LATE ADOLESCENT FEMALE SMOKING
An exploration of smoking patterns and processes.

by

M. Marilyn Seguire

A thesis submitted to the faculty of Graduate Studies
in partial fulfillment of the requirements for the degree of
Master of Nursing

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ABSTRACT

Although there have been intense efforts to reduce the prevalence of cigarette smoking in the past three decades, smoking continues to be a critical public health issue. An area of timely concern cited in the research literature is the increasing number of young women who are turning to smoking. Gender specific research examining factors influencing smoking initiation, maintenance, and cessation behaviors is lacking. In particular, late adolescent female smoking behaviors are not evident in the literature. The purpose of this study was to explore the smoking patterns and processes of late adolescent females and to explore factors which may or may not be helpful to assist them to quit smoking. A qualitative ethnographic approach was used to uncover twenty-five adolescent girls' own perceptions regarding their smoking behavior. Data were collected from two sources; tape recorded semi structured interviews, and a questionnaire. Items for the questionnaire were derived from three sources: 1) modification of the Manitoba Youth Smoking Survey, 2) the Stages of Change model, and 3) modification of questions from the Fagerstrom Nicotine Tolerance Scale. Qualitative analysis revealed four major categories: the start story, the smoking story, the quit story, and looking to the future. Although many of the findings were congruent with evidence in the literature, there are concerns which emerged reflecting the purposive nature of smoking in late adolescent girls, as well as their tenuous efforts to quit smoking. Findings reflect the need for further research, education and nursing practice efforts to facilitate a holistic approach to assist young women to become smoke free.

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CHAPTER ONE

INTRODUCTION

Since the early 1960's there have been intense efforts to reduce the prevalence of cigarette smoking. Yet smoking continues to be the most important public health issue of our time (Greaves,1990; Gritz,1994; Surgeon General's Report, 1988). Intervention efforts have had some measure of success with the adult population but smoking prevalence among the adolescent population, particularly high school seniors is on the rise (Pierce & Gilpin, 1996). Seven percent of youth age 10 to 14 have begun to smoke. Of the older adolescent population age 15 to 19, 24% of young women are smokers compared to 23% of young men (Canada Youth Smoking Survey, 1996). It is the young women who appear to be turning to smoking in greater numbers. This trend is evident in Europe, New Zealand , Australia as well as North America (McGee & Stanton, 1993; Stanton, Lowe & Silva, 1995; Swan, Cressor & Murray, 1990). Health Canada (1995) has cited smoking as the leading killer of Canadian women. While few adolescent women will die of smoke related diseases in their teen years, their smoking will undoubtedly contribute to adult disease and eventual death due to pulmonary, reproductive and cardiovascular disorders. In addition, pregnancy disorders pose another cause for concern for young women.

Smokers who begin as adolescents often regret their use of cigarettes by the late teenage years and may look for intervention strategies to change their smoking habit (Spoke et al, 1996). However, many of these youth may already have developed a tolerance to nicotine necessitating higher levels of nicotine to

achieve the desired effect, finally resulting in physiological addiction (Henningfield & Keenan, 1993). Addiction creates a significant barrier to changing the smoking habit.

It has been identified that adult smokers progress through a series of stages as they move to change their smoking habit (Prochaska & DiClemente, 1986). However, early research findings suggest that the stages of change as described for adults do not apply to adolescents (McDonald, Lafreniere, Lawrence, McCaffrey, Silverman & Towson, 1996). In addition, cessation strategies with young people have not proven to result in long lasting effects. More understanding is needed of the patterns and processes of smoking in young people so that effective intervention strategies can be developed and targeted to them.

Statement Of The Problem

Statistics on smoking

Cigarette smoking is the chief single cause of death in our society (Greaves, 1990). Gritz (1994) suggests that tobacco users in general and cigarette smokers in particular pose the greatest health challenge in this decade and beyond the year 2000. Twenty eight percent of Canadians age 15 and over report that they smoke cigarettes every day. (Health & Welfare Canada, 1990). Twenty- three percent of males and 24% percent of females age 15 to 19 are smokers (Health Canada, 1996). The 1994 Youth Smoking Survey reported that one out of seven or 580,000 Canadian youth age 10 to 14 smoke.

One fifth of today's population will die of tobacco related causes (Gritz, 1994). Twenty percent of all deaths among Canadians are tobacco related (National

Clearing House of Tobacco & Health, 1995). Furthermore, of every 1000 Canadians age 20 who smoke, approximately 500 will die prematurely from smoking (National Clearing House. of Tobacco & Health, 1995). In contrast, nine will die from traffic accidents and one will die from homicide. Adolescents age 15 who smoke now are more than twice as likely to die before age 70 as those age 15 who never start to smoke. The recognition that approximately 90% of all initiation of tobacco use occurs among persons 18 years of age or younger underscores the health challenge posed by this age group (Morbidity & Mortality Report, 1996). Of particular concern are the young female smokers whose numbers are increasing (Health Canada, 1996; Stanton, Lowe & Silva, 1995).

General theories on smoking

The variety of theories and models found in the literature explaining smoking behavior underscores the complexity of the smoking habit. Behavioral / conditional theories (Bandura, 1971 &1985; Hemmingfield &Keenan,1993; Pomerleau, Shiffman, Collins & Pomerleau,1993) have examined the effect of stimulation of nicotine receptors in the brain, sensitivity to nicotine, coping skills and environmental conditions as forces impacting on smoking behavior. Cognitive theories such as the Health Belief Model have considered individual beliefs, values and cues to action (Mullen, Hersey & Iverson, 1987). In addition, locus of control has been cited as an explanation of smoking behavior (Burgess & Hamblett, 1994), while Tompkins (1966) in Ikard, Green and Horn (1988) suggested that smoking behavior falls into categories of enhancement of positive affect, decrease of negative affect, habitual and addictive smoking. Ajzen & Fishbein's (1980) Theory of Reasoned Action proposed that health

beliefs, personal factors and social influences were the determinants of an individuals' decision to give up smoking or to continue the habit (Galvin, 1992). In spite of the extensive theory development discussed in the literature explaining smoking behavior, theories have not specifically focused on male/female differences.

Women and smoking

The prevalence of smoking and the burden of smoking related illness is shifting to women (Pirie, Murray & Leupker, 1991). In 1993, Ernster reported that in the United States lung cancer has surpassed breast cancer as the leading cause of cancer death among women. A similar situation now exists in Canada where lung cancer is now the leading cause of cancer death for Canadian women (National Clearing House on Tobacco and Health, 1995). In addition, smoking poses other unique problems for women; cervical cancer, prenatal mortality, earlier menopause, SIDS and low birth weight babies (Ashley,1983 ; Jacobsen,1982; Stacy et al, 1994). Women are most often the primary care givers for young children, therefore their smoking has a direct effect on the child through second hand smoke producing increased risk for allergies, asthma and other respiratory disorders.

In the 1990 update of the Background Paper on Women and Tobacco, Greaves identified three broad factors influencing women's smoking behavior. These are first , psychological factors (e.g. fear of weight gain, stress release) second, social factors (e.g. friends or partner who smoke) and third, physiological factors (addiction). Gulik, Hayes & Kennelly (1991) reported similar findings when examining women's smoking behavior. Reported core elements influencing smoking were, beliefs, socialability, stress, coping skills,

self efficacy, motivation, and nicotine dependence.

It has been hypothesized that women may experience greater difficulty than men to quit smoking (Greaves, 1990). Waldron (1991) reported inconsistent evidence that females experience more withdrawal symptoms than men when attempting to quit smoking. However, women tend to use smoking as a means to reduce stress which may impact negatively on the quitting process (Health Canada,1995). Women have also expressed more anticipated difficulty quitting, therefore increasing the likelihood of having greater problems in cessation attempts (Lando, 1991).

Adolescent women and smoking

The increased prevalence of smoking among mid to late adolescent Canadian women compared to young men is consistent with findings from other countries (Daly, Lund, Harty & Erstead, 1993; Health Canada, 1996; McGee & Stanton, 1993; Waldron et al, 1991). Many older adolescent females are now found to be in the early stages of adoption of smoking suggesting that the beginning stages associated with pre or early adolescence can also occur in later adolescence (Waldron et al, 1991). The health risks for these young women increase as they are moving into child bearing years.

Greaves (1990) calls for strong acknowledgement of gender specific issues for young females in relation to smoking behavior. These issues include poverty, abuse, violence and self image, all of which play a part in smoking behavior. The Health Canada (1996) Report on Women, Tobacco and the Media referred to several themes in the literature which provide an explanation as to why smoking is a problem for young women. These themes include the following: a desire to suppress appetite and control weight, a poor self image, a

desire to project a particular image, a reliance on an external locus of control, an effort to manage a perceived or real inequality and an effort to suppress negative emotions.

Jessor (1991) believed that risk behavior such as smoking ,in adolescence is functional, purposive and goal directed. Smoking helps to signify autonomy from parents and fosters peer acceptance. It is his belief that these goals are characteristic of ordinary development. Further, Jessor identifies domains which impact on an adolescent risk behavior. These domains include social environment, perceived environment, other behaviors (such as alcohol use) and biology or genetics. Lynch (1995) concurred, encouraging one to view smoking in a holistic framework, not as an isolated behavior. The perspectives of both authors have provided a framework when considering prevention strategies.

Additional factors impacting on adolescent female smoking have been identified. Winkelstein (1992) described four stages to become a regular smoker: first, is preparation and anticipation; second, is initiation; third, is learning or experimentation and lastly, is habituation and maintenance. An adolescent does not have to proceed from one stage to another, but there are several factors which determine the movement or lack of movement into smoking behavior. These factors fall into the following domains: the social (peers) domain, the interpersonal (need to belong) domain, the biological (addiction, weight control) domain, and the psychological (self image, mood control) domain (Byrne, Byrne & Reinhardt, 1995; Daly et al, 1993; Elkind, 1995; Glendenning, Schucksmith & Hendry, 1994; Greaves,1990; Waldron, 1991; Winkelstein,1992). Advertising and the media have emerged as an additional force on young female smoking behavior. The zest for a slim

glamorous appearance and the depiction by the advertisers and other media that those who smoke brand "X" will automatically achieve that dream have targeted an impressionable audience. Cigarette company sponsorship of sporting and music events has placed their names and logos before young women and young men on a regular basis (Nelson et al, 1995).

The 1995 Supreme Court decision to temper the ban on advertising of tobacco products which had been previously outlined in The Tobacco Control Act (1989) further increased messages through advertising to young people. However, recent efforts by government are attempting to once again curb advertising by tobacco companies. Legislative changes which reduced taxation on tobacco products eliminated one of the barriers to adolescent women purchasing cigarettes (Botvin, Goldberg, Botvin & Duensbury,1993; Stanton, 1996). Price has been cited by adolescents as a key variable in determining smoking rates (Nelson et al, 1995). Social policy initiatives such as smoke free areas in public places, non smoking school environments, and the modification of some of the advertising of tobacco products may have some impact on young women, however the tightened restriction on the sale of tobacco products to minors has not been all that successful. Adolescents freely admit that the purchase of cigarettes is not a difficult task (Spoke et al, 1996).

What is known about prevention

Prevention models of the past have not proven to be effective for long term cessation. The "just say no" message has been ineffective and naive in its approach (Jessor, 1991). In addition the single cause strategy focusing on information deficit or affect have not been sufficient to change most young people's behavior nor to deter those adolescents who are most likely to smoke

(DiClemente,Hanson & Porter,1996). School based prevention programs that have considered a wider array of variables on smoking behavior tend to experience short term success and their success diminishes over time (Flay et al, 1989). Health Canada (1995) identified that at risk youth do not benefit from school based programs, particularly in the manner in which the programs have been developed in the past. Instead, Lynch (1995) determined that a focus on the individual, locating where he/she is in their smoking behavior and how he/she can change their behavior would be the preferred strategy. Lynch 's views were supported by Winkelstein (1992) who suggested that adolescents are present focused, therefore prevention programs focusing on future health events have little meaning for them. School smoking prevention programs have not paid enough attention to students current and past behavior nor their specific reasons for smoking (Swanson, Monkowski, Peterson & Dinh,1992).

What is known about quitting

Research has addressed the reasons for starting to smoke in greater detail than it has addressed the reasons for quitting smoking. This is particularly the case for those who begin to smoke in later adolescence. (Women and Tobacco, A Framework For Action,1995). Health Canada's 1995 Survey on Smoking in Canada identified future health concerns (32%) and present health concerns (25%) as the reasons for quitting among adults. Among teenagers, cost was the predominant reason cited.

Quitting is the single most effective thing that smokers can do to enhance the quality and length of life. Across Canada 44% of those who have tried smoking continue and 56% have stopped. Youth tend to relapse more, succeed less when attempting to quit, but when motivated they move through the cessation

process more rapidly than adults (Spoke et al, 1996).

Young women,however, are not quitting cigarette smoking at the same rate as their male counterparts. From 1965 to 1994 the percent of current smokers among young males dropped from 55% to 26%, while for young women the percent dropped from 37% to 29%. The cessation process is impacted by biological, psychological and social / environmental influences. Nicotine is a powerful addictor and the reinforcing consequences of improved affect, improved performance, weight control, stress reduction and a facilitative environment significantly hinder the quitting process (Hemmingfield & Keenan,1993; McNeil, 1991; Pomerleau & Pomerleau, 1989). For adolescent women, the importance of body image and the perceived projection of independence that smoking brings compounds the problem of quitting. Smoking cessation is not merely a matter of will power, rather the individual must discover new ways of replacing the rewards which the smoking habit provides.

The stages of quitting

Prochaska and DiClemente (1992) identified several stages of change that people go through when quitting smoking or any type of addictive behavior. Progression through the stages should not be viewed as linear, instead smokers may recycle back through earlier stages as attempts are made to quit. The stages of change are :

- precontemplation- the smoker is not seriously thinking about quitting in the next six months (i.e. there is no intention to change behavior in the foreseeable future).

- contemplation- the smoker is seriously thinking about quitting in the next six months (i.e. there is an awareness that a problem exists and he/she is thinking about overcoming it, but has not made a firm commitment to action).

- preparation- the smoker is intending to take action in the next month and has unsuccessfully taken action in the past year.

- action- the smoker is modifying his/ her behavior, experiences or environment in order to quit. A successful action stage involves altering addictive behavior for a period up to six months. It means reaching a particular criterion such as abstinence.

- maintenance- the period beginning six months after action has started and continuing until the smoker can successfully avoid temptations to smoke. Maintenance may be a lifetime. Successful quitters make an average of three to four action attempts before they become long term maintainers (Prochaska, DiClemente & Norcross, 1992).

Several researchers have examined the stages of change as applied to adults quitting smoking (DiClemente et al, 1991; Prochaska, DiClemente & Norcross, 1992; Prochaska et al, 1994; Wilcox, Prochaska, Vilicier & Norcross, 1992). A major problem in efforts to impact upon the smoking population has been the failure to take into account the readiness of the individual smoker with respect to changing his/her smoking behavior. Rather than assuming that all smokers coming for treatment are ready for action, clients could be treated according to which stage they are in. The stages of change model could be

used to increase the effectiveness of smoking cessation programs and to maximize self help approaches (Prochaska, DiClemente & Norcross, 1992).

Specific evidence of the application of the stages of change to adolescents has only recently been addressed (McDonald et al, 1996). Cessation programs targeting adolescents have met the same lack of success that adult programs have experienced. Further research is necessary to understand the quitting process in adolescents. In turn, this would allow development of intervention strategies to assist young people to quit smoking according to the stage which they are in (Holtz, 1995).

Conclusion

Smoking continues to be a major health concern and potential catastrophic drain on health care dollars. While certain segments of the population are decreasing their tobacco use, adolescent women, particularly older adolescents are still the fastest growing group of new smokers (Health Canada,1996). There are grave implications for the health and well being of these young women as well as for future children that they may have. Prevention strategies and cessation programs to date have not proven successful for any long term period. Adults who experience addictive behaviors go through a series of stages of change as they attempt to overcome their addictive behavior. Beginning research evidence seems to indicate that adolescents do not follow the adult model of stages of change. Further understanding is needed of the factors associated with continuing to smoke or quitting smoking, and the interventions adolescents consider helpful in assisting them to quit smoking. Appropriate intervention strategies could then be developed and targeted to individuals.

Purpose of the study

The purpose of this study is to explore the smoking patterns and processes in late adolescent females and to explore factors which may or may not be helpful to assist them to quit smoking.

Questions to be addressed

1. What are the smoking patterns of late adolescent females who continue to smoke?
2. What are the smoking patterns of late adolescent females who have recently quit smoking?
3. What are the factors that contribute to late adolescent females continuing to smoke?
4. What are the factors that contribute to late adolescent females stopping smoking?
5. What factors do late adolescent females consider helpful to stop smoking?
6. What factors do late adolescent females consider not helpful to stop smoking?

Definition of terms

Current smoker-has smoked at least one cigarette per day for each of the last thirty days, and has smoked at least 100 cigarettes in her lifetime (Health Canada, 1994).

Former smoker-Smoked 100 or more cigarettes in her lifetime and has not smoked at all during the past six months (Definition developed for this study).

Factors- Forces (psycho-social), circumstances, or planned actions which impact on adolescent female smoking behavior.

High school- entering a phase of the secondary school years at grade nine or grade ten depending on the structure of the particular school, and is currently in grades 9 (10) to 12. (Definition developed for this study).

Late adolescent- young women who are 18 to 19 years of age (Definition developed for this study).

Smoking patterns- distinctive groupings of recurrent characteristics, qualities and behaviors of late adolescent female smokers (Definition developed for this study).

Smoking processes-the series of smoking actions or series of changes in smoking behavior taking place in a definite manner or course.(Definition developed for this study).

Stage of smoking- one of the five stages as described by Prochaska and DiClemente in relation to adult smokers i.e. precontemplation, contemplation, preparation, action or maintenance (Prochaska, DiClemente & Norcross, 1992). This staging may may or may not apply to adolescents.

Assumptions underlying the study

The following assumptions have been derived from the literature:

1. Individuals who choose to quit their smoking habit may go through a series of stages of change.
2. Intervention strategies focusing on a specific stage of change may assist the quitting process.

Research assumptions developed by the researcher include:

1. A climate can be established by the researcher to facilitate sharing of information by adolescents.
2. A sense of trust can be fostered between the researcher and the participant to allow sharing of information.
3. Adolescents can express a viewpoint on questions asked regarding their smoking behavior.
4. Adolescents will answer truthfully during interview sessions.
5. Adolescents have the capacity to reflect on tacit knowledge regarding their smoking behaviors and influences.

Summary

In summary, this chapter has provided background to the research problem, and presented various theoretical frameworks to describe smoking behavior. Issues have been presented surrounding women and smoking, with particular reference to adolescent women and smoking. In addition, an overview of smoking prevention, smoking cessation, and reference to stages of change when quitting smoking have been addressed. The purpose of the study was identified; as well questions to be addressed, definition of terms and underlying assumptions articulated. That is, the framework for the study to explore late adolescent female smoking patterns, processes, and intervention strategies has been introduced.

CHAPTER TWO

LITERATURE REVIEW

Introduction

The purpose of this literature review is to present an overview of the current literature dealing with smoking issues in general, women and smoking , and in particular the young female smoking population. Available literature from the fields of medicine, nursing, education, sociology, psychology and public policy have been examined. Analysis of this literature revealed that smoking remains the chief, single cause of death in our society and also the most important public health issue of our time (Greaves,1990; Surgeon General's Report, 1988). The incidence of smoking among adolescents is on the rise (Pierce & Gilpin, 1996). In particular, female adolescents appear to be turning to smoking in greater numbers (McGee & Stanton, 1993; Health Canada, 1995). Educational and legislative efforts to address the growing problem of adolescent smoking have not been successful in achieving a decline in the numbers of young women smoking nor in producing any significant long lasting cessation results. There has not been a significant amount of research addressing female adolescent smokers, particularly those who begin smoking in later adolescence. Only beginning stages of research are focusing on the stages of change in adolescent smoking behavior (McDonald, Lafreniere, Lawrence, McCaffrey, Silverman & Towson, 1996).

Many publications offered proposed theories and models regarding smoking behavior, however there were few studies employing these proposed theories. Research within the field of medicine has often been epidemiological in nature (Brownson, Alavanja, Hock & Loy,1992; Higgins, Enright, Kronmal Shenker, Anton- Culver, Lyles, 1993; Lung Health Study Research Group,1994).

Segments of the educational literature focused on health curriculum, design, content and demographic analysis of school age smoking populations (Abernathy & Bertrand, 1992; Eckhardt, Woodruff & Elder,1994; Lynch, 1995 ; Sarason, Mankowski Peterson & Dinh,1992). Literature from the psychology field reflects a behavioral focus (Pomerleau, Collins, Shiffman & Pomerleau,1993) while sociology research presents data on social norms (Elkind,1985). Public Policy literature addresses issues surrounding general public health factors, legislation, enforcement of laws directed at tobacco sales to minors, and advertising (Bartecchi, MacKenzie & Schrier,1995; Health Canada Report, 1996; Nelson, Giovino, Shopland, Mowery, Mills & Erikson,1995; & Townsend, Roderick& Cooper,1994).

Nursing research on smoking has focused heavily on the smoking behavior of nurses (Adriaanse, Reek, Zandbelt & Evers,1991; Harrison, O'Connor & Weaver, 1991; Hemenway, Solnick & Colditz, 1993; O'Connell,1990). Nursing literature which did address non nurse samples was descriptive of smoking behavior among specific groups such as youth (Conrad, Flay, & Hill, 1992; Daykin,1993), pregnant women (Stacy, Greer, Haas & Hellbusch, 1994), those individuals with specific illnesses (Stacy & Lloyd, 1990), and ethnic groups (Ahijevych & Weaver, 1993; Manfredi, Lacey, Warnecke & Buis, 1992). Literature from the field of addictions has looked at smoking in various populations. Specific reference was made to adolescent issues and variables which impact on their smoking behavior (Conrad, Flay & Hill, 1992; Glendinning, Shucksmith & Hendry,1994; McGee & Stanton, 1993). Health Canada provides numerous regular publications regarding a wide array of smoking subjects. For purposes of this study, those of particular interest targeted female and adolescent populations (Cigarette Smoking & Young

Women's Presentation of Self, 1996; Mixed Messages, 1996; Women & Smoking Cessation, 1996).

Many of the studies used large sample sizes and were totally quantitative in nature (O'Connor & Harrison, 1992; Pirie, Murray & Luepker, 1991; Stanton, Lowe & Silva, 1995). Others reported small sample sizes (Burgess & Hamblett, 1994; Ministry of Health Ontario, 1992). Few studies utilized biochemical measures to validate results and definitions of smoker and former smoker varied. This variation in definitions made it difficult to compare findings across studies. The use of substantial qualitative methodology was not evident. When qualitative methodology was conspicuous, it was utilized primarily in an anecdotal framework. The following literature review provides an overview of the findings to date.

Statistics on smoking

Throughout the past thirty years, medical research, education, government assessments (e.g. Health Canada Survey, 1994 & 1996; 1996 Manitoba Youth Smoking Survey from the Council For a Tobacco Free Manitoba), and public information campaigns have exposed the dangers of tobacco use as well as the resultant health and economic costs. These efforts have been associated with a substantial drop in the number of smokers. Over the past two decades, the decline among women has been 38% to 32%, and among men a decline of 62% to 35%. Yet , despite considerable scientific evidence and public education, the declining trend is leveling off. Of particular concern is the proportion of adolescents who smoke, specifically young females who appear to be turning to cigarette smoking in greater numbers (McGee & Stanton, 1993; Stanton, Lowe & Silva, 1995; Swan, Cressor & Murray, 1990). Increased

consumption of cigarettes is of global concern, with China leading the way with an 11% jump in tobacco use among all population groups (Bartecchi, MacKenzie & Schier, 1995).

