basic literacy. However, in Africa, less than one quarter of school-age children continue beyond primary school (Bloem 2000). Many of these are sent to learn one occupation or the other so as to be able to have something doing later in life (Isamah 1994).

The health effects of cigarette smoking have been the subject of intensive research since the 1950s. Extensive evidence documented in numerous reports of the Surgeon General at the U.S. Department of Health and Human Services has causally linked cigarette smoking to a wide array of health outcomes that range from annoying symptoms to fatal malignancies (USDHHS 1989). Until recently, this research was largely directed at the effects of smoking on adults. It has however been found out that there is adverse effect of smoking during childhood and adolescence (Halpbern-Felsher, Biehl, Rubinstein 2003). Cardiovascular risk factors and atherogenesis have been found to be adult health implications of starting to smoke during childhood (USDHHS 1989).

The Concept of Apprenticeship in Nigeria

In Nigeria, an apprentice is anyone who learns a vocation such as panel beating, carpentary or tailoring. This learning takes place in an informal way under the direct supervision of an instructor (Isamah, 1994). Reasons why young people mostly males go into apprenticeship are lack of basic education or

dropping out of school due to inability of parents to pay school fees on a continuous basis either because of low performance or the rising cost of education (Babarinde 1996).

Some parents also attach less importance to formal education for mainly economic reasons. Parents and wards have said that "there is no future in Nigerian educational system, for of what value is education if it does not allow one to buy basic simple goods freely (Isamah, 1994). This negative sentiment is partly responsible for majority of apprentices found in many trades and crafts these days. African leaders have also by their attitude regarded formal education as a priviledge which could be easily taken away (Modzi 1996). The apprenticeship system has been useful in transmitting skills to youth. This will eventually enable them to contribute their own quota to the future economic development of the nation (Isamah, 1994).

Smoking Related Diseases in Africa

Africa is not spared from tobacco associated diseases just like other parts of the world. Taha and Ball (1980) found that the incidence rate of lung cancer in Africa lies between that of USA and England at 24 cases per 100,000 population. The incidence of carcinoma of the oesophagus in blacks in South Africa and Zimbabwe is among the highest in the world exceeded only by USSR (Taha and Ball, 1980). Other suggestive associations is in African subjects are chronic bronchitis, myocardial infarction and bladder cancer (Urberg, Degimencioglu, Tolson and Halliday 1995).

The Epidemiology of Cigarette Smoking among Adolescents

Overall, about one-third of high-school-aged adolescents in the United States smoke or use smokeless tobacco (USDHHS 1994). According to the 1994 US Surgeon General report, female smoking rate is quite low compared to the male. Socio-demographic, environmental, behavioural and personal factors can encourage the onset of smoking among adolescents (Conrad, Flay, Hill, 1992). Young people from families with lower socio-economic status and those living in single parent homes are at an increased risk of initiating smoking (Semmer, Lippet, Fuchs, and Cleary, 1987). Among environmental factors, peer influence seems to be particularly potent in the early states of cigarette use. The first trues

of smoking occur most often with peers and the peer group may subsequently provide expectations, reinforcement and cues for experimentation (Flay, D'avernas, Best, Kersell and Ryan, 1983). How adolescents perceive their social environment may be a stronger influence on behaviour than the actual environment (Jessor and Jessor 1977). For example, adolescents consistently overestimate the number of young people and adults who smoke. Those who have the highest overestimates are more likely to become smokers than those with more accurate perceptions (Gerber and Newman 1989). Similarly, those who perceive that cigarettes are easily accessible and generally available are more likely to become smokers than are those who perceive more difficulty in obtaining cigarettes (Bauman, Fisher, Bryan, and Chenoweth, 1984).

Behavioural factors feature heavily during adolescence, which is a period of multiple transitions to physical maturation to a coherent sense of self and to emotional independence (Leventhal, Keeshan, Baker and Wetter, 1991). Adolescents are thus particularly vulnerable to a range of hazardous behaviours and activities including cigarette smoking that may seem to assist in these transitions. Young people who report that smoking serves positive functions or is Potentially useful are at increased risk for smoking (Wills and Shiffman 1985). These functions are associated with bonding with peers, being independent and mature and having a positive social image (Hunter, Croft, Biezelberg and Berenson 1987). Reports from adolescents who begin to smoke have indicated that they have lower self-images than their non-smoking peers, smoking therefore can be a self-enhancement mechanism (Young and Werch 1990). Similarly, not having the confidence to be able to resist peer offers of cigarette seems to be an important risk factor for initiation (Lee and Buchanan-Oliver 2000). Intentions to smoke and actual experimentation also strongly predict subsequent regular use.

In most developing countries, more than 20% of young people smoke regularly. In Latin America about 50% or more of 15 year old of both sexes smoke. Masironi and Roy (1982) reported that 70% of schoolboys in Senegal smoke, and over 30% in China and Indonesia. Masironi and Rothwell, (1985) also reported that over 16% of South African students smoke. These data confirmed what Corey (1990) reports about annual increase in tobacco consumption in the developing countries. Just as there is a general increase in smoking, so also is adolescent and youth smoking. Arya and Bennett (1970)

found 33.4% male and 7% female smoking prevalence among University students in Uganda of which 85% of them started before entering University. Femi-Pearse, Adeniyi and Oke (1979) found 4.2% male and 2.4% female smoking prevalence among young people as well in Nigeria. Also, the Nigeria-Cross River State Global Youth Tobacco Survey observed that 9% of students currently smoke in Nigeria (NCS 2004).

Initiation of Cigarette Smoking

The application of psychosocial theories to the issue of adolescent smoking behaviour provided a major breakthrough in the understanding of smoking initiation and development pioneered by the conceptual work of Leventhal (1968). Bandura (1977), Evans et al (1978) and McGuire (1984). These researchers did not view cigarette as health behaviour but a social one, with social causes, functions and reinforcements. Conrad, Flay and Hill (1992) recently reviewed 27 prospective studies on smoking initiation published since 1980. The large number of such methodologically sophisticated studies provides a sufficient base of knowledge to begin drawing conclusions about the relative importance of a variety of risk factors for the onset of tobacco use.

Regardless of the age at which they smoke their first cigarette, young people appear to progress through a sequence of stages that takes them from receptivity to dependence on cigarette use (Leventhal and Cleary 1980). Not all young people who try a cigarette become daily smokers. Yet almost all of those who become daily smokers have experienced similar, well-defined stages in the behaviour acquisition process. The risk factors for each of these stages appear to differ (Conrad, Flay and Hill 1992).

Developmental Stages of Smoking

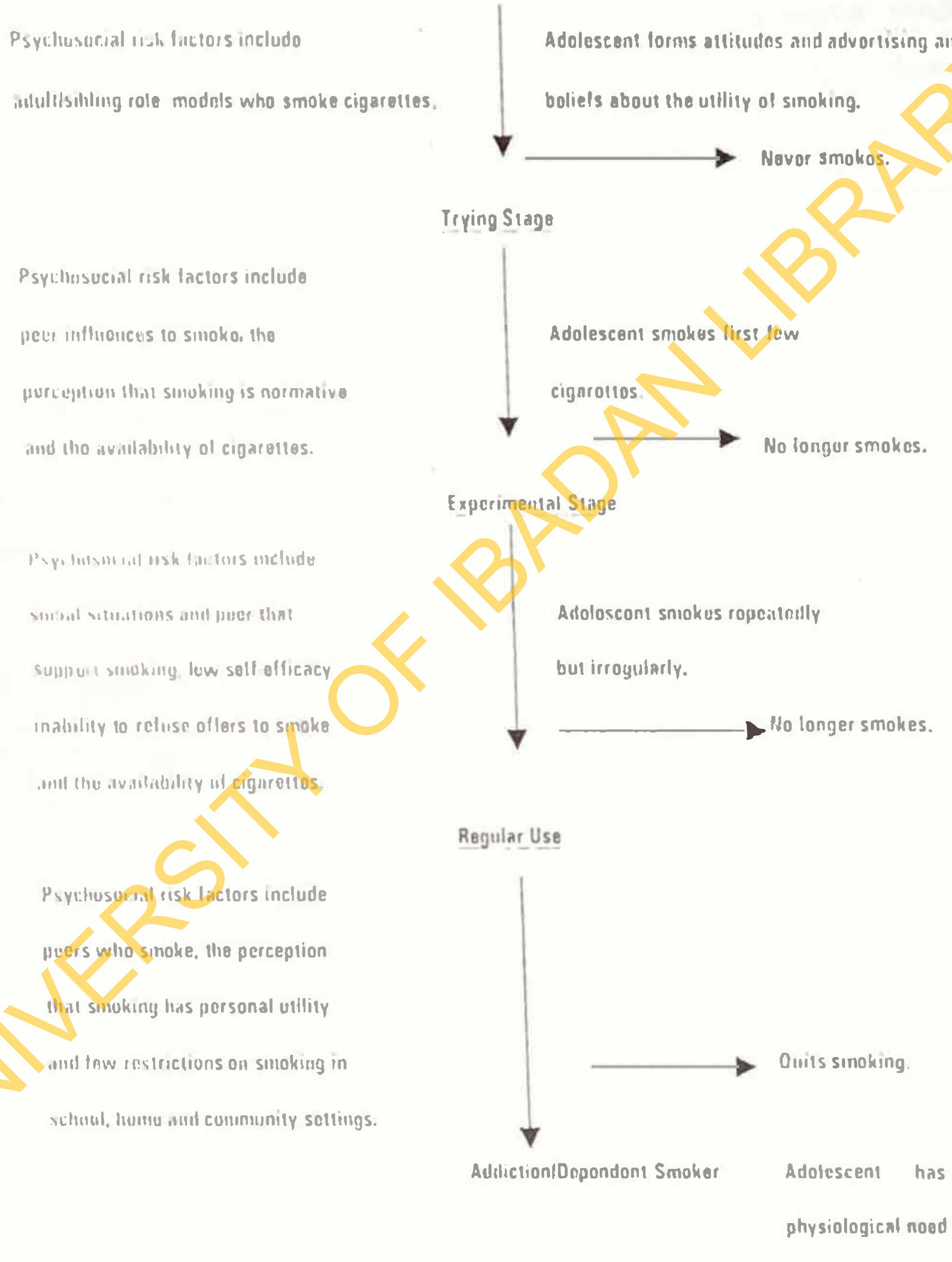
Flay (1993) discusses the five primary stags of smoking initiation among children and adolescents. During the first or preparatory stage, attitudes and beliefs about the utility of smoking are formed. At this stage, even if no actual smoking behaviour is enacted, the child or adolescent may see smoking as functional; that is as a way to appear mature, cope with stress, bond with new peer group or display independence (Perry, Murray, Kleep 1987). The second or trying stage encompasses the first two or three times an adolescent smokes.

Peers are usually involved in situations that encourage trying (Conrad, Flay, Hill 1992). To move on to the next stage of smoking will depend on whether the physiological effects of smoking are perceived to be negative and whether the initial tries are socially reinforced (Leventhal, Flemming, Ershler, unpublished data). At this third stage, smoking is generally a response to a particular situation (such as a party) or to a particular person (such as a best friend). These influences will not yet have prompted a regular pattern; an adolescent smokes on regular basis, usually at least weekly and increasingly across a variety of situations and personal interactions.

The final stage has to do with nicotine dependence and addiction; it is characterized by a physiological need for nicotine. Such need includes tolerance for nicotine, withdrawal symptoms if the person tries to quit and a high probability of relapse if the person does quit (Flay et al 1993). These developmental stages are shown in Figure I. The time interval from the initial try to the stage of regular use takes an average of two to three years with considerable interval variation among individuals (Leventhal, Flemming, Glynn 1988).

Figure I

Stages of Smoking Initiation among Children and Adolescents



Source: Adapted from Flay (1993) in USDHHS Surgeon General Report 1994.

Socio-Demographic Factors in the Initiation of Smoking

Socio-demographic factors involve the economic, political, social and educational systems of a society. These factors can be determinants of behaviour such as cigarette use, even if the systems they originate in are not directly associated with the choice to begin that behaviour.

Low Socio-Economic Status

Low Socio-economic Status (SES) has been shown to predict smoking initiation in multiple longitudinal studies (Conrad, Flay, Hill 1992). Semmer, Lippert, Fuchs, Cleary, Schindler (1987) examined cigarette use among students in two schools in Germany. They found that seventh and eighth grade students from low-income area had higher baseline rates of cigarette use than those from a higher income area. Low-income students were also more likely to begin smoking over the course of the six-month study. These students from low-income areas had lower self-image scores and more friends who smoked. Adolescents from low income families may also have more role models who smoke and less supervision to discourage experimentation than those from higher income families (Perry, Murray, Klepp 1987).

Gender

In the United States, current smoking prevalence is roughly equal among males and females (USDHHS 1994). In Africa, less females smoke than males (Elegbeleye and Femi-Pearse 1976). Females who smoke in Africa are less bold to do it than those in U.S. This is largely due to cultural differences. In a review of research on gender differences, Clayton (1991) found both considerable similarities, such as influence of peer and parent models and a number of possible differences between adolescent females and males who smoke. For example, adolescent girls who smoke were found to be more socially skilled (e. g. more at ease with peers, with strangers or with adults) than their non-smoking peers. Also, adolescent boys who smoke tend to lack such skills. Gritz and Crane (1991) found that concern about body weight may also lead adolescent females to begin smoking.

Ethnicity

Research indicates that the rate of smoking initiation varies among ethnic groups. Sussman et al (1987) found that among California youths, onset rates

were higher for Hispanic and blacks than for whites and were lowest for Asians. Maddahian, Newcomb and Berther (1986) have proposed antecedents that may help these ethnic differences in tobacco use, including income levels that preclude or enable the acquisition of cigarettes, different levels of tobacco availability and psychosocial influences associated with belonging to a particular group. Sussman, Cleary, Dwyer, Fuchs, Lippert (1988) found that unique combinations of psychosocial factors may be relevant to the ethnic differences in smoking initiation. Three variables – availability of cigarettes, difficulty in refusing offers of cigarettes and intentions to smoke in the future were significant predictors of smoking initiation. For instance, social environmental variables, (including peer smoking and adult smoking) were more important variables for Hispanic youth. General risk-taking behaviour was an additional predictor for black youth only (Sussman, Dent, Flay, Hansen, Johnson 1987).

Environmental Factors in the Initiation of Smoking

Environmental factors are those that are external (or perceived as external) to adolescents and yet may influence and affect their behaviour. These factors include the availability of cigarettes in the community, the acceptability of smoking and adolescents' perception of the environment.

Factors that Influence Tobacco Acceptability and Availability

Factors that increase the acceptability and availability of cigarette use at a societal or community level serve also to influence adolescent smoking behaviour. Acceptability and availability are affected in part by the tobacco industry through advertising and other promotional activities. Acceptability of tobacco use may also be accomplished through persuasive, multiple, attractive role models who smoke on television programs or in movies (Bandura 1977). Acceptability is further reinforced by community norms and policies that make tobacco products relatively accessible for adolescents. For example, through sales to under-age buyers. Several studies have found that the general availability of cigarettes predicts the onset of smoking (Bauman, Fisher, Bryan, Chenoweth 1984). Factors that increase acceptability and availability support a social milieu in which cigarette smoking may appear socially functional. On the other hand, a social milieu can decrease the risk of adolescent smoking if, for example,

communities choose to restrict exposure to tobacco-promoting images or restrict access to tobacco products (Bauman, Fisher, Bryan, Chenoweth 1984).

Interpersonal Factors

Interpersonal factors in the initiation of smoking involve opportunities for adolescents to perceive through modeling by adults and peers who smoke, some apparent advantages. These role models (particularly peers) also provide the situations (e.g. parties, staying overnight) in which cigarettes are first tried by adolescents (Lawrance and Rubinson 1986). Interpersonal factors have also been labelled "social learning variables" (Bandura 1977, flay 1993).

This is because the social functions or meaning of smoking are learned in the context of social interactions. The research on interpersonal factors has carefully explored the roles of parents, siblings, friends and peers in the process of initiation.

