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A Qualitative Inquiry into Smoking Cessation:
Lessons Learned from Smokers

By

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By

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Staatsexamen, Georg-August Universität Göttingen, 2003
B.A., University of West Florida, 2000

Advisor: Howard I. Kushner, Ph.D.

An abstract of
A dissertation submitted to the Faculty of the Graduate School of Emory University
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Abstract
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By Aukje Kluge

This project explores why persistent smokers have failed to quit smoking despite the behavioral and pharmacological interventions that are available. Beginning with an historical overview of how cigarettes became popular in the United States, this dissertation further investigates the shift from behaviorally based therapies to pharmacological treatments.

Initially smoking was understood as a morally reprehensible behavior in need of modification. With the ever increasing knowledge of nicotine's effects on the smoker's brain, researchers began to understand and treat smoking as a nicotine dependence disorder. However, long-term successful treatment rates remain modest. The question of why cessation tools have overwhelmingly failed smokers stands at the forefront of the inquiry. This dissertation adds an important component to smoking cessation research. Drawing on qualitative data collected for the Persistent Smokers Project, the analysis of the interviews reveals that there are three recurring themes associated with quitting smoking. First, interviewees provide important information on cessation motivators. Second, participants in the study focus on smoking cessation barriers that keep them from initiating a quit attempt. Third, smokers identify relapse triggers that end a period of smoking abstinence. Overall, these interviewees confirm much of what is already known in the research literature. However, the analysis also adds important knowledge in all three cessation areas and is able to offer an in-depth perspective of smokers' experiences with cessation. The qualitative findings are used to make recommendations for public health practices and research.

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Introduction

According to the Centers of Disease Control and Prevention, about 443,000 smokers in the United States die annually from the detrimental health effects of their habit. The adverse public health implications of smokers' inability to quit include cardiovascular disease, cancer and respiratory disease to name a few. Smoking remains a major public health concern due to the large group of smokers who attempt to quit and who eventually return to smoking. Even though research on nicotine addiction has come a long way since the first Surgeon General's Report on Smoking and Health in 1964, studies indicate that fool-proof smoking intervention capable of preventing future smoking relapse is unavailable. While about 70 percent of regular smokers report the desire to quit smoking, few attempts are successful and most smokers return to using nicotine within weeks of their quitting date. To this day, researchers and smokers alike agree that permanently breaking away from the cigarette habit is a daunting task.

This dissertation approaches smoking cessation from an interdisciplinary perspective in an attempt to shed light on why smokers throughout the centuries have had difficulty quitting. Despite the well-known negative health consequences and the behavioral and pharmacological cessation tools available, an estimated 19.8 percent of adults in the United States continue to smoke (CDC, 2008). While the two historical chapters focus on why smoking has become such a prevalent habit in the United States and why cessation tools have overwhelmingly failed to deliver a successful remedy to smoking, the three qualitative data-driven chapters offer persistent smokers' perspectives

on cessation motivators, barriers and triggers for relapse. In the following, I briefly introduce the reader to each chapter and provide an overview of its contents.

Chapter I offers an historical analysis of how cigarettes were introduced to Americans and how they became popular in the United States. In its rudimentary form, cigarette smoking had been reported among Native Americans during the years prior to the arrival of Columbus in 1492. Through travels and colonization, the cigarette was introduced in Spain, France, and England before it made its way back to the United States in the form of the modern cigarette. Since the beginning of the tobacco industry in the late 18th century, producers focused on distributing tobacco for pipe use, dip, and occasional snuff. However, the Civil War (1861-1865) introduced the cigarette to many young men and tax cuts on cigarettes increased the demand for cigarettes in the United States. Aided by the shift from hand-rolled to machine made, the tobacco industry was able to produce cigarettes cheaply and in large quantities.

Originally a product consumed by immigrants, members of the lower classes, and some adventurous upper class Americans, the popularization of cigarettes continued with two unlikely subpopulations in the late 19th century. Women and adolescent males increasingly smoked the lighter version of the cigar. The cigar was primarily associated with sophisticated upper class men who could afford the hand-rolled product and who smoked during leisurely occasions. While younger males appreciated the cheaper price in comparison to other tobacco products such as cigars or pipe tobacco as well as the milder taste, many women enjoyed cigarettes because they signified modernity, glamour and femininity (Gately, 2001).

Anti-cigarette crusaders' response to male adolescent and female smoking was highly critical. Zealous reformers at the turn of the 20th century were primarily concerned with the moral deterioration of cigarette smokers rather than with smokers' physical well-being. The symbolism of cigarette smoking was deemed more important than the health consequences (Burnham, 1993; Kluger, 1996; Brandt, 2007).

World War I (1914 - 1918) was partially responsible for changing the cigarette's disreputable status in society. Immediately accepted as a soldier's vehicle to calm his nerves and help him with combat stress, the cigarette lost some of its negative connotations as weak and effeminate. More and more adult men took to the habit. Women smoked the mild tasting cigarettes at an increasing rate during this time and the public display of their habit in streetcars or theaters became the topic of much discussion amongst opponents of the cigarette as cigarette smoking women broke with the Victorian ideal of femininity.

By the 1930s, the moral opposition to cigarettes had all but vanished and cigarette use was at an all time high despite the ongoing economic depression. During this period, medical research, which had focused on cigarettes' negative health consequences since the 1920s, concentrated on the physical effects of smoking and the relationship of cigarette use and disease. Scientists observed the associations between smoking and cancer but could not establish a cause and effect relationship until the 1950s.

Not until the 1950s did reports about smoking and cancer surface in the popular media. Despite mounting evidence that cigarette smoking was harmful, its popularity steadily increased. In response to such scientific findings, President John F. Kennedy created a task force to investigate the relationship between cancer and cigarette smoking

in 1962. Surgeon General Luther Terry headed a committee comprised of various distinguished scientists. After more than a year of investigation, Terry announced in a press conference that smoking was in fact causally related to lung cancer.

By that time, the cigarette, a product that had once lurked at the fringes of society, was a cultural icon that was consumed by 42 percent of the adult population in 1962 and to this day is used by every 5th adult American (CDC, 2007). Learning how the cigarette became meaningful in adults' and adolescents' lives and what cultural forces shaped its consumption patterns sets the tone for later chapters.

As soon as Americans began to smoke cigarettes in increasing numbers, opponents criticized the habit and recommend remedies on how to quit smoking. Chapter II of this dissertation offers an historical meta-analysis of the cessation literature beginning in the last 1800s and ending in the 21st century. The chapter is organized into five sections and provides the reader with the foundation for the data-based chapters that follow.

Beginning with types of cessation methods that were available before scientists discovered the lung cancer-smoking connection, the first section of chapter II explores how clergymen and some members of the medical community attempted to help smokers quit. Smoking was not yet opposed on health grounds and quitting efforts were driven by moral concerns. Cures advertised in newspapers and magazines ranged from substitution therapies, including gentian root or the so-called Gold Cure, and behavioral modifications, such as changing one's environment and even in some instances one's job.

As the Surgeon General began to review documents in preparation of the 1964 report on Smoking and Health, researchers across the nation shifted their interest and

aimed their investigations at learning more about the characteristics and motivators of smokers. Section two of chapter II explores how scholars focused on processes surrounding initiation and continuation of the cigarette habit. Additionally, individuals who were successful at cessation became a group of interest. Overall, conferences and official meetings signified that the cessation efforts became more organized during the mid