The average age that habitual smoking begins is currently 14.5 years. Approximately 90% of regular smokers start before the age of 21 years. Health and Welfare Canada (1990) cite that 28% of Canadians age 15 and over smoke every day. Fifty percent of adult smokers report they were already smoking daily by age 18.One out of seven or 580,000 youth age 10-19 now smoke. As well it appears to be young women smokers whose numbers are rising. A recent Health Canada survey (1996) reported 23% of males and 24% of young females were smokers. These trends are mirrored in the United States, where the highest prevalence of smoking rates are in the 18 to 25 year old female population.

Cigarette smoking remains the chief single cause of death in our society (Greaves, 1990). In addition to being responsible for more than 85% of lung cancers, smoking is associated with cancers of the mouth, pharynx, esophagus, stomach, pancreas, and cervix. Thirty percent of all deaths from cancer are attributed to cigarette smoking (Bartecchi, Mac kenzie & Schier, 1995). Of further concern, is the link of smoking to heart disease and the resultant deaths. Twenty percent of all deaths among Canadians are tobacco related (National Clearing House of Tobacco & Health, 1995). Of concern for young people is the fact that of every one thousand who smoke, approximately five hundred will die from smoking if they continue to smoke.

Passive smoking, that is the breathing of side stream smoke or the smoke exhaled by a smoker poses a similar health risk. The Environmental Protection Agency in the U.S. has classified environmental tobacco smoke as a " group A"

carcinogen. A nonsmoker living with a smoker has a 30% higher risk of death from ischemic heart and lung cancer. These figures increase dramatically as the number of years of exposure and the number of cigarettes smoked increases (Bartecchi et al, 1995).

General theories on smoking behavior

The intense interest in smoking by researchers has resulted in the emergence of a variety of theories and models to explain smoking behavior. The variation in the explanations of smoking behavior underscores the complexity of the problem. For purposes of this study, the following theories/models will be briefly presented: behavioral/ conditional theory, cognitive theory, locus of control theory, Theory of Reasoned Action, a conceptual model of women's smoking, and Risk Behavior theory.

The 1988 Surgeon General's report asserts that addictive smoking is maintained for the direct positively reinforcing effects of nicotine, and/or the relief of nicotine withdrawal, or the alleviation of negative affect or stress response. Development of nicotine tolerance refers to the decreased responsiveness to the same dose of the drug leading to smokers exposing themselves to higher doses. After several hours of nicotine deprivation, such as overnight, tolerance decreases and a person is increasingly sensitive to nicotine's effects. Subsequently it is the first dose of nicotine that provides the most pronounced effect. Therefore, smokers often refer to the first cigarette of the morning as the best one of the day. Cellular and neurological adaptations that result in tolerance also result in the body's coming to need continued nicotine intake . At this point, the individual is said to be physically addicted or dependent (American Lung Association, 1987; Fagerstrom,1978; Henningfield

& Keenan, 1993). Fagerstrom's Nicotine Tolerance Scale is a classic scale utilized to measure the degree of nicotine addiction (DiClemente et al, 1991; Fagerstrom,1978).

Hemmingfield & Keenan (1993) support the Surgeon General's assertions. They describe cigarette smoking as a complex behavior that becomes conditioned by several types of behavioral mechanisms, including the powerful reinforcing effect of nicotine on the nicotine receptors in the brain, the effect of environmental stimuli to signal smoking, and the relief of negative withdrawal symptoms through further nicotine use. Pomerleau & Pomerleau (1984) concur with the behavioral/ conditional theory. They believe nicotine alters bioavailability of several behaviorally active neuroregulators yielding temporary improvements in performance or affect.

Bandura's social learning theory (1971; 1985) provides a further behavioral framework to examine factors related to smoking behavior. Variables identified in this theory include the following: positive outcomes of smoking, smoking to cope, general coping skills, and nicotine intake. In a study of 187 African American women using social learning theory, Ahijevych & Wewers (1993) identified variables with a significant correlation with nicotine dependence to be the following: positive outcome expectancies, avoidance coping, smoking to cope , and number of cigarettes smoked per day. This study was not representative of the general population. In addition, non random sampling within the ethnic group was a limitation.

Sensitivity to nicotine has been cited by some researchers as a factor explaining smoking behavior. Pomerleau, Shiffman, Collins and Pomerleau (1993) suggest innate sensitivity to nicotine may produce not only initial adversive effects, but also produces reinforcing consequences such as

improved performance or affect. In a facilitative environment, the smoking behavior will continue.

The Health Belief Model is representative of a cognitive theory. The model asserts that readiness to engage in health behavior arises from a perceived threat of disease generated from an individual's perception of their susceptibility to disease and also its' potential severity. The cue for action can be evoked by personal perception and motivation, or by information about health matters (Mullen, Hersey & Iverson, 1987). Smoking behavior then, in an individual or group will be influenced by belief systems and perceptions as identified by the model. This model is of particular relevance to smoking cessation programs and to nurses in practice and research concerned with health behaviors among their patients (Galvin, 1992). The Health Belief Model attempts to consider the individualized nature of smoking behavior. In addition, the model suggests that any attempt to influence smoking behavior should be based on knowledge of the smokers' motives and health beliefs.

Burgess and Hamblett (1994) examined locus of control in relation to smoking behavior. People who believe that they are largely responsible for their own destiny are thought to have an internal locus of control, where as those people who are described as possessing more external characteristics tend to believe that events in their lives are determined by luck, chance or powerful others. The authors cite further studies where findings reveal that smokers have a more external locus of control than non smokers (Clark, MacPherson & Holmes, 1982; Desmond, Price & Losh, 1987 in Burgess & Hamblett, 1994). In addition, those with an internal locus of control are more likely to achieve and maintain abstinence than are those with an external locus of control (Burgess & Hamblett, 1994).

A further theory, the Theory of Reasoned Action comprises health beliefs, personal factors, and social influences as variables affecting smoking behavior. External and internal variables underlie the decision to give up or to continue the behavior (Galvin, 1992). One's intentions, attitude toward a behavior, perception of social pressures to perform or not to perform the behavior, and beliefs about the outcome of performing a specific behavior all influence an individual's decision to smoke. A study with 56 hypertensive patients (Miller, Wikoff & Hiatt, 1992) was conducted to test the sufficiency of the variables of the model to predict compliance behavior for a regime which was asking clients to quit smoking. Sixty-one percent of subjects smoked. Pearson correlations among the variables tested, indicated that compliance behavior regarding smoking was directly influenced by intention, which in turn was influenced directly by attitude and motivation to comply and indirectly by the perceived belief of others, mediated by motivation to comply . Sample size was small and predominantly male, therefore inferences from findings must be interpreted with caution.

A conceptual model identifying core factors that influence women's smoking behavior was examined by Gulik, Hayes and Kennelly (1991). The core factors include seven internal elements; (beliefs/ attitudes towards smoking, socialablity, stress, coping skills, self efficacy, motivation and nicotine dependence), and one external element (support). The authors hypothesize that these core elements influence the outcome of the smoking/ ex-smoking process,initiation and development of smoking cessation and relapse prevention during a woman's life cycle.

For purposes of this study it is important to briefly note Jessor's (1977) Problem Behavior Theory. Jessor's theory is based on the premise that

problem behaviors are a part of normal adolescent development and play a significant role in the transition to adulthood (p. 37). Smoking is one such behavior which should be considered purposeful, goal oriented and functional rather than arbitrary or perverse (p.37). Problem behaviors serve a purpose to establish autonomy from parents, to gain peer acceptance, to cope with anxiety, to gain a sense of identity and to affirm maturity. A qualitative study by the Ministry of Health Ontario (1993) , although not based on Jessor's theory, does support his contentions. Findings gathered from interviews with a convenience sample of 30 youth reported that smoking is used as a source of meaning and definition of self, as a means of expressing adulthood, as a method of mood management, to establish differentiation from parents, and as a means of building bonds to others.

Women and smoking

Smoking has become a leading risk factor which results in the death of Canadian women (Health Canada Report on Research, 1995). Since 1993, lung cancer has been responsible for more deaths than breast cancer in women. These facts lead researchers to believe that the burden of smoking related illness is shifting to women (Prise, Murray & Leuphea, 1991). In a large sample (N=6711) followed from 1977 to 1988, the authors found more young women than young men (37.6% & 32.1%) began to smoke and were continuing the habit into adulthood (26.5% & 22.6%). Health Canada reports the number of female smokers in Canada has now reached 3.3 million. In addition, the overall prevalence of smoking among women has not declined as it has in other populations. Since 1991 the rate of smoking among women overall has stabilized at 29%.

This stall in women's smoking rates is alarming because of the additional unique problems smoking causes for women. The risk of circulatory and coronary diseases are higher among women who smoke. Health Canada (1995) in a report on high priority adolescent women cites a study by Katz (1993) of female nurses which revealed that the consumption of 14 cigarettes per day increased the risk of heart attack threefold. Further impacts of smoking on women include: increased risk for osteoporosis, earlier menopause, allergies, pulmonary disorders, cervical cancer, and prenatal mortality (Ashley, 1983; Greaves, 1990; Jacobsen, 1982; Stacy et al, 1994).

Smoking among pregnant women can lead to a series of health problems for their babies. Among pregnant women who smoke, 13% have underdeveloped babies; this proportion increases as cigarette consumption increases (de Gramont, 1986 in Health Canada Report on High Priority Adolescents, 1995). In turn, the incidence of SIDS, and respiratory ailments increases in those babies whose mothers smoke (Ashley, 1983; Stacy et al, 1994). Despite the risks, many women and their partners continue to smoke either because they ignore public education warnings, or because they are unaware of the dangers to their children and to themselves.

A descriptive study by Stacy, Greer, Haas and Hellbusch (1994) of 134 pregnant women drawn from a convenience sample at community and private obstetrical clinics investigated the beliefs about smoking and maternal/infant health. Smoking and non smoking mothers were compared regarding their beliefs about the impact of smoking on premature delivery, low birth weight, SIDS and miscarriage. As well, beliefs about low birth weight and poor infant health were investigated. From this sample, those who smoked were slightly younger and had slightly less education. No significant differences emerged in

beliefs between smokers and non smokers about smoking and low birth weight or delivery. A significant difference was found with respect to infant health. The respondents who smoked were significantly less likely ($p < .05$) to agree that low birth weight increases the likelihood of poor infant health, and were significantly less likely ($p < .05$) to agree that smoking during pregnancy increases the likelihood of SIDS. Limitations of the study included sample size and non probability sampling. The authors concluded that an analysis of beliefs held by people for whom a change in behavior is recommended would be an important component in designing intervention strategies.

To effectively understand the mounting issues surrounding women and cigarette smoking, it is necessary to examine the appeal that smoking has for women. The ASH (Action on Smoking and Health) Women and Smoking Group (1986) provide insight into women smokers. During meetings conducted throughout the United Kingdom, women described cigarette smoking as a means to reduce feelings of anxiety and anger, and as a way to avoid dealing with "uncomfortable" feelings. Fear of weight gain, the social pressure to be thin, dealing with the conflict of many roles and inequalities at work and home were expressed as reasons for the appeal of smoking as a stress manager. An ASH report (1993) subsequently supported these findings. In a comment referring to low income women, it was stated that although smoking is a health and financial burden, some women feel it is their one luxury. Smoking helps them to cope with the stresses of life. Daykin (1993) concurs, referring to smoking as a means for women to negotiate through the tensions of day to day gender and class inequality.

The media have played a role in the issue of women's smoking. Perceived social pressure to be thin and glamorous has been prevalent in society for

decades. As early as the 1920's, advertising campaigns were launched at women associating smoking with slimness and glamour. Slogans such as "reach for a Lucky instead of a sweet" and "Virginia Slims" all with glamorous women looking confident, secure, relaxed and slim have targeted the female population.

Advertising of tobacco products in Canada has had a precarious history. The Tobacco Control Act of 1989 significantly limited tobacco advertising. However, early in 1995 the Supreme Court ruled the previous limitations were to be struck down. In late 1996, legislation was once again introduced to curtail advertising by tobacco companies. Foreign publication advertising of tobacco products was not controlled, therefore women continued to be targeted by advertisers (Daykin,1993; Kyle,1990).

In a 1990 update of the Background Paper on Women and Tobacco, Greaves examined further factors to be considered when addressing the issues of women's smoking behavior. The author identified the three broad factors influencing women's smoking behavior to be; psychological, social and physiological in nature. Psychological factors include fear of weight gain, stress release, pleasure gratification, and support of an image. Social factors include, friends, family and partners who smoke, availability of smoking areas in the work place and advertising. Once an individual becomes a regular smoker, physiological factors begin to play a part in maintaining smoking behavior. The body accustoms itself to regular nicotine dosages. Greaves' findings are supported by Grunberg and Acri (1991), and the Ministry of Health Ontario (1993).

As part of a larger health status study, Chetwynd (1986) interviewed a random sample of 978 women aged 18 to 60 years to isolate the differences

between smoking and non smoking women on social and psychological variables, and to examine the differences in age groups. The structured questionnaire included demographic, social and psychological variables. Study findings concluded that female smokers were more likely than female non smokers to have mothers who smoked (31% of smokers compared to 20% of non smokers). This creates a concern due to the snowballing effect on future generations. A higher proportion (31%) of smoking partners was found amongst smokers than amongst non smokers (27%). Further findings suggested women smokers were generally rated as unhappier (18%) as compared to non smokers (11%, $p < 0.01$), and smokers were more likely to use other dependency type substances such as alcohol (33% & 18%, $p < 0.01$), and caffeine (16% & 7% $p < 0.05$). The major occupation of subjects was home based or child care reflecting sample bias.

In a qualitative study to investigate the subjective interpretations that women give to their smoking, Greaves (1990) interviewed 24 abused women in shelters and 26 self- identified feminists. No particular differences in themes emerged between groups. The major themes were: (1) smoking as a way to organize social relationships, (2) smoking as a way to create self image,(3) smoking as a way to seek control over emotional expression, and (4) smoking as a means of expressing self definition. A potential limitation of this study is the apparent assumption that self identified feminists could also not be abused.

Female smoking issues go beyond the individual and their immediate social environment. The feminist perspective looks to broader social factors which are influencing women's smoking such as segregation of women into low paying jobs with low control and high demand. As well many women are relatively powerless in their home and work environments (Greaves, 1990). Feminist

researchers view smoking not simply as a negative lifestyle choice but as a rational response to real pressures women are experiencing in todays' society (Daykin, 1993; Women and Tobacco a Framework for Action, 1995, p.20).

Women and quitting smoking

Researchers addressing the complex issues surrounding female smoking behavior have hypothesized that women have greater difficulty than men quitting smoking (Greaves, 1990). Blake et al (1989) found in a cross sectional survey of 1,669 current smokers, that women were generally less confident in their ability to quit smoking. Further, women were less interested in quitting than men and more likely to have made attempts to reduce their smoking rather than quit altogether. Women may perceive more barriers to quitting than men (Lando, Perie, Hellerstedt & McGovern, 1991), although, Waldron (1991) reports inconsistent evidence that females experience more withdrawal symptoms than men when attempting to quit smoking.

Women have tended to use smoking to reduce stress, control weight and to assist in dealing with day to day personal issues, thus making the thought of quitting less appealing. However, Jarvis (1984) examined literature from Great Britain and the United States and concluded that " sex difference in smoking cessation in the general population is more apparent than real" (p.387). In addition, statistics on gender differences in quitting must take into consideration the fact that men often give up cigarette smoking only to switch to cigars. This fact is not always taken into consideration when comparisons of gender smoking cessation is made. Jarvis (1984) states," It is therefore recommended that claims of a sex difference in ease of cessation should be regarded as quite unproven" (p.387).

In more recent research, Grunberg and Acri (1991) propose women may be more sensitive to nicotine and metabolize it differently than men, but conclude further research is necessary into how biology and smoking behavior are related. Nicotine regulation appears to be influenced by the menstrual cycle (Pomerleau, Pomerleau & Garcia, 1991). Women who began their attempt to quit smoking in the time between immediately after menstruating and the end of the menstrual cycle did less well than women who attempted to quit at different points in the cycle. (Pomerleau, Pomerleau & Garcia, 1991).

Difficulty in quitting may be tied more to women's socio-cultural environment than to intrinsic sex differences (Health Canada, Women and Smoking Cessation, 1996). Social policies which are creating conditions that lead to social service cutbacks, job lay off, violence, stress, and poverty are viewed as factors negatively impacting the smoking behavior of women (Womanly Times, 1995). It would appear that the findings are inconclusive that women have a more difficult time than do men in quitting smoking.

Adolescent women and smoking

The trend reflecting an increase in Canadian adolescent female smoking behavior is not unique to Canada. European countries, Australia, and New Zealand are also experiencing relative increase in smoking among young women (Waldron, 1991). Clearly the problems previously described for women smokers in general are also problems for young women. Smoking at such an early age puts them at even greater risk for respiratory ailments, cancer and reproductive problems. While few adolescents die of these disorders, it is during the teen years that tobacco use undoubtedly contributes to adult disease. Adolescents who are smoking by age 15 are more than twice as likely

to die before age 70 as those age 15 who never smoke (Morbidity & Mortality Report, 1996).

As young women move into child bearing years the problems associated with smoking intensify. Reproductive problems, miscarriage, premature delivery, low birth weight, SIDS and respiratory ailments in offspring are all issues which the young smoking pregnant mother may face. In a study to determine the patterns and correlates of gender difference in cigarette smoking using a large (N=6158) stratified sample, Waldron, Lyle and Brandon (1991) identified that many high school females were turning to smoking for the first time. This suggests that the trend to adopt smoking behavior at earlier junior high ages may also occur in later adolescence. Therefore the issues surrounding the health risks associated with smoking and reproductive factors are of additional concern as increased numbers of high school students turn to cigarette use.

Several factors have emerged from the literature to explain why smoking is a problem for young women. Greaves (1995) presents the following explanations for young women engaging in smoking behavior: a desire to depress appetite and control body weight, a poor self image or a desire to project a particular image, a reliance on an external locus of control, a feeling of powerlessness, an effort to cope with feelings of inequality, a sense of poor life prospects, and finally, an effort to suppress or numb negative emotions. Adolescence is a time of change and adjustment not only in physiological development, but also in social and cultural expectations. Therefore, smoking is often seen as a method of coping with these changes and adjustments. It is possible that young women who are less able to cope with the associated stress of adolescence are most likely to become smokers (Health Canada, 1996).

In two studies by the Ministry of Health Ontario (1992 , 1993), interviews were conducted with 30 and 178 subjects respectively. Samples were stratified according to their current and anticipated smoking behavior. Specific gender information was not provided. In summary, the study findings concluded smoking was used as a mood manager, as a means to project an image of worldliness, as a differentiation from parents, and as a means of building bonds to peers. All of the reasons to smoke were seen as very pragmatic to the teen (Ministry of Health Ontario,1992 &1993).

Winkelstein (1992) identified biopsychosocial factors which provide insight into the problem of female youth smoking. Four stages in the process of becoming a regular smoker are described. First, is preparation and anticipation, the second stage is initiation when the first cigarette is tried, the third stage is learning or experimentation and lastly is the stage of habituation and maintenance. Individual adolescents do not have to progress through each stage. The factors influencing the movement or lack of movement in the smoking behavior are : (1) biological (e.g. nicotine effects resulting in decreased anxiety, need for an increased sense of pleasure and increased alertness), (2) social (e.g. a need for camaraderie particularly with girls, as well as the influence of the mothers' smoking, and lastly, (3) psychological factors (e.g. an intention to smoke, increased stress, decreased self esteem, and inadequate coping skills).

DiClemente, Hanson & Ponton (1996) support the previous findings. Those at risk for smoking display a positive attitude to smoking, have an external locus of control, and have smoking models in their lives. In addition, young women smokers have been shown to experience poor academic performance and anti social behavior. Elkind (1995) described these young women as more

"deviant" than those who do not smoke. Jessor (1991) describes smoking for this adolescent group as functional, purposive and goal directed behavior. The smoking problem has a "web of causation" (p. 601) which includes: one's social environment (e.g. poverty), one's perceived environment (e.g. models for deviant behavior, over estimation of numbers who smoke), other risk taking behavior (McGee & Stanton, 1993)(e.g. drinking), one's personality (e.g. low self esteem) and biology/genetics (e.g. intelligence, family predisposition to risk behaviors) (Jessor, 1991).

Lynch (1995) interviewed nine males and ten females age 16 and 17, of whom seven were smokers and twelve were non smokers. The purpose of this qualitative study was to elicit personal constructs that young people have about smoking, and to identify variables which exist for those who smoke and those who do not smoke. Each subject was interviewed for one hour using a standard repertory grid technique. A common set of photographs was shown to each subject depicting people smoking in different situations. All subjects were asked, " why do you think these people in the pictures are smoking?" The resulting socio grid of non smokers indicated a fairly high degree of commonality, while non smokers were not a homogeneous group. Lynch concluded young people may be smoking for significantly different reasons and we must listen to them to develop a less rigid framework of beliefs when looking at adolescent smoking behaviors.

Factors impacting on young women's smoking.

Reference to psycho social factors impacting on young women's smoking behavior have previously been discussed in this literature review. Adolescent females are faced with additional forces in their lives and environments which

are playing a part in their decision to engage in smoking behavior. Although the initiation of smoking behavior is usually thought to occur in early adolescence there is evidence that some young women are taking up the habit in later teen years (Conrad et al, 1992; Daly, Lund, Harty, Ernstead, 1993; Swan et al, 1990).

In a cross sectional survey to explore the factors influencing the initiation of smoking among the later adolescent female population, Daly et al (1993) elicited a randomly selected probability sample of Minnesota women aged 18 to 30 years. One hundred and eighty case subjects (i.e. smokers who initiated regular smoking after age 17), and 167 experimenter controls (i.e. women who had smoked at least one cigarette but fewer than 100 cigarettes in their lifetime) were matched on age as well as urban or rural residence. Case and control subjects were similar in race and education. Subjects were queried on smoking by family and friends, acceptability of smoking to friends, involvement in school and work activities, church attendance, problem behaviors, and stressful life events. Characteristics of subjects found to have been associates with smoking during high school were : rare church attendance, poor grades, having a majority of friends who smoked, having a best friend who smoked, and having friends who found smoking to be very acceptable. Stressful life events were not found to be significantly related to late initiation of smoking behavior. The researchers believe that generalization of findings to a wider population is possible due to sampling strategies utilized. Results may not apply to areas with fewer smoking restrictions than those found in Minnesota. Association of rare church attendance and poor grades with an increased incidence of smoking behavior are consistent with clustering of problem behaviors

suggested by Jessor (1991), Conrad, (1992) and Landrine, Richardson, Klonoff and Flay (1994).

A framework for considering the complex nature of forces influencing young women's smoking has been proposed in Flay and Petraitis's Interactional Model of Health Related Behavior (1994) described in Best, Brown,Cameron, Manske and Santi (1995). Forces influencing smoking identified in the model include: cultural environment forces (e.g. knowledge, values, cost, media, attitude), personal forces (e.g. gender, disposition, academic skills, self efficacy), and social situation forces (e.g. peers, parents, teachers, social bonding, school policies, public policies).