Parental Smoking

The research on the influence of parents' smoking behaviour on their children's cigarette use has included multiple studies of the relative risk of initiation if one or both parents smoke. Bauman, Foshee, Linzer, Koch (1990) found a consistent relationship between parental and adolescent smoking in a cross sectional study of 12-14 year olds in 10 urban areas in the south eastern United States. Compared with adolescents whose parents have never smoked those whose parents currently smoked were almost twice as likely to smoke. Those whose parents had once smoked were three times as likely to smoke. Chassin, Presson, Sherman, Montellow, Mcgrew (1986) noted a similar influence of parental smoking in a longitudinal study of females between 11-14 years in southern California. Parental smoking was predictive of children's smoking initiation for whites although not for blacks. Conrad, Flay and Hill (1992) summarized the findings of 27 prospective studies on the onset of smoking that have been published since 1980. In 15 of the studies, parental smoking factors were investigated. The researchers conclude that parental smoking was predictive in seven studies, predictive only for female in two studies and not predictive in six others. Chassin, Presson, Sherrnan, Corty, Olshavsky (1984) suggested that parental smoking may influence the preparatory or initial trying stages as well as the stability of smoking patterns from adolescence to adulthood.

However, parental smoking appeared to be less influential during the transition to regular smoking.

Peer Smoking and Peer Behaviours

Peers may be defined as persons of about the same age who feel a social identification with one another. The influence of peers has been posited as the single most important factor in determining when and how cigarettes are first tried. Flay, Davernas, Best, Kersell, Ryan (1983) suggested that smoking may primarily represent an effort to achieve social acceptance from peers and that it may particularly be an experimental "adult" activity that is shared within the peer group. Leventhal and Keeshan (1993) suggest that adolescents are not only influenced by but also influence and construct their peer groups. These researchers propose that small groups of adolescents "construct shared social environments in which they perceive themselves and other(s) as having mutual cognitive, emotional and valuative reactions, the inter-subjectivity created by sharing generates a sense of wellness". This sense of mutuality enhances the attractiveness of the group and may lead to incorporation of the self image of the others into the image of one's own self (Leventhal and Keeshan 1993).

Multiple cross-sectional and longitudinal studies worldwide substantiate the relationship between smoking onset and peers' (or friends) smoking (Shean 1991, Ogawa, Tominaga, Gellert, Aokik 1988). In their research, Bauman, Foshee, Linzer, Koch (1990) found that smoking mostly occur in the presence of best friends. Sixty percent of 11-17 year olds reported that they had first smoked and 72 percent reported that they had most recently smoked with close friends. Among 12-14 year olds, those whose best friend smoked were four times more likely to be smokers than those whose best friend did not smoke. Best friend's cigarette use was predictive of the first try at smoking whereas having a majority of friends who smoke was predictive of the second cigarette (Leventhal, Flemmy, Glynn 1988).

Perceived Environmental Factors

The perceived environment includes the smoking related norms, social support, expectations, reactions and barriers that adolescents sense in their environment. The perceived environment may be a more proximal influence on smoking initiation than the actual environment (Jessor and Jessor 1977).

For example, 12 year olds who believe that "lots of people" of their age mate smoke may be more inclined to begin smoking to fit in than if they were aware that only 5 to 7 percent of their peers actually smoke.

Norms

Norms may be defined as what an individual in a particular group perceives she or he ought to do and what is perceived as acceptable behaviour for a given age group, gender or other sub-group. Gerber and Newman's (1989) research on smoking related norms details adolescent' perceptions of the percentage of all adults, peers and classmates they think are smokers. These investigators found that experimental adolescent smokers who increased their smoking levels over the course of the one-year study period perceived more smoking among their classmates than did those who had decreased their smoking in the same period. Collins et al (1987) examined the predictive influence of norms in a longitudinal study of 3,295 student aged 11-12 in Los Angeles. They found adolescents who made relatively higher estimates of regular smoking prevalence were more likely to try smoking and to become smokers over 1-11/2 years of the study.

Social Support for Smoking

Social support includes perceived approval or disapproval of adolescent cigarette smoking by parents, siblings, peers and important others such as teachers, employers or masters at work in case of those learning one occupation or the other (USDHHS 1994). One way that social support is manifested is through peer group pressure either through support or discouragement of smoking. Peer pressure is not always negative; it has been used successfully in prevention programs (Klepp, Halper, Perry 1986). Still in the study by Hahn et al (1990), the

urging of one or more acquaintances most likely peers or close friends – prompted

over half the instances of adolescents' trying a cigarette for the first time. In the Chassin, Presson, Sherman, Montello, Mcgrew (1986) study, females who saw their friends as more supportive than critical about their smoking were more likely than those who saw their friends as less supportive to become regular smokers one year later.

Similarly, many adolescent smokers in another study reported "my friends like me because I smoke" (Hunter et al 1987). In a study of 160 students aged 10-17 years in New Zealand gave the following from their focus group discussions:

"Everyone else in class was smoking and I was the only one who was not and I thought having a try can't be that bad...." "Your friend(s) might not let you hang around with them if you don't smoke". If people are smoking and you are not smoking you are uncool". "People want to be popular, have lots of friends and things" (Lee and Buchana-Oliver 2000). Chassin, Presson, Sherman, Montello, Mcgrew (1986) found that those adolescents who reported that their parents were generally supportive of them were less likely to begin smoking or to become regular smokers. However, those who reported that their friends were supportive of them were more likely to become smokers than those who did not report such support. Adolescents who reported regularly caring for themselves after school were at an increased risk of smoking (Richardson et al 1989). Lack of concern by parents appears to increase risk particularly for males (Swan, Creeser, Murray 1990). General parental support of the adolescent and concern about the adolescent's smoking appears to decrease risk.

Acquisition of the Smoking Behaviour

Acquisition of the smoking behaviour is a complex process where at any stage one may abandon or modify the behaviour.

Jarvick (1973) made an earlier attempt to divide the process into three phases namely: initiation, maintenance, and termination. Dunn (1973) included "the transitional stage" between initiation and maintenance. Horn (1976) later identified similar phases in moving towards individual change namely: initiation, establishment, maintenance and cessation.

According to Bellew and Wyne (1991), perhaps the most useful model of these stages is the one developed by Flay, d'Avernas, Best, Karsell and Ryan (1983) (see Figure 2). The model has five stages namely the preparatory and anticipation, initiation, experimentation, regular smoking and adult smoking. The preparatory and anticipation stage, which is similar to what Fishbein and Ajzen (1975) called intention, is characterized by formation of attitudes towards early smoking by influences from friends, media and family. It is in the second stage

called initiation that the trying of the first cigarette occurs. The chances of becoming a regular smoker increase if the initial smoking is repeated more than four or five times. The third stage is that of proper experimentation where the young person actually learns how to smoke. At this stage, the positive (psychological) experience is strengthened, while any negative (physical) effects tends to recede. The fourth and fifth stages i.e. the "regular smoking" and the "adult smoking" are similar to the maintenance stage as described by Jarvic (1973), Dunn (1973) and Horn (1976). The stages are associated with the continuation of the smoking habit or dependency. Cessation and relapse are two additional stages. Cessation of the smoking behaviour depends on factors like perception of the psychological usefulness of smoking, the dangers of smoking or even environmental factors that support behaviour change. Relapse occurs as a result of failure to cope without the behaviour or relaxation of the pressure that leads to cessation of the behaviour.

Behavioural Factors in the Initiation of Smoking

Behavioural factors involve patterns of behaviours that are directly related to cigarette use, such as academic achievement, health-compromising and health-enhancing behaviours, and smoking-related skills. These associated behaviour patterns may increase the risk of smoking by providing opportunities to view smoking as functional or appropriate.

Academic Achievement

The onset of smoking has been repeatedly shown to be related to poor academic achievement. Relevant indicators of students' achievement include scholastic performance (grades), high school graduation, truancy rates, and future professional or educational aspirations. Borland and Rudolph (1995) examined the relative predictability of scholastic performance, parental smoking, and socio-economic status among 1,814 high school students in Pennsylvania. The strongest correlate to smoking was scholastic performance; those with highest grades were found to smoke less than those with the lowest grades. This finding is consistent with Brunswick and Messeri's (1984) research among young, urban black adolescents in Harlem, New York, as well as the Sussman, Dent, Flay, Hansen, Johnson (1987) research with Hispanic and Asian adolescents in

southern California. In two well-designed studies, adolescents who had limited expectations of academic achievement increased their smoking levels over time (Gerber and Newman 1989; Chassin, Presson, Sherman, 1990). Still, among inner-city black seventh-grade students, Botvin et al (1992) found that academic achievement was not a significant predictor of current smoking or intentions to smoke.

Conrad, Flay, and Hill (1992) found that 80 percent of the prospective studies on the onset of smoking indicated a positive relationship between low academic achievement (and other school-related factors) and smoking onset. In a longitudinal study of 739 junior high students (66 percent white, 15 percent black, 10 percent Hispanic) in Los Angeles, the research team of Newcomb, McCarthy, and Bentler (1989) concluded that an adolescent's "academic lifestyle orientation" (measured by grades, educational aspirations, personal and profession plans, and expectations) was the central organizing influence on teenage smoking behaviour, teenage emotional well-being, social relationships with smokers, and

adult smoking behaviour. This centrality emerged even when emotional well-being, self-efficacy, personal ambition, and friends' smoking behaviour were considered.

Risk Taking, Rebelliousness, and Deviant Behaviours

Risk taking, rebelliousness, and deviant behaviours are generally those behaviours that are considered unconventional, antisocial, or alienated from traditional institutions (Chassin, Presson, Sherman, Corty, Olshavsky 1984). The research literature has repeatedly characterized adolescent drug use as one manifestation of rebelliousness and deviance (Chassin, Presson, Sherman 1989).

By testing Jessor and Jessor's (1977) model, Chassin, Presson, Sherman, Corty, Olshavsky (1984) found that proneness to deviance significantly predicted smoking onset in a longitudinal study of secondary students, although not for those who had already experimented with cigarettes. In a subsequent study of high school students, Chassin, Presson and Sherman (1989) found that in some instances, deviance was associated with independence and personal control; whether psychologically constructive or not, however, deviance was a significant predictor of cigarette smoking. A risk-taking orientation (that is, an inclination

toward excitement and chance taking) was similarly associated with trying a cigarette for the first or second time (Leventhal, Fleming, Glynn 1988).

Risk taking was also a significant predictor of smoking initiation in the Collins et al (1987) study of 11 and 12 year olds in Los Angeles. In the Sussman, Dent, Flay, Hansen, Johnson (1987) study of southern California adolescents, risk taking predicted smoking among blacks, but the association was not significant for whites, Hispanics or Asians. Conrad, Flay and Hill's (1992) review of prospective research on smoking initiation cited five studies that associated rebelliousness, risk taking, and proneness to deviance with smoking onset.

Behavioural Skills

The final set of behavioural factors comprises the behavioural skills that are necessary to begin smoking, those that are necessary to resist influences to smoke, and those that are necessary to cope with other social situations that might indirectly encourage cigarette use. Hahn et al (1990) found that 42 percent of smoking experimenters had asked for their first cigarette. In the Sussman, Dent, Flay, Hansen, Johnson (1987) study in southern California, difficulty in refusing offers to smoke predicted onset for all four ethnic groups, particularly for whites and blacks, for whom it was the strongest predictive factor found in the study. This difficulty in refusing an offered cigarette appears to be strongly influenced by the offering method friend's attitudes and behaviours (e.g. being persistent or critical if refused), particularly for high-risk adolescents (Salomon, Stein, Eisenber, Klein 1984; Lawrence and Rubinson 1986; Readon, Sussman, Flay 1989). Conrad, Flay and Hill (1992) reviewed three prospective studies and found that refusal or resistance skills against smoking were associated with lower rates of onset.

Generally, cigarette use can be viewed as a coping mechanism – a skilled response designed to close the gap between an adolescent's current position and goals (Leventhal, Keeshan, Baker, Wetter 1991). Smoking serves as a coping response if it brings the adolescent closer to a valued goal, such as acceptance in a peer group. Smoking may also serve as a coping response to stress or distress (Wills and Shiffman 1985; Castro, Maddahian, Newcomb, Bentler 1987). These studies suggest that youth need more general social skills, such as being able to

cope with various kinds of stress or social pressures, to help them manage the many developmental demands of adolescence (Franzkowiak 1987).

Personal Factors in the Initiation of Smoking

Personal factors are those that are inherent in the individual; they include cognitive processes, personality constructs, and psychological well-being (Krohn et al 1987). These factors can be considered the personal filters through which socio-demographic and environmental factors pass as they influence behaviour. Personal risk factors also explain differences in behaviour among individuals exposed to the same or similar environments. The personal factors that have been examined in the research literature include levels of knowledge about the health consequences of smoking, the functions or meanings of cigarette use among adolescents, the subjective expected utility (SEU) of smoking, self-esteem, self-image, self-efficacy in refusing offer of cigarettes, personality variables, and emotional well-being.

Knowledge of Long-Term Health Consequences

Knowledge of the long-term health consequences of smoking has not been a strong predictor of adolescent onset (Collins et al 1987, Krohn, Naughton, Lauer 1987, Conrad, Flay, Hill 1992, Royal College of Physicians of London 1992), perhaps because virtually all US adolescents-smokers and non-smokers alike are aware of the long-term health effects of smoking and because many adolescents feel inherently invulnerable in their characteristically short-term view (Gerber and Newman 1989). Belief that smoking has short-term effects on health appears to be a more powerful influence than knowledge of long-term health effects (Krohn, Naughton, Lauer 1987, McNeill, Jarvis, West 1988). Similarly, belief in personally relevant negative social consequences of smoking has been associated with a decline in smoking prevalence among secondary school students (Chassin, Presson, Sherman, Mcgrew 1987). Botvin et al (1992) found that lack of concern about the harmful effects of smoking was associated with intentions to smoke among young, inner-city black adolescents. Similarly, dismissing or minimizing the health consequences of smoking has been associated with both initiation of cigarette use and adult smoking levels (Mittlemark et al 1987; Swan, Creeser, Murray 1990). Krohn, Naughton, and

Lauer (1987) found that smoking behaviour predicted beliefs about the health effects of smoking more than beliefs

predicted future cigarette use. Knowledge of the health consequences of smoking may or may not deter some adolescents from beginning to smoke; beginning to smoke appears to accentuate adolescents' denial of the health consequences.

Subjective Expected Utility

Bauman, Fisher, Bryan, Chenoweth (1984) have examined the SEU of smoking for adolescents in a longitudinal study in North Carolina. SEU is defined as the extent to which an individual expects the overall consequences of a behaviour, such as smoking, to be positive or negative. Fishbein (1980) found that behavioural intentions to smoke were related to whether more positive or negative consequences were expected from smoking. SEU was found to be predictive of the onset of smoking over a one-year interval and of increased smoking levels among baseline smokers. In a second study, SEU was found to be mediated by the adolescent's perception of personal control; current smokers with the highest scores for internal locus of control (that is, the belief that they have control over what occurs to them) were more likely to have been influenced by SEU (Bauman and Fisher, 1985). Therefore, regular smoking appears more likely to be motivated by internal processes than are initiation and trying, which may primarily be products of exposure to a high-risk social environment.

Self Esteem

The process of individuation and identity formation is inherent to adolescence. The adolescent's sense of self evolves as she or he interacts with parents, school and peers and considers options for the future. Self-esteem, or an individual's qualitative self-evaluation, emerges from these contexts (Young and Werch 1990). In several studies, the onset of smoking has been associated with lower self-esteem. Young and Werch (1990) found that young non-smokers and those with no intention of smoking in the future had higher self-esteem relative to family, school, and peers than frequent users or those who intended to use in the future. Self-esteem concerning school predicted intentions to smoke among young, inner city black adolescents (Botvin et al 1992), but did not predict actual smoking. Stacy, Sussman, Dent, Burton, Flay (1992) found that general low self-

esteem directly predicted smoking onset in a multiracial, southern California sample yet did not significantly mediate friends' social influences. In their review of prospective research, Conrad, Flay and Hill (1992) conclude, "Self-esteem received fairly consistent support {as a predictor of intention} from the reviewed longitudinal studies".