Peer and family influence on young women's smoking has been the focus of recent research activity. Findings regarding the influence of parents on smoking behavior have been mixed. Wong, Fitzhugh, Westerfield, and Eddy (1995) concluded from findings in a study of teens 14 to 16 years (N= 6900) that smoking status of parents had little influence for males or females; however, perceived approval by parents was significant for both genders. These findings differ somewhat from Glendenning, Shucksmith and Hendry (1994) who found that young people's smoking was positively associated with parent's smoking. For late adolescent females, those from middle class homes where neither parent smoked were less likely to be regular smokers. Girls born to teenage mothers have been found to be more likely to become smokers (Stanton, Lowe & Silva, 1995); while Swan, Cressor and Murray (1990) in study in the United Kingdom following young people for a ten year period (N=6000) concluded that smoking by mothers in general was a significant correlate to girl's smoking.

Building on the work of Conrad et al (1992), Glendinning, Shucksmith and Hendry (1994) explored three domains influencing adolescent smoking. The

three domains included: social bonding, social learning, and the intra personal domain. The study was part of a national Scottish research project whose purpose was to develop explanations for the patterning of smoking in adolescents. With respect to the influence of peers, the findings supported previous research (Conrad et al, 1992; Stanton, Lowe & Silva,1995; Wong et al, 1995). That is, that young people's smoking is positively associated with their friend's smoking. This fact is particularly evident for females who see smoking as a social activity, thus making the impact of friends' smoking even more relevant (DiClemente, Hansen & Ponton, 1996; Swan, Cressor & Murray, 1990). Wang, Fitzhugh, Westerfield and Eddy (1995), utilizing odds ratio analysis examined findings from a 1988-1989 U.S. National Teenage Attitudes and Practices Survey (N=6900). Peer influence was evident in their findings with respect to young women's smoking. The strongest predictor by far for this group (age 18) was best female friend's smoking (29.5, $p < .05$), followed by best male friend's smoking (19.2, $p < .05$).

Additional variables associated with cigarette smoking are school attendance and academic achievement. Regular attendance at school and positive academic achievement are associated with less risk for smoking (Chessin, Presson & Sherman, 1990; Flay et al, 1994; Glendenning, Shucksmith & Hendry,1994). In addition, those involved in sports, extracurricular activities or clubs outside of school are also less likely to engage in smoking behavior.

The association of stressors in the lives of a convenience sample of a group of youth aged 13-17, and the decision to commence smoking was addressed by Byrne, Byrne and Reinhart (1995). Subjects (N=6579) completed an initial questionnaire on smoking behavior and its' determinants. A twelve month

follow up questionnaire examined smoking status as well as sources and extent of stress. Factor analysis yielded a seven factor structure. The stressors included those of 1) school attendance, 2) family conflict, 3) parental control, 4) school performance, 5) future uncertainty, 6) perceived educational irrelevance, and 7) opposite sex interaction. Females reported higher levels of stress in all areas except school attendance and opposite sex interactions. Rates of those converting from non smoker to smoker were higher for females as compared to males (13.1% vs 9.6%), in addition rates of those remaining regular smokers were higher for females as compared to males (12.5% vs 9.1%).

The authors concluded that although further investigation is necessary, it is possible that girls are more likely to experience and are more responsive to adolescent stress than boys. In turn, girls may be more likely to adopt behavioral responses such as smoking to help them cope with the stressors. The strengths of this study lie in the large sample size, and the use of actual smoking onset rather than only looking at present smoking status. Findings could be strengthened by a replication study on the same population post high school years to determine if reduction in the identified stressors altered their smoking pattern or process. However, new stressors may have subsequently emerged replacing former stressors.

Public policy/ legislation issues surrounding advertising, media, pricing, taxation, non smoking environments, packaging, and sale of tobacco products all play a part in the issue of young women's smoking patterns. Concern has been expressed that the trend reflecting an increase in young women smokers can be partially attributed to an impact from advertising (Nelson, Giovino, Shopland, Mowery, Mills & Erickson,1995). In a previous section of this

literature review, the targeting of the female population by advertisers was addressed. This impact is felt as strongly by young women as by the mature female population. In addition, tobacco sponsored events attended by young women such as sporting events and rock concerts provide an additional forum for cigarette advertisers (Nelson, Giovino, Shopland, Mowery, Mills & Erickson, 1995).

Although gender differences were not noted in a study conducted by Botvin, Goldberg, Botvin and Duensbury (1993), it is worthy to note that when adolescents completed a questionnaire whose purpose was to examine the impact of advertising on smoking behavior, exposure to advertising significantly correlated with reported smoking behavior. Adolescents who reported a high level of exposure to cigarette advertising were between 1.44 and 1.93 times more likely to be smokers than those who reported a low level of exposure. These findings are consistent with social learning theory concerning the power of attractive models in promoting the adoption of specific behaviors such as smoking. Models are repeatedly depicting that a specific behavior, i.e. smoking, can facilitate the acquisition of desired characteristics or goals (p.222).

Young women may be particularly susceptible to the advertising images that portray women smokers as trim, attractive sophisticated and independent (Greaves, 1990). Botvin, Goldberg, Botvin and Duensbury's (1993) findings can not be regarded as conclusive because of the nature of the study. Subjects were white middle class young people, therefore limiting generalization to other populations.

Strategies influencing smoking patterns

Strategies to influence the trends in adolescent smoking patterns have

included legislative initiatives. The Tobacco Control Act (1989) has been successfully challenged in the Supreme Court by tobacco lobbyists who wish to see changes in advertising regulations. In a recent response by government , several new initiatives have been put forward in a campaign to restrict the sale and advertising of tobacco products. Limitations will be placed on the following areas of advertising: cultural and sporting events, advertising on bill boards, buses, points of sale, and promotional materials such as baseball caps and items with logos.

Print advertising will only be allowed in publications with an 80% adult readership. This unfortunately will not affect the older adolescent population who will be reading many of the adult publications. Access to cigarette sales will be cut by eliminating vending machine sales, and through the requirement for photo identification for proof of age (Vending Machine,Winnipeg Free Press, November 29, 1996). Until recently, adolescents have freely admitted that purchasing cigarettes was not difficult in spite of a requirement to be 18 years of age under the Tobacco Sales To Young Persons Act of 1994 (Spoke et al, 1996).

Packaging has been an issue in the struggle to reduce teen smoking. Young people are intrigued by packaging (Spoke et al,1996) Generic packaging containing additional information about toxic substances and their health impact are to be mandatory. However, adolescents whose intention is to smoke are not generally affected by health warnings (McGee & Stanton, 1993).

Price has been a factor identified by youth as a deterrent to smoking behavior (Nelson et al, 1995; Townsend, Roderick & Cooper, 1994). Females are particularly sensitive to changes in the cost of cigarettes (Spoke et al, 1996). With a proposed increase in taxation on cigarettes, a potentially potent deterrent

to smoking may emerge. The increase in tax coupled with government regulation of the ingredients of tobacco products will hopefully impact on adolescent smoking behavior.

Smoke free areas in schools and communities may impact on smoking patterns. Limiting access to smoking outside of one's home places additional social pressure not to smoke. Because there is a social component to adolescent female smoking, as well as a need to socially conform (Nelson et al, 1995; Stanton , Lowe & Silva, 1995), increasing the social unacceptability of smoking in public places will hopefully impact on some adolescent women.

What is known about prevention

Prevention strategies have not produced consistent or long term reductions in smoking prevalence among adolescents in general nor among females in particular. Sixty percent of all current smokers began cigarette use by age 14, therefore many users are already addicted by late adolescence. Epps and Manley (1993) deduce that in order to reduce the prevalence of tobacco related illness, emphasis must be placed on preventing tobacco use in childhood and adolescence. The National Cancer Institute proposes steps which physicians and other primary health care professionals can institute to prevent the onset of tobacco use. The steps include : 1) anticipating the smoking risk associated with the child's developmental stage, 2) asking about tobacco exposure and tobacco use, 3) advising tobacco users to stop (i.e. parents who smoke) 4) assisting tobacco users to stop, and finally, 5) arranging follow up visits.

Prevention programs in the past have focused on providing youth with knowledge of smoking hazards. Information about future effects of current tobacco use have fallen on deaf ears. Adolescents are oriented to the present,

future health risks have little meaning for them. Providing accurate health information is still important, but this single strategy is not sufficient to prevent initiation of a smoking habit (Winkelstein, 1992).

The social inoculation approach, that is teaching young people how to resist the smoking habit has experienced some success with younger adolescent populations. Increasing general personal and social competence in a life skills approach assists teens prior to high school in developing strategies to resist risk behaviors. Expanding the social influences approach to include an understanding of the influence of media, peers, and advertising on smoking behavior, as well as providing skill development in assertiveness and decision making may assist older female adolescent to resist the need to smoke (Health Canada Fact Sheet, July, 1995).

An early study by Coe, Crouse, Cohen and Fisher (1982) examined the effects of a prevention program in two public schools with early adolescent youth. Classes were randomly assigned to experimental and control groups in each school. The prevention program focused on peer pressure to smoke, the role of media and advertising, and positive reinforcement in the form of a reward to the class that was most successful in reducing smoking behavior. Demographic data regarding smoking history, family history, other risk taking behavior and current smoking status were obtained. The two experimental groups received eight one hour sessions of the prevention program. Three weeks after the program ended, follow up questionnaires were administered to determine smoking behavior, expectations of future smoking behavior and attitudes toward smoking. In addition, students were asked to rate the degree of change in their attitude toward smoking, their opinion of smoking as "cool", and their desire to smoke. No significant differences were found on change of

attitude toward smoking between the experimental and control groups in either school. In one school there was a decrease in the number of those in the experimental group who viewed smoking as being "cool". A greater percentage of students in control groups than those in experimental groups (18% vs 9.4% & 21.3% vs 8.6% respectively) in both schools reported an increase in their desire to smoke. Data from the one year follow up showed the percentage of smokers was higher in the control group than in the program group in both schools. The authors concluded that the results of the study were such that the possibility of enduring smoking prevention is achievable. One is not able to infer if this type of program would be successful in other age groups, nor if findings are specific to only early adolescents. In addition, information regarding other subject risk factors was not provided.

Jessor (1991) is not as optimistic regarding the reality of achieving success with prevention programs. The author believes smoking serves a functional and purposive goal in youth. Those likely to engage in smoking will not be prevented in doing so unless a viable alternative is provided to take its place. Prevention strategies should perhaps be focused on an adolescent's lifestyle as a whole (Jessor, 1991). Programs that fail to engage multiple risk domains (i.e. environment, personality and behavior) are unlikely to generate successful or long lasting effects (Sarson, Mankowski, Peterson & Dinh, 1992).

Lynch (1995) supports Jessor's view of smoking as a transitional phase during growing up for some young people. Primary prevention may be an unrealistic goal for some youth, whereas early cessation might be more realistic. Health education models that accept the individuality and variation of different students may meet with greater success. Lynch (1995) further proposes a self reflective approach to health education and prevention curricula

to allow the development of personal beliefs and motivations rather than prescribed solutions. The most effective prevention educational approach is likely to be a" community oriented approach, as opposed to an evangelical model about the dangers of smoking. It will allow learning to occur in a positive social climate rather than in an artificial and pejorative teaching environment" (p. 105).

What seems to emerge from the literature is the need for a comprehensive, holistic strategy for prevention. Traditional approaches have not been successful. An individualized model coupled with health information, personal skill development, community focus and a recognition that ongoing follow up is required will assist in achieving prevention strategies which will experience long lasting success (Lynch, 1995; Sarson, Mankowski, Peterson & Dinh, 1992).

What is known about quitting

A significant portion of the literature reviewed addressed the issues surrounding the reasons for starting to smoke or continuing to smoke, where as the reasons for quitting smoking have not been significantly researched in the literature. Factors impacting on cessation have been addressed for adults, however, this is not the case for late adolescents (Spoke et al , 1996). It is known that quitting smoking is the single most effective thing that adult and adolescent smokers can do to enhance the quality and length of life (Health Canada, 1996). Those who quit smoking before age 50 have only half the risk of dying in the next 15 years compared with those who continue to smoke (Womanly Times, 1995).

For some adolescents, smoking may be a transitional phase suggesting a

focus on early cessation might be a realistic goal (Lynch, 1995). Unfortunately, teens underestimate the addictivness of nicotine and the difficulties associated with quitting. They tend to believe that it is harder for adults to quit than for young people (Spoke et al, 1996). Youth relapse more, succeed less, but move through the cessation stages more quickly than adults once they have made the decision to quit smoking (Spoke et al, 1996).

Price is the predominant reason given by teens who are choosing to quit smoking. As the price of cigarettes fluctuate, so may the adolescents' desire to quit fluctuate. Klein, Christen, McDonald & Christen (1984) determined that sustained motivation is the key to the quitting process. Therefore, additional motivation beyond the price of cigarettes needs to be provided to youth as incentives to quit their smoking habit. As teens move into adulthood, price diminishes as a motivating force and health concerns become more central to the desire to quit smoking (Women and Tobacco, A Framework for Action, 1995).

Health and Welfare Canada (1993) cite young women age 15 to 19 as lighter smokers and more likely to quit than any other age- gender combination. This would suggest that cessation programs which are age and gender specific in schools and communities would be appropriate to acknowledge teens who wish to quit smoking. In addition, because most smokers begin before age 18, cessation may be more important than prevention for this age group (Women and Tobacco, A Framework For Action, 1995). Klein, Christen, McDonald and Christen (1984) further suggest cessation program ineffectiveness has been due to brevity. They do not last long enough to allow potential quitters to shift from smoking behaviors to non smoking alternatives. The increased time is necessary because smoking is not only chemically addictive, but ritualistic

behaviors associated with smoking also become part of the smokers habit. The loss of these behaviors needs to be acknowledged and positively replaced (p. 45).

The majority of adult smokers who quit do so without the help of a smoking cessation program (Macnee & Talsma, 1995). Literature referring to adolescents cessation methods was not evident. However, if the adult experience was to be applied to the adolescent population, it becomes important to consider the self changer. Quitting smoking is innately stressful both because it targets existing coping mechanisms as well as creating new demands on the individual for which she does not have readily available responses (Macnee, & Talsma, 1995). For example, a young woman must give up using cigarettes to cope with distressful feelings or weight gain while at the same time deal with rejuvenated taste buds which may make it difficult to avoid overeating. Since exposure to stressful situations appears to increase the desire to smoke, the extent to which an individual experiences stressors associated with quitting seems likely to impact on their success at quitting.

Macnee and Talsma (1995) examined the stresses and strains associated with smoking cessation as predictors of initiation of the cessation process and the progress to complete cessation. Stages of cessation identified by Prochaska and DiClemente (1983) were utilized to establish the progression of the quitting process. (A detailed discussion of the stages of change will be provided in the following section of this literature review). A convenience sample of 157 smokers and recent quitters who met the inclusion criteria were recruited for this nonexperimental descriptive study. Sixty- three percent (n=80) of the subjects were female, age 18 to 69. Subjects completed a questionnaire at three time intervals. These intervals included; the time of

recruitment, one month later and six months following recruitment. Items in the questionnaire measured smoking cessation self efficacy and perceived barriers to smoking cessation.

Following the six month time frame, analysis of results showed that those with lower perceived barriers initially made progress through the stages of cessation. Further, a consistent pattern arose in terms of changes over time in self efficacy and barriers in those who were progressing, with this group significantly improving their self efficacy first, and then decreasing their perceived barriers. The findings suggest that smokers may need to work first on their self efficacy or beliefs in their ability to carry out behaviors to quit smoking. Once they have found they can carry out the behaviors needed , the next step might be to work on their perceptions of stress associated with the actual behavior, and perceived ability to cope with carrying out these behaviors on an ongoing basis (Prochaska & DiClemente, 1983, p. 246).

Although the sample was not randomly selected, and the methodology used was self reporting, the results do provide some insights into potential interventions to promote smoking cessation in self changers. An additional limitation in the study design was the failure to determine if the subjects were engaging in any formal cessation programs outside of the study during the six month period of the study. In spite of the limitations, this study identified the need to individualize interventions that may assist smokers move closer to successful quitting.

The stages of quitting

Attempts to assist individuals with addictive behaviors such as cigarette smoking to give up their habit poses a significant challenge to the

understanding of the process of change. That is, if interventions are to be effective in smoking cessation programs, a recognition of the process of change and application of appropriate interventions is necessary (Prochaska, DiClemente & Norcross, 1992). For sometime, the goal of health professionals when dealing with individuals who were practicing unhealthy behaviors was to move people from the chronically unhealthy behavior to stable healthier behavior. Change was seen as moving from one stable, unhealthy state to a stable, but healthier state. Such a dramatic shift did not represent the way that people change. It led one to believe that people change behaviors quickly. That is not the case, people do not change chronic behavior in a short time frame (Prochaska, 1989). Self change smokers generally report three to four serious attempts to quit smoking before they successfully quit the habit. Prochaska (1989) recommends continuous outcome measures as a means of gauging progress toward quitting smoking, consequently, developing the notion that change involves movement through a series of stages.

Prochaska, DiClemente and Norcross (1992) describe the Transtheoretical Model (Prochaska & DiClemente, 1983), which is an integrative, comprehensive model of change. Further studies have demonstrated the reliability and validity of the components of the model (DiClemente et al, 1991; Prochaska & DiClemente, 1983; Wilcox, Prochaska, Velicer & DiClemente, 1985). The model is built on four basic inter-related factors. These factors are described by the following statements: 1) quitting does not happen in one step, people progress through five stages on the way to successful change, 2) movement through the stages occurs as people utilize processes of change, 3) progress through early stages is dependent on particular shifts in the person's decisional balance, i. e. how they see the pros and cons of smoking

and quitting, and 4) initiating and maintaining cessation requires a sufficient sense of confidence or self efficacy in one's ability to carry out the actions required to change.

The stages of change model includes five stages of change as one progresses to smoking cessation (Holtz, 1995; Prochaska, DiClemente & Norcross, 1992). The first stage is **precontemplation.** In this stage,there is no intention to change behavior in the foreseeable future. The time frame, " foreseeable future" is usually considered to be within the next six months as that is as far as most people plan a specific behavior change (Prochaska et al, 1994). Nor is there any interest in any kind of intervention; rather, those in this stage tend to defend their current smoking. Smokers can be in this stage for several reasons: discouragement about previous quit attempts, lack of awareness about consequences of smoking, pleasurable experiences that smoking provides, positive feelings about the image that being a smoker portrays, or the belief that they are too addicted to quit. These individuals tend not to discuss their smoking with others.

The second stage is **contemplation**. In contemplation the smoker seriously thinks about quitting sometime within the near future, usually within the next six months. Those in this stage are more aware of the personal consequences of their smoking and spend more time thinking about their smoking as a problem. However, there is an ambivalence about quitting. They may doubt that long term benefits associated with quitting out-weigh short term costs. This can result in long term contemplation. On a positive note, this is the stage where individuals begin to identify personal strengths and barriers to quitting smoking. They are more likely to be open to receiving information about smoking and to reflect on their own thoughts and feelings concerning smoking (Holtz, 1995).

In the **preparation stage**, individuals have made a quit attempt of at least 24 hours in the past year, and are seriously thinking about quitting in the near future (usually defined as 30 days). Individuals see the cons of smoking outweighing the pros, and they are less ambivalent about quitting. Small steps have been taken to cut down the number of cigarettes smoked.

The **action** stage, sees people actively involved in taking steps to change their smoking behavior. It is usually about a six month period. This is the stage of change when smokers are at greatest risk for relapse. They are not only open to receiving help, but also believe they have the ability to change their smoking behavior. Plans are made to deal with pressures which may cause them to relapse, and rewards used to sustain motivation (Holtz, 1995).

The final stage **maintenance** is the period from six months after an overt behavior change until the desire to smoke is no longer present. It involves being able to successfully avoid any temptation to return to smoking. This stage may last a lifetime. Situations where relapse may occur are anticipated and coping strategies are prepared in advance. The individual is patient with him/ herself, recognizing that change in chronic behavior takes time. If individuals relapse and have a cigarette, they don't see themselves as failures; rather, they will analyze why they slipped and develop new coping strategies (Holtz, 1995).

The literature occasionally refers to a sixth stage, that of "termination" (Prochaska, 1989). However, the sixth stage is not traditionally identified as part of the model (Holtz, 1995). Relapse is viewed in the model as a normative event. The majority of people do not follow a straight path to maintenance. Those who relapse return to a previous stage of readiness to change and remain in the change process (Prochaska, DiClemente & Norcross, 1992).

In addition to the five stages of change, Prochaska and DiClemente (1983) have described ten processes of change which individuals reflect as they progress through the stages. Anything that an individual does to modify behavior, emotions, thoughts or relationships related to one's smoking behavior is an example of a process of change. Different stages reflect different processes, both in type and intensity of use. There are two main types of processes of change: experiential and behavioral. Experiential processes are those that involve changes in the way people feel and think about their smoking. Behavioral processes are those which involve individuals actually changing aspects of their smoking behavior (Holtz, 1995). Usually, the processes of change utilized in early stages of change are experiential, while those utilized in the later stages are behavioral. In other words," before people actually make a quit attempt, they are making significant changes to thoughts, feelings and attitudes they have about their smoking. Then, they reach a point where they start to behave differently" (Holtz, 1995, p. 7).

Experiential processes include : 1) consciousness raising - things people do to increase awareness of smoking as a problem, 2) dramatic relief - when a person experiences a strong emotional reaction to events associated with their smoking, e.g. a friend develops a smoking related illness, 3) social liberation - awareness of circumstances in the environment that provide alternatives to smoking behavior, e.g. seeing fewer people smoking in social situations, 4) self reevaluation - a reappraisal of personally relevant reasons for quitting, and 5) environmental reevaluation - an awareness of the impact that one's smoking has on others (Holtz, 1995; Prochaska &DiClemente, 1983).

Behavioral processes include: 1) self liberation - choosing behaviors that support cigarette smoking cessation, e.g. eating healthy , 2) counter

conditioning - replacing smoking with a substitute behavior, 3) stimulus control - removing smoking cues or avoiding triggers to smoking, 4) reinforcement management - rewarding oneself for not smoking, and finally, 5) helping relationships - seeking the support of others (Holtz, 1995; Prochaska & DiClemente, 1983). Realizing that smokers use particular processes of change in specific stages of change, provides a framework for stage appropriate intervention strategies. That is, giving individuals the kind of help they need when they need it.

An additional factor identified in the Transtheoretical model is the concept of decisional balance. Decisional balance is defined as the relative importance an individual gives to the advantages and disadvantages of quitting smoking. The balance changes across the stages of change. In precontemplation, disadvantages of quitting smoking exceed advantages. During contemplation, the advantages increase, while the preparation stage reflects the time when advantages outweigh disadvantages. In the action stage, disadvantages of change decrease while advantages remain relatively constant. In turn, the decisional balance of the action stage continues to grow and this growth is reflected in the maintenance stage (Holtz, 1995).

Successful smoking cessation has been linked to ones' confidence in their ability to quit (Prochaska & DiClemente, 1983). This factor is referred to as self efficacy. As the temptation to smoke goes down, the confidence in one's ability to quit goes up. Therefore, self efficacy is lowest in precontemplation and positively progresses to its highest level in the maintenance stage.