Self-Image

Some adolescents may smoke cigarettes to enhance their low self-esteem by improving their external image – that is, by appearing mature or "cool". Smoking onset was seen as a way to improve self-image among whites, blacks, and Hispanics in southern California (Sussman, Dent, Flay, Hansen, Johnson 1987). Role models who smoke are frequently seen to have socially desirable attributes – they seem tough, sociable, and sexually attractive (Chassin, Presson, Sherman 1990). Adolescents who believe that smoking bestows these attributes may see smoking as a powerful mechanism for self-enhancement. These young people may experiment with smoking to try to adopt a perceived positive social image and thereby improve the way others, particularly peers, view them (Chassin, Presson, Sherman 1990). If peers respond favourably to this strategy, these new young smokers may continue to smoke, since the behaviour has proved functional for them in creating an acceptable self-image.

Self-Efficacy

An individual's efficacy (or confidence) in performing specified skills and behaviours is a significant mediator of peer influences to smoke (Bandura 1986). Ellickson and Hays (1991) found that low-efficacy as measured on a scale of having little or much confidence in resisting offer of drugs, was associated with drug use, including smoking. Devries, Kok and Dijkstra (1990) found that self-efficacy in resisting offers to smoke was the best predictor of smoking among adolescents in the Netherlands over a one-year interval. Similarly, Lawrence and Rubinson (1986) found that young adolescents' perceptions of their ability to resist cigarette smoking corresponding to their self-reported smoking. Finally, Stacy, Sussman, Dent, Burton, Flay (1992) found in their cross-sectional study of high school students not only that low self-efficacy in resisting social influence was a significant predictor of smoking, but also that high self-efficacy was the

only significant mediator of friends' social influences on smoking. Therefore, self-efficacy, a personal factor, appears to act as a buffer that protects adolescents from potent peer influences to smoke (Conrad, Flay, Hill 1992).

Personal Factors

The research on personal factors has also examined many personality factors for their association with onset, in part to assess whether underlying emotional or psychological feelings predict adolescent smoking (Covey and Tam 1990). Personality characteristics that are related to deficiencies in self-control, such as impulsiveness and sensation-seeking tendencies, are important (Stein, Newcomb and Bentler, unpublished data).

Psychological Well-Being

Several studies have associated cigarette smoking and symptoms of depression among adolescents. Covey and Tam (1990) showed an independent relation of depressive mood, friends' smoking behaviour, and living in a single-parent home with cigarette smoking among 205 urban 11^{th} grade males and females. Depression scores correlated with the number of cigarettes smoked. Malkin and Allen (1980) found a significant association between smoking and depression among males in a study of 229 rural 8^{th} and 11^{th} grade students, a finding that was replicated for both genders by Kaplan et al (1984).

Stein, Newcomb and Bentler (unpublished data) found that cigarette use was positively associated with being extroverted and negatively associated with having symptoms of depression among junior high school students in Los Angeles. Cigarette use, however, significantly predicted symptoms in these young people four and eight years later (Newcomb, McCarthey, Bentler, 1989).

These findings may reflect the addictive quality of tobacco use beyond the earliest experimental states and the relationship between smoking and depression, since depression is a personality factor that usually persists over time (Malkin and Allen 1980). Smoking might be a short-term, self-mediating response to symptoms associated with depression. In the long-term, however, this effect would diminish, as tolerance to nicotine increases the possible antidepressant effects of smoking (such as alertness, euphoria, and calm) dissipate (Newcomb, McCarthey, Bentler 1989). Similarly, Leventhal, Flemming, and Glynn (1989)

found that reported feelings of helplessness were associated with more rapid movement to a second and third experiment with smoking; however, these feelings were not related to the initial experimentation.

Flay (1993) suggests that symptoms of depression may be a response to distress associated with stress and poor family bonding. He points out that stress and distress have been associated with drug use, including tobacco use (Wills and Shiffman 1985). The research of Kellam, Ensminger, and Simon (1980) suggests that this cycle may begin early in life. In their study of first-graders (aged five through seven) in Chicago, they found that males rated by observes as aggressive or as alternatively shy and aggressive had the highest rate of drug use, including cigarette use, 10 years later; no long-term psychological predictors were found for females. In another study (Brunswick and Messeri 1984), adolescent males were more likely to begin smoking if they were pessimistic about the likelihood of the world becoming any better or if they held low expectations for their own future; for adolescent females, a shortened time perspective (i.e., a limited ability to conceptualize their future) was the most important psychogenic predictor of initiation.

Adolescent Smoking Behaviour as a Risk Factor for Subsequent Smoking Intention to Smoke

Since intentions are viewed as proximal to performance, the research on smoking behaviour as a predictive factor of smoking includes behavioural intentions to smoke. In several studies, intentions to smoke have been associated with both the onset and continuation of smoking. Sussman, Dent, Flay, Hansen, Johnson (1987) found in their longitudinal study in southern California that the intention to start smoking was one of only three factors that predicted onset among all ethnic groups. Mcneil et al (1988) found that future intentions to smoke increased the odds of starting to smoke by a factor of 2.44 and was the strongest predictor of change in smoking status after current behaviour (having tried smoking). In the Chassin, Presson, Sherman, Corty, Olshavsky (1984) longitudinal study, behavioural intentions were "significant predictors of future smoking transition in all subgroups for between 1.9 percent and 10.2 percent of the variance in transition. In fact, behavioural intentions were typically the most important single predictor of future transition".

Intentions to smoke appear to be a particularly strong predictor of future smoking for those who have already tried smoking. Shean (1991) found that intentions to smoke a "next cigarette" among 14 year-old Western Australians predicted smoking eight years later. Conrad, Flay and Hill (1992) found that in eight of nine prospective studies of young adolescents, the intention to smoke was significantly associated with onset. Because of the strength of this association, several researchers have used intentions to smoke as an outcome measure in their studies, especially in populations (such as pre-adolescents) where smoking prevalence is low relative to adolescents' intentions to smoke. Intentions to begin smoking seem a much reliable predictor of future behaviour than do intentions to quit smoking.

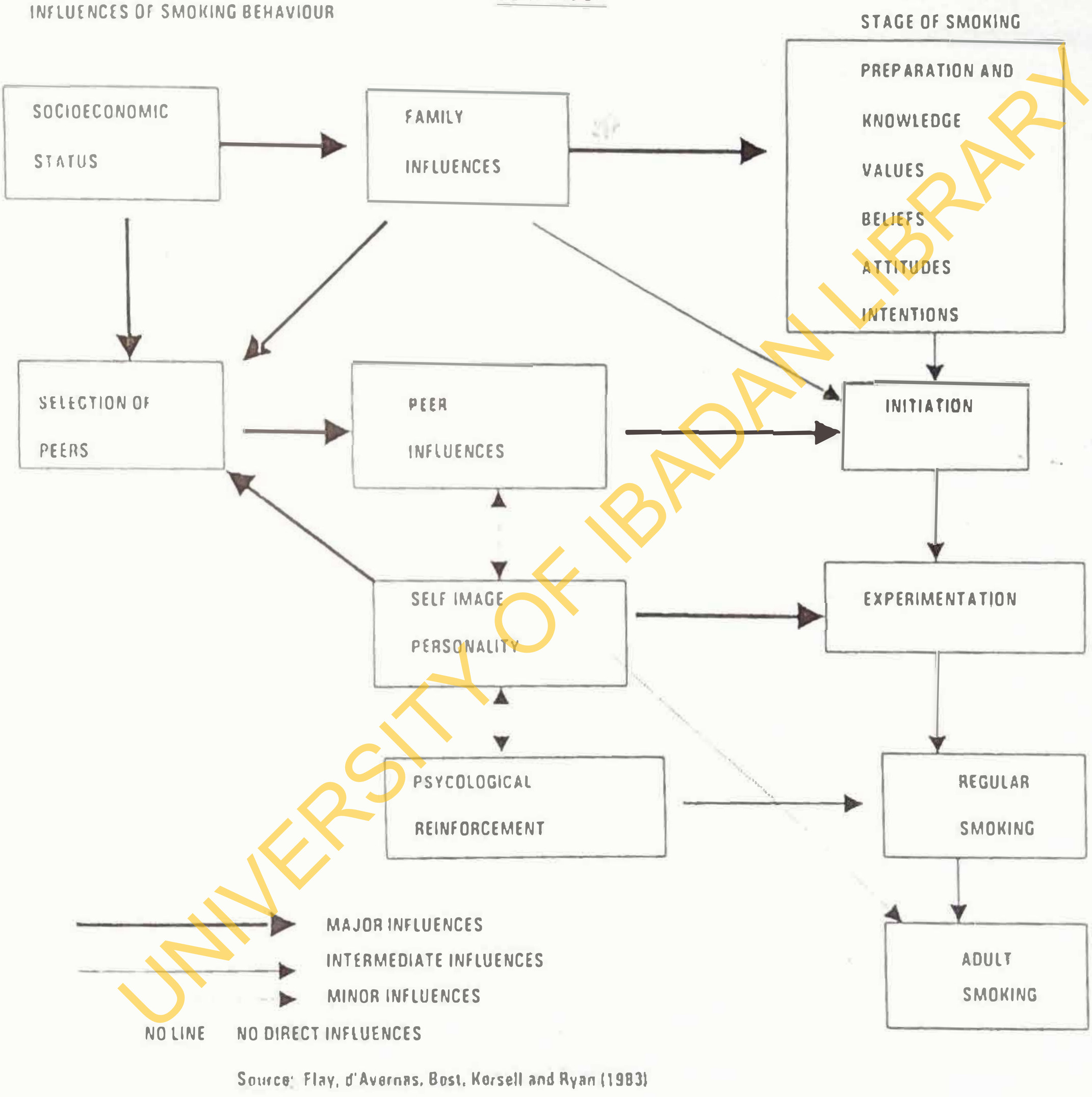
Present Smoking Status

Any cigarette use places an adolescent at higher risk for subsequent use and for further progression through the stages of smoking behaviour. Conrad, Flay and Hill (1992) documented seven prospective studies in which poor experience with, or exposure to, smoking predicted cigarette use. McNeil et al (1988) found that the act of having tried smoking was the most predictive factor in initiation and that it more than quadrupled their study participants' odds of taking up smoking. Collins et al (1987) found that prior smoking behaviour was the most important predictor of future smoking over a 2.5-year interval. Even though the physiological effects of the first tries are mostly adverse (unpleasant taste, coughing, headache, nausea, dizziness) (Hahn et al 1990), those who persist, report increasingly positive reactions (pleasant taste, euphoria, alertness, relaxation, curbing of appetite) and develop tolerance (experience fewer unpleasant sensations) (Flay 1993). Stein, Newcomb, and Bentler (unpublished data) reported a more established pattern of cigarette use among young adults than among adolescents. In their study, the standardized regression coefficient of prior smoking for smoking behaviour between Year 1 and Year 5 (youth in junior high and high school age groups) was 0.43, yet from Year 9 to Year 13 (young adulthood) it was 0.82. The authors suggest that in early adolescence, some experimental smokers never fully develop a pattern of smoking, but by late adolescence, the addictive properties of cigarette use figure prominently in

behaviour formation. These findings underscore the need for anti-smoking efforts to focus on preventing initial tries, on discouraging transitions to more regular smoking, and on encouraging early cessation (Levental, Fleming, Glynn 1988, Kelder 1992).

FIGURE II

A MODEL FOR THE MAJOR INFLUENCES AND THEIR RELATIVE STRENGTHS ON STAGES OF SMOKING BEHAVIOUR



Source: Flay, d'Avernas, Best, Kersell and Ryan (1983)

Theories Developed to Explain the Smoking Behaviour

The smoking behaviour is a complex process and many models have been suggested, reviewed and even grouped in an attempt to explain it for the purpose of effective control. The previously developed models were grouped into two (Adeniyi 1979). The first group is those utilizing the health hazards associated with the habit as central focus hence can be regarded as health-related. The second group is based on the multi-causality concept. It approaches smoking from the view point that is beyond the health significance or multifarious causes. The following classifications were made by Adeniyi (1979).

A. Health-related (value expectancy) concept
   1. Health Believe Model (HBM), (Hochbaum 1958)
   2. At Risk Model
   3. Sick Role Behaviour

B. Multiple-causality concept.
   1. Health locus of control (Bauman & Fisher 1985)
   2. The stimulus response psychosocial model or the precede framework (Behavioural Antecedents Model) (Green 1980).

The situation specific model
   a. Psychosocial model (Horn 1976)
   b. Behaviour intentions model (Fishbein and Ajzens 1983)

In an attempt to modify the approach, Baric (1969) identified another behaviour and named it the at-risk behaviour. He described it as the awareness and belief that one is likely to fall sick due to exposure or lack of protection from disease. He therefore suggested the following two stages of the health related behaviour.

1. The stage at which the behaviour is triggered by the perception of being at risk.
2. The stage at which the behaviour is not a result of health consequences that is not health directed or health motivate.

Adeniyi (1979) pointed out an important limitation of the health related behaviour model being in its conceptualizing the four types of health related behaviours as either an antecedent to or a follow-up of the diagnosis in an individual. According to him, the implication is that behaviour ceases to have meaning except in relation to specific associated disease. If the problem of

smoking is to be adequately addressed, the non-health related effects must also be considered.

The second group of models, the multi-causality concept, suggests that any behaviour should not be viewed in isolation, but operating within a complex of other influencing factors. Theories in favour of this concept point to the interaction between social, environmental and psychological effects as predisposing factors to the adoption of the smoking behaviour. Adeniyi (1979) affirmed that the multiple causality concept is the most appropriate for use in behavioural modification techniques in smoking cessation since it recognizes individual difference among smokers.

Conceptual Framework

Since no single model is adequate to explain the smoking behaviour, two models will be integrated and used in this study. These are the trans-theoretical model and the social learning theory.

A. The Trans-theoretical Model

The trans-theoretical model is also known as stages of changes model (Prochaska & Diclemente 1983). It includes the following:

Precontemplation

Contemplation

Preparation

Action

Maintenance.

Precontemplation: The adolescents in this stage are not currently thinking of taking up smoking. They also seem not to have the intention in forseable future. It may be that they are not aware at all of the behaviour or a total lack of interest.

Contemplation: At this stage, there is awareness of the behaviour. The adolescents are thinking about adopting the smoking behaviour. It is a time of gathering information and evaluating the observed behaviour. The stage has a lot to do with, thinking, looking and asking questions about the behaviour. If an educational programme towards the health dangers comes to

Preparation: At this stage, the adolescents begin to gather together the resources the adolescents at this stage; they may drop the entire idea such as, money to purchase and where to purchase. Skills are also gathered. Some try to

smoke pieces of raffia or strike a match and throw it into the mouth without putting out the light.

~~Action~~: The people at this stage actually initiate the behaviour.

~~Maintenance~~: There is full adoption of the behaviour. That is a regular smoking activity. People at this stage can be indifferent to change.

B. Social Learning Theory

This has the following components: environment, observational learning, individual, efficacy expectations, value expectations and behaviour.

Environment: the environment has a lot of effect on whether or not an adolescent will adopt certain behaviour either positive or negative. Availability of cigarette and sale outlets, non-restriction of sales to young people, advertisements, social norms about smoking all are issues of the environment in which the adolescent lives.

Observational Learning: The adolescent learns a lot by observation of role models such as parents, masters at work, movie actors and musicians. They also observe behaviours in their friends and tend to follow after.

Individual: The personal characteristics such as age, religion, type or nature of job, age of exposure to the behaviour, sex and economic power to purchase cigarette all have to do with whether to adopt a behaviour or not.

Efficacy Expectations: The adolescent will perceive his or her ability to accept or refuse smoking offers and ability to smoke within limits he/she consider to be socially acceptable.

Value Expectations: The perceived benefits of smoking or disadvantages will also be considered before adopting the behaviour.

Behaviour: The adolescent will then make a choice whether to smoke or abstain and the choice of circumstances to smoke.

FIGURE III

Integration of Stages of Change and Social Learning Theory in Understanding the Adoption of Smoking Behaviour among out-of-school Adolescents

Stages of Change	Social Learning Theory
Pre-contemplation Adolescent may or may not be aware of smoking but not yet considering it as something he/she needed.	The environment plays on the psychology of the adolescent. He/she sees smokers on television, on the streets, at work, etc Cigarette smoking is advertised, yet he/she notices that social norms frowns at smoking by young people. Also, he/she sees cigarettes being sold and might even be sent to buy it by older people such as parents, masters and neighbours.
Contemplation Cigarette awareness makes the smoke. Adolescents to start considering Options to smoke	The adolescent begins to watch role models and peers who smoke. He/she begins to ask questions from people who smoke and wonders what the gains are . His/her age, sex, religious beliefs, type and nature of job has great influence on whether the individual will move on or not. There is individual check on perceived ability to refuse cigarette offers and to smoke within limits. He/she also finds out the pleasure derived, other advantages and possible disadvantages.
Action The adolescent initiates the smoking Behaviour	Choice is made to adopt smoking and decision is made on whether to smoke moderately and in which circumstances to smoke.
Maintenance The adolescent continues to smoke	The choice to continue smoking now depends on the value expectations. The adolescent weighs it and continues or stops.