The Transtheoretical model (Stages of Change) has provided the framework for studies of problem behaviors beyond the area of smoking (Prochaska et al, 1994; Prochaska, Norcross & DiClemente, 1994). Recently, the Stages of

Change have been applied to education of diabetic individuals, HIV/ AIDS programs and weight loss programs (Prochaska, Norcross & DiClemente, 1994). In an earlier study, Prochaska and DiClemente (1983) applied the model in a cross sectional design study of self changers who were in one of the five stages of change. Based on the results of a questionnaire, each of 872 individuals in a convenience sample was assigned to a group of one of the five stages of change. Subjects were interviewed and completed a questionnaire every six months for a two year period. Questions were asked to determine current stage of change, as well as to identify processes of change being used. A multivariate analysis of the processes of change for the data was significant, $F(1,40)=11.199$, $p < .001$. ANOVAS indicated that there were significant differences in how frequently groups used each of the 10 processes of change. As predicted from the Transtheoretical Model, subjects in the precontemplation stage used processes of change the least (eight out of ten) Once in the contemplation stage, subjects were more likely to respond to feedback and to education. In addition the contemplators reported increased reevaluation of themselves. During the action stage, subjects used counter-conditioning , stimulus control procedures, and helping relationships. It was interesting to note that those in maintenance experienced less reinforcement from others, although they continued to use stimulus control measures to counter temptations to smoke. Reports from the maintenance group has implications for the need for ongoing support during later cessation stages.

The researchers concluded that assumptions cannot be made that all smokers coming for treatment are ready for action. Rather,the Stages of Change Model suggests the smoking population is made up of several identifiable sub-populations (Prochaska & DiClemente, 1983). Understanding

these sub-populations and the process of quitting smoking is essential for health care professionals to ensure the facilitation of appropriate intervention strategies for specific stages of change (Prochaska & DiClemente, 1983)..

Findings from this earlier research have been replicated in recent studies (DiClemente, Prochaska, Fairhurst, Velicer, Velasquez & Rossi, 1991; Flava, Velicer & Prochaska, 1995; Prochaska et al, 1994) further supporting the stages of change model.

Stages of change and youth

The research regarding the application of the stages of change model has focused on the adult population. The youngest subject identified in studies reported in this literature review has been 18 years of age. No complete studies were found addressing the quitting process reflected in the adolescent population. It is only recently that beginning research has addressed the question of the application of the Stages of Change Model to adolescent smokers (McDonald, Lafreniere, McCaffrey, Silverman &Towson, 1996).

In an abstract reported at the Second National Conference on Tobacco or Health (1996), McDonald et al indicated a series of studies had been conducted in which one component entailed the testing of the validity of the Stages of Change Theory with adolescent smokers. The findings from tests with these adolescents failed to provide support for the original Stages of Change Model. Results were only able to reliably identify three stages in the adolescent sample: 1) those not thinking of quitting in the next three months, 2) those who have remained smoke free for at least 30 days, and 3) all other smokers and ex-smokers. The authors concluded that the results suggest the Stages of Change Model which was originally developed for adult populations is not

appropriate for use with adolescent smokers. In addition, it was suggested the types of processes and motivating techniques that should be employed at each stage was not clear (McDonald, Lafreniere, Lawrance, Silverman & Towson, 1996).

Justification for engaging in this research

Research has demonstrated that tobacco use has serious health consequences for those who use it. This fact is underscored by the Health Canada Report (1995) citing tobacco as the leading killer of Canadian women. Young women have been identified as the fastest growing group of new smokers (Health Canada, Report on Cigarette Smoking and Young Women, Presentation of Self, 1996). In fact, although based on a small sample, Manitoba has been found to have one of the highest proportion of young smokers in the 15 to 19 age group (Health Canada, January 27, 1995) Yet, gender specific research examining factors influencing smoking initiation, maintenance, and cessation behaviors of adolescents is lacking (van Roosamien & McDaniel, 1992). In particular,late adolescent female smoking behaviors are not evident in the literature (Women and Tobacco, A Framework For Action, 1995). Spoke et al (1996) determines that "adolescent smoking has been the subject of very little systematic research" (p.23). This fact, coupled with Greaves' (1990) call for research focusing on young women, as well as the statistical evidence of smoking trends in this female age group, provides a compelling argument for research in this area.

Qualitative research methodology coupled with demographic data will not only provide information but will facilitate Lynch's (1995) assertion that researchers must investigate young people more, and must listen to what they

have to say, thus enabling health professionals to act precipitously, to develop appropriate intervention strategies (p. 104).

This study will facilitate an understanding of factors mitigating in adolescent female smoking patterns and processes. In addition, if it can be identified that the Stages of Change Model applies to this age group, it will allow for the planning of appropriate intervention strategies to meet the serious implications of the smoking trends.among young females.

Summary

In summary, this literature review has identified areas of concern surrounding smoking behavior. Substantive areas include: 1) the grave public health problems associated with tobacco use (Greaves, 1990; Health Canada, 1995), 2) the need to address the growing problem of young women taking up the cigarette smoking habit (McGee & Stanton,1993; Stanton, Lowe & Silva, 1995), 3) identification of factors impacting on women smokers in general (Ashley, 1983; Greaves, 1990; Jacobsen, 1982; Stacy et al, 1994), and on young women in particular (Byrne, Byrne & Reinhardt, 1995; Dunster &Lecker, 1995; Winkelstein, 1992), 4) exploration of strategies to help deter teens from smoking, curtail smoking behavior, and to encourage cessation (Botvin, Goldberg, Botvin & Duensbury, 1993; Nelson et al , 1995; Spoke et al, 1995), 5) an examination of knowledge to date concerning prevention (Flay et al , 1989; Jessor, 1991; Lynch, 1995), 6) an examination of research findings to date on quitting smoking (Hemmingfield & Keenan, 1993 ;Women and Smoking,A Framework For Action, 1995), 7) a review of current theories explaining smoking behavior, and the stages of change when quitting smoking (Ajzen & Fishbein, 1980; Bandura, 1971 & 1985; Burgess & Hamblett, 1994; Prochaska

& DiClemente, 1983), and finally, 8) the application of the stages of change to adolescents (McDonald, Lafreniere, McCaffrey, Silverman & Towson, 1996).

The literature clearly identifies smoking as a major area of concern in the adolescent female population. Much of the research pertaining to adolescents has focused on younger adolescents, with little attention to those in the older teenage years. Theory development in the area of smoking behavior has demonstrated the behavioral / conditioning factors associated with tobacco use, primarily in the adult population (Bandura, 1971,1985; Pomerleau, Shiffman, Collins & Pomerleau, 1993).

Cognitive theory considers beliefs and values, which pertain to adults, however, these factors also have relevance for youth (Macnee & Talsma, 1995; Winkelstein,1992). The core elements proposed by Gulik, Hayes & Kennelly (1991) influencing adult women smokers could be equally relevant for youth, although that population was not the research focus. Locus of Control theory (Burgess & Hamblett, 1994) addresses one component of adolescent smoking behavior, it is not an integrated theoretical explanation of the smoking habit.

On the other hand, Ajzen and Fishbein's Theory of Reasoned Action has attempted to address a wider array of factors, which have also been supported by Galvin (1992). Jessor (1991) is one theorist who has addressed the adolescent population specifically in the Risk Behavior theory. His theoretical perspective seems to have some merit, however it is not comprehensive in nature. Prochaska and DiClimente (1983) have explored the stages of change in addictive behaviors in the Transtheoretical Model, Stages of Change Theory. However, early findings do not support the application of the original five stages to the adolescent population.

Theory development in its present state has not been specific to gender, nor

embraced the adolescent population. In addition, theory development has not reflected a comprehensive, integrated framework within which to design the research that will address the needs identified in this study. That is, research focusing on late adolescent females, their smoking patterns and processes, as well as information to develop appropriate intervention strategies. A framework allowing for the consideration of smokers as a heterogeneous group, will facilitate the consideration of individual requirements of young women as they move toward smoking cessation.

Conceptual basis for the study

Symbolic interactionist theory provides an overarching framework for this study. Symbolic interaction is an approach to the study of human conduct (Chenitz & Swanson, 1986). How individuals define the meaning of a situation will in turn guide their behavior. Blumer (1969) describes three foundational components of symbolic interaction. These three components include: first, that humans act on the basis of the meanings that things have for them. Second, the meaning of things arises out of a social interaction with others. Finally, meanings are dealt with and modified as a result of a process of assessment used by the individual in dealing with things he/she encounters. Humans learn the definition and meaning of events through social interaction (Chenitz & Swanson, 1986). The researcher describes behavior as it takes place in natural settings, and attempt to understand the behavior of participants as the participants understand it. That is, understanding events in their world from the participants perspective. This overarching framework provides a conceptual basis for the exploration of the smoking patterns and processes of late adolescent females.

Conclusion

Smoking is a growing health concern for young women today. The number of smokers in this particular population group is continuing to increase. Intervention strategies have not been successful in deterring those choosing to smoke, nor in turning those already smoking away from the habit. Research such as that proposed in this study will focus attention to a population under-represented in the literature to date. Through heightened understanding of the smoking patterns and processes of young women, appropriate intervention strategies may be developed to meet their specific needs. Successful intervention will aid in reversing the current smoking trends in this population, and in turn, prevent the human, financial and health costs associated with long term tobacco use.

CHAPTER THREE

METHODOLOGY

Introduction

The following chapter will present the methodology for this study as well as the details and implementation of the research design. The methodology and research design are directed by the purpose and nature of the study and are chosen to fit the unique character of the problem to be studied (Polit & Hungler, 1991). Research may be conducted using qualitative, quantitative or a combined approach. The qualitative researcher attempts to attain rich, real, deep, and valid data,while the quantitative researcher aims for hard, replicable and reliable data (Leininger, 1985). Quantitative methods require knowledge of the phenomena in order for tools to be available to measure the phenomena. In contrast, qualitative methods are flexible and somewhat unstructured, capturing reports and observations (Brink & Wood,1989).

Methodology

An ethnographic qualitative methodology was chosen for this study. Ethnography has been chosen over other methodologies because it facilitates the study of a group's own perceptions regarding their behavior. The purpose of the study was not to generate theory as in a Grounded Theory approach, nor to understand a human experience as in Phenomenology. Rather, the purpose was to focus on the views of the adolescent participants.

A quantitative component was utilized for analysis of some data, as well as for demographic purposes. Qualitative research stresses a holistic view, one

that is concerned with humans and their environment. This methodology is useful when little is known about an area of interest. It allows the researcher to generate hypotheses, and to understand relationships and causal processes (Polit & Hungler,1987). Ethnography is a way of gathering, reporting, and analyzing the ways in which informants sort the meaning of their world (Aamodt, 1991). Leininger (1985) further clarifies the ethnographic approach by describing "mini" ethnography. A mini ethnography focuses on a specific or narrow area of inquiry. The subjects of the research are informants from whom the researcher will gain knowledge and understanding (Brink & Wood,1989). Leininger (1985) states that the ethnographic approach is beneficial for nursing research when the intention of the researcher is to learn about an experience that has not been adequately studied or to gain fresh insights, the objective being to obtain "thick" description (Morse,1991).

The purpose of this study was to explore the smoking patterns and processes of late adolescent females and to identify factors which may or may not assist their quitting smoking. This is an area that has not been studied in any detail utilizing a qualitative approach. A qualitative, ethnographic methodology provided the means to gain a deeper understanding of late adolescent female smoking behavior and processes from their perspective.

Design

The literature addressing smoking patterns and processes of late adolescent females and information exploring their views regarding effective intervention strategies is limited. Therefore, there is a need to investigate their experiences and to enrich existing knowledge. An exploratory- descriptive design was

chosen to address the questions posed in this study. At the exploratory-descriptive level of research little or no prior research has addressed the specific areas under question. Prior research may have been done, but in populations other than the one under study, or because of recent happenings a re-exploration is indicated. All of these descriptors of exploratory- descriptive design are pertinent to this study.

Sample

Late adolescent females ages eighteen and nineteen who were attending high school were the population for the study. The subjects were recruited from six high schools in three school divisions within the city of Winnipeg. The study sample was selected through purposive sampling technique. Subjects included current smokers, and former smokers (those who have quit smoking within the last six months). Exploratory design calls for small samples that are chosen through a deliberate process to represent the desired perspective (Brink & Wood, 1991). The goal being to recruit informants with knowledge of the research topic (Morse, 1991). That is, subjects are chosen for their ability to inform the study. Subjects in this study were adolescents who had experience with smoking.

The determining criterion for establishing sample size in qualitative research is to allow the achievement of sufficient, complete and relevant data (Morse, 1991). Leininger (1985) suggests that 10-15 key informants can constitute a desired sample number. For purposes of this study a sample of 25-30 subjects was sought to provide for a reasonable opportunity to achieve a sample of smokers who exhibited a variety of smoking patterns.

Inclusion criteria were :

1. female 18 and 19 years of age.
2. attending high school full time or part time.
3. started to smoke (a) after entering high school (b) in junior high school.
4. current smoker or former smoker (as per definition identified for this study).
5. able to understand verbal and written English .
6. consent to participate.

The researcher attempted to enroll approximately equal numbers of students who began to smoke in high school , and those who began to smoke in junior high school.

Exclusion criteria were :

1. younger than 18 years of age.
2. not attending school full time or part time.
3. never smoked or only briefly experimented with smoking.
4. unable to understand written or verbal English.
5. do not voluntarily agree to participate.

Setting

Six high schools in three urban school divisions were selected to recruit participants. The high schools were public educational institutions with a wide array of ethnic and socioeconomic mix. The size of the schools ranged from a population of two hundred to one thousand students. All of the schools were in a suburban region of south east Winnipeg.

Recruitment

Three main approaches to recruiting students were conducted. These

approaches included: 1) notices distributed, posted on bulletin boards, 2) face to face recruitment in classrooms, and 3) face to face recruitment in places in the school where students informally gathered e.g. school cafeteria and library.

The process for recruitment occurred as outlined in the following three ways. (1) Notices (Appendix A) for recruitment purposes were posted on bulletin boards, throughout the schools. The notices had tear off portions with the researchers' phone number. Included on the notice was the time and location of meetings with the researcher for any students who were interested in hearing more about the study. School secretaries made announcements over the public address system to remind interested students of the meeting time and place. During the meetings with the researcher, each participant's age was confirmed, as well as their smoking status, and verbal consent was obtained. Written explanation of the study was provided (Appendix B). In addition, follow up times for interviews were established for girls interested in participating in the study. At the time of interview, written consent was obtained (Appendix C).

(2) Face to face recruitment occurred in classrooms at the end of the class without the teacher in the room. This strategy allowed the teacher to introduce the researcher, then exit the room. Following a verbal explanation of the study which was part of the scripted invitation to participate (Appendix D), students interested in participating in the study were requested to come directly to the researcher's office. This immediate contact allowed for age and smoking status confirmation, as well as attainment of verbal consent and an opportunity to establish an interview time and answer students' questions. Written consent (Appendix C) was obtained at the time of the interview. The researcher then exited the classroom having instructed interested students to pick up written explanations of the study (Appendix B) as they left.

(3) Face to face recruitment of students in places where they gather was less formal, however, a scripted invitation to participate (Appendix E) was used. Following a verbal explanation of the study which was included as part of the scripted invitation to participate (Appendix E), each student's age and smoking status were confirmed, and verbal consent obtained. Students had the opportunity to set interview times and pick up written explanations of the study (Appendix B) at that time, or at the researchers' office at a mutually convenient time. Written consent (Appendix C) was obtained at the time of the interview.

The particular recruitment protocols utilized from the above list were discussed with each school administrator. Permission had been received from all three divisional superintendents to conduct the research. The details of accessing student volunteers varied from school to school depending upon the wishes of the administrator. Key issues for the methods of recruitment were the assurance of voluntary subject participation, the absence of teacher/ administrative coercion, and the assurance of no penalty for non participation.

Data Collection

Interview appointments were made with volunteer participants. Interviews were conducted at the school in a private location. Morse (1991) identifies the need for flexibility when utilizing adolescent subjects. The interview sessions took approximately thirty to forty minutes. Prior to beginning the interview, written informed consent was obtained from each participant (Appendix C). Participants were of legal age, therefore able to sign consents negating the requirement for parental consent. One participant was seventeen almost eighteen, and smoked at home with parental knowledge. Following consultation with the chair of the researcher's thesis committee and the school

administrator, permission was given to allow this student to sign her own consent to participate in the study.

Following the interview, a short questionnaire (Appendix F) was administered (see below). An interview guide (Appendix G) was used to gather data during the 30 to 40 minute semi structured interview (see below). The total time for the interview was approximately forty- five minutes.

The semi structured interview approach serves two purposes. First, it provides the researcher with a common framework for each interview thus assuring that important areas of data collection have been addressed. However,it still allows the latitude for participants to reveal what is important to them. Interviews are effective in eliciting perceptions and feelings as well as allowing the researcher to clarify responses that are not completely understood (Wilson, 1989). All interviews were tape recorded and transcribed for later analysis. An assistant was hired to transcribe all tape recorded interviews. This individual was instructed regarding the purpose and methodology of the study as well as the requirements for confidentiality of the data (described below).

Field notes recording theoretical, methodological and personal notes (Schatzman & Strauss, 1982 in Wilson, 1989) were written during the interview or as close to the interview as possible. Theoretical notes reflect observations inferences, and conjectures. Methodological notes are instructions to the researcher, critiques of oneself, and reminders about methodological approaches. Finally, personal notes record the researcher's reactions and experiences during the data collection process.

If students requested information on smoking cessation, contact information was provided to them (e.g. Manitoba Lung Association programs).

Instrumentation

Interview guide

The main data collection method was a semi structured interview guide (Appendix G). Questions developed for the interview guide emerged from the literature as well as from the the Health Canada 1996 publication Cigarette Smoking and Young Women's Presentation of Self. An interview guide ensures commonality of key questions from one interview to another. In addition, the guide provides a system to facilitate movement from grand tour questions to more specific issues of interest (Leininger, 1985). The interviews presented direct questions as well as opportunity for spontaneous commentary. This method assists in achievement of the goal of "thick" description. Questions and probes were designed to determine smoking patterns and processes as well as to obtain information pertaining to factors which may be helpful or not helpful to assist adolescent females to quit smoking (see Appendix G).

Questionnaire

In addition to the main data collection method (interview guide Appendix G), information was also collected using a questionnaire (Appendix F) taking 5 to 6 minutes to complete. Questionnaires serve the purpose of identifying subject characteristics which can later be incorporated in the data analysis (Brink & Wood, 1991). Items for inclusion in the questionnaire were derived from three sources: (1) modification of questions from the 1996 Manitoba Youth Smoking Survey, 2) the Stages of Change model by Prochaska, DiClemente and Norcross (1992) in Holtz (1995), and 3) modification of questions from the Fagerstrom Nicotine Tolerance Questionnaire (Fagerstrom, 1978).

The 1996 Manitoba Youth Smoking Survey was utilized to determine the

smoking habits and patterns of youth in Manitoba. Questions explore demographic data, smoking history and patterns, as well as friends' and family smoking patterns. Specific questions from the survey which are pertinent to this study were chosen for this questionnaire. Some of the questions were modified for purposes of this study. Questions #1 to #12 (Appendix F) were developed from the Manitoba Youth Smoking survey. Data obtained from this portion of the questionnaire provide information about participant characteristics and smoking patterns.

Question #13 of the questionnaire (Appendix F), attempts to determine the stages of change in smoking behavior of a participant. The response items are from Holtz (1995), and reflect the stages of change found in the Transtheoretical model (Prochaska, Norcross & DiClemente, 1992). The questions mirror definitions of the stages of change as described in the Transtheoretical Model. They have been utilized by researchers to determine the stage of change in smoking behavior (DiClemente et al, 1991; DiClemente, 1992; Holtz, 1995; Prochaska, 1992).

The Fagerstrom Nicotine Tolerance Questionnaire (Fagerstrom, 1978) is a classic tool designed to measure physiological dependence on nicotine. The questionnaire is an eight item scale, and combines responses about the smoking habit to create a measure of addiction. Higher scores indicate a higher level of dependence on nicotine. Scores can range from 0 to 11 points, with zero indicating minimum physical addiction and 11 points maximum physical addiction. This scale was utilized to determine the strength of addiction of participants. Fagerstrom (1978) indicated all questions appear to have face validity.

Data Analysis

Quantitative data analysis was carried out. Demographic data (e.g. age, grade level), smoking history, and other variables were presented using descriptive statistics. Tables were used to illustrate smoking patterns and characteristics of the sample.

All interviews were tape recorded and transcribed verbatim using wide margins to facilitate the coding process. Analysis occurred simultaneously with data collection. Content analysis was achieved through the system of "open coding". Strauss & Corbin (1990) define open coding as the process of breaking down, examining, comparing , conceptualizing ,and categorizing data (p.61). Open coding involves applying conceptual descriptors to data, then grouping these descriptors into categories. Strauss (1987) describes the development of categories as dimensionalizing distinctions which leads to categories. Once categories have been created, then the properties of categories are developed. The properties are concrete features of something that can be conceptualized allowing specific description for analysis purposes (Strauss, 1987).

The researcher initially thoroughly read each transcript in its entirety for content and general impressions as well as to review the process of the interview. The transcript was then reread to identify preliminary codes before proceeding to the formal coding process. Each transcript was hand coded in detail. Codes from each interview were entered on a master list of codes and sub-codes. Categories were built from the codes and sub-codes, with properties of the categories then being delineated. The goal was to discern major smoking patterns and processes in late adolescent females and to determine factors which were helpful or non helpful in the cessation process.

The thesis advisor reviewed the coding process as it progressed to provide for validation with the researcher.

Measures to Enhance Rigor

To ensure the integrity of qualitative research studies, measures are undertaken to enhance the rigor of the research process. This rigor is determined by assessing the study's trustworthiness (Lincoln & Guba, 1985). Criteria to establish trustworthiness for purposes of this study include credibility, fittingness, auditability and confirmability (Chalmers, 1992; Glasser & Strauss, 1967; Lincoln & Guba, 1985; Sandelowski,1986).

Credibility refers to the ability of the researcher to present descriptions and interpretations of participant's experience such that people having that experience recognize it as their own. Credibility in this study was enhanced through (a) informal member checking throughout the interview process, (b) validating emerging concepts during subsequent interviews, (c) triangulation of data using multiple informants, questionnaires, interviews, and data interpretation by researcher plus advisor, and (d) debriefing with an advisor who had expertise in this area.

Fittingness refers to the " fit" of the findings into other contexts outside the study situation as well as the fit of the resulting data to the original data source. In this study " fittingness" was addressed by providing examples directly from the interviews and by line by line analysis of the transcripts. A thorough description of the subjects and sampling procedures facilitated the applicability to other contexts.

Auditability refers to the consistency of analysis of the findings. A detailed description of decision making processes was provided enabling other

researchers to follow the processes used in this study. In addition, the thesis advisor, a researcher experienced in this methodology and content area examined the coding process, identification of categories and properties to establish that consistency existed.

Finally,confirmability or neutrality refers to the freedom from bias in the research process and product. Confirmability is achieved when credibility, fittingness and auditability are established (Chalmers, 1992, p. 6; Lincoln & Guba, 1985). In this study the criterion of confirmability was addressed by meeting the criteria as described above.

Ethical Considerations

Researchers have a responsibility to protect the rights of individuals participating in a research study. Polit and Hungler (1987) describe three major ethical principles which researchers must follow. These principles include; beneficence, respect for human dignity and justice (p. 45). In this study, human rights were protected by the following strategies : (a) approval to carry out this study was given by the University of Manitoba Faculty of Nursing Ethical Review Committee, (b) informants were provided with a verbal and a written explanation of all aspects of the study, (c) participation in the study was strictly voluntary and subjects were able to withdraw at any time without penalty, (d) subjects were informed that refusal to participate would in no way affect their school record , (e) interviews were conducted at the informants' convenience to prevent any disruption to their school or personal life, (f) informants were able to choose not to have the interview tape recorded, (g) confidentiality was assured through identification of individuals by code number, and only the primary researcher had a list of informants , (h) all transcripts were identified by code

number only, names were not transcribed, (i) list of the informants names was kept in a locked file away from the data, (j) transcripts were kept in a locked file cabinet away from lists of informants names; only the researcher, her thesis committee and transcriber had access to the transcripts, (k) confidentiality was strictly upheld; the transcriber was briefed on all matters of confidentiality, i.e. non disclosure of any information found in the transcripts that she was transcribing, (l) school personnel had no knowledge of who participated in the study, and finally, (m) following the completion of the research study, all tapes, transcripts and questionnaires will be stored in a locked file cabinet for seven years.

Limitations of the Study

1. The demographic characteristics of the respondents in this study may not have been representative of all late adolescent female smokers and former smokers.
2. Adolescent respondents may not have fully disclosed to the researcher.
3. The design of the study resulted in an imbalance of groups identified in the inclusion criteria, e.g. current smokers, former smokers, those starting to smoke in junior high school, and those starting to smoke in high school

Conclusion

This chapter addressed the methodology and research design used to study the smoking patterns and processes of late adolescent females and to explore intervention strategies which may or may not be helpful to assist them to quit smoking. Specific information regarding sample selection, setting and methodology of data collection was presented. Instrumentation has been

described, as well as a detailed description of proposed methods for data analysis. Measures to enhance rigor were outlined, and finally, limitations of the study were identified as well as ethical considerations.

CHAPTER FOUR

FINDINGS

Introduction

In this chapter, the findings of the qualitative study examining the smoking patterns and processes in late adolescent females are presented. In the first section, a description of the sample is introduced. The description of the characteristics of the sample will be followed by an elaboration of the qualitative data analysis. Tables exhibiting quantitative data will accompany the qualitative data where appropriate. The four major categories and accompanying properties that emerged from the data will be presented.

Description of the sample

The sample consisted of 25 adolescent females, age eighteen and nineteen who were currently attending six respective high schools. Twenty-three of the young women were 18 years of age, one was 19, and one was 17 almost 18 years of age at the time of the interview. Twenty two participants were in grade twelve, and three were in grade eleven. In general their self perceived school performance was average as compared to others in the same grade At the time of the interviews, twenty-three of the adolescents were currently smoking, while two had recently quit smoking. The age/grade level of initial exposure to cigarette smoking varied. Twenty percent (n=5) began experimenting in elementary school (ages 10 &11), 48% (n=12) began in junior high school (ages 12 to 13), and 32% (n=8) began experimenting with cigarette smoking in high school (ages 14, 15 & 16). Of those interviewed, regular smoking behavior in elementary school was reported by only one participant, while six began

smoking regularly in junior high school (grade 7 & 8). Eighteen participants interviewed began to regularly smoke in high school (grades 9 & 10). All of the sample interviewed had begun to smoke prior to grade eleven. Demographic data are presented in Table 1.

Table 1. Demographic Characteristics

Current Age		Current Grade	
17 almost 18 years	1	Grade Eleven	3
18 years	23	Grade Twelve	22
19 years	1	Total	25
Total	25		

Smoking Status		Perceived School Performance	
Currently smoking	23	Better than average	8
Recently quit smoking	2	Average	15
Total	25	Below average	2
		Total	25

Start Smoking Stage:	Elementary School	Junior High School	High School	Total
	5	12	8	25
Regular Smoking Stage:	1	6	18	25

In addition, participants' level of nicotine addiction was measured with the Fagerstrom Nicotine Tolerance Scale. The scores of five girls was seven out of a maximum level of eleven. This number on the scale indicated a high degree of dependence on nicotine. The remaining participants measured summary scores of three to six on the eleven point scale.These figures represent a low to moderate level of nicotine addiction as outlined in the Fagerstrom measurement

scale (See Table 2). Sixty percent of the girls smoked cigarettes with a medium nicotine content, with a daily rate of one to fifteen cigarettes. Ninety percent of participants always inhaled when smoking, with many young women (60%) finding the first cigarette in the morning the most satisfying one of the day.

Table 2 Fagerstrom Nicotine Tolerance Scale Summary Scores

Summary Score	Number of Participants
1	0
2	0
3	4
4	2
5	6
6	6
7	5
8	0
9	0
10	0
11	0
Total	23 +(2 Former smokers)

Major findings

The qualitative data analysis led to the development of four major categories. Each category was then found to have related properties (See Table 3). The "start story" emerged as the first major category in the data. This initial category described the participant's perceptions of the start of their cigarette smoking behavior. Properties related to the start story were: a) fitting in, b) image, c) peer influence, and d) family influence. The second category arising from the

analysis was the "smoking story". The smoking story described the period of transition from experimenting with cigarettes to becoming a regular smoker. This category included the following properties: a) a regular smoker, b) perceived benefits, c) symbolism/meaning, d) regrets, and e) addiction.

The third major category related to the "quit story". Participants described a desire to quit smoking, as well as a history of attempts to alter their smoking behavior. Properties evolving from the analysis referred to: a) start-stop behavior, b) road blocks, and c) quit assists. The final category was described as "looking to the future". The adolescents thoughts about the future as it related to their smoking behavior reflected two properties. The properties were: a) being smoke free, and b) pregnancy and children.

In the following section a detailed discussion of the major categories and properties is presented. Throughout this chapter excerpts from the transcripts are presented to illustrate the findings. Tables representing quantitative data associated with the interview discussion will be included where appropriate.

Table 3 MAJOR CATEGORIES and PROPERTIES

START STORY	SMOKING STORY
Fitting in	A regular smoker
Image	Perceived benefits
Peer influence	Symbolism/meaning
Family influence	Regrets
	Addiction
QUIT STORY	**LOOKING TO THE FUTURE**
Start -stop	Being smoke free
Road blocks	Pregnancy and children
Quit assists	

Start Story

The start of the smoking life of the adolescents interviewed emerged at various time frames (See Table 1). Despite the age at which experimentation with cigarettes began, there were prevailing properties in the start story which the young women relayed. The start story described intrapersonal and interpersonal factors occurring in the life of the young female as she began to discover cigarette smoking. Personal issues of needing to belong , that is to fit into a social network were consistently reported. There was a perceived notion of wanting to portray the right image which was often translated in their language as being "cool". Significant others played a role in the adolescent's budding smoking behavior. Peer influence, and the risk behaviors associated with adolescents and their peers was evident. Finally, family smoking habits as well as family relationships were cited as significant factors in the start stories of those interviewed.

Fitting in

Adolescence was described as a time of change, insecurity and pressures. The prevailing thoughts were to be "cool", not to be apart from a group but instead to belong to a social network. For many at this age, a move to a new school or neighborhood was a traumatic time enhancing an already present necessity to be part of a group. One girl described the move to a new neighborhood as resulting in a strong desire to impress her new peers:

> I had moved from my first area where I had lived for about eight years and then I moved to ..... and I guess that is when

> it (smoking) really started. ... I guess it could have been from the change of crowd and I wanted to impress this crowd.

Another girl referred to the parties she went to at the new school. Her smoking began, "just to get in with the crowd". In these new situations there was a sense of desperation to fit in:

> I felt like I was outside of everyone else, wasn't really with them. I saw a couple of other people smoking. I was like maybe, I can fit in with this group. It was like, I don't know how to explain it. It was like now I'm part of something.

> The popular girls at the school all of them smoked, and I really wanted to be accepted by them. I had never been popular at school. Like back at elementary school. I did it to be accepted.

Low self esteem particularly in early adolescence was reflected by one participant as feeling worthless. She wanted to belong, "I didn't have many friends, I was a loser." Girls expressed the insecurity they felt at this time of their life which seemed to contribute to the significant need to fit in:

> Girls are a lot more insecure than guys are. Guys have their studliness (sic) to keep them going. But girls are insecure about how they look and how they appear to other people. I hate that.

Several young women articulated the feelings of pressure that come with adolescence. The pressures may vary from early adolescence to late adolescence. However, the need to be liked and to be part of the crowd, that is to be accepted was pervasive at all times with the participants interviewed:

> ...pressure. A lot of pressure with school, guys, anything just trying to be somebody, trying to look good, try to be good. Try to have people like you and stuff (sic) like that.

Even those who may not have particularly wanted to smoke were perceived by others as using smoking as a means to fit in. It was a way to fulfill the deep need to belong and to be accepted:

> Well in today's society it is a lot harder for kids to be accepted for who they are and you know like in some cases they just want to fit in so maybe that would be a reason. .... that is probably one of the biggest reasons people do smoke because they need to fit in.

> ...people I see out on the smoking pad they came to school and they don't smoke and the next day they're smoking all of a sudden. And you wonder why? I think that is why (fitting in).

Image

Coupled with the need to fit in was a universal desire to be " cool," particularly in the early adolescent start story. "They want to be cool around the

big kids you know." The statement that "I was cool" or that "I felt cool" was evident in almost every interview when discussing early smoking behavior. The "coolness" factor was perceived to have faded somewhat in high school for some participants. They expressed the sentiments that being "cool" was no longer an issue for them, however, as participants recalled their early smoking experiences, image was the prominent memory:

> We felt cool because nobody else was smoking. I was cool. If you didn't smoke you weren't cool.

An additional factor in the start story emerged, that is, a need for individuality as part of an image. One girl expressed a need to be different in her pursuit to be cool in order to fit into a school environment:

> I was always the kid that was picked on. In grade eight I moved to a different school and nobody smoked there so I kind of did it to be different. To kind of like say 'I'm different and I'm proud of it'.

The issue of image moved from being "cool" in early adolescence to one of wanting to reflect an aura of maturity in the older adolescent stage. Now it became a feeling of looking older and taking on a "new" look:

> You feel older too when people see you smoking. When I was flying back from .... by myself I met a bunch of guys. I needed a cigarette because it was an eight hour flight. I walked into a place that was a bar and they all thought I was twenty, I was only

> sixteen. They thought I was of legal age to smoke. People always guess I'm older because I'm smoking.

One young woman described the notion of glorifying the image of herself as a smoker:

> I almost glorified the idea of you know like being seen standing alone having a cigarette. It's kind of something that I see myself as. It was some kind of an image.

> I used to portray like smart, geekie (sic), like a nice person. Smoking changed that image a lot. People still think I'm nice and everything but smoking it adds to my image. It sounds cheesy but it's just when people know me as a smoker.

Although the perception of image changed somewhat from early to later adolescence, the connection of image and fitting in was prevalent among all those interviewed.

Peer influence

In addition to image, peers also played a role in the early smoking behavior for the younger adolescent as well as for those who began smoking early in high school. Because friends were smoking it became a natural progression for many of those interviewed to also experiment. Curiosity was peaked as those around them smoked. Others would encourage the participants to try it. One girl stated, "I met some people and they just told me it was cool and I should try

it." She didn't like it but her friends were smoking, so she started "buying packs and stuff (sic)":

> I think it was at the end of grade seven and it was in the summer and we were at a party. I did the old thing, I did it to be cool because all my friends were doing it. It was actually quit disgusting and I coughed my lungs out. But that's how I started.

Peer pressure was expressed as a fact of life for adolescents. "It's just a whole pressure thing, pressure coming in from every direction all at once and you like snap." It appeared that many girls fell into smoking because their friends were doing it, and they felt the pressure to conform:

> I just started, like going to her house and she already smoked and we were like good friends, so me and her went out and started. I'm very stubborn, but I started because everybody else was.

> I started in the summer and it was sort of off and on, then I became friends with C., A. and J. and they all smoked. I think it was really because I was hanging around with them.

Adolescence was portrayed as a time of trying out new behaviors. For some young people, beginning to smoke coincided with dabbling in other risk behaviors. "I started drinking with my friends and yeah (sic) I kinda (sic) started."

One girl expressed the notion that these behaviors come at the same time:

> I guess I first started experimenting with guys around then too, and it is close to when I lost my virginity too and stuff (sic)like that. I guess that it all comes in together.

Another wasn't sure that her troubles resulted from smoking, but they did seem to coincide:

> I stole my dad's car and I was drinking a lot. I got into some things I wasn't sure about too fast. I don't think smoking leads to drugs, but that is what I think happened.

Family influence

A final component of the start story is the influence of family. Forty percent of those interviewed had at least one parent who smoked, while twenty percent had two parents smoking. Many of the siblings smoked (64%) as well (See Table 3).

Table 4 Family Members' Smoking Patterns

Mother smokes	40%
Father smokes	40%
Mother and father smoke	20%
Sibling smokes.....	64%

The modeling by parents created an environment that not only made smoking

appear to be a normal behavior, but in addition provided an opportunity for access to cigarettes and a desire to emulate the behavior:

> My whole family smoked so it was kind of something I was brought up with. So it was kind of, I had to almost. It was almost a normal thing to do. Where as not smoking wasn't.

One participant liked the way her mom looked when she smoked, "that is basically why I just wanted to try it. I watched what she did and I wanted to do that." Family smoking also facilitated accessibility to cigarettes, particularly for younger adolescents who did not have the money to buy them. "My mom left her smokes lying around so I had a frequent supply":

> Eventually my brother started missing a couple out of his package. I wouldn't take like a whole bunch. I'd take like two and hide them and he'd wonder 'where are my cigarettes going?' Till eventually he caught me in the back yard puffing.

In addition, for those who were starting to smoke in high school, part time jobs provided more available money to buy cigarettes. As well, the teenager had more freedom and was often home alone enabling them to smoke more readily:

> You could never really smoke when you were in junior high at school or at home. Once I got into high school I started going to parties where there was a lot of smoking. My parents were out a lot so I could smoke in the house.

Relationships with parents were referred to in three of the start stories as precipitating factors for needing to rebel or defy parental authority. One girl saw smoking as a means "to spite my parents you know because we were getting into a lot of arguments." Another girl referred to smoking as a way to gain control from parents as well as to rebel:

> I think for me it was just a way of having some part of control over my life cause at home I had no control. My mom controlled everything I did. So it was just a way to release my tension and anger and ultimately end up hurting her.

> I knew it was bad and I shouldn't do it because it was bad, but I did it anyway. So maybe it was kind of a rebellion. Rebellion against something.

In the younger adolescent years, adolescents had been sensitive to upheaval within the family. The girls spoke of family stress and disruption in the family as creating situations which impacted on their starting to smoke:

> Everything was really down hill then, I don't know if it influenced me into smoking. It's possible, because since it was a stressful time in my family and they all smoked. I guess I just did it then too.

> I was really stressed out at the time because my whole family was breaking up and everything. I had gone to a party and they were all having a smoke.

They said it would relax me so....(referring to trying a cigarette).

In summary, the initial contact with cigarette smoking as described by the young women interviewed comprised the start story. Their experiences were varied. However, the common properties of a desire to fit in, a need to exude an image of being cool, mature or different, combined with peer and family influences all played a part in starting these adolescents on the road to becoming a regular smoker.

Smoking Story

Experimentation with cigarettes progressed to a regular pattern of smoking for all participants. There was a tendency of increased use of tobacco over time as they progressed to become regular smokers. The perceived benefits attained from cigarette smoking are explored in a second property. These perceived benefits were powerful motivating factors to continue smoking. In addition, certain symbolism/meaning was attached to the adolescents' cigarette smoking. A further property which emerged in the smoking story was one of regrets. The young women interviewed had been smoking long enough to develop a perspective on their habit. As such, they readily expressed a degree of remorse and lament for their smoking behavior. Lastly, was a profound recognition of the addiction they were engaged in. Powerful metaphors described the realization of the control which nicotine had on their lives and on their bodies.

A regular smoker

As the young females interviewed developed a pattern of regular use of

cigarettes, the number of cigarettes they were smoking grew accordingly. The rate varied with circumstances. One such circumstance was the smoking environment at school (See Table 5) Of those who were allowed to smoke in a designated place at school, forty-four percent (n=11) felt that this rule had made no difference to their smoking rate, while thirty-two percent (n=8) indicated that they smoked more. For those who were not allowed to smoke at school not even in a designated place, two participants stated that this no smoking rule had not impacted on their smoking rate, while one participant had cut down on the number of cigarettes smoked. One girl proposed that " maybe if we had a rule not allowing us to smoke at school that some people might smoke less, especially the younger kids in high school."

Table 5 Impact of High School Smoking Rules on Rate of Smoking

n=23 current smokers

Smoking allowed at school		Smoking NOT allowed at school	
No difference	11	No difference	2
Smoke more	8	Cut down	1
		None of the above	1

The ever increasing use of cigarettes and the variation with circumstances was further reflected by the following comments from those interviewed:

> I've smoked more since I began. There is probably times when I have smoked a pack a day, but then I think it has lessened now. It was less, then heavier, and now it is less.

> They remained the same for a long time and then I noticed a big change cause my packs would last for a shorter period of time. I wondered what was happening and then it would pop into my head, I must be increasing.

> I don't know I probably smoked one or two a day at first. My mom used to give me three a day or like seven smokes a day. Now it goes up and down. Like when lots of stuff's (sic) going on I'll smoke a couple of packs a day. Now I'm at half a pack a day.

> At first I wasn't smoking that much, and then I went for a couple of years when I smoked a pack a day. Now I leave my cigarettes home when I come to school. Now I'm not so bad, it just depends on the situation. If I'm under a lot of stress that day I'll smoke a lot more. It's usually in social situations that I smoke lots more.

The time frame of transition from casual tobacco use to regular use varied. Some girls reported a quick transition to significant use, while others gradually adopted the habit. This variation was reflected in two participants' recollections. "It increased drastically, it was like maybe half a pack a day and now it is at least a pack a day." Another girl described her transition this way:

> When I first started smoking I barely smoked. It was basically to support my friends' habit and you know to feel cool. Then I started to smoke more once I actually started smoking later, and I guess I smoke right now about a pack a day.

It just depends on the circumstances.

As girls moved to regular smoking, cigarettes were the tobacco product that participants overwhelmingly reported smoking. Other products such as cigars or colts were used only occasionally in a social situation, "for fun at the bar." Only two girls reported smoking colts on any regular basis, and then it was in social situations with friends.

Perceived benefits

The girls interviewed quickly perceived that cigarette smoking opened some doors for them. It provided a way to connect with others, to "break the ice" in new situations and to make new friends. Smoking became a social event, especially for those who could smoke outside at school. It was a means to develop a social network of friends. The other smokers were perceived as being very approachable, particularly if you were also a smoker. For those who may have been new in a school, the smoking area was a less intimidating place to connect with other people. You had a reason to be there and an excuse to start a conversation with the question "can I borrow a smoke?" It offered that dreaded opening line:

> I like a lot of the kids out there (the smoking pad). It is really funny I have made a lot of friends from hanging out at the smoking pad from going out and having a smoke there. You meet a lot of people because people are very social, smokers are social to other smokers. It is a weird, odd, close society that no one will ever understand

unless you're part of it.

It starts a conversation, even if you don't know the person. Maybe not a conversation but you smoke and so do I kind of thing, a connection.

It is kind of a great way to meet people like if you see someone like wow (sic) he is kind of cute. You see him smoking and you go up and ask him for a cigarette.

I met all those people on the smoking pad. You ask them for a cigarette, you pay them back, you start a conversation.

I would see people going out the smoking doors all the time. Then I met someone else and they smoked and then well I smoked but not as much. Then I started with the smoking crowd and I made so many friends at the smoking place. Instantly, within a week I had so many friends and it is kind of a social thing. Can I bum a smoke? Can I get a light? Then you start a conversation.

Smoking became a vehicle to bond with peers. "You have something in common right away." One girl saw smoking as a unique shared experience with others who smoked:

It is something you all share. Non smokers never understand it. But there is a bond that you kind of have with other people who

> smoke because it is something you share. It's a social pariah that you all share.

This sense of unique bond set the smokers apart as being different from their peers. One participant viewed smoking as a means to be accepted and to connect with this unique group:

> Some girls that I know smoke because it is something to get into a group. If you look at the people that hang around with the people that smoke it is sort of like one group, and then there is another group, the ones that don't smoke. And the ones that are the ex-smokers and sort of like you smoke stay away type thing. Like group acceptance.

A further benefit denoted was that cigarette smoking provided "something to do" when bored. It filled in some gaps when there was no one else around. Cigarettes were described as "their buddy" or as "their friend". They became something to count on even if there was not anyone else available:

> It doesn't taste good really and it doesn't feel good, it's just that is is always there. If you are bored, it is there for you. You have something to do for five minutes.

> It is something to do when you're bored. If I'm watching T.V. I'll smoke, it's just so routine that I don't know what I would do sitting watching T.V. without my cigarettes.

Relief of uncomfortable feelings, and suppression of feelings were additional dominant components of the perceived benefits theme. Whether the feelings were anger, stress, boredom, nervousness, or sadness cigarette smoking became a vehicle for handling the discomfort. The cigarette was there when "big things were going on and you have a lot on your mind." The portrayal of the ever present companion during stressful times was expressed by one participant:

> If you are feeling sad and you have a cigarette it is almost like a companion. It sounds pretty sad that way but it is like a companion. It is always there for you when you are happy, sad, bored and stuff (sic) like that.

> I'm sure if I knew that I was completely happy and I knew that I had everything that I needed and wanted that would make me quit. Once everything was fulfilled I would probably want to quit. But I just think right now while I'm trying to get there I need this to help me along.

> I need a cigarette when I am stressed out. It is really important for me as a stress reliever. I think it really helps me. As soon as I start getting upset about something I need a cigarette. It is pretty important then.

A small number of the girls interviewed (n=3) viewed smoking as a beneficial means of controlling weight. One said, " I'm scared that if I quit smoking I'll gain

weight." Most others denied any connection between their smoking and a desire to control their weight.. Those for whom weight was an issue had been pursuing activities that focused on one's weight:

> I was so obsessed with dancing and it was a method of keeping my weight down, because it was a very big thing for me, keeping my weight down. That is basically the reason I started smoking.

> I was really trying to get into modeling and I became very aware of my weight. I watched what I ate so I smoked a lot more and ate a lot less.

Symbolism/Meaning

An additional property included in the smoking story was the symbolism/meaning that smoking represented to the girls who were interviewed. A distinct difference was evident in the symbolism/meaning of smoking when they were younger than what the symbolism/meaning of smoking was for them in late adolescence. Younger girls saw smoking as a "an adult thing to do":

> It is sort of like a fashion statement you know. If you have a cigarette in your mouth you look more sophisticated or older.

> I think they (younger girls) think it makes them look older. It makes them feel more sophisticated, feel more in with the crowd, cooler than the other kids.

Smoking also symbolized a distancing from parents by "doing something that their parents wouldn't want them to do":

> For most girls it was rebellion, freedom. All those beautiful women are smoking like Madonna. Like it means you'll be sexy and cool if you smoke.