CHAPTER THREE

METHODOLOGY

This chapter describes the methodology employed in the research. It contains description of the study area, the study design, study population, research instruments, sampling and data collection procedures, validity and reliability of research instruments as well as data analysis, limitations, ethical considerations and study hypotheses.

Study Area

Ado-Odo/Ota Local Government Area of Ogun State comprises of six health districts which are Otta, Sango, Ado-Odo, Agbara-Igbesa, Iju/Attan and Owode. The Local Government Area is basically a commercial area with a lot of industries, ranging from large, medium to small scale. The people (indigenes) are Aworis while a lot of other ethnic groups in the country also live there. The occupational locations of the subjects serve as places of the interview. Examples of such workplaces are tailoring shops, barbing saloons, hairdressing saloons e.t.c.

Study Design and Scope

The study utilized a systematic collection of data which is presented to give a clear picture of factors influencing the adoption of smoking behaviour among out-of-school adolescents in different occupational locations. It was thus descriptive and cross-sectional in design. It covers the demographic characteristics of the study population and stages that they may go through in smoking adoption

Study Population

The defined population is out-of-school adolescents of ages 10-20 years involved in different occupations in Sango, Ado-Odo and Ota health districts of Ado-Odo/Ota Local Government Area. Ota health district is made up of ota I and II.The subjects are involved in one craft or the other as shown in table I of chapter 4. The subjects are apprentices in their different occupations.

Research Instruments

The instrument used is a questionnaire which has eight sections which relate to the following:

i) Demographic data

ii) Exposure to cigarette smoking

iii) Interest/Intention

iv) Initiation

v) Maintenance

vi) Cessation

vii) Past Smoker

viii) Non-smoker

The semi-structured questionnaire was designed in simple Englishlanguage and subjected to expert-review. Professor J.D Adeniyi and Dr. A. Ajuwon of the Department of Health Promotion and Education, Faculty of Public Health did the review and authentication of the instrument. It was later translated into Yoruba language by two different people and re-translated into English. This was to check whether the two translations retained the initial idea in each of the questions.

Study Variables

There are two types of variables used in the study. These are: Dependent and Independent variables.

1. Independent variables:

   a. Demographic data like age, sex, etc

   b. Source of smoking information

   c. Types of smoking information

   d. Contact place of smokers

   e. The age at which respondents first saw a smoker

   f. Smokers known to respondents

   g. Suggestion of smoking adoption to respondents

   h. Places where respondents were first offered cigarette

2. Dependent Variables

a. Action performed after first hearing about a smoker or seeing someone smoking
b. Smoking thoughts
c. Current smoking status
d. Age at smoking first cigarette
e. Feeling after first smoking
f. How first cigarette was obtained
g. Further smoking after first attempt
h. Discontinuation reasons
i. Smoking repetitions
j. Smoking feelings
k. Smoking periods
l. Smoking venues
m. Cessation desires
n. Cessation reasons
o. Continuance reasons
p. Quitting needs
q. Non-smoking preference
r. Further smoking intentions
s. Reasons for future smoking
t. Reasons for adolescent smoking
u. Reasons for quitting by past smokers

Sampling Procedures

Three health districts were randomly selected out of six. This was done by listing all the health districts in alphabetical order and assigning a number to each. The numbers were then written in pieces of papers and each was folded and dropped into a cup. Picking was done after each shake of the papers. The districts picked were Otta, Ado-Odo and Sango. An inventory of occupational locations for out-of-school adolescents in the districts was conducted. At the end, one thousand, two hundred and six-three locations covering thirteen occupations which were grouped into six were obtained. The breakdown per district was as follows:

Sango District	666
Ota District	448
Ado-Odo	149
Total	**1,263**

The number of workplaces to be visited per district was determined. This was based on the population of each workplace in the district (sampling proportional to size).

Sango District	264 workplaces
Ota District	177 "
Ado-Odo District	59 "
Total	**500**

These occupations and their respective figures were as follows:

1.	Vehicle repairing	121
2.	Carpentry	199
3.	Tailoring	240
4.	Barbing	41
5.	Welding	29
6.	Hairdressing	27
7.	Printing	18
8.	Photography	23
9.	Shoemaking	16
10.	Bricklaying/Block making	17
11.	Technical/Electrical works	24
12.	Motorcycling	5
13.	Bus conducting	5
	TOTAL	**500**

These thirteen occupations were grouped into six thus because some are closely related. Also some occupations had very few workplaces compared with others.

1. Automobile related jobs: This consists of Vehicle Repairing, Welding, Bus Conducting and Motorcycling.
2. Building Construction: This consists of Carpentary and Bricklaying jobs.

3. Dressing-Related Jobs: This consists of Tailoring and Shoemaking.
4. Hair-Care: This consists of Barbing and Hairdressing.
5. Printing: This consists of Printing and Photography
6. Technical/Electrical works.

Inclusion Criteria:

- He or she must be an apprentice in one of the occupations whose inventory was done at the preliminary stage of the research.
- The subject must be within the age range of 10-20 years.
- He or she must be currently out-of-school.

Data Collection:

Four Research Assistants were trained and used to conduct the inventory of occupational locations. Fourteen (14) interviewers who were trained using the draft questionnaires did data collection. Four interviewers worked in each of the three districts. Two others joined the researcher in supervising the three districts. The interviewers worked in pairs to encourage teamwork and minimize deviation from set methods.

They were trained on interpersonal skills which include how to obtain permission from masters, secure a quiet place for discussion, obtain informed consent from respondent by providing information about study objective, confidentiality of information and telling them that participation is voluntary.

They were also trained on interviewing techniques and procedures for data collection. During the training, they were taking through each question and its importance to the research.

Interviewers were taught interview techniques such as:

- How to ask questions in a neutral manner
- Not showing by words or expression what answers one expects
- Not showing agreement, disagreement or surprise
- Recording answers to open questions precisely as they are provided without sifting or interpreting them.

3. Dressing-Related Jobs: This consists of Tailoring and Shoemaking.
4. Hair-Care: This consists of Barbing and Hairdressing.
5. Printing: This consists of Printing and Photography
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Interviewers were taught interview techniques such as:

- How to ask questions in a neutral manner
- Not showing by words or expression what answers one expects
- Not showing agreement, disagreement or surprise
- Recording answers to open questions precisely as they are provided without sifting or interpreting them.

- Role plays were used to facilitate the acquisition of interview skills. During the role plays, one trainee assumes the role of the interviewer and another that of the interviewee. Other trainees and the researcher observed carefully what happened and gave constructive feedback right after the role-play. Roles were exchanged such that each trainee can practice how to conduct an interview. Five hundred locations were then randomly selected as sample based on the proportions of locations per occupation.

Validity of Instrument

The instrument was designed in simple words that could be easily understood by the study population. It was translated into Yoruba by two different people and re-translated into English language. It was then administered in Yoruba language which is the commonest language spoken by the respondents. In-house pretest was conducted four times and corrections were made. The instrument was also pre-tested among adolescents of similar age group and occupational locations in Ifo Local Government Area to:

1. Observe reactions of the respondents so as to determine
   - Availability of the study population.
   - The best period to visit the workplaces for interview conduction.
   - Acceptability of the methods used to establish contact with the study population.
   - Acceptability of the questions asked.
   - Willingness of the respondents to answer questions.
   - Willingness of respondents' masters to give permission for interview.
2. Observe the instrument to determine
   - How much time is needed to administer the questionnaire?
   - Whether there is any need to revise the format or presentation of questionnaire.
   - Whether the sequence of questions is logical, the wording of the questions is clear, translations are accurate and spaces for answers is sufficient.

- Whether there is the need for additional instructions for interviewers e.g. guidelines for asking open questions.
- Whether respondents have similar understanding of the questions.

Final corrections were then made before administration among the study population.

Reliability

To ensure that the data obtained is reliable, the following were done.

- For purposes of revisits, address of interviewee was noted.
- The interviewers were given proper training as discussed under data collection.
- Male interviewers were made to attend to male respondents and females to females as well. This was to curb the shyness observed in the first two days of the data collection.

Data Analysis

The collected data were sorted out manually and coded. Data entry and analysis was done using Epi-Info Version 6 Software.

Study Hypotheses

1. There is no significant association between occupation and smoking status.
2. There is no significant association between occupation and smoking initiation.
3. There is no significant association between the age group and smoking status.
4. There is no significant association between gender and smoking status.
5. There is no significant association between religion and smoking initiation.
6. There is no significant association between length of time in occupation and smoking initiation.
7. There is no significant association between ages of exposure and smoking initiation.

8. There is no significant association between ages of exposure and smoking status.
9. There is no significant association between the sources of exposure to smoking behaviour and smoking initiation.
10. There is no significant association between the sources of exposure to smoking behaviour and smoking status.
11. There is no significant association between parental smoking status and smoking initiation.
12. There is no significant association between friends' smoking status and smoking maintenance.
13. There is no significant association between masters' smoking status and smoking maintenance.

Limitations

- Two of the masters insisted that their wards be interviewed in their presence. This might influence the type of answers provided by them.
- A few respondents were skeptical about the use to which the results will be put. This will likely affect their answers also. They were however given full explanation about the research objectives and then given opportunity to decide
- Some respondents might not remember the specific ages at which they first saw smokers or at which they first smoked, that is, recall bias.
- Females were found in only two out of thirteen occupations. This may affect the result in relation to gender. Females were few because most crafts in the area were male- dominated

Ethical Considerations

- All information received from respondents are confidential and hence names of the respondents were not collected.
- Masters, parents, neighbours and all acquaintances of the respondents were not allowed access to the information.
- Participation was made voluntary and informed consent received from participants.

- Coercion of any sort was not used.
- Respondents benefit from information they go through in the form of questions in the instrument which exposes them to the health dangers inherent in smoking.
- Respondents who have smoking problems were given opportunity to indicate for appropriate guidance from the researcher.
- Appropriate reference procedures were followed in report writing.

CHAPTER FOUR

FINDINGS

1. Demographic Characteristics of the Respondents

Table 1 shows the occupational distribution of the respondents. There were 13 occupations and vehicles repairers were highest with 121 respondents consisting 121 (24.2%). Tailors had 95 (19.0%) respondents while the least were motorcyclists and bus conductors which had 5 respondents each constituting 1%. Table 2 shows the distribution of respondents by occupational group. The age distribution is shown in table 3. The age of the respondents ranges from 10-20 years with a mean of 18.2years and SD of 2.1. The modal age group lies between 19-20 years with a frequency of 292 and a percentage of 58.4%. Respondent's distribution by gender is shown in table 4. Majority of the respondents, 442 (88.4%) were males while females are 58 (11.6%). The distribution by religion is in Table 5. Christians and Muslims have the following figures with their corresponding percentages 233(46.6%) and 235 (47%) respectively while 32 (7%) are African traditionalists. Table 6 shows the distribution by ethnicity. Yoruba constitute 441 (82.2%), the Igbos had 66 (13.2%), the Hausas were 23 (4.6%). Respondents' fathers are more of traders and artisans which had 160 (32%) and 138 (27.6%) respectively. One respondent did not fill father's occupation. In the same way, trading has the highest percentage 256 (51.2%) among mothers of respondents followed by artisans which took 142 (28.4%). These are shown in tables 6 and 7 respectively. Respondents' demography shows that more males are in apprenticeship or learning one job or the other than females. Christians and Muslims have roughly equal percentages.

Distribution of respondents by length of time in occupation is shown in Table 9. Majority of the respondents have spent 1-3 years in the occupation and this takes 275 (55.4%) of the total distribution. Few 32 (6.5%) have spent 5 years and above. More of the adolescents are Yorubas and their parents are also more of artisans and traders. This may imply that out-of-school adolescents learning occupations are from low socio-economic backgrounds.

Table 1: Distribution of Respondents by Occupation

Occupation	Frequency	Percentage
Vehicle repairing	121	24.2
Carpentry	79	15.8
Tailoring	95	19.0
Barbing	41	8.2
Welding	29	5.8
Hairdressing	27	5.4
Printing	18	3.6
Photography	23	4.6
Shoemaking	16	3.2
Block making/Bricklaying	17	3.4
Technicians	24	4.8
Motorcycling	5	1.0
Bus Conducting	5	1.0
Total	**500**	**100**

Table 2: Distribution of Respondents by Occupational Groups

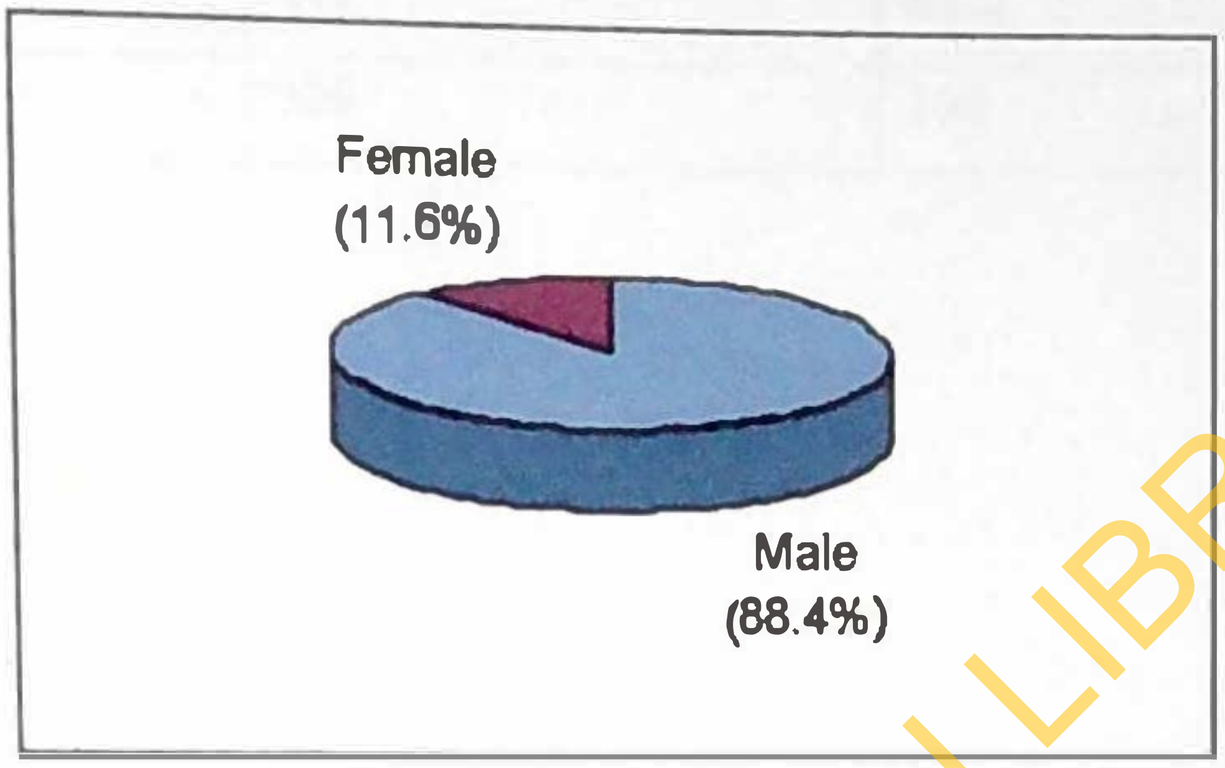
Occupational Groups	Frequency	Percentage
Automobile	160	32.0
Building construction	96	19.2
Dressing	111	22.2
Hair do	68	12.6
Printing	41	8.2
Technical	24	4.8
TOTAL	**500**	**100**

Table 3: Distribution of Respondents by Age

Age group in years	Frequency	Percentage
< 12	13	2.6
13 - 14	22	4.4
15 – 16	51	10.2
17 – 18	122	24.4
19 – 20	292	58.4
TOTAL	**500**	**100**