As girls moved to later adolescence, the symbolism/meaning of smoking took on a negative connotation. Only one girl expressed the view that cigarette smoking symbolized "comfort and security". The prevailing concepts were of a symbolic weakness and sense of being a "loser." They did not articulate any positive symbolism or meaning to their smoking. Comments included the following: "I see someone without willpower", "the only symbol that keeps coming to my mind is death, "and finally, "it symbolizes that you don't have a lot of respect for yourself as a person."

Regrets

The predominant feelings of negative symbolism/meaning about their cigarette smoking was related to the young women's expression of "regrets". The length of time that they had smoked, as well as an increasing maturity resulted in self reflection. Participants in this study were both candid and forthright with their comments regarding the regrets they were feeling. For some, smoking had lost its appeal. "It's just the fact that it is not fun anymore." Another felt that she was "stupid" for ever trying it, that "it is just a bad habit, ...you don't get anything from it."

The cost of smoking led some teens interviewed to work at part time jobs just

to support their habit. They were "sick of spending all my money on it":

> I work and the way I figure it I have like an 80 average right now, if I didn't smoke my average would be 90 because I wouldn't work. All I would be doing is school. I spend more than one hundred bucks a month on cigarettes. It really sucks (sic), it does ruin my life.

In addition, the negative physical side effects of smoking were evident to those interviewed. The shortness of breath, coughing, effects on skin and voice created concern intensifying the regret of ever taking up cigarette smoking. A young woman found that when she walked up six steps in her home she would "need to sit at the top of the stairs to get my breath":

> I wake up in the morning and I can't breathe. I know it is partly because of my asthma, but because I've smoked a lot the night before I can tell.

> You wake up in the morning and you cough, oh man! I have been smoking for awhile, its expensive, its stinky, it gives you bad breath. I cough sometimes. I know that my lung capacity is not as good as it used to be.

> I used to love track and field. I can't run anymore. I can run fast but I can't run for a long time. I'd be on the ground because I can't breathe. It's like my whole throat is being cut off. I used to

> love singing, my voice is shot because of it (smoking). I really notice it and I've only been smoking for five years.

> If I still liked them (cigarettes) every time I had one, but I don't. I feel that it is gross, what am I doing, this is killing my body.

Addiction

The final property in the category of the smoking story was addiction. Powerful metaphors used by the girls described their addiction. "It's like being in jail" lamented one girl. Phrases such as "feeling powerless over nicotine," "hooked," "stuck," "it took control," the fact that "smoking is not important, just getting the nicotine is" all provided indicators of the addictive effect of cigarette smoking. There was a conscious awareness that they were addicted. All participants interviewed reported some reference to the addictive powers of nicotine. For some individuals, realization that there was no longer the same choice to smoke or not to smoke came too late:

> I can't explain it, everybody thinks that they are going to smoke and only do it for a little while. Then they are going to quit. Then they try to quit only realizing it is too late. It's like you go to a bar and you think that you are only going to have one drink. You always have more and more. It's the same for smoking, you smoke for six months or a year, you think 'I'll quit' and you can't do it.

> It was something I had control over. I could control whether I

smoked or not. You get a little bit older and then I have no more control over everything. You realize too late that there isn't control. It is a power struggle.

I can't quit. That's what keeps me smoking I can't quit. We start really young.... and we get hooked. I think it is even easier to get hooked when you are younger.....you don't know what you are doing, what you are getting into..... Then three or four years later you wake up in the morning with smokers' cough you realize it is too late to go back now.

I wake up in the morning and I think I really want a cigarette. Lunch time I have a cigarette. I don't know it's a habit exactly like they say its addicting..... You're not aware of your body physically needing it, it happens.

The need to experience the rush supplied by nicotine was described by one girl as her "nic fit," looking for the "buzz" from her cigarette. The "rush you get taking the nicotine" provided the "addiction of the action." There was a sense of dismay by some participants that they no longer had the free will to quit smoking. For others, the acknowledgement of addiction filled them with a feeling of resignation and sadness. Tearfully one girl sighed, "you finally realize that you have no control."

In summary the smoking story relayed the patterns of teens as they became regular smokers. The perceived benefits derived from the smoking habit influenced them to continue to smoke. Symbolism/meaning surrounding

cigarette smoking varied, particularly, with the age of girls. Consequently, older adolescents began to articulate regrets they were having about having started to smoke cigarettes. A significant area of realization was that of the addictive power of nicotine.

Quit Story

The third major category identified in the interviews was the quit story. This was the story recounted by the girls interviewed surrounding their attempts to stop smoking cigarettes. Participants presented at various stages of the quit (change) process (See Table 6). Many of those interviewed (n=15) had no intention of quitting in the near future (precontemplation stage), others (n=5) expressed goals of quitting at a time in the next few months (contemplation stage), while some girls (n=3) were actively cutting down on the number of cigarettes smoked (preparation stage). Two girls had quit smoking within the last six months (action stage). The young women interviewed had already developed regrets about ever starting smoking. In addition, a realization of the addictive powers and the effects of smoking on their lives was evident. Consequently, the desire to quit coupled with a history of short lived quit attempts was relayed in the interview process and emerged as the property of start-stop.

Significant perceived road blocks was a property which prevented some of the young women from pursuing their desire to quit at this particular time. Only two participants had recently quit smoking within the past six months (action stage). Two other girls (maintenance stage) presented themselves as candidates for the study, however, they had quit smoking for a longer period of time than identified in the inclusion criteria. Comments by these two young

women will be included as supplementary information. A final property in the quit story was that of quit assists. Those who had quit smoking identified factors which contributed to successful smoking cessation. Participants who continued to smoke were able to propose what they would see as beneficial in assisting them to quit smoking when that time would come.

Table 6 Self Assigned Stages of Change in Cigarette Smoking Moving to Cessation

Stage of Change	Number of Participants
Precontemplation	15
Contemplation	5
Preparation	3
Action	2
Maintenance (supplementary data)	
Total	25

Start-stop

For the girls who continued to smoke, there was a self described process of starting to smoke, followed by a variable number of attempts to stop. Quit times varied. It may have been as short a time period as a few hours or as long a time period as four months. The pattern was to return to smoking following these frequent attempts at disengaging from the habit. The usual approach to quitting was a "cold turkey" method. One young woman described her futile attempts to quit smoking this way: "It seems like every year I end up trying to quit, but I don't have enough will power to do it." Others quit "for a day" or "quit for two months then started again":

I've tried quitting a couple of times. I had pneumonia so I had

to stop then. I had chicken pox so I stopped for a couple of weeks. I went for a month after Christmas in grade eleven where I stopped. I also stopped this past summer for about a month because I was around little kids.

Well, I have always thought that when I first started and even now, that when I finished high school and started university I wanted to quit by then. I have (quit) a couple of times but they were not successful. It is just three days you don't have a cigarette and then you just want one.

I have tried to quit. I quit for three months when I was 15 when I finally realized that this was dumb. But it was tough because I was moving all over the place. It was so stressful, I stopped off and bought a pack. There I was again and I smoked for a couple of years after that, and then I stopped.

Cutting down on the number of cigarettes smoked was viewed as a step toward smoking cessation. While not being able to completely stop, for the moment they were "cutting back", or " dropping down" in the amount smoked.

Road blocks

The second property of the quit story was the road blocks to the quit process. Road blocks were the factors identified as interferences to the adolescents' attempts to cease their cigarette smoking habit. Withdrawal effects were one of the road blocks which emerged as levels of nicotine fell. Cravings began within

a few hours and overtook any desire to stop smoking:

> I can quit for about eight hours. I can live but I start getting cravings in about three hours if I haven't had a cigarette. If it is more than eight hours I just could literally kill somebody I need a cigarette so bad. It is like being really really thirsty and you need that drink of water. You feel like you are going to die without it.

One girl found it difficult to deal with the imagined withdrawal:

> I keep thinking I wouldn't mind quitting....but the first thing that comes to mind is what happens when I'm on the beach in the summer time and they're lighting up and I'm sitting there without one. I wouldn't be able to handle it. I wouldn't. Even right now thinking about it drives me crazy.

Withdrawal effects were described as "flipping out", "being edgy, more sensitive, a lot more bitchy (sic)." The discomfort felt as withdrawal set in led a participant to imagine what her day would be like and asked herself, "how am I going to handle this?" It was concluded that "today is not the right day to quit, I better start (smoking) again or I'll go insane."

In addition to the real and imagined withdrawal effects was the impending loss of identity. Smoking was a part of who they were and how they saw themselves: "It's such a part of you that if you quit, you're loosing a part of yourself."

Previously identified in the start story was the role of other risk behaviors. As

teens discussed the road blocks to quitting smoking, an overriding factor was the connection between drinking and smoking. "If I drink I smoke more" was a frequent comment. One young woman quipped, "even the non smokers smoke at the bar." The bar scene was a frequent part of this age group's social life. As well, there were the parties where alcohol was a standard factor. The constant presence of drinking in their lives created a negative situation for those individuals thinking about stopping smoking cigarettes:

> I don't think I would be able to go to the bar as much. Especially drinking, as drinking I need to smoke a lot more. ...I don't think I could go there quite as often or I don't think I could drink while I was there.

> It's hard when you quit and you go to the the bar because everyone's lighting up smokes. Because when you're drinking, you want to smoke more.

In addition to the withdrawal effects, loss of identity and drinking, peers also played a role in the quit story as they had in previous stories. Of the girls interviewed, the majority had at least three of their closest friends who were smokers. A frequent comment was that "all my friends smoke." The inference was that to put this issue in perspective, the number would be much greater than three friends.

Table 7 Number of Three Closest Friends Who Smoke

No close friends smoke	0
One close friend smokes	0
Two close friends smoke	5
Three close friends smoke	20
Total	25

It is difficult to stop smoking when, "everyone of my friends smoke." One of the young women recounted, "one of the reasons I am such good friends with the friends that I have is just because we all smoke. It gives us all something to do when we go out":

> It is your friends. Wherever you go someone is smoking. There are so many people smoking in this school. That is why there are only three people who quit in my grade twelve class. You see it constantly ....and it is really tough.

> Just the fact that all my friends do it and I know that it would be really hard for me to quit around my friends, because they are always smoking. Once I graduate I probably won't be around them as much so it might be easier for me.

Friends were not always supportive or helpful once someone decided to try to quit smoking. There was a difficulty communicating a strong desire to quit, as well as the need to receive support during the quitting process. Occasionally (n=2) girls stated that if their friends were aware that they truly wanted to quit,

they would no longer block the quit attempt:

> My friends, like when any of us tried to quit it is 'oh come on you want a cigarette have one.' Or,' I'm going for a cigarette do you want one?' They don't make it easy. They make it harder than it should be.
> (*Why do you think that they don't support you in trying to quit?*)
> Maybe because they think I might get them to quit, or its something they want to do, but they know they can't. They don't want anyone else doing it.

> When I quit and I'd go to parties, my friends would say 'do you want a smoke?' They didn't know I had quit. I'd say, 'no I quit.' They'd say 'oh come on as if you stopped smoking' and so that got me into it (smoking again).

> Some of them (friends) would say, 'you don't smoke any more why? You're so stupid you should keep smoking. You are going to die anyway you might as well let something kill you that you're doing to yourself.'

In addition to peers, parents too played a role as road blocks to smoking cessation. Forty percent of participants had at least one parent who smoked, while twenty percent had two parents who smoked (see Table 4). The smoking environment in the home created a constant pressure for the teens even to think about quitting cigarette smoking:

> I would have to move out of my house, because my parents smoke, everybody in my house smokes. I think that it would be the hardest thing for me, to be around somebody who smokes. ... I think the only thing would be to be completely out of a smoking situation especially at home.

In addition to the impact of their smoking, parents were seen to be giving mixed messages to their daughters. "A lot of parents say don't smoke, but they are not encouraging about quitting, and they (the parents) continue to smoke." There was no indication of a "family" effort to quit smoking. One father suggested he would do whatever it took to help his daughter quit smoking, but "meanwhile he is still buying me cigarettes." Communication was not clear between the teenager and parent. Furthermore, parents reflected a naive sense of not knowing the young woman was buying cigarettes, yet knew that she continued to smoke:

> Well he's (the father) the one who gives me money so.... I know that he doesn't want me to smoke. I think he knows, but just doesn't say anything. My room smells like smoke a lot.

Ground rules would be set in the home as well as messages given regarding parental disapproval of smoking. Yet at times, parents condoned cigarette smoking as long as it was done somewhere outside of the home. This lack of consistent message was perceived as confusing to the adolescent:

> My Dad doesn't smoke so he thinks that I can just quit. He bugs

> me about it every day. ... Our car is non smoking now.. I guess he figures if he makes it non smoking it will help me to quit. But then sometimes he says out of the blue 'go outside and have a cigarette' and he will buy me a pack if I need it.

The issues identified in the property of road blocks were the primary factors which the adolescents considered not helpful in assisting them to quit smoking, and consequently contributed to their continuing to smoke.

Quit assists

Quit assists were an integral part of the quit story. For those who had successfully quit smoking, there were definite factors which had contributed to the quit process. Of equal note, were the perceptions of the current smokers who would one day contemplate smoking cessation. They too articulated what would assist them to quit when that time would arrive. Participants were not warm to the idea of using the patch, gum or acupuncture as quit assists. Some of the girls had tried Nicorette gum, and some girls knew people who had utilized these methods, but they did not see these assists as viable solutions to their smoking problem. Both groups identified self motivation, i.e. internal determination as a key factor. "It's all a matter of what you have in focus." "If you want to quit you really have to want to, I have to do it myself":

> I think it (quitting) basically has to do with me. I think I'm going to have to be the one on my own. If you really want to quit you should be able to do it on your own. You still need support but you need to do it yourself.

Of those who had quit smoking, one of the participants in the study was influenced to quit by someone with whom she was having a significant relationship, while another stopped smoking because of "health issues" and impending surgery as well as her own self motivation. The adolescents who were interviewed for supplementary information both felt that the desire to stop smoking cigarettes had to come from within. One girl was tired of spending her money on one thing, while another "just lost interest" and in addition had experienced a significant illness:

> I had started seeing this guy and he was getting mad because I was smoking. He said 'well I don't want to be with you if you're smoking.' I found out that I really cared for this person and if I can't have him because I'm smoking then it doesn't make sense to continue smoking.

A second area of importance in assisting the quitting process was emotional support. Friend and family encouragement were cited as key if one was to be successful in smoking cessation. A former smoker who had recently quit needed the praise of her family to stop smoking and to remain smoke free:

> It was so helpful, the constant praise. Like 'good for you,' it has been another month. That makes me feel good. They are behind me all the time and they congratulate me.

> If I was going to quit I would definitely need a lot of support. ...probably from family and friends.

> If I had someone to call up, that would be a good idea. This person would care about you enough and they would know what is going on. Before you pick up a cigarette, you pick up the phone and call them. They can distract you and support you.

Cessation programs such as Quit For Life or Freedom Now were met with limited enthusiasm. Some of the adolescents interviewed had enrolled in these programs at school in order to receive an academic credit. Most had little intention to quit. Their motivation for being in the program was suspect:

> I think we have something like Freedom Now here, but I tried to enroll one year but they didn't offer it when I could take it. A lot of my friends did take it, they didn't quit. A lot of those people didn't actually want to quit. I think it could help me to sway to quitting.

Cessation programs needed to help girls deal with cravings, and "the pressure from friends when you are trying to quit." If programs were to be attractive to students, one would need to get the "popular kids to come." A one time approach would require continual follow-up if it was to be of assistance. One young woman described the type of assistance required as similar to Alcoholics Anonymous, where you could have a sponsor to call on as well as ongoing meetings.

Older adolescents were seen as possibly playing a role with younger teenagers to assist them to quit smoking. Older peers involved in health promotion or cessation programs would have credibility with younger teens:

> I think that there should be a lot more education for younger girls. Having girls our age talk to them and tell them what it is like. I can relate to them, I've been there. I could ask them 'do you really want to spend all your money, have bad breath and end up realizing that you are just stupid?'

A final quit assist which emerged in the interviews was an environmental factor. Non smoking atmospheres were viewed as potentially significant to those attempting to stop cigarette smoking. " If I could go to some kind of a quit smoking house for two weeks, I could quit for ever."

> If I went away for awhile where there was no smoking, no caffeine I'm sure I would come back and I wouldn't smoke. When you are quitting and there are people around smoking, it is a lot harder.

> It would be helpful not having smokers around me as much as I do, especially when you are trying to quit. You smell somebody lighting up a cigarette, forget it, then I need one. To get out of the atmosphere where everyone is smoking. If I wasn't around people who smoke it would be easier.

In summary the quit story proceeded from the start-stop pattern, to the road blocks smokers perceived as they tried to navigate the path to smoking cessation. For those who had successfully quit cigarette smoking, there had been definite factors which impacted on their success. The adolescents who continued to smoke were able to identify factors which they anticipated would

be of assistance to facilitate the quitting process.

Looking To The Future

The major category of looking to the future reflected the hopes and fears of the young women in this study regarding their plans about cigarette smoking in the future. Two properties emerged from the data. The first property was that of being smoke free. This property reflected girls' mixed and simultaneously varied thoughts about cigarette smoking as they looked into their future lives. The second property depicted thoughts on children and pregnancy. They were anticipating the impact of cigarette smoking on potential plans to conceive and have children, as well as the effect of a smoking environment on children's health.

Being smoke free

Looking into the future for some of the current smokers in this study (56%) represented a clear resolve to stop smoking at some future date. "I want to quit... because I don't like it anymore," stated one girl; she wanted to quit smoking in the near future. She didn't like the smell of smoke on her clothes and hair. For others the plans to quit would come at a later time frame:

> The latest I want to smoke is twenty. By twenty years of age I should be able to quit.

> I want to quit. If anybody can help me quit that would be a dream come true, because I'll have more money, and eventually if it

clears up my health right away...

The resounding "God no" by one participant when asked it she saw herself as a smoker in the future was representative of the strong desire of fifty-six percent (n=13) of the current smokers. The resolve of some girls was tempered simultaneously with hope that they could be smoke free (n=4):

> Hopefully I will be able to quit. I don't want to smoke for ever I really don't. I don't know. The only thing is I want to quit. Just hopefully I'll eventually quit. I know that the longer that I'm smoking the harder it will be to quit. I try not to think about it.

> I hope I don't (smoke) forever. My parents just sit there and smoke all day. I don't want to be like that.

The hope expressed by the young women was depicted in the comment by one girl who "hoped a miracle will come and it (smoking) will go away and I won't smoke again."

The girls who had recently quit smoking indicated an absolute determination to remain smoke free. "I don't want to smoke again, I just want to stay away from it" was the sentiment expressed. "It's really tough, But I won't do it (smoke)":

> I'm not going to smoke, I trust myself enough to know that I am not going to smoke again. I've changed, my whole life has changed.

In addition to the sentiments of resolve and hope surrounding plans about

cigarette smoking in the future, were expressions of indecisiveness and ambivalence. There was a recognition of the consequences of continuing to smoke, yet a struggle to make the decision to stop smoking:

> Honestly, I can't see myself quitting. I want to. I want to for health reasons and stuff (sic) like that, but I don't want to because I really enjoy it so much right now. So I don't know.

> I don't know, I think I'll quit when I'm nineteen, or maybe when I have kids. Maybe when I'm finished university, when I grow up!

> You won't see me in twenty years with a cigarette in my mouth. I know that I will quit, but I don't think I will right now. I just have no interest in quitting now.

There were participants who did not see themselves ever being smoke free in the future (n=6). For some girls it would just be "too hard," while for other girls they "didn't want to quit." Smoking was currently a part of their lives, and it would continue to be part of their lives.

Pregnancy and children

The second property, thoughts on children and pregnancy, was prompted by recurring remarks surrounding cigarette smoking in the future. The fear of the effects of cigarette smoking on pregnancy and on young children by second hand smoke was raised by the girls interviewed. There was a general intellectual awareness of health promotion information in this area. As well,

there were repeated affirmations that pregnancy and children would be two reasons to quit smoking in the future:

> If I want kids I will quit when I'm pregnant. I could end up causing the kid to have asthma or something. I would be so worried about the kids.
>
> If I got pregnant I would quit. That would be the only reason.
>
> I definitely wouldn't want my kids to be around cigarettes. As far as my home were concerned, I would want my kids to be healthy, so I wouldn't be smoking anymore.
>
> If I was ever to get pregnant I'd quit. My mom did the same thing I couldn't smoke through a pregnancy.

Of interest, one of the young women was pregnant at the time of interview, however, she had chosen to just "cut down" during her pregnancy citing advice from her doctor that "cutting down would be o.k.."

In summary looking into the future posed visions of being smoke free for some girls, while others recognized the dilemma in trying to take that step. Health issues of a future generation were heightened for some of the teens, yet others saw themselves as always being a cigarette smoker.

Conclusion

Chapter four discussed the findings of the qualitative study of the smoking patterns and processes of late adolescent females. The characteristics of the

sample were presented, followed by an elaboration of the qualitative analysis involving a discussion of major categories and properties.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

Introduction

In this chapter, the findings of the qualitative study examining smoking patterns and processes in late adolescent females will be discussed. The overall purpose of the study was to explore the smoking patterns and processes in late adolescent females and to explore factors which may or may not be helpful to assist them to quit smoking.

The following research questions were addressed:

1.What are the smoking patterns of late adolescent females who continue to smoke?

2.What are the smoking patterns of late adolescent females who have recently quit smoking?

3.What are the the factors that contribute to late adolescent females continuing to smoke?

4.What are the factors that contribute to late adolescent females stopping smoking?

5.What factors do late adolescent females consider helpful to stop smoking?

6. What factors do late adolescent females consider not helpful to stop smoking?

In the first section, a brief overview of the findings will be presented, followed by a review of methodological issues. The methodological issues will be followed by a discussion of key findings related to factors influencing adolescent female smoking patterns and processes. The key findings will be organized under the headings of social, emotional and physiological domains. Findings related to the original six research questions will be subsumed within

the chapter discussion. Finally, recommendations for future research, practice and education are proposed.

Overview of research findings

Interviews with 25 late adolescent high school females revealed 23 current smokers and two girls who had recently quit smoking. Initial experimentation with cigarettes began as young as elementary school for some, and as late as grade ten for others. All participants in the study were smoking regularly before grade eleven. The findings center around four main categories and ensuing properties. The initial category was the start story. Social issues emerged in the start story involving a need for social connection and fitting in, peer and family influence, as well as involvement in other risk behaviors.

A second category, the smoking story described the movement from experimentation with cigarette smoking to a full fledged habit. Emotional, social and physiological issues ensued which impacted on young women's smoking behavior. Perceived benefits, positive and negative symbolism/meaning, and addiction effects all contributed to the girl's cigarette smoking behavior. A third category, the quit story also emerged. Once again social, emotional and physiological issues impacted on the adolescent. These issues resulted in a pattern which comprised frequent starting and stopping smoking behavior. Additionally, road blocks to quitting smoking were reported which included nicotine withdrawal symptoms. There was a concerted effort by adolescent females to look at potential and real factors which were of assistance to move to smoking cessation.

A final category of looking to the future disclosed a pervasive desire, although at varying degrees, to be smoke free. A component of the desire to

stop smoking cigarettes stemmed from concerns surrounding pregnancy and children.

Methodological issues

Research assumptions proposed by the researcher were affirmed. A climate of trust was established which facilitated information sharing by the adolescents with the researcher. In addition, it was the researcher's perception that answers were truthful and representative of participant's true feelings. Finally, the young women had the capacity to reflect on tacit knowledge regarding their smoking behaviors as well as the influences on their behavior.