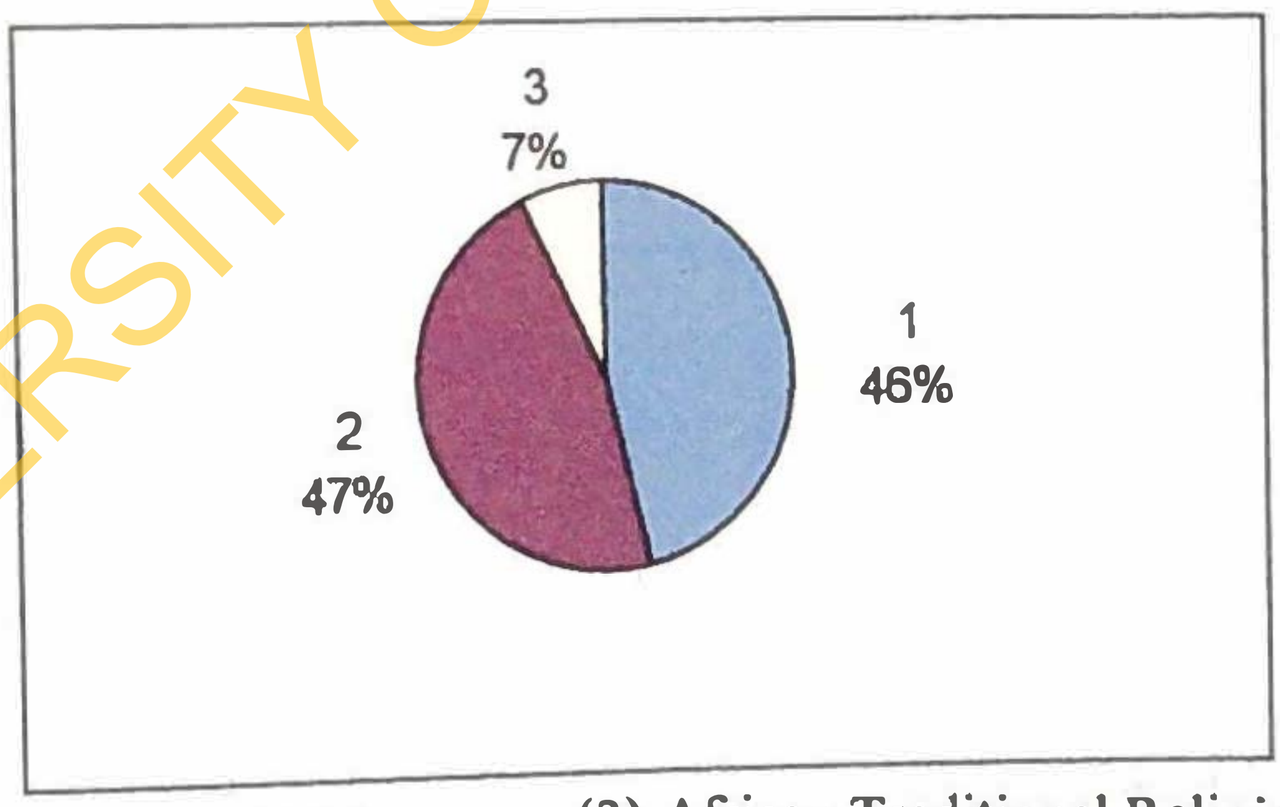
Mean = 18.2 ± 2.094

Figure IV: Distribution of Respondents by Gender



N = 500

Figure V: Distribution of Respondents by Religion



(1) Christianity (2) Islam (3) African Traditional Religion

N = 500

Table 4: Distribution of Respondents by Ethnic Background

Ethnic Background	Frequency	Percentage
Hausa	23	4.6
Igbo	66	13.2
Yoruba	441	82.2
TOTAL	**500**	**100**

Table 5: Occupation of Respondent's Father

Father's Occupation	Frequency	Percentage
Farming	89	17.8
Trading	160	32.0
Artisan	138	27.6
Government Worker	84	16.8
Factory Worker	29	5.8
TOTAL	**500**	**100**

Table 6: Occupation of Respondents' Mother

Mother's Occupation	Frequency	Percentage
Trading	256	51.2
Artisan	142	28.2
Housewife	38	7.6
Government Worker	40	8.0
Factory	10	2.0
Farming	14	2.8
TOTAL	**500**	**100**

Table 7: Distribution of Respondents by Length of Time in the Occupation

Length of time in years	Frequency	Percentage
0-1	83	16.6
1-2	138	27.6
2-3	137	27.4
3-4	62	12.4
5-6	44	8.8
5 and above	36	7.2
TOTAL	**500**	**100**

1. Exposure of Respondents to Smoking Behaviour

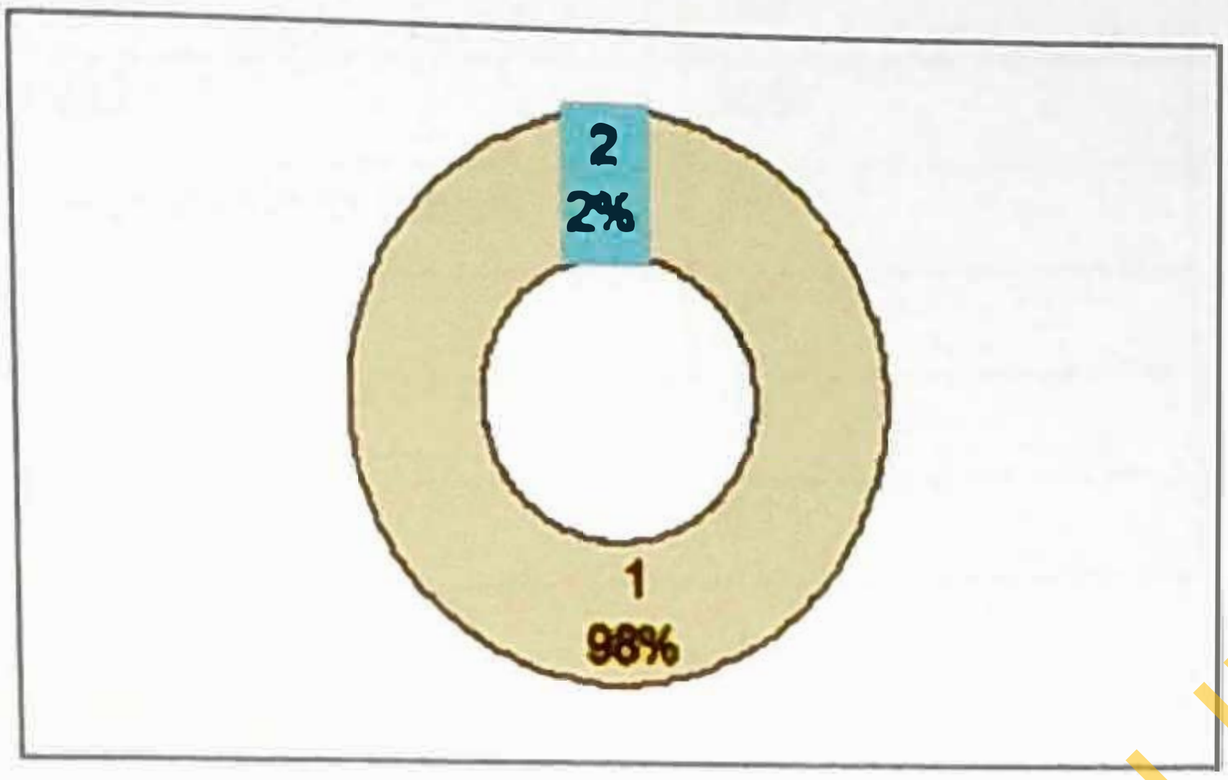
Majority 489 (97.8%) of the respondents have heard about cigarette smoking while 11 (2.2%) claimed not to be. This is shown in table 10. Table 11 shows the different sources from which respondents heard information about smoking behaviour. Friends constitute the highest 168 (34.4%) and this is closely followed by media 153 (31.3%) and the least source is from masters 7 (1.4%). This shows that friends and media are high sources of smoking information. Table 12 shows the different messages heard by respondents about smoking. "It makes one sick" was heard more frequently 306 (62.6%) closely followed by "acceptable to friends" and "a way of enjoying life". The least heard 69 (14.1%) was "it removes anxiety". Table 13 shows the feelings of respondents after smoking awareness. Majority 267 (54.9%) felt the need to be careful while 152 (31.3%) felt that smoking is a good idea. Some 4 (0.8%) claimed not to have had any feeling. Majority, 494 (98.8%) have seen someone smoking and table 14 shows the different places where they have seen such. Smoking awareness is generally high and information which could attract adolescents to smoke were also heard such as "smoking is a way of enjoying life".

The commonest place reported by respondents is on the street 472 (95.5%), closely followed by television 449 (90.9%). This shows that cigarette smoking is highly common in the environment. The age at which subjects first saw someone smoking was less than 5 years and majority 238 (49.0%) saw someone smoking between ages 6-10 years. Only 9 (1.8%) of respondents saw someone smoking between ages 16-20 years. This is in table 15. This shows that exposure to smoking is quite early and possibility of initiation at an early age is high.

Smokers who are known to respondents vary from parents to neighbours. Neighbours carry highest percentage 309 (61.8%) and friends are next 241 (48.4%) closely followed by co-workers 180 (36.0%). This is shown in table 16. Table 17 shows the distribution of those who suggested smoking to respondents at one time or the other. Friends constitute the highest percentage in this group 222 (44.4%) followed by co-workers 149 (29.8%) and neighbours 125 (25.0%). Respondents were first offered cigarette more at parties 98 (29.8%) and playground 91 (27.7%). All these show that smoking is a common behaviour.

Consequently, adolescents have easy access to cigarettes through various smokers around them.

Figure VI: Awareness of Cigarette Smoking by the Respondents



(1) Aware (2) Not Aware

N = 500

Table 8: Sources of Information about Cigarette Smoking

Sources	Frequency	Percentage
Friends	168	34.4
Media	153	31.3
Parents	46	9.4
Relatives	29	5.9
Neighbours	76	15.5
Master	7	1.4
Co-worker	10	2.0
TOTAL	**500**	**100**

Table 9: Specific Information Received by Respondents on Cigarette Smoking

Information	Frequency	Percentage
Makes one work hard	202	41.3
Makes one strong	188	38.4
Makes one sick	306	62.6
Makes one acceptable to friends	240	49.1
Initiation to adult life	191	39.1
A way of enjoying life	237	48.5
It removes anxiety	69	14.1

N=500

N.B: There were multiple responses.

Table 10: Distribution of Respondents' feeling after Smoking Awareness

Feeling	Frequency	Percentage
Excitement	44	8.8
Need for carefulness	267	53.4
Good idea	152	30.4
Bad idea	18	3.6
Surprise	1	0.2
No feeling	18	3.6
TOTAL	**500**	**100**

Table 11: Places where Respondents' Saw People Who Smoke

Places	Frequency	Percentage
Television	449	90.9
Newspapers	338	68.4
On the Street	472	95.5
Bus-Stop	403	81.6
Workplace	318	64.4
Where they live	325	65.8
Parties	90	18.2

N=500

N.B: There were multiple responses.

Table 12: Distribution of respondents by age at which they first saw smokers

Age group in years	Frequency	Percentage
< 5	183	37.7
6 – 10	238	49.0
11 –20	79	15.8
TOTAL	**500**	**100**

Mean = 9.44

Table 13: Distribution of Smokers known to Respondents

Relationship of Smoker to Respondent	Frequency	Percentage
Father/mother	110	22.3
Uncle/Aunt	157	31.8
Brother/Sister	165	33.4
Boyfriend/Girlfriend	241	48.8
Master	136	27.5
Neighbour	309	62.6
Co-worker	180	36.4
Father's friend	29	5.9
Touts	48	9.7

N=500

N.B: There were multiple responses.

Table 14: Distribution of those who suggested smoking to respondents

Relationship of Smoker to Respondent	Frequency	Percentage
Father/mother	16	3.2
Uncle/Aunt	29	5.8
Brother/Sister	60	12.0
Boyfriend/Girlfriend	222	44.4
Master	27	5.4
Neighbour	125	25.0
Co-worker	149	29.8
Father's friend	22	4.4
Touts	19	3.8

N=500

N.B: There were multiple responses.

Table 15: Distribution of Places where Respondents were first offered cigarette to smoke

Places	Frequency	Percentage
Workplace	47	14.3
Playground	91	27.7
Home	35	10.6
Party	98	29.8
Eating Place	38	11.6
Friend's House	5	1.5
Neighbour's house	15	4.5
TOTAL	**329**	**100**

N = 329

1. Interest/Intention of Respondents to adopt Smoking Behaviour

Adolescents reported doing different things after exposure to smoking behaviour. Most of them 364 (72.4%) started watching out for smokers, some 283 (56.6%) started asking their friends for more information while some, 116 (23.2%) looked out for where cigarette are sold and others 141 (28.2%) actually bought a stick and opened it up. Also 212 (42.6%) of the respondents thought of trying to smoke after exposure to the behaviour. However, a large percentage 286 (57.4%) did not think of doing so. This shows that exposure makes adolescents to become inquisitive towards smoking and this curiosity may likely lead them to initiation of the behaviour.

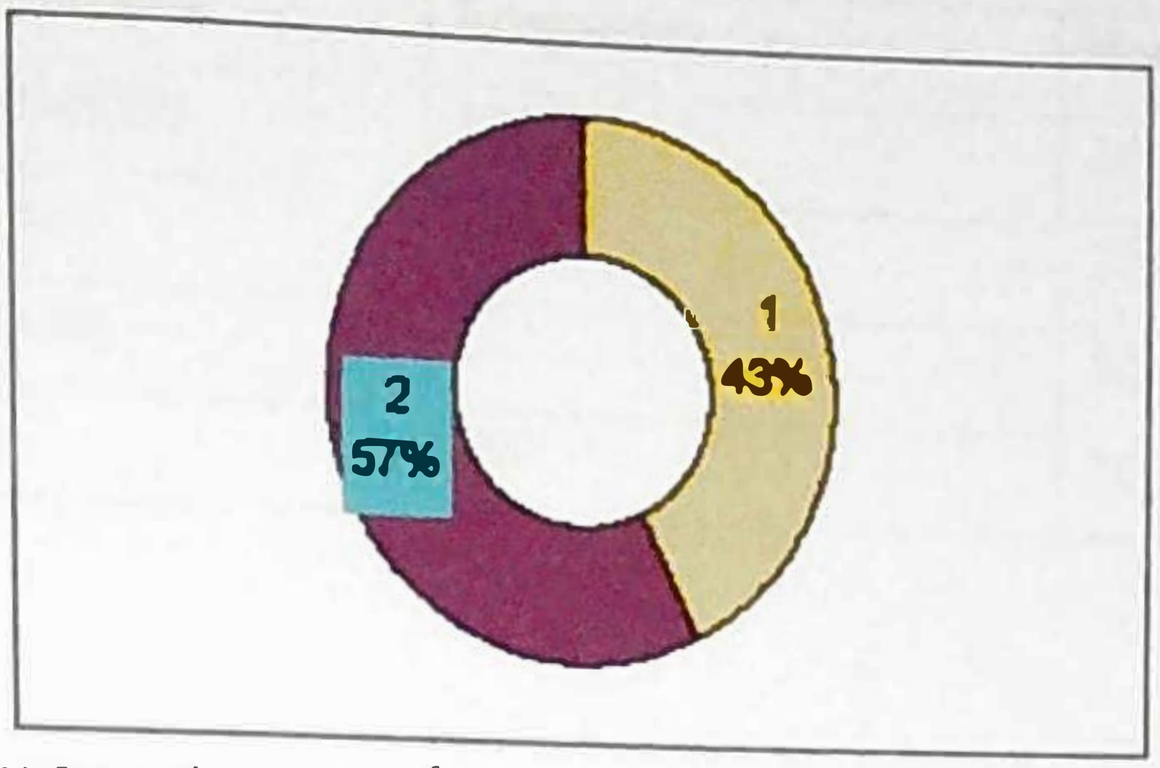
Table 16: Respondents' reaction to smoking behaviour after exposure

What respondents did	Frequency	Percentage
Look out for where cigarettes are sold	116	23.2
Bought one stick and opened it up	141	28.2
Asked friends about smoking	283	56.6
Watching out for smokers	364	72.4

N=500

N.B: There were multiple responses

Figure VII: Distribution of Respondents by intention to smoke



(1) Intention to smoke (2) No intention to smoke

N = 500

4. Initiation of smoking Behaviour among Respondents

Out of 500 respondents, 262 (52.4%) did not initiate the behaviour even though all were exposed to it. Among those who initiated it (238), 114 (22.8%) dropped the behaviour and 124(24.8%) are currently on it. This is shown in table 21. Table 22 also shows the age at which respondents smoked their first cigarette. Nine respondents could not remember the age at which the behaviour was initiated bringing the number to 229.

The highest feeling that respondents had at first time of smoking is coughing 210 (88.2%) followed by a feeling of "grown up" 165 (69.3%). A lower percentage (8.0%) reported reduction in fever at first attempt. This is shown in table 23. The source of obtaining first cigarette is shown in table 24. Friends constitute 136 (57.1%) of the different sources followed by self purchase 52 (21.8%). The percentage of smoking initiation was 238 (47.6%) which shows that generally, the prevalence of smoking is high among the adolescents. Smoking initiation occurs more between ages 16-20 years but begins as early as 7 years.

Table 17: Distribution of respondents by smoking Status

Smoking Status	Frequency	Percentage
Current smokers	124	24.8
Past smokers	114	22.8
Non smokers	262	52.4
TOTAL	**500**	**100**

Table 18: Distribution of Respondents' Age at first attempt of smoking

Age group in years	Frequency	Percentage
7 – 10 years	22	9.6
11 – 15 years	109	43.7
16 – 20 years	107	46.7
TOTAL	**238**	**100**

Mean = 14.72 ± 2.77

Table 19: Respondents feeling after first attempt of smoking

Feeling	Frequency	Percentage
Coughing	210	88.2
Sneezing	163	68.5
Coughing& Sneezing	162	68.1
Grown up feeling	165	69.3
Excitement	154	64.7
Feeling Bad	50	21.0
Fever reduction	19	8.0

N=238

N.B: There were multiple responses

Table 20: Respondents' source of first cigarette

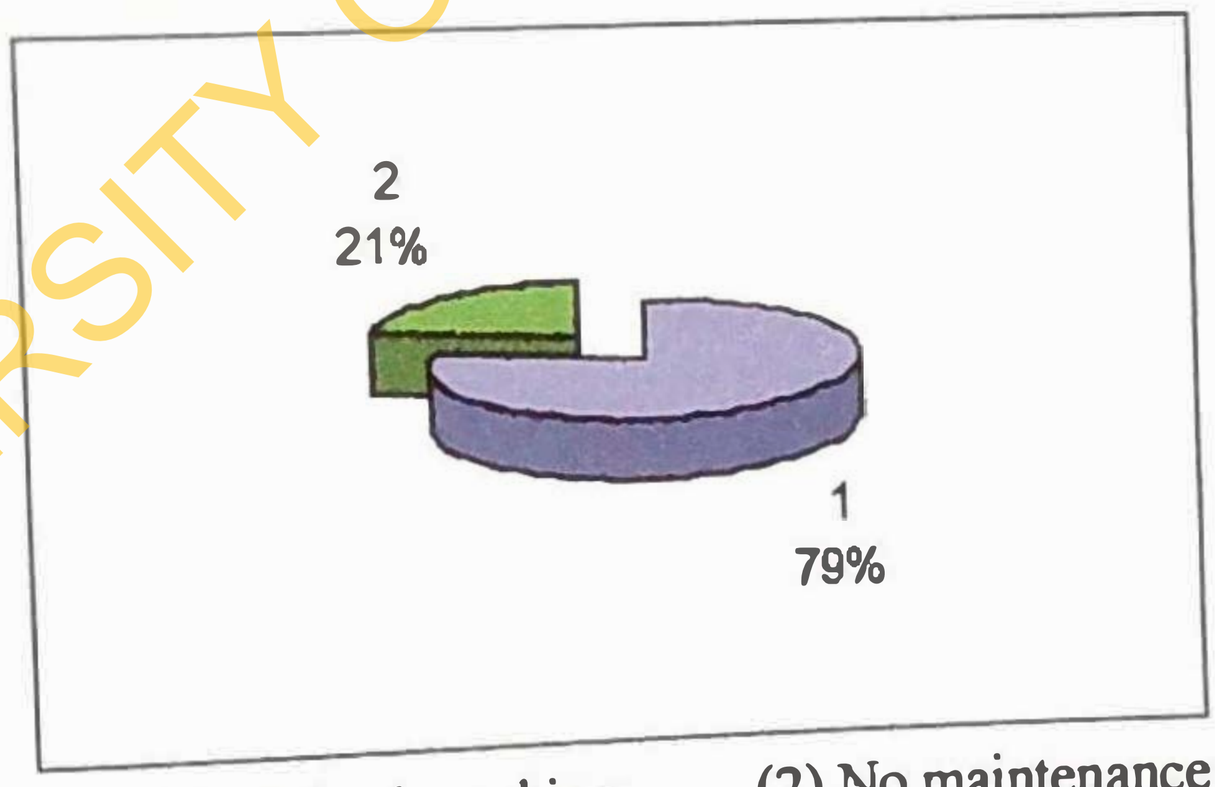
Source	Frequency	Percentage
Friend	136	57.1
Bought by self	52	21.8
Picked half burnt	29	12.2
Took from someone's pocket	8	3.4
Neighbour	6	2.5
Co-worker	1	0.4
Daddy's shelf	6	2.5
TOTAL	**238**	**100**

5. Maintenance of smoking behaviour among respondents

Some respondents reported smoking once and never attempting it again. This group constitutes 49 (20.6%) while those who continued smoking after the first attempt were 189 (79.4%). This is in Table 25. Respondents feeling during each smoking episode are shown in table 26 and a feeling of belonging in the group was highest in count 168 (70.6%) closely followed by feeling good 151 (63.4%). Only 24 (10.1%) reported feeling feverish and weak when smoking.

Respondents smoke mostly when alone 167 (70.2%) as shown in table 27. Table 28 also shows that respondents smoke more in parties 188 (79.0%) than in any other place, this is followed by their workplace 107 (45%). Feeling during smoking, period and places of smoking have high effect on smoking maintenance as shown from the findings. Those who feel good and belonging in their group due to smoking will likely remain as current smokers.

Figure VIII: Distribution of smoking maintenance among respondents



(1) Maintained smoking (2) No maintenance

N = 238

Table 21: Respondents' Feeling during Each Smoking Episode

Feeling	Frequency	Percentage
Feel good	151	63.4
Forgetting problems	117	49.2
Belonging in group	168	70.6
Feel like stopping but can't because of friends	102	42.9
Feel like stopping but don't' know how	105	44.1
Feeling of fever and weakness	24	10.1

N.B: There were multiple responses.

Table 22: Periods of smoking by Respondents

Period	Frequency	Percentage
When alone	167	70.2
When troubled	101	42.4
When with friends	184	77.3
When desiring sleep	57	23.9
When doing nothing	89	37.4
When relaxing	103	43.3
After a meal	67	28.2
After a drink	72	30.3
During misunderstanding	86	36.1
When in a cold place	28	11.8

N=238

N.B: There were multiple responses.

Table 23: Places of smoking by Respondents

Place	Frequency	Percentage
Home	58	24.4
Work	107	45.0
On the road/street	47	19.7
Parties	188	79.0
Anywhere	30	12.0
Playground	9	3.4
	N=238	

N.B: There were multiple responses.

6. Cessation of Smoking by Respondents

More 66 (53.2%) of those who smoke do not intend to stop smoking, 55 (44.4%) of them have the intention while 3 (2.4%) are not sure if they want to quit (Table 29). Several reasons were giving for desiring to quit or not. The strongest reason give is health and this carried 37 (29.8%) followed by religious disapproval 34 (27.4%). This is shown in Table 30. Those who do not want to stop smoking also had their reasons. 59 (47.6%) insisted that it is difficult to stop, 53 (42.7%) said that their friends smoke and they couldn't afford to be the odd one out. Some, 18 (14.5%) said since their parents smoke, they cannot stop (Table 31). Respondents' highest need 88 (71%) to be able to quit smoking is counseling from health workers. Less of cigarette advertisement was the next to this 67 (54%). This is shown in table 32. In table 33, non-smokers gave different reasons for not smoking. Majority 250 (95.4%) simply reports lack of interest while 247 (94.3%) said it is not good for their health. Table 34 gives a distribution of non-smokers reasons why smokers perform the behaviour, bad gang ranked highest with 124 (40.4%) and disobedience follows with 46 (15%). Past smokers also stopped for various reasons, this include, negative health effect 91 (79.8%), parents disapproval 83 (72.8%), hearing that it is dangerous to health 94 (82.5%) and seeing someone very sick due to smoking 78 (68.4%). This is shown in table 35. Those who believe that it is difficult to stop smoking are likely to be those who maintained their smoking more. Non-smokers' perception of factors influencing smoking adoption is mainly that adolescents join bad gang.

That is if they have friends who smoke, they will likely smoke. Non-smokers seem to perceive smoking as a display of bad behaviour arising from bad peer influence.

Table 24: Respondents' Intention to stop Smoking

Intention to Quit	Frequency	Percentage
Yes	55	44.4
No	66	53.2
I am not sure	3	2.4
TOTAL	**124**	**100**

Table 25: Respondents' Reasons for desiring to Quit Smoking

Reasons	Frequency	Percentage
Expensive	22	17.7
Health	37	29.8
Parents' disapproval	31	25.0
Religion disapproves	34	27.4
Master's disapproval	17	13.7
Makes one die young	13	10.5

N = 124

N.B: There were multiple responses.

Table 26: Respondents' Reasons for not wanting to Quit Smoking

Reasons	Frequency	Percentage
Difficult to stop	59	47.6
All my friends smoke and I can't be the odd one out	53	42.7
Helps to reduce work stress	43	34.7
Gives me fulfillment in life	44	35.5
My parent smoke	18	14.5

N = 124

N.B: There were multiple responses.

Table 27: What Respondents need to be able to Quit Smoking

Need	Frequency	Percentage
Support from friends	45	36.3
Counselling from health workers	88	71.0
Change of environment	66	53.2
Less of cigarette advertisement	67	54.0
Stop cigarette production	39	31.5

N = 124

N.B: There were multiple responses.

Table 28: Reasons Non-Smokers gave for their Smoking Status

Reason	Frequency	Percentage
No interest	250	95.4
Against religion	226	86.3
Not good for health	247	94.3
Parents will not like it	238	90.8
Hatred for the odour	231	88.2
Expensive	132	50.4

N = 262

N.B: There were multiple responses.

Table 29: Reasons Given by Non-smokers for Smoking Adoption among Adolescents

Reasons	Frequency	Percentage
Bad gang	124	47.3
Feeling grown up	29	11.0
Going to parties	29	11.0
Disobedience	46	17.6
To remove anxiety and fear	13	5.0
Lack of parental care and training	18	6.9
Television adverts and programmes	13	5.0
Parents smoke also	11	4.2
Cold weather	4	1.5
Don't know	20	7.6

N = 262

N.B: There were multiple responses

Table 30: Reasons why Past Smokers Stopped

Reasons	Frequency	Percentage
Affecting my health	91	79.8
No longer afford the cost	36	31.6
Parents disapproval	83	72.8
Pressure from religious leaders	64	56.1
Pocket money was stopped	23	20.2
Heard that it is dangerous to health	94	82.5
Saw someone very sick due to smoking	78	68.4

N = 114

N.B: There were multiple responses.

FINDINGS FROM TESTING OF HYPOTHESES

Introduction: All hypotheses for the study were set as (Ho) i.e. null hypothesis. The p – value was set at 5% confidence interval, i.e. $p < 0.05$. The statistical test used was student's t-test. Any p value greater than 0.05 will make the Ho to be rejected while the alternative hypothesis will then be accepted.

Table 31: Relationship between Occupational Group and Smoking Status of Respondents

Occupation	Current Smoker	Past Smoker	Non-Smokers	Total	Percentage
Automobile	55(44.4%)	37(32.5%)	68	160	32.0
Building	24	29	43	96	19.2
Dressing	23	15	73(27.9%)	111	22.2
Hair – Do	10	17	41	68	13.6
Printing	9	10	22	41	8.2
Technical	3	6	15	24	4.8
TOTAL	**124**	**114**	**262**	**500**	**100**

df = 499 T statistic = 13.588 P – Value 0.0026

Table 32: Relationship between Occupational Group and smoking Initiation of Respondents

Occupation	Current smoker	Past smoker	Total	Percentage
Automobile	55	37	92	38.7
Building	24	29	53	22.3
Dressing	23	15	38	16.0
Hair do	10	17	27	11.3
Printing	9	10	19	8.0
Technical	3	6	9	3.8
TOTAL	**124**	**114**	**238**	**100**

df = 237 T statistic = 194.72 P- value 0.14

Table 33: Relationship between Age group and Smoking Status of Respondents

Age group	Current smoker	Past smoker	Non Smoker	Total	Percentage
10-15 years	8	5	42	55	11.0
16-20 years	116	109	220	445	89.0
TOTAL	**124**	**114**	**262**	**500**	**100**

df = 499 T statistic = 80.46 P – value = 0.00071

Table 34: Relationship between smoking status and gender

Sex	Current smoker	Past smokers	Non smokers	Total	Percentage
Male	121	101	220	442	88.4
Female	3	13	42	58	11.6
TOTAL	**124**	**114**	**262**	**500**	**100**

df = 499 T statistic = 7.677 P value = 0.00049755

Table 35: Relationship between Religion and Smoking Initiation

Religion	Current smokers	Past smokers	Total	Percentage
Christianity	49	57	106	44.5
Islam	60	48	108	45.4
African Traditional Religion	15	9	24	10.1
Total	**124**	**114**	**238**	**100**

df = 237 T statistic = 38.715 P value0.55

Table 36: Relationship between length of time in occupation and smoking initiation

Time	Current smoker	Past smoker	Total	Percentage
0-1 year	12	8	20	8.4
1-2 years	31	36	67	28.2
2-3 years	32	34	66	27.7
3-4 years	23	18	41	17.2
4-5 years	16	10	26	10.9
5 yrs & above	10	8	18	7.6
TOTAL	**124**	**114**	**238**	**100**

df = 237 T statistic = 31.873 P – value = 0.69450877

Table 37: Relationship between age of exposure and smoking initiation of respondents.

Age of exposure	Current Smoker	Past smoker	Total	Percentage
< 5 years	60	44	104	43.7
6 – 10 years	44	56	100	42
11-17 years	19	12	31	13
18 – 20 years	1	2	3	1.3
TOTAL	**124**	**114**	**238**	**100**

df = 237 T statistic = 104.21 P – value = 0.083

Table 38: Relationship between age of exposure and smoking status of respondents

Age of exposure	Current smoker	Past smoker	Non smoker	Total	Percentage
< 5 years	60	44	79	183	36.6
6– 10 years	44	56	138	238	47.6
11-17 years	19	12	34	65	13.0
18-20 years	1	2	11	14	2.8
TOTAL	**123**	**112**	**251**	**486**	**100**

df = 499 T statistic = 33.212 P – value = 0.0076

Table 39: Relationship between source of exposure and smoking initiation

Source	Current Smokers	Past smokers	Total	Percentage
Friends	49	62	111	46.6
Media	22	20	42	17.6
Parents	25(92.6%)	2 (7.4%)	27	11.3
Relatives	6	9	15	6.3
Neighbours	15	16	31	13.0
Master	3	2	5	2.1
Co-workers	4	3	7	2.9
TOTAL	**124**	**114**	**238**	**100**

df = 237 T statistic = 33.212 P value = 0.0096207

Table 40: Relationship between source of exposure and smoking status

Sources of Exposure	Current smoker	Past smoker	Non smoker	Total	Percentage
Friends	49	62	57	168	33.6
Media	22	20	111	153	30.6
Parents	25	2	19	46	9.2
Relatives	5	9	15	29	5.8
Neighbours	15	16	45	76	15.2
Master	6	4	7	17	3.4
Others	2	1	8	11	2.2
TOTAL	**122**	**113**	**254**	**489**	**100**

df = 499 T statistic 30.791 P – value = 0.0000000

Table 41: Relationship between parental smoking stats and smoking initiation

Parental smoking status	Current smokers	Past smokers	Total	Percentage
Smoking	60 (74.1%)	21(25.9%)	81	34.3
Not smoking	63(40.6%)	92(59.4%)	155	65.7
TOTAL	**123**	**113**	**236**	**100**

df = 235 T statistic = 34.649 P – value = 0.00000210

Table 42: Relationship between Friends' smoking status and smoking maintenance

Friend's smoking status	No of Times respondents have smoked			
	2-3 times	Many times	Total	Percentage
Smoking	18	110 (76.9%)	128	74.0
Not smoking	12	33 (23.1%)	45	26.0
TOTAL	**30**	**143**	**173**	**100.0**

df = 172 T statistic = 33.592 P value = 0.05

Table 43: Relationship between masters' smoking status and smoking maintenance

Masters' smoking status	No of times respondents have smoked			
	2-3 times	Many times	Total	Percentage
Smoking	7	76	83	48.0
Not smoking	23	67	90	52.0
TOTAL	**30**	**143**	**173**	**100.0**

df = 172 T statistic = 34.234 P value = 0.0029

Hypothesis 1:

There is no significant association between occupational groups and smoking status. Findings from the study as in table 36 shows that p = 0.0027 which is statistically significant. The null hypothesis is therefore rejected and the alternate is accepted. This means that occupation has influence on the smoking status of the adolescents. More current smokers 55 (44.4%) were found in the automobile related jobs than in any other occupational group. The least of the current smokers 3 (2.4%) were found among technicians. The type of job adolescents are involved in will likely determine whether they will be current, past or non-smokers. Also, there are more non-smokers, 73 (27.9%) in the dressing related jobs.

Hypothesis 2

There is no significant association between occupation groups and smoking initiation. Findings from the study as in table 37 give a p – value of 0.14, which is not statistically significant. The null hypothesis is therefore accepted and the alternate rejected. This implies that occupation has no influence on smoking initiation among the adolescents. The type of job adolescents do, seems not to be a determinant of their smoking initiation, although from the above, the eventual smoking status has a link with occupation.

Hypothesis 3

There is no significant association between age group and smoking status. Findings from the study as in table 38 give a p- value of 0.0007, which is statistically significant. Therefore, the null hypothesis is rejected and alternate accepted. This means that age group has influence on the smoking status of the adolescents. The older they are, the more likely they are to become smokers. The younger adolescents are also more of experimental smokers while the older ones maintained their smoking more.

Hypothesis 4

There is no significant association between gender and smoking status. Finding from the study as in table 39 give a p – value of 0.0004, which is statistically significant. Therefore, the null hypothesis is rejected and alternate accepted. This implies that gender has influence on the smoking status of adolescents. The likelihood of smoking is higher among the males than the females. Also more 13 (81.3%) of the females who initiated the behaviour eventually quitted which means that they are more of experimental smokers.

Hypothesis 5

There is no significant association between religion and smoking initiation. Findings from the study as in table 40 give a p-value of 0.55, which is not statistically significant. Therefore the null hypothesis is accepted and alternate rejected. This means that religion does not affect smoking initiation among the adolescents. Religion seems not to be a determinant of smoking initiation.

Hypothesis 6

There is no significant association between length of time in occupation and smoking initiation. Findings from the study as in table 41 give a p-value of 0.69, which is not statistically significant. Therefore, the null hypothesis is accepted and alternate rejected. This means that length of time in the occupation of the adolescents has no effect on their smoking initiation. Irrespective of the time the adolescent have spent in their chosen occupation, it does not seem to predict initiation of smoking behaviour.

Hypothesis 7

There is no significant association between ages of exposure and smoking initiation. Findings as in table 42 give a p – value of 0.08, which is not statistically significant. Therefore the null hypothesis is accepted while the alternate is rejected. This implies that age of exposure does not affect smoking initiation among the adolescents. More, 60 of those who had early exposure (< 5 years of age) and initiated smoking maintained it while most 56 (56%) of those who became exposed between ages 6 – 10 years quitted.

Hypothesis 8

There is no significant association between age of exposure and smoking status. Finding as in table 43 give a p –value of 0.0076, which is statistically significant. Therefore, the null hypothesis is rejected and alternate accepted. This means that age of exposure affects the smoking status of the adolescents. The earlier they become exposed, the more likely they will initiate and remain as current smokers. It is also interesting that those who had exposure between ages 6 –10 years quitted more than the older age groups.

Hypothesis 9

There is no significant association between the source of exposure to smoking behaviour and smoking initiation. Findings as in table 44 gives a p – value of 0.0096, which is statistically significant. Therefore, the null hypothesis is rejected and the alternate accepted meaning that source of exposure has effect n smoking initiation among adolescents. This implies that the source of exposure will likely determine whether or not smoking will be initiated.

Hypothesis 10

There is no significant association between sources of exposure and smoking status. Findings as in table 45 give a p – value of 0.000000, which is statistically significant. Therefore, the null hypothesis is rejected and the alternate accepted, meaning that sources of exposure affect smoking status. The source of exposure will likely affect eventual smoking status. Also, one source (Friends) has stronger influence than others.

Hypothesis 11

There is no significant association between parental smoking status and smoking initiation. Findings as in table 46 give a p- value of 0.000002, which is statistically significant. Therefore, the null hypothesis is rejected while the alternate is accepted. This implies that parental smoking status has influence on smoking initiation among the adolescents. Those whose parents smoke remained more as current smokers 60 (74.1%) while those with non-smoking parents were just 63 (40.6%) as current smokers. Those whose parents don't smoke were more of experimental smokers. Parents' smoking seems to make adolescents initiate and maintain smoking behaviour more than when parents don't smoke.

Hypothesis 12

There is no significant association between friends' smoking status and smoking maintenance. Findings as in table 47 give a p – value of 0.05, which is statistically significant. Therefore the null hypothesis is rejected and alternate accepted. This means that friends' smoking status influences smoking maintenance among the adolescents. Adolescents whose friends smoke will likely initiate and maintain smoking more than those with friends who don't smoke. However, using percentages, adolescents with friends who smoke had smoked many more times than those without such. This constitutes 110 (76.9%) as compared with 33 (23.1%) for respondents with friends who do not smoke.

Hypothesis 13

There is no significant association between masters' smoking status and smoking maintenance. Findings as in table 48 give a p – value of 0.002, which is statistically significant. Therefore, the null hypothesis is rejected and the alternate accepted. This implies that masters' smoking status has influence on smoking maintenance among the adolescents. When masters smoke, the likelihood that adolescents working under them will smoke seems to be higher.

CHAPTER FIVE
DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

In this chapter, findings about cigarette smoking among out-of-school adolescents in different occupational locations at Ado-Odo/Ota Local Government Area are discussed. This is compared with those from other studies done on adolescents by other researchers. The discussion is divided into four sub-headings. These are: exposure to smoking behaviour, initiation of smoking behaviour, maintenance of smoking behaviour and the smoking status of the subjects. The chapter ends with conclusions and recommendations.

DISCUSSIONS

Exposure to Smoking Behaviour

Majority 489 (97.8%) of the subjects are aware about cigarette smoking and friends constituted their highest 168 (34.4%) source of information, closely followed by the media 153 (31.3%). There is high awareness about cigarette smoking and friends as well as the media are important sources of awareness. These two sources (friends and media) are quite close to the subjects. The role of the media in smoking exposure shows that cigarette manufacturers are still undergoing promotional efforts in Nigeria. Also, source of exposure was found to have significant relationship to smoking initiation and status. Different types of information were received by the respondents on cigarette smoking. Some of them are "makes one sick" 306 (62.6%), "makes one acceptable to friends" 240 (49.1%), " a way of enjoying life" 237 (48.5%), "initiation to adult life" 191 (39.1%). These different messages will likely have their effect on the thought-life of the adolescents. This is mainly because, adolescents are at a stage of complex changes both internally and externally; this makes information to be very crucial in their decision-making process (Denshire, 1986).

The respondents had different feelings after becoming aware of smoking. Majority 267 (54.9%) felt the need to be careful, this is demonstrated in the eventual smoking status which showed 262 (52.4%) as non-smokers. These non-smokers are likely to be those who felt the need to be careful after being aware of smoking behaviour. Also, 152 (31.3%) felt that smoking is a good idea and 44 (9.1%) became excited after smoking awareness. These two groups are likely to

be those who eventually initiated the behaviour. Perceptions of adolescents about smoking behaviour (whether it is good or not) is one of those factors found to motivate adolescents into smoking. It is called subjective expected utility (Bauman et al, 1984). It is the extent to which an individual expects the overall consequences of behaviour such as smoking to be positive or negative. Fishbein (1980) also found that behavioural intentions to smoke were related to whether more positive or negative consequences were expected from smoking.

Furthermore, respondents saw smokers in different places such as "street: 472 (95.5%); television 449 (90.9%); bus-stop 403 (81.6%); newspapers 338 (68.4%), at home 325 (65.8%), workplace 318 (64%).

This shows that smoking is generally high and it is not restricted to some places to shield young people from observing smokers thereby learning the skills necessary for adoption. Exposure stage is a time when adolescents are gathering information and evaluating the observed behaviour. If smoking is restricted to some places where young people have lesser access, adolescents may not move on to preparation stage let alone taking action on smoking (Prochaska & Diclemente 1983). Ages at which subjects saw smokers were quite early (less than 5 years). 183 (37.7%) of them have seen smokers before age 5 while 238 (49.0%) first saw someone smoking between ages 6-10 years.

Bennett (1985) documented that the lifestyle of young people usually involves greater risk-taking behaviour than those of other groups. Early age of exposure to smoking behaviour has the likely tendency for adolescents to undergo smoking risks. It is not surprising therefore that age of exposure was found to have a significant relationship on the smoking status of the adolescents. The earlier they become exposed, the more likely they will not only initiate but maintain the smoking behaviour. More of adolescents who became exposed early (< 5 years) and initiated smoking remained as current smokers while more of those with later exposure (6-10 years) stopped smoking and less of them remained in the art. Early exposure is therefore a factor in smoking maintenance.

Many smokers are known by the respondents. These include neighbours 309 (62.8%), friends 241 (48.2%), co-workers (36.0%), siblings 165 (33%), relatives, 157 (31.4%) and parents 110 (22%). These well-known people who smoke around the adolescents will likely increase their desire to take smoking risks, also the fact that various people smoke around them agrees with studies

that have shown in the past that smoking is on the increase in Africa (Taha & Ball 1980). Furthermore, friends constitute the highest 222 (44.4%) among those who suggested smoking to the adolescents. This is followed by co-workers 149 (29.8%) and neighbour 125 (25.0%). The influence of peers has been posited as the single most important factor in determining when and how cigarettes are first tried. May et al (1983) suggested that smoking may primarily represent an effort to achieve social acceptance from peers. Bauman et al (1990) found that smoking occurred in the presence of best friends. One is not surprised therefore that friends constitute the highest among those who first offered cigarettes to the adolescents. In this study, subjects who have smoking friends maintained their smoking more than those without such.

Initiation of Smoking Behaviour

Out of 500 respondents, 238(47.6%) initiated smoking after exposure. This rate (47.6%) is slightly below that which was obtained by Elegbeleye and Femi-Pearse (1976) which is 48.4% both for boys and girls. Femi-Pearse, Adeniyi and Oke also found a total of 44.4% both for boys and girls. This is a little lower than what this study obtained. Masironi et al (1985) reported that over 30% of young men in China and Indonesia smoke and that over 20% of young men smoke regularly in developing countries. The current smokers in this research are 124 (24.8%). The age of smoking initiation is quite early (7 years). 22 (9.6%) of the respondents began smoking between age 7 – 10 years. This is different from the result obtained by Sofowora (1974) in Ibadan in which he reported that smoking begins among young people between age 12-13 years. Considering the fact that this research is taking place 29 years after, one can regard it to be that age at smoking initiation is reducing just as the age of exposure has become much earlier.

Majority of the subjects 210 (88.2%) coughed after their first attempt of smoking while the next to this 165 (69.3%) reported having a feeling of having "grown-up" and some 154 (64.7%) had a feeling of excitement. Before any adolescent could decide to continue smoking after the first attempt, the feeling after the first attempt will likely be part of the motivation. A risk-taking orientation (that is, an inclination toward excitement and chancee taking) was

associated with trying a cigarette for the first or second time (Leventhal et al (1988). Majority 136 (57.1%) of the respondents had their first cigarette through friends. This agrees with many researches that peer pressure is an important predictor of first smoking attempts and even later in some cases. Hahn et al (1990) reported that, the urging of one or more acquaintances most likely peers or close friends prompted over half the instances of adolescents' trying a cigarette for the first time. Occupation, religion, and length of time in occupation were found not to have any significant association with initiation of the behaviour. However, those who have spent between 1-3 years in the occupation have more of experimental smokers while those above 3years are more of regular smokers. Also, occupation seems not to affect initiation in any way. Source of exposure was found to have a significant association with smoking initiation. Those who were exposed through friends initiated the behaviour more 111 (47.2%), followed by those who had exposure through the media 42 (17.9%). This implies that exposure through friends and media have stronger influences on smoking initiation than other sources of exposure. Age of exposure was found not to have effect on smoking initiation. This means that age of exposure is not a factor that influences initiation of smoking behaviour and initiation can come irrespective of the age at which exposure occurred. Parental smoking status was found to have a significant association with initiation of smoking behaviour.Those with parents who smoke initiate the behaviour more than adolescents with non-smoking parents. This is consistent with various researches which have examined the relative risk of initiation if one or both parents smoke (Bauman et al 1990, Chassin et al 1986, Conrad, flay and Hill 1992). Most of the parents of these adolescents are of low socio-economic status from the type of work they do, and this may be a reason why they smoke (Conrad, Flay and Hill 1992). Smoking for these parents and their wards may be a way to enhance their low self-esteem by improving their external image (Sussman et al 1987). Ahlgren et al(1982) found that low self-esteem within family or school contexts was associated with initiation and continuance of smoking.

Smoking Status of Respondents

The respondents were grouped into current 124 (24.8%), past 144 (22.8%) and non-smokers 262 (52.4%). Occupation was found to influence the smoking status of the adolescents. More non-smokers 73 (27.9%) were found in the dressing related jobs than others. In this same jobs were more females and this may be the reason why they have more non-smokers. More current 55 (44.4%) and past smokers 37 (32.5%) were in the automobile related jobs. These may be the adolescents who claim that cigarette smoking helps in reducing the stress in their jobs (Table 31). Flay (1993) points out that stress and distress have been associated with drug use including cigarette use (Wills and Shiffman (1985). The research of Kellan, Ensminger and Simon (1980) found that males rated by observers as aggressive or as alternatively shy and aggressive had the highest rate of drug use including cigarette use. The adolescents in this new research especially those in the automobile related jobs are probably similar to those in the above mentioned researches.

Age group was found to be associated with smoking status. The younger adolescents (ages 10-15 years) are more of experimental smokers while age 16-20 years maintained their smoking. Also, age of exposure was found to have a significant association with smoking status. The earlier adolescents become exposed the more likely they will remain as current smokers. The highest percentages of non-smokers were found among those who became exposed between ages 6 – 10 years. This group if concentrated on for intervention will likely not adopt smoking as much as any other age group among adolescents. Sources of exposure were found to have a significant association with smoking status. Those who became exposed through friends are more among the current smokers than any other source.

Gender also had a significant association with smoking status. Most of the current and even past smokers are males. Majority of females who initiated smoking also quitted. This is consistent with past studies which found that males smoke more than females in Nigeria (Elegbeleye & Femi- Pearse, 1976). Gritz and Crane (1991) found that concern about body weight makes female adolescents to begin smoking in the U.S. where sliming down is an issue of interest but not so in Africa.

Maintenance of Smoking among the Respondents

Adolescents in the automobile related jobs maintained smoking above all others. Those in the older age group (16-20 years) also maintained their smoking and males maintained smoking more than females. Cigarette smoking might be a perceived acceptable behaviour among automobile workers, older adolescents and males. In these three groups also, there may be social support for smoking. That is perceived approval of smoking behaviour (Hahn et al, 1990, Chassin et al 1986).

Parental smoking was found to affect smoking maintenance. Those whose parents smoke maintained their smoking more 60 (74.1%) while more 92 (59.4%) of those with non-smoking parents quitted from smoking after initiation. According to Bauman, Foshee, Linzer and Koch (1990), a consistent relationship between parental and adolescent smoking has been found.

Adolescents whose parents currently smoked were almost twice as likely to smoke. Chassin, Presson, Sherman, Corty and Olshavsky (1984) suggested that parental smoking may influence the preparatory or initial trying stages as well as the stability of smoking patterns from adolescence to adulthood.

Friends' smoking status was found to be associated with smoking maintenance. Those whose friends smoke and are smoking regularly are more 128 (74%) than those with nonsmoking friends. This is consistent with the findings of past researches. Flay, D'avernas, Best, Kersell and Ryan (1983) suggested that smoking may primarily represent an effort to achieve social acceptance from peers and may particularly be an experimental "adult" activity that is shared within the peer group.

Bauman, Foshee, Linzer and Koch (1990) found also that smoking mostly occur in the presence of best friends. Leventhal, Flemming and Glynn (1988) reported that best friend's cigarette use was predictive of the first try at smoking whereas having a majority of friends who smoke was predictive of the second cigarette. Adolescents who smoke have been found to select friends who do the same (Fisher and Bauman 1988).

Masters' smoking status was found to have a significant association with smoking maintenance. The second or trying stage which encompasses the first two or three times an adolescent smokes usually involve peers (Conrad, Flay and Hill 1992). To move on to the next stage social reinforcement are necessary (Leventhal, Flemming and Ershler unpublished data). Flay et al (1994) noted that adolescents who observe role models taking drugs show an effect on their behaviour. Masters are the role models to the adolescents they instruct and if they too smoke, it is a social reinforcement for the young people to do so.

CONCLUSIONS

It has become quite clear from the findings of this study that adoption of smoking behaviour has two distinct aspects in the entire process. These are initiation and maintenance. An adolescent that initiates smoking is the one that will proceed to maintenance. Exposure and intention are processes that happen outside initiation and nobody becomes a smoker until initiation. Exposure might be difficult to curtail but health education can help prevent initiation and maintenance. Any move to control should look at these two different issues of initiation and maintenance.

Initiation:

Parental smoking, friends' smoking status, masters' smoking status and source of exposure were all found to predict initiation of smoking. Parents and masters are role models to adolescents and whatever they do or decide not to do will have effect on what the adolescents also do. Any health education intervention on these out-of-school adolescents should not only target them but be extended to their parents and masters who instruct them. Friends have been severally reported as great influence in adolescent smoking. It is important to consider an intervention that will target not only the adolescents but their friends as well. Those who are not smoking and have no intention to smoke reported bad gang as a reason for adolescents' adoption of smoking behaviour. This is still in agreement with the finding of this research on the fact that friends' smoking status is a factor of smoking adoption. The adolescents' major source of exposure was through friends and this was also found to be a factor. New research questions that are worthy of studying in relation to the above are:

1. Why do the parents of these adolescents smoke?
2. Why do their masters smoke?
3. Are their friends in the same occupation with them?
4. What is the subjective expected utility of these adolescents as concerning cigarette smoking?
5. What knowledge of health dangers inherent in smoking do these adolescents have?
6. What refusal skills for cigarette smoking do these adolescents have that can be built upon for subsequent control?

Occupation, religion, length of time in the occupation and age of exposure to smoking behaviour were all found not to have significant associations with smoking initiation. However, occupation was a factor in the eventual smoking status. The adolescents who smoke more than others are in the automobile related jobs. It is expedient to find out why this group smoke more than others. Could it be that they are the ones who reported a reduction of stress through smoking? Are they the group who reported an elevation of status through smoking? All these are further questions to be answered.

Religion was found not to be a factor but among those who initiated the behaviour, Christians were more of the experimental smokers while Muslims and African traditionalists stayed more as current smokers. Does it mean then that Islamic religion tolerates more smokers than Christianity? Further research will be needed to find out the perception and attitude of religious leaders about cigarette smoking.

Age of exposure was not a factor of smoking initiation. However, those who became exposed between 6-10 years of age were more of experimental smokers.Does it mean that information settles more in the heart of this middle age group? If yes, they will be better targets for health education interventions since quitting seems easier with them.

Maintenance

Those in the automobile related jobs did not only initiate but also maintained their smoking behaviour more than all other occupational groups. Why do this group maintain smoking more? Does it have to do with social reinforcement among them? Do they see smoking behaviour as a way of closing the gap between their present image and future goals? Are they among those who smoke to gain boldness as expressed by non-smokers in this survey? More research needs to be conducted for clear answers to these questions.

Adolescents who became exposed to cigarette smoking between age 11-17 years maintained their smoking more 19 (61.3%) than those in the other age groups. There is the need to find out the peculiarity of this group.

Does it mean that no matter what you say to them, once decision has been made to smoke, change is more difficult? Those who were exposed to smoking through parents had higher maintenance of smoking25 (92.6%). why is it like

that? What exact information do parents pass on to their wards about cigarette smoking?

Could such information be approval of the behaviour, when one would have expected outright disapproval?

Also, what is the knowledge that parents have about the health consequences of smoking?

Adolescents with parents that smoke have higher smoking maintenance than those with non-smoking parents. Adolescents with friends and masters who smoke also maintained their smoking more than others. There is the need to find out what makes the friends and masters of these adolescents to smoke regularly.

RECOMMENDATIONS

It is recommended that further researches be carried out to attempt answering the questions raised in this study. These questions are in relation to smoking initiation and maintenance. Studies such as the following can be conducted:

1. Factors predicting initiation and maintenance of smoking behaviour among adolescents in automobile related jobs.
2. Patterns of cigarette smoking among instructors in automobile related jobs. This will take care of masters.
3. Knowledge and attitude of Muslim and African traditional religious leaders towards adoption of smoking behaviour by adolescents.
4. Training of refusal skills to out-of-school male adolescents on smoking behaviour – a health education intervention.
5. Knowledge, attitude and practice of male artisans and traders on cigarette smoking. This will take care of fathers of young smokers.

It is important to note that younger adolescents (age 10-15 years) will benefit from health education intervention since they are more likely to quit than the older ones. More focus should also be on males and where there are resources more should be allocated to males. This is because males were found to smoke more than females. In this research 222 out of 238 of those who initiated smoking were males.

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APPENDIX 1

QUESTIONNAIRE

Introduction:

I am ..... from the Department of Health Promotion and Education at the University of Ibadan. The study is designed to find out the factors influencing the adoption of smoking behaviour among out-of-school adolescents of ages 10-20 years.

Important Notice

1. Please do not write your name on this questionnaire.
2. Your master, parents, neighbours, friends and all acquaintances will not have access to the information obtained from you.

Benefit of Participating in the Study

There are important information that young people ought to have about smoking irrespective of their smoking status. The study is designed to know whether young people have such information and what they are doing about it. Also, if any young people requires assistance about smoking problems facing them, guidance will be given to such.

Thank you.

Serial Number: _____

Name of Occupational Location: _____

Name of Area/Street: _____

SECTION A: DEMOGRAPHIC DATA

1. Age (in years) _____ ☐☐
2. Sex 1. Male 2. Female ☐
3. Religion ☐
   1. Christianity
   2. Islam
   3. African Traditional Religion
   4. Others (please specify) _____
4. Ethnic Background ☐
   1. Hausa
   2. Igbo
   3. Yoruba
   4. Kanuri
   5. Others (specify): _____
5. Occupation of father ☐☐
   1. Farming
   2. Trading
   3. Artisan ☐
   4. Government worker ☐
   5. Factory worker ☐☐
   6. Others (please specify) _____
6. Occupation of Mother ☐
   1. Trading
   2. Artisan ☐
   3. Housewife ☐
   4. Government worker ☐☐
   5. Factory worker
   6. Others (please specify) _____ ☐

7. Numbers of years already spent in the apprenticeship work

1. 0-1 year
2. 1-2 years
3. 2-3 years
4. 3-4 years
5. 4-5 years
6. 5 years and above

SECTION B: EXPOSURE

8. Have you ever heard of smoking?

1. Yes
2. No

If No, go to question 12 but if Yes continue.

9. Where did you first hear of smoking?

1. From my friends
2. From the media (radio, television etc)
3. From my parents
4. From my relatives
5. From my neighbours
6. From my master
7. From other people we are working together
8. Other sources (please specify) _____

10. What did you hear about smoking? Yes = 1 No = 2

1. It makes one work hard
2. It makes one strong
3. It makes one sick
4. It makes one acceptable to friends
5. It is initiation to adult life
6. It is a way of enjoying life
7. Others (please specify) _____

11. How did you feel about hearing about smoking?

1. I felt excited
2. I felt I need to be careful
3. I felt it is a good idea
4. Others (specify) _____

12. Have you ever seen someone smoking?

    1. Yes
    2. No

    If No, go to question 17

13. If Yes to question 12, where did you see the person smoking?

    Yes = 1 No = 2

    1. On the television
    2. In the newspapers
    3. On the street
    4. At the bus-stop
    5. At my work place
    6. In the house where I live
    7. Others (specify) _____

14. How old were you when you first saw someone smoking?

15. How did you feel at that time?

    1. Surprised
    2. Afraid
    3. Sad
    4. I felt the person is of high class
    5. I wish I could ask the person how it tastes
    6. Others (please specify) _____

16. Which of these people whom you know smoke cigarettes?

    Yes = 1 No = 2

    1. Father/mother
    2. Uncle/aunt
    3. Brother/sister
    4. Boyfriend/girlfriend
    5. Master
    6. Neighbour
    7. Co-apprentice
    8. None
    9. Others (specify) _____

17. Which of these people have suggested smoking to you in the times past?

Yes = 1 No = 2

1. Father/mother ☐
2. Uncle/aunt ☐
3. Brother/sister ☐
4. Boyfriend/girlfriend ☐
5. Master ☐
6. Neighbour ☐
7. Co-apprentice ☐
8. None ☐
9. Others (specify) _____ ☐

18. Where were you when you were first offered cigarette to smoke?

1. At the workplace ☐
2. On the playground ☐
3. At home ☐
4. At a party ☐
5. At the eating place ☐
6. Others (specify) _____ ☐

SECTION C: INTEREST/INTENTION

19. After hearing about smoking or seen someone smoke, for the first time, what did you do?

Yes = 1 No = 2

1. I looked out for places where cigarettes are sold ☐
2. I bought one stick of cigarette and opened it up to see what is inside ☐
3. I tried to ask my friends if they know anything about smoking ☐
4. I started watching out for anyone smoking around me or on the television. ☐
5. Others (specify) _____ ☐

20. Did you think of trying to smoke after seeing someone smoking?

1. Yes
2. No ☐

21. Did you take any form of interest in smoking after seeing someone smoke?

1. Yes ☐
2. No

SECTION D: INITIATION

22. What is your current smoking status?

1. I am smoking
2. I have quit smoking ☐
3. I have never smoked

If currently smoking, please go to question 23 and answer all the questions up to 35. If you have never smoked, go to question 36-40. If you have quit smoking go to question 23-31 and 41-43.

23. How old were you when you smoked the first cigarette?

24. How did you feel at the first attempt? Yes = 1 No = 2

1. I coughed ☐
2. I sneezed ☐
3. I coughed and sneezed ☐
4. I felt I'm grown up ☐
5. I felt excited ☐
6. I felt bad. ☐

25. How did you get the first cigarette you smoked?

1. My friend gave it to me ☐
2. I bought it ☐
3. I picked half-burnt cigarette from the floor ☐
4. I took it from someone's pocket ☐
5. Others (please specify) _____ ☐

SECTION E: MAINTENANCE

26. After that first attempt of smoking, did you try again?

    1. Yes
    2. No

27. If no, why didn't you try again? .....

    .....

28. If yes, how many times did you try to smoke again?

    1. Once
    2. Twice
    3. Many times
    4. I continued but stopped sometime ago
    5. I continue up till now

29. How do you feel each time you smoke? Yes = 1 No = 2

    1. I feel good
    2. It makes me forget my problems
    3. I feel belonging in my group
    4. I feel I should stop smoking but I can't because of my friends
    5. I felt I should stop smoking but I don't know how to do it
    6. Others (specify) _____

30. When do you smoke? Yes = 1 No = 2

    1. When I am alone
    2. When I am troubled
    3. When I am with friends
    4. When I want to sleep
    5. When I'm doing nothing
    6. When I'm relaxing
    7. After my meal
    8. After a drink
    9. When I have misunderstanding with anyone
    10. Others (specify) _____

31. Where do you smoke? Yes = 1 No = 2

1. At home
2. At work
3. On the road/street
4. At parties
5. Anywhere

SECTION F: CESSATION

32. Do you intend to stop smoking?

1. Yes
2. No
3. I am not sure

33. If yes, which of these could be your possible reasons? Yes = 1 No = 2

1. It is expensive
2. It affects my health
3. My parents disapprove of it
4. My religion disapprove of it
5. My master disapprove of it
6. Others (specify) _____

34. If your answer to question 32 is No, which of the following could be your possible reasons? Yes = 1 No = 2

1. It is difficult to stop smoking
2. All my friends smoke and I can't be the odd one out
3. It helps me to reduce the stress of my workplace
4. It elevates my status
5. Others (specify) _____

35. Which of the following do you need to be able to quit cigarette smoking?

Yes = 1 No = 2

1. Support from my friends
2. Counselling from health workers
3. A change of environment
4. Less of cigarette advertisement
5. Others (specify) _____

SECTION G: NON-SMOKERS

36. After hearing about smoking or seeing someone smoking, why didn't you think of trying to smoke? Yes = 1 No = 2

1. I was not interested ☐
2. It is against my religion ☐
3. I know it is not good for my health ☐
4. My parents will not like it ☐
5. I hate the odour ☐
6. It will affect my expenses ☐
7. Others (specify) _____ ☐

37. Though you didn't think of smoking, but did you try it after that time?

1. Yes ☐
2. No ☐

38. Do you think you can smoke in the future?

1. Yes ☐
2. No ☐

I am not sure

39. If yes to question 38, which of the following could be your possible reasons?

Yes = 1 No = 2

1. By that time I would have grown up and be able to do what I like ☐
2. By that time, I would have money of my own to spend ☐
3. I would not have to hide when I want to smoke ☐
4. Others (Specify) _____ ☐

40. Why do you think adolescents smoke? .....

.....

SECTION H: PAST SMOKER

41. You have smoked before, when did you stop?

1. 0-6 months ☐
2. 6 months – 1 year ☐
3. 1 year -1 1/2 years ☐
4. 11/2 years – 2 years ☐
5. 2 years above ☐

42. Which of the following could be your reasons for stopping smoking?

Yes = 1 No = 2

1. It was affecting my health ☐
2. I ca no longer afford the cost ☐
3. My parents were unhappy with me ☐
4. My religious leaders insisted I should stop ☐

43. Apart from the above, what other things helped you to stop?

Yes = 1 No = 2

1. My parents were beating me ☐
2. My pocket money was stopped ☐
3. I heard that it is very dangerous to health ☐
4. I saw someone who was very sick due to cigarette smoking ☐

SECTION H: PAST SMOKER

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4. I saw someone who was very sick due to cigarette smoking ☐

APPENDIX II

INVENTORY OF LOCATIONS/WORKPLACES FOR OUT-OF-SCHOOL ADOLESCENTS IN ADO ODO/OTA LGA BY DISTRICTS.

S/N	NAME OF DISTR.	VEHICLE REPAIRING SHOPS	MOTOR GARAGES	MOTORCYCLE GARAGES	BARBING SALONS	HAIR DRESSING SALONS	CARPENTARY SHOPS	TAILORING SHOPS	WELDING CENTRES	BLK. IND.	PHOTO SHOPS	TECH/ELECT SHOPS	PRINTING SHOPS	SHOE MAKING SHOPS	TOTAL
1.	OTA	114	4	2	45	27	40	105	30	10	32	12	14	13	448
2.	SANGO	149	4	8	47	30	147	120	38	20	20	40	23	20	606
3.	ADO ODO	42	5	3	12	11	12	15	5	13	6	9	9	7	149
GRAND TOTAL		**305**	**13**	**13**	**104**	**68**	**199**	**240**	**73**	**43**	**58**	**61**	**46**	**40**	**1263**

APPENDIX III

SOCIAL MAP FOR LGA HEALTH DISTRICTS

ADO-ODO/OTA LOCAL GOVT