The ethnographic qualitative methodology facilitated the fulfillment of the purpose of the study, that is to determine the group's own perceptions regarding their smoking behavior. Semi structured interviews allowed for continuity in questions, yet permitted member checking to establish credibility of data with subsequent participants. Use of a quantitative component by means of a short questionnaire aided in the enhancement of credibility, as well as providing demographic data. Participants did on occasion experience confusion in the wording of questions #9(a), 9(b), and 9(c) in Part A of the questionnaire (see Appendix F). In addition question #13 of Part A of the questionnaire required further explanation in order to confirm that the participant was currently not smoking, but had been smoke free for less than six months (see Appendix F).

In spite of a large potential sample pool, purposive sampling achieved only two individuals who had quit cigarette smoking within the last six months. Two additional former smokers volunteered for the study, but had been smoke free for longer than the six month inclusion criterion. The participants included girls who had started smoking in junior high school as well as those who began to

smoke later in high school.

Recruitment was facilitated both by access to large school populations, as well as by the cooperation of school divisions' administration and teachers. This cooperation was critical to the research process. The most productive recruitment approaches were face to face recruitment in classrooms, and general announcements of meetings with the researcher to facilitate face to face recruitment for those girls who were interested in participating. Teenagers generally were found to be eager to share their experiences, and to be part of a research process.

The length of interviews (approximately 30 to 35 minutes) was sufficient to gather the required data, yet did not unduly impinge on the students' school day. All interviews were conducted during school hours or spare school periods during the day. Use of the questionnaire posed no problems with the exception of the occasional confusion regarding the questions previously discussed.

Key Findings

The key issues identified in this study which influenced the smoking patterns and processes of late adolescent females will be discussed under three domains; the social domain, the emotional domain, and the physiological domain. These domains parallel those identified by Greaves (1990). The domains impact not only the inception of cigarette smoking, but also the continuation of the behavior, as well as the decision to quit, and subsequent success in smoking cessation. In this section the issues under the three domains will be discussed and related to the empirical and theoretical literature.

Social domain

The need to fit into a social group and to be accepted by their peers is a paramount focus for the adolescent. Whether it is in the early adolescent years or the late teen years, having a social connection is a critical factor for girls. Smoking becomes a vehicle for young women to enter and subsequently belong to a group at their school. Jessor (1977) in DiClemente, Hanson & Ponton (1996) proposed that problem behaviors such as smoking are part of normal adolescent development. As such, the behavior is functional and purposeful geared to gain peer acceptance and a sense of identity. Jessor's assertions corresponded to the functional purpose of smoking identified by respondents in this study. The purpose of cigarette smoking for the young teenager was to achieve a "cool" image in order to personify a perceived required impression. This image was thought to help in gaining peer acceptance.

The notion of smoking as a purposeful, functional behavior parallels the findings from a qualitative study by the Ontario Ministry of Health (1993) which reported that smoking is used as a means of building bonds to others. In the present study, girls developed a social network of friends around their smoking. The smokers were perceived as friendly, approachable people who had a common interest. Therefore, there was a unique bond that was shared. Participants shared this bond with strangers as well as with friends. For young women who feel insecure in social situations, cigarettes provide an immediate connection with a group because everyone smokes. The action of asking for a cigarette creates an opening for a conversation in a new group of peers at school or in outside social situations. Therefore, the fitting in, bonding and connecting needs are met through sharing the cigarette smoking experience.

Social bonding was further described as a force influencing smoking in Flay and Petraitis's Interactional Model of Health Related Behavior (1994) in Best, Brown, Cameron, Manske and Santi (1995) as well as in findings described by Glendenning, Shucksmith and Hendry (1994). In addition, Greaves' (1990) study investigating subjective interpretations that females give to smoking, reported smoking as a way to organize social relationships as a key theme.

Theories of rational choice such as exchange theory (Homans, 1974 & Blau,1975 in Wallace & Wolfe, 1995) also attempt to explain social behavior. The theories of rational choice are guided by the assumption that people are rational and base their actions on what they perceive to be the most effective means to their goals. In exchange theory, voluntary actions of individuals are proposed to be motivated by the returns they are expected to bring. Group members can supply each other with social approval, therefore they have good reason to behave in a way their friends approve in order to obtain approval and esteem. As a result of social exchange, bonds of friendship are created. The shared experiences actually produce group norms and values. Findings in the current study support the propositions outlined in the exchange theory. Adolescent girls want to connect with others. They want to be accepted, consequently have a motive to conform to the group's behaviors. In exchange for participating in cigarette smoking, they are achieving group acceptance and creating an opportunity to forge relationships.

An additional factor in the social domain influencing the smoking patterns and processes of late adolescent females is the influence exerted by others. In particular, the influence of peers and family. This influence is felt as a beginning smoker, in the sustainment of cigarette smoking behavior as well as when attempting to quit smoking. Adolescence was viewed as a time when

young people feel significant pressure in their lives. The current and former smokers in this study experienced pressure from peers who encouraged them to experiment with cigarettes. There is a perceived pressure to smoke because it is seen as a natural extension of what they experience with friends and family. Finally, there is the pressure to use cigarette smoking as a means to deal with the pressure to fit in.

Burgess and Hamblett (1994) cite studies by Clark, MacPherson and Holmes (1982) and Desmond, Price and Losh (1987) which reveal findings that smokers have an external locus of control, thus creating a situation where the likelihood of smoking behavior resulting from perceived or real pressure from others would be greater. Galvin (1992) described the Theory of Reasoned Action as comprising health beliefs, personal factors and social influences as variables affecting smoking behavior. Perception of social pressures to perform or not perform a behavior influences a person's decision to smoke. This social pressure was evident in the adolescents participating in this study. Daly (1993) in a study exploring influencing factors on smoking initiation also found peer acceptance of smoking and the number of friends smoking as significant issues impacting on smoking initiation.

Sustainment of smoking behavior is influenced significantly by peers. The majority of friends of participants in the current study smoked. In fact, many young women in the study commented that all of their friends were smokers. To give up smoking could mean the loss of significant relationships and social connections. Only one girl described a significant social relationship which was instrumental in her quitting smoking. The findings in this study regarding the positive association of girls' smoking behavior and their friend's smoking behavior were supported by Flay and Petraitis (1994) in Best et al (1995).

Additional support was found in DiClemente, Hansen and Ponton (1996), Swan, Cressor and Murray (1990) and Wang, Fitzhugh, Westerfield and Eddy (1995). One of the two participants who was a former smoker in the current study quit smoking primarily because a boyfriend insisted that she must quit smoking if they were to have a continuing relationship.

The literature previously cited reflected the role peers play in quit behaviors as well as in starting and sustaining smoking behavior. Thoughts of quitting smoking are hampered by the fear of loss of relationships as well as by the realization of the difficulty in quitting smoking in an environment where all their friends are continuing to smoke. Friends are not always supportive of peers trying to quit smoking. However, when anticipating possible assists to quitting cigarette smoking, support and encouragement of peers was proposed as being one of the key factors. These findings too are congruent with the literature previously cited reflecting the importance of peer influence on smoking behavior.

Family/parent influence is evident at the start time of smoking, during sustained smoking, and when anticipating quitting cigarette smoking. Greaves (1990) when examining factors influencing initiation of smoking behavior found family as being one of the components. Chetwynd (1986) concluded that female smokers were more likely to have mothers who smoked. This finding was not entirely reflected in the current study where only 40% of those participating in the study had mothers who smoked. However, of those who did have mothers who smoked, participants identified the witnessing of the mother smoking as a factor in initiation of the habit. As well, mothers' smoking created an availability of cigarettes in the home. Because smoking is seen as a normal behavior, this perception creates a natural progression to taking up the habit.

This finding differs from Wong, Fitzhugh, Westerfield and Eddy (1995) who concluded that smoking status of parents has little influence on teen smoking patterns. Yet, it is supportive of Glenndenning, Shucksmith and Hendry (1994) and Swan, Cressor and Murray (1990) who found young people's smoking to be positively associated with parents' smoking.

Family relationships and family dynamics create opportunities to defy parents through smoking behavior, as well as providing a method to deal with the stress of family upheaval. Therefore, sustainment of smoking behavior is impacted in some cases by what is happening in the home. These findings parallel those of Byrne, Byrne & Reinhart (1995) as they examined smoking behavior and its determinants citing family conflict and parental control as two influencing factors.

For young women who are attempting to quit smoking or to sustain smoking cessation, family support is perceived as a potential key factor. Yet only one girl who had quit smoking reported actual family support. Others raised the issue of mixed messages by parents. That is, that parents may have a rule about no smoking in the home, yet allow smoking outside, as well as at times reportedly would buy cigarettes for their daughter. In spite of the fact that many girls had whole families who smoked, no girl raised the issue of the whole family quitting smoking together. Some family members had individually tried to quit using the patch or cessation programs, but no collective cessation attempts were reported. Wong, Fitzhugh, Westerfield and Eddy (1995) found that perceived approval by parents was a significant factor in smoking behavior, therefore supporting the notion that parental influence and the messages that they are sending are important as girls are trying to quit smoking.

A final issue in the social domain influencing the patterns and processes of

late adolescent smoking behavior is that of other risk behaviors, in particular drinking and smoking. Drinking is a frequent component of the social life of late adolescent teens. Going to the bar and attending parties are two regular pastimes. Smoking is congruent with both of these activities. Even non smokers are said to smoke in these situations. Drinking goes hand in hand with the initiation of some girls into smoking behavior. It is also a factor in sustaining smoking behavior in others as well as in preventing smoking cessation. Jessor (1991) as well as McGee & Stanton (1993) view drinking as part of the web of causation when referring to smoking behavior. In addition, DiClemente, Hanson & Ponton (1996) cite other anti social behaviors as risk behaviors associated with those who smoke. Other anti social behavior was only reflected in two participants in the current study. One girl alluded to treatment for drugs, while another girl admitted to having stolen her father's car.

In summary, cigarette smoking is a purposeful behavior both in early and late adolescence. It provides a means of connecting with others and fitting in for young women. Peers and family play a role in the smoking behavior of girls, not only as they begin the habit, but also in the sustainment of the behavior. Additionally, they are an influencing factor during times of attempted smoking cessation. Social activities with peers which include drinking further impact on smoking behavior, particularly in later adolescent years.

Emotional domain

Factors from the emotional domain further influence the smoking patterns and processes of late adolescent females. Cigarette smoking is viewed as a vehicle to facilitate relaxation and stress reduction. Therefore, it becomes an attractive

behavior to engage in. Adolescents use cigarette smoking as one method of dealing with uncomfortable feelings. Discomfort due to stress, anxiety, boredom, loneliness, nervousness or sadness are dealt with by reaching for a cigarette. The cigarette is seen as a comfort measure and as a means to handle difficult times in their lives. Health Canada's research (Cigarette Smoking and Presentations of Self,1996) concurred that young women who are less able to cope with the stress of adolescence are more likely to become smokers.

The idea of using healthier ways of handling stress, boredom and life's pressures was not raised by any of the girls interviewed. One girl spoke of going to the gym, but the physical activity was not in relation to stress reduction. Friend and family support are important to smoking cessation; however, this support was not noted in relation to assisting the young women through the difficult emotional times in adolescence. Instead, it was the cigarette which was used to handle uncomfortable feelings rather than facing a particular feeling and dealing with it. Winkelstein (1992) concurred, identifying inadequate coping skills as a factor in female youth smoking.

Findings in the current study are congruent with the ASH Women and Smoking Group (1986) insights which described women using smoking as a means to reduce feelings of anxiety and anger, and as a way to avoid dealing with uncomfortable feelings. Daykin (1993) agreed citing smoking as a means for women to get through the tensions of the day. What has been described for adult women in the literature has been evident for older adolescent women in this study. Greaves' (1990) update of the Background Paper on Women and Tobacco and later in Greaves (1995), further identified stress release as a psychological factor influencing smoking behavior. Finally, support for findings

in the present study have been affirmed by Byrne, Byrne and Reinhart (1995) in a study involving a large sample of adolescent girls where it was concluded that although further study is necessary, it appeared that girls are more likely to be responsive to adolescent stress than boys, and in turn may be more likely to adopt behavioral responses such as smoking to help them cope with the stressors.

An added influencing factor apparent in the emotional domain was the issue of self motivation. The Health Belief Model (Galvin, 1992) describes the cue for action to engage in health behavior being evoked by personal perception and motivation. As older adolescent girls either anticipate quitting smoking or experience the quit process, self motivation becomes a key ingredient. Those who are anticipating quitting smoking in the future feel that the desire to quit would need to come from within. That is, they would have to have the self determination or self motivation to quit cigarette smoking before any other type of assistance would be of benefit. Young women who have successfully stopped smoking indicate that self motivation has to be present in order to remain smoke free, otherwise it is just too difficult to overcome the road blocks to quitting and sustaining smoking cessation. Parallel to the current findings are those of Klein, Christen, McDonald and Christen's (1984). They too determined that motivation was an important factor related to the quitting process.

A final element in the emotional domain are the feelings of regret and negativity young women express regarding their smoking. The negative, regretful feelings contribute to the desire to stop their smoking behavior. Maturity results in candid reflection that perhaps smoking is creating more of a problem or potential problem than they ever imagined that it could. By late adolescence, physical symptoms resulting from smoking are recognized. As

well, cost continues to be a factor and a clear realization regarding addiction emerges. These realizations fill some girls with feelings of fear, sadness and self recrimination. Yet in spite of strong emotional expressions, only two of twenty-five girls in the current study had actually quit smoking.

Lynch (1995) discovered that teens underestimate the power of nicotine and the difficulties associated with quitting. Macnee and Talsma (1995) conclude that quitting smoking for the adolescent is innately stressful because it targets existing coping mechanisms as well as creating new demands on the individual for which she does not have readily available responses. Therefore, even though girls in this study expressed regret and negativity regarding their smoking, self motivation was not great enough to overcome the power of nicotine at this time in their life. In addition, coping skills had not sufficiently developed to deal with emotions which were currently suppressed with cigarettes.

Many girls expressed feelings of regret and negativity which have resulted in some effort to cut down on the number of cigarettes they smoke. In addition, they related periodic attempts to quit smoking. However, they still self assigned to the precontemplation stage of change (Prochaska & DiClemente,1983; Wilcox, Prochaska, Velicer & DiClemente, 1991) which depicted no plan to quit smoking in the next six months.

Contrary to the self assigned stage of change, the interview comments of the girls reflected instead an extended contemplation stage as described by Prochaska, DiClemente and Norcross (1991). In the contemplation stage, there is an awareness of consequences to their smoking. However, a corresponding ambivalence to quitting also exists. Researchers' observations in the literature correspond to findings in the current study. Girls felt there was too much to

loose at this time if smoking ceased. In addition, levels of addiction made quitting smoking too difficult, and previous short term quit attempts had not been successful. Although respondents self assigned to the stages of change as described by Prochaska, DiClemente and Norcross (1991), actual interview data did not clearly reflect easily defined stages of change.

The findings of McDonald, LaFreniere, Lawrance, Silverman and Towson (1996) suggest that adolescent populations appear to reflect three stages of change. The three stages are: those not thinking about quitting in the next three months, those who have remained smoke free for at least 30 days, and all other smokers and ex-smokers. These proposed stages are more closely aligned to this study population; however, specific stages of change were not clear. In this study girls spoke of quitting in the future. The future for the participants in this study ranged from a few months to years. Only two girls currently remained smoke free for at least thirty days, others had been smoke free for 30 days or more but had returned to smoking.

In summary, late adolescent females use smoking as a vehicle to deal with uncomfortable feelings. When times of stress, anxiety, or boredom set in they reach for a cigarette. In spite of the pleasurable, calming experience cigarettes provide, young women are having feelings of regret and negativity regarding their smoking habit. They want to quit, but for many the right time to do so has not come. Consequently, with patterns of frequent quits and relapses and ambivalence to quitting in the near future, identifying the stage of change that young women are in becomes problematic.

Physiological domain

The third area of key findings involves the physiological domain. There was

clear recognition of an addictive behavior by the adolescents in this study. At least half of the girls were moderately to highly addicted as reflected by the Fagerstrom summary scores. Their bodies had become accustomed to regular nicotine dosages. Girls vividly described their addiction with metaphors indicating a sense of being powerless and having lost their free will to quit smoking.

The Surgeon General (1988) reported the addictive power of nicotine indicating that the development of nicotine tolerance results from the decreased responsiveness to the same dose of nicotine leading to smokers exposing themselves to higher doses of nicotine. Virtually all of the adolescents in the current study routinely inhaled their cigarette smoke and increased the number of cigarettes smoked as the habit became more entrenched. As well, the majority smoked moderate nicotine level cigarettes, with the first cigarette of the day often being the most satisfying. Similar findings are reflected in the literature which explores symptoms of a continuing physically addictive or dependent smoking behavior (American Lung Association,1987: Henningfield & Keenan, 1993). Rates of up to 15 cigarettes a day by girls in the current study depict a well established addictive habit. Grunberg and Acri (1991) view this behavior as the body becoming accustomed to regular nicotine dosages.

An additional key finding in the physiological domain refers to nicotine withdrawal effects. Hemmingfield and Keenan (1993) describe cigarette smoking as a complex behavior that becomes conditioned by behavioral mechanisms including the relief of negative withdrawal symptoms. The Surgeon General (1988) asserted that addictive smoking was maintained for the relief of nicotine withdrawal effects. Behavior resulting from withdrawal effects in the current study was supported in the literature. Real as well as

anticipated withdrawal effects create barriers to the quitting process. Cravings occur within a few hours of nicotine withdrawal. Heightened sensitivity, edginess, and agitation all result in a return to cigarette smoking often within a few hours of smoking cessation.

For girls who successfully quit smoking, their self motivation and incentive to quit smoking assist in overcoming the withdrawal symptoms. Those who quit smoking in the study mirrored the findings of Spoke et al (1996). The researchers described teens as relapsing more than adults when trying to quit smoking, succeeding less, but moving through the cessation stages more quickly once they have made the decision to quit. Further, Klein, Christen, McDonald and Christen (1984) view sustained motivation as the key to the quitting process. Frequent relapse was evident in the current population as they experienced withdrawal effects. However, for those who had made the firm decision to quit smoking, they progressed to a smoke free state in spite of the effects of eliminating nicotine from their bodies.

In summary, nicotine addiction is a recognized fact for young women. They see themselves as being trapped in their smoking habit even at eighteen or nineteen years of age. As well, real and imagined withdrawal effects create blocks to smoking cessation. Physiological and emotional reactions result from nicotine withdrawal making smoking cessation a difficult task. Consequently, it has been the presence of significant levels of self motivation that has allowed some girls to achieve smoking cessation.

Limitations of the study

Disclosure by the young women to the researcher during interviews was encouraged by creating an atmosphere which was free of all possible threat

and intimidation. Privacy and anonymity were assured. Participants appeared to be at ease, and willing to candidly interact with the researcher. However, one is never sure that participants are disclosing in a totally honest manner.

Qualitative research utilizes a relatively small number of participants. Findings are specific to participants; and therefore replicability is problematic in exploratory- descriptive designs.

The design of the study resulted in only two former smokers volunteering to participate. Every effort was made to encourage girls who were former smokers to come forward. The researcher was left to wonder if this category of participant exists in any great number. Girls who had quit smoking may have been reluctant to come forward and disclose their former habit, or they may have lost interest in talking about smoking related issues. Perhaps more aggressive purposive sampling for former smokers may have achieve a higher number of participants in this group.

Implications arising from the study

The findings of the study have implications for future nursing research, nursing education and nursing practice. The following section will outline each of these areas in point form.

Implications for future research

1. Future research is required to increase the depth of knowledge regarding the findings. A replication study will increase the opportunity to validate the findings, in particular the findings regarding girls who have recently quit smoking .

The sample of young women in the current study who had quit was small.

2. A study exploring the patterns and processes of smoking in early adolescence will assist in validating the recollections of late adolescents in the current study.

3. To date, there is only preliminary evidence regarding stages of change which adolescents may go through as they proceed to smoking cessation. Further research will clarify if in effect teens do proceed through any defined stages of change, and what these stages may be.

4. The effect of peer led health promotion programs involving late adolescents has not been investigated.

5. Media have been found to play a role in affecting smoking behaviors among some adolescents. Research is required incorporating information from young people to determine what they would consider to be effective media messages to deter cigarette smoking.

6. Young women cite pregnancy and children as factors which would precipitate quitting smoking. Continuing research seems to be warranted in the area of smoking behavior in late teens who are pregnant, effective strategies to address this group, and methods to provide on going support to this population.

<u>Recommendations for nursing education</u>

1. Growth and Development courses need to emphasize the teen years as a

time when health values and behaviors are formulated.

2. Future nurses need to be aware of holistic approaches required in health promotion strategies with adolescents.

3. Educators should provide students with the opportunity to learn and subsequently
apply skills required to offer a holistic approach to health promotion with the adolescent population.

4. Growth and Development and Health Promotion curricula need to include information on communication skills for adolescents, knowledge regarding assertiveness skills, self esteem issues and feminist issues for girls as they pertain to potential risk behaviors.

5. Educators need to incorporate information in Health Promotion courses regarding the role played by media, peers, family and environment in adolescent health behaviors.

Recommendations for nursing practice

1. Community health nurses and nurses working with schools can assist school personnel to take a holistic approach to health education regarding cigarette smoking.

2. Health promotion approaches to risk behaviors such as cigarette smoking need to be gender sensitive.

3. Community health nurses should work with schools to develop strategies to facilitate girls in attaining skills in communication, assertiveness, stress reduction and effective coping which will subsequently assist in improving self esteem.

4. Nurses in community practice can assist school environments to establish mechanisms which will help young women connect with peers utilizing positive, healthy behaviors.

5. Awareness programs need to be developed for parents, identifying environmental, social and psychological influences affecting smoking behavior, and measures parents can take to ameliorate these influences.

6. Peer led health promotion programs should be explored for late adolescent teens to facilitate smoking cessation.

7. Smoking cessation programs need to have a component offering on going support to those attempting to quit, and for those individuals who have successfully stopped
smoking.

8. Information needs to be relayed to adolescent females regarding smoking rates in pregnancy, as well as relapse rates and issues impacting on relapse rates.

Summary

In this chapter, discussion of the findings of the qualitative study exploring the smoking patterns and processes of late adolescent females was presented. An overview of findings was given, as well as a review of methodological issues. Key findings were presented followed by reference to the research questions. Finally, implications for future nursing research were presented, and recommendations for nursing education and nursing practice were proposed.

Conclusion

In conclusion, the purpose of this study was to explore the smoking patterns and processes of late adolescent females and to explore factors which may or may not be helpful to assist them to quit smoking. This study was motivated by the need to facilitate an understanding of factors mitigating in adolescent female smoking behavior, which in turn would allow for the planning of appropriate intervention strategies to meet the serious implications of the smoking trends among young women. Symbolic interactionism was used as the overarching conceptual framework for this study. Through purposive sampling and qualitative analysis, the smoking patterns and processes of participants were identified and examined.

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Attention

Young Women Smokers
or
Former Smokers
18 or 19 Years of age

Volunteers are invited to participate in a research project on smoking issues in adolescent women.

Participation is voluntary and confidential.

The researcher will require one interview, and the completion of a short questionnaire.

Interviews will be done at a time that is convenient for you, and in a private location at school or in a location of your choice.

For further information you may call:
Marilyn Seguire R.N., B.Sc. N.
788-8337.
Please leave a message and I will return your call.

This study is being conducted as part of the Master of Nursing degree in the Faculty of Nursing , University of Manitoba.

Faculty advisor is: Dr. Karen Chalmers
474-7318

APPENDIX B

Written explanation of the study

My name is Marilyn Seguire. I am a registered nurse and a student in the Master of Nursing Program at the University of Manitoba. As part of my program I am doing a study **to explore the smoking patterns and processes of late adolescent females and to identify factors which may or may not be helpful to assist young women to quit smoking.**

If you join the study, a questionnaire which takes about five to ten minutes to complete will be given which will ask for background information about yourself, your smoking habits, as well as information about your parents and friends smoking behavior. In addition, if you join the study you will be asked to participate in an interview of about forty- five minutes in duration. The purpose of the interview is to hear your thoughts about your smoking behavior, and to listen to your ideas about what may or may not be helpful to assist young women who might want to quit smoking. The interviews will be tape recorded if you are agreeable. The information from the tape recorded interview will be transcribed into notes by a typist for use by the researcher. The typist will be instructed in the maintenance of confidentiality of the information. Only the researcher and her university thesis committee members will have access to the tapes or transcribed notes.

You may be called by the researcher after all information from the interviews has been analyzed to join a group interview with 3 to 4 other students. This second interview would take about one hour. during that time we would review the study findings.

Whether or not you decide to participate, your school record or grades will not be affected in any way. Also, neither your teachers nor principal will be

informed of who participates and who does not. If you choose to participate, you are free to withdraw from the study at any time without any affect on your school performance or record. Participation is voluntary.

You are assured confidentiality. You name will not be used in any public way in this study. Because you are of legal age your parents' consent is not required, however please feel free to talk with your parents about this study if you so choose. A summary of the research findings will be provided to you if you would like a copy. One copy of the summary will be provided to the school and to the Board of Trustees.

No information regarding individuals will be given to parents, to the school, or to the school division. Information from individual students will not be shared with other students. Students who participate in the follow-up group interview will be asked not to share any information they learn about the group members with any other students.

The school division has given me permission to carry out this study. As well the study has been approved by the Ethical Review Committee of the Faculty of Nursing of the University of Manitoba.

I am a trustee in St. Vital School Division, however this study is in no way connected to that role. It is part of my graduate work within the Faculty of Nursing. The school division will only receive a summary of the findings. There will be no identification of students, schools or school divisions by name.

I will be happy to answer any questions you have about the study. I can be reached at (...-....). If you wish to speak to my thesis chairperson, you may call Dr. Karen Chalmers , at the Faculty of Nursing, University of Manitoba (474-7318).

Thank you for your time and attention.

Sincerely,

Marilyn Seguire R.N. ,B.Sc. N.

APPENDIX C

Consent Form

I,..... volunteer to participate in this study entitled "An examination of smoking patterns, and processes in late adolescent females". I have received and read a written explanation of the study, and I have had my questions satisfactorily answered.

Marilyn Seguire, a Master's of Nursing student at the University of Manitoba is conducting this study as part of her thesis requirements. She may be contacted by telephone at ...-.... during the course of this study. Her thesis chairperson at the Faculty of Nursing is Dr. Karen Chalmers (telephone # : 474-7318). Other committee members are: Dr. Pat Farrell, Faculty of Nursing, and Dr. Dexter Harvey, Faculty of Education.

I understand that my involvement in this study includes an audio taped interview of approximately forty- five minutes followed by the completion of a questionnaire which takes approximately five to ten minutes. This interview will occur at a time and place that is convenient to me.

I understand that all information I provide will be confidential. Only the researcher will have access to my name and identifying information. Tapes will be transcribed into notes by an assistant. However at no time will my name be associated with either the tapes or transcribed notes; a code number will be used to protect my identity. Although the researcher's thesis advisors may read the transcripted notes, my identity will not be revealed.

All information will be stored in a locked filing cabinet. Any publication resulting from the study will be written to protect my identity.

I understand that this study has no direct risks or benefits to me personally. Participation in the study is entirely voluntary. I may choose to answer specific questions or may ask to have the tape recorder turned off at any time. In addition, I can choose to withdraw at any time without this affecting me in any way at my school.

I understand that I may be called by the researcher after all information from interviews has been analyzed to come together with the researcher, and 3 to 4 other students for a one hour interview to review the study findings.

This study has been approved by the Ethical Review Committee of the Faculty of Nursing, University of Manitoba.

I have received a copy of this consent for me to keep. My signature indicates that I agree to participate in this study under the terms in this consent form.

Date---------- , Participant----------

Date----------, Researcher ----------

I would like to receive a summary of the research results:

NO------- YES----------
If yes please indicate your mailing address below:
NAME:
ADDRESS

Appendix D

Invitation to participate

(Script when approaching students in the classroom or student assembly) : I would arrange to speak to the students in the last few minutes of a class, this would allow them to pick up written information about the study out of the view of the teacher

Hello. My name is Marilyn Seguire. Mr./ Mrs. (school principal) has given me permission to come to your classroom (student assembly) to speak you, today. Your teacher is not here at the moment, because I have asked to speak to you privately about a research project that I am conducting. (If it were an assembly the whole student body would be present, as well as the principal. His/her presence would not be a problem in this situation because of the size of the group and relative anonymity that the environment would provide. Also, the students would pick up written information about the study outside of the assembly hall away from the view of the school principal.)

I am a registered nurse and graduate student in the Master of Nursing Program at the Faculty of Nursing, University of Manitoba. (At schools in St. Vital, I would indicate that I am a trustee in St. Vital , bit this study is in no way connected to that role). I am at (name of school) today to talk to students about volunteering for a research project that I am conducting. As part of the requirement for my graduate degree, I am conducting a study to explore the smoking patterns and processes of older adolescent women ,as well as to identify what things might be helpful or not helpful in assisting older teenage girls who want to quit smoking.

I am looking for volunteers who are female, 18 or 19 years of age, and who are currently regularly smoking (i.e. at least one cigarette per day for the last

thirty days) or who have quit smoking within the past six months. I am conducting this research with young women to learn first hand from them about their smoking, and also to learn from them what they feel would be helpful to those who may be thinking about quitting smoking. There has not been much research done where adolescent women have been interviewed regarding these questions. The information from this study will help health professionals develop plans which are appropriate and meaningful to assist young women who are looking for ways to deal with their smoking. I believe it is important to hear first hand what teens views are on these issues.

I am not here to question the choices that people make to smoke or not to smoke. I am here to listen to young women tell me about their thoughts about the questions that I will ask , and to hear about their experiences with smoking.

Participation in the study is entirely voluntary and confidential. You may choose to withdraw from the study at any time.Your decision to choose to participate, not participate, or withdraw from the study will not affect your school performance or record in any way. Neither the school administration nor the teachers will know who chooses or does not choose to participate in the study.

If you join the study, you would sign a consent form, participate in a forty-five minute interview with me, and complete a questionnaire which takes about ten to fifteen minutes to complete. I will be tape recording the interviews, if that is agreeable to you.

After all interviews for the study are completed some participants may be asked to participate in a one hour follow-up interview with me and 3 to 4 other students to review the study findings. This interview would also be confidential. Students would be asked not to share any information from the group with any other students.

I have a flyer and detailed information explaining the study that you can take with you as you leave. In addition, there are flyers on bulletin boards around the school which contain my phone number. I will be in room (X) for the rest of the day if you would like to drop by to pick information about the study, to volunteer or to simply ask some questions. I will look forward to hearing from you. Are there any questions? Thank you for your time.

Appendix E

Invitation to participate

(Script when approaching students informally in places they gather.)

Hello. I wonder if could talk to you for a moment . My name is Marilyn Seguire. I have permission from Mr./ Mrs. (school principal) to be here today. I am a registered nurse and graduate student in the Master of Nursing Program at the Faculty of Nursing, University of Manitoba. (For St. Vital schools, I would indicate that I am also a school trustee, but this study is in no way connected to that role). I'm at (schools' name) to talk to students about a research project about teenage girls and smoking that I am conducting. The project is for girls 18 or 19 who are currently smoking or who have recently quit smoking. Would you be interested in hearing about it? (If YES, I would continue with the following):

As part of the requirement for my graduate degree, I am doing a study to explore the smoking patterns and processes of older adolescent women , and in addition exploring what things might be helpful or not helpful to assist young women who want to quit smoking to do so.

I am looking for volunteers to participate in the study. Young women who want to join the study need to be current smokers (i.e. smoking at least one cigarette per day for the past thirty days), or have quit smoking within the last six months. In order to join the study,they will need to be 18 or 19 years old. If someone is interested in volunteering, and is still 17, but almost eighteen, and fits the other criteria, you could contact me to discuss how you could arrange to be part of the study. (I would give my phone number and office number in the school).

I am conducting this research with young women to learn first hand from them about their smoking. This information will help to develop ways to assist

girls who want to deal with their smoking. I believe that it is important to hear first hand what teens views are on these issues. I am not here to question the choices that people make to smoke or nor to smoke. I am here to listen to young women tell me about their thoughts regarding some issues and to learn about their experiences with smoking.

Participation in the study is entirely voluntary and confidential. You may choose to withdraw from the study at any time. Your decision to choose to participate , not participate or to withdraw part way through the study will not affect your school record or performance in any way. Neither the school administration nor the teachers will know who chooses or does not choose to participate in the study.

If you join the study, you would sign a consent form , participate in a forty-five minute interview with me, and complete a questionnaire which takes about ten to fifteen minutes to complete. I would tape record the interview, unless you would prefer that I not do this . The decision would be yours. The interviews are confidential. After all the interviews for the study are completed some people may be asked to participate in a one hour follow-up interview with me and 3 to 4 other students to review the study findings. This interview would also be confidential. Students would be asked not to share any information from the group with any other students.

I have a flyer here about the project. I also have a detailed explanation of the study that you are welcome to take with you. My phone number is on both pieces of information. Feel free to call me if you would like to join the study or if you have any questions. I will be in room X for the remainder of the day if you would like to drop in and and see me to volunteer for the study or just to ask some questions I will look forward to hearing from you. Do you have any

questions? (If the student indicates interest, smoking status and age would be confirmed. As well, verbal consent would be obtained).

APPENDIX F

CIGARETTE SMOKING QUESTIONNAIRE (PART A)

The following are a few questions about you and your smoking patterns.

Please answer them to the best of your ability.

Do not put your name on the questionnaire. Please answer the questions by placing a mark in the box beside the statement that is most applicable to you. There are no right or wrong answers.

No one but myself, and my thesis committee members will read the questionnarie. Neither your teachers, your parents, nor your friends will see your answers.

Your answers are important. Put an X in the box that best describes your answer.

(Adapted from the 1996 Manitoba Youth Smoking Survey)

1. How old are you?
   1☐ 18
   2☐ 19

2. What grade are you in?
   1☐ 9
   1☐ 10
   2☐ 11
   3☐ 12

3. How many years have you been in school since beginning grade 9?
   1☐ 1
   2☐ 2
   3☐ 3
   4☐ 4
   5☐ 5
   6☐ 6

4. Are you currently smoking?
   1☐ Yes
   2☐ No, recently quit

   4b. What do you smoke?
   1☐ cigarettes
   2☐ cigars
   3☐ cigarettes and cigars
   4☐ I do not smoke now

5. How many of your 3 closest friends smoke?
   1☐ 0 2☐ 1 3☐ 2 4☐ 3

6a. Do you have a parent/guardian who smokes?
1☐ Yes
2☐ No → 6b. If so who?
1☐ Mother
2☐ Father
3☐ Female guardian
4☐ Male guardian

7. Do you have a brother or sister who smokes?
1☐ Yes
2☐ No → 7b. Did he/she ever smoke?
1☐ Yes
2☐ No
3☐ I don't know
4☐ I don't have a brother or sister.

8. Do you ever smoke at home?
1☐ I don't smoke now 2☐ Yes 3☐ No

9a. Is there a rule in your school that students are NOT allowed to smoke, not even in a designated place?

1☐Yes 9b. How does that rule affect your smoking?
1☐ I don't smoke now
2☐ I don't smoke at school
3☐ It hasn't made any difference
4☐ I have cut down
5☐ I have quit
6☐ It kept me from starting
7☐ None of the above.

2☐No We are allowed to smoke in a designated place.

9c. How does this affect your smoking?
1☐ I don't smoke now
2☐ I don't smoke at school
3☐ It hasn't made any difference
4☐ I smoke more
5☐ None of the above

10. Did you play on any sports teams in the last 12 months?
1☐Yes 2☐ No

11. In how many school activities (extra curricular) other than sports did you participate in the last 12 months?
1☐ 0 2☐ 1 3☐ 2 4☐ 3 5☐ 4 or more

12. How are you doing in school compared to other students in your grade?
1☐ Better than average
2☐ Average
3☐ Below average

13. Have you quit smoking cigarettes? Check one.
1☐ Yes, I have, but for less than 6 months
2☐ No, but I intend to in the next 30 days and have tried for at least 24 hours in the past year
3☐ No, but I intend to in the next 6 months
4☐ No, and I do not intend to in the next 6 months

(Stages of change adapted from Holtz, 1995)

This is the end of this portion of the questionnaire. There are a few more questions remaining in this package.

CIGARETTE SMOKING QUESTIONAIRRE **PART B**

The following are questions to determine the effect of nicotime that you are taking in.

Are you currently smoking? 1☐ Yes
2☐ No

If the answer to the above question is Yes, go to the following questions.

If the answer is No you may stop now.

1. How soon after you wake up do you smoke your first cigarette?
   1☐ After 30 minutes
   2☐ Within 30 minutes

2. Do you find it difficult to refrain from smoking in places where it is forbidden, such as the library, theater, doctor's office? 1☐ No
   2☐ Yes

3. Which of all the cigarettes you smoke in a day is the most satisfying one?
   1☐ 1 Any other than the first one in the morning
   2☐ The first one in the morning

4. How many cigarettes a day do you smoke? 1☐1 - 15
   2☐ 16 - 25
   3☐More than 25

5. Do you smoke more during the morning than during the rest of the day? 1☐ No
   2☐ Yes

6. Do you smoke when you are so ill you are in bed most of the day? 1☐ No
   2☐ Yes

7. Does the brand you smoke have a low, medium, or high nicotine content?
   1☐ Low 2☐ Medium 3☐ High

8. How often do you inhale the smoke from your cigarette?
   1☐ Never 2☐ Sometimes 3☐ Always

This is the end of the questionnaire. Thank you for answering the questions.

(Fagerstrom Nicotine Tolerance Scale, Fagerstrom, 1978)

Appendix G

Interview guide

Greetings: My name is Marilyn Seguire, I am a registered nurse and graduate student in the Master of Nursing Program at the University of Manitoba. Thank you for agreeing to participate in this interview. You have a copy of the explanation of the study which I am conducting, but in addition I would like to take a few moments to once again review the process of your involvement in the study and to have you sign a consent form which indicates that you are voluntarily participating in the study.

Introduction:

The purpose of the research study that I am conducting is to explore the smoking patterns and processes of adolescents like yourself. In addition I would like to find out from you what would be helpful or not helpful to assist you to quite smoking if you were thinking about stopping smoking now or in the future.

Following my interview with you, I will be asking you to complete a questionnaire which takes about 10 to 15 minutes to complete to provide me with some background information. You do not have to put your name on the questionnaire. We will be spending approximately 45 minutes together in an interview during which I will explore some questions with you about your smoking. All information that you give me will be kept strictly confidential and only be seen by my research committee,and my assistant. With your permission, I would like to tape record our interview, which will later be transcribed for purposes of the study.In addition, I may be taking brief notes from

time to time during the interview.

You will only be identified by a number, your name will not appear anywhere in the study. At anytime during the interview you can ask to stop the tape or to stop the
interview . You are free to refuse to answer any questions at any time.
Please answer the questions according to how you feel about the issues that we will be addressing , and according to your personal experience. There are no right or wrong answers, I am simply interested in what you have experienced and in what you think about the issues which we will be addressing.
Do you have any questions at this time?

(Consent forms will be thoroughly reviewed, and signed prior to beginning the interview).

Interview questions:

<u>All Informants</u>

Are you 1) currently smoking, or 2) have you recently quit?

Tell me about when you first started to smoke.

Why did you first start to smoke?

Who/what influenced you to begin smoking?

What was happening in your life when you first began to smoke?

- school performance

-social activities

-extracurricular activities

-relationships-

family relations-

-self concept.

Did your regular smoking begin in high school or junior high school?

At what age? At what grade?

If current smoker :

I would now like to ask about your smoking history.

Have you smoked regularly since beginning smoking ?

Do you ever think about quitting smoking? If so,when would you like to quit?

Any quit attempts ? If so, how many?

Has the number of cigarettes smoked remained the same or changed? In what way?

Do you smoke any tobacco products other than cigarettes? e.g.cigars.

How important is your smoking to you? Please explain.

What are the benefits that you get from smoking? (If informants cannot articulate any factors I will probe with the following questions):

Have you ever used smoking to feel part of the crowd?

Have you ever used smoking to defy your parents?

Have you ever used smoking to curb your appetite?

Have you ever used smoking to loose weight?

Have you ever used smoking when you're stressed?

Any other factors?

(March 10/1997- many girls report that they receive NO benefit

from smoking therefore I ask " What are the factors that contribute to your continuing to smoke?)

Have you ever tried to quit smoking?

How many times have you tried to quit?

Do you intend to try to quit ?

(If YES) When do you intend to quit? (Sometime in the future? In the next six months? In the next 30 days?)

If you were to consider quitting smoking, what would be helpful to assist you to quit? (I may have to use a probe ," some people say that things such as the following might help them. How do you think they may work for you?" Some examples such as school cessation programs, community programs, weight reduction programs, school activities geared to their interests, self help skills such as conflict resolution and assertiveness training, extra assistance with school work, health information or peer support).
(March 24/1997 If girls indicate that parents are buying cigarettes for them, yet they wish to quit would ask " what role would you like your parents to play in helping you quit? How would you ask them? If friends could be of help,to assist you to quit, how could you ask for that help from them?

What assistance/ strategies would not be helpful to assist you to quit smoking? (Could use the above as probes if necessary)

If former smoker

I would now like to ask about your smoking.

How long ago did you quit smoking?

How long did you smoke regularly before you quit this time?

How many quit attempts did you make in the past?

How important was your smoking to you?

Describe factors which contributed to your stopping smoking.

(If unable to determine any factors probe for the following:

- health

-family pressure

- financial issues

- peer influence.

-cessation programs

-no longer enjoyed it.

Tell me about what assistance/strategies were helpful to assist you to quit smoking.(Use probes identified in the section for current smokers).

Tell me about the things that were not helpful to assist you to quit smoking. (Use probes as above).

All Informants

What do you think that cigarette smoking symbolizes or means for teenage girls?

What does/did smoking symbolize or mean to you?

What are your plans about smoking cigarettes in the future?

(March 5/1997 Some people sat that if they had a significant relationship where the person would object to their smoking that this may impact on their decision to smoke or not in the future. How would this fir for you? or Can you think of things that may occur in the future to impact on your plans about cigarette smoking?

(March 24/1997- If the girl talks about pregnancy, could ask if scientists find out that chemicals get into your system from cigarette usage , and these chemicals would be harmful to a baby, would that impact on your smoking before you get pregnant?)

(March 24/1997- Next year you will be away from this environment, possibly different friends, in a new group, would you be able to implement your non smoking then?)

I would now have participants complete the questionnaire.

Conclusion:

Is there anything that you would like to add?

Thank you for taking the time to participate in this study. It is greatly appreciated. With your permission, I may call you after I

have analyzed the information from all the interviews to come together with a few other students (3 to 4) for a one hour interview to have you comment on my findings in the study.

Do you have any questions before we conclude?

Thank you, it has been a pleasure to have this opportunity to talk with you.

APPENDIX H

April 29,1996

Superintendent
.....School Division
Winnipeg, Manitoba

Dear ----------,

I am writing this letter in my role as a graduate student in the Faculty of Nursing. I am in the early planning stage of my Masters thesis which will be investigating smoking and the factors that influence the quitting process in late adolescent females. The purpose of this letter is to ask the feasibility of recruiting female students, eighteen years of age and over, from the school population for my study.

It would be helpful to know if the School Division has policies around research as well as the process for ethical review to ensure acceptability of my proposal. This research proposal would be subject to the ethical review committee of the Faculty of Nursing which has reciprocity with the Faculty of Medicine.

Parental consent would not be required, as subjects would be over eighteen years of age. Students would sign a consent form and all ethical conventions such as confidentiality would be followed. I would be utilizing a questionnaire and individual interviews. Following completion of all interviews, some students may be asked to participate in a small group interview with 3 to 4 other students and myself to review the study findings.

I would be pleased to meet with you to discuss specific questions and procedures as outlined by the School Division. The time frame for this data collection would be the fall and winter of the 1996/1997 school year.

I will look forward to discussing this with you.

Sincerely.

Marilyn Seguire

APPENDIX I

The University of Manitoba

FACULTY OF NURSING
ETHICAL REVIEW COMMITTEE

APPROVAL FORM

Proposal Number N#97/06

Proposal Title: "AN EXAMINATION OF SMOKING PATTERNS AND PROCESSES IN LATE ADOLESCENT FEMALES."

Name and Title of Researcher(s): MARILYN SEGUIRE
MASTER OF NURSING GRADUATE STUDENT
FACULTY OF NURSING UNIVERSITY OF MANITOBA

Date of Review: FEBRUARY 03, 1997.

APPROVED BY THE COMMITTEE: FEBRUARY 24, 1997.

Comments: APPROVED WITH CHANGES SUBMITTED TO THE CHAIR FEBRUARY 11, 1997.

approved based on clarifications modifications - Ethical approval for protocol implementation at St. Boniface and Norwood School Divisions.

Date: Feb. 24, 1997 Wanda Chernomas

Wanda Chernomas, RN, PhD Associate Chairperson
Assistant Professor
University of Manitoba Faculty of Nursing

Position

NOTE:
Any significant changes in the proposal should be reported to the Chairperson for the Ethical Review Committee's consideration, in advance of implementation of such changes.

Revised: 96/09/12/se

Smoking--481

The University of Manitoba

FACULTY OF NURSING
ETHICAL REVIEW COMMITTEE

APPROVAL FORM

Proposal Number N#97/06

Proposal Title: "AN EXAMINATION OF SMOKING PATTERNS AND PROCESSES IN LATE ADOLESCENT FEMALES." (ST. VITAL SCHOOL DIVISION)

Name and Title of Researcher(s): MARILYN SEGUIRE
MASTER OF NURSING GRADUATE STUDENT
FACULTY OF NURSING
UNIVERSITY OF MANITOBA

Date of Review: FEBRUARY 03, 1997; MARCH 03, 1997.

APPROVED BY THE COMMITTEE: MARCH 11, 1997.

Comments: APPROVED WITH CHANGES AND CLARIFICATIONS SUBMITTED TO THE CHAIR. (for St. Vital School Division, Part II).

Date: MARCH 11, 1997.

Linda J. Kristjanson, PhD, RN Associate Chairperson
Associate Professor
University of Manitoba Faculty of Nursing

Position

NOTE:
Any significant changes in the proposal should be reported to the Chairperson for the Ethical Review Committee's consideration, in advance of implementation of such changes.

Revised: 92/05/08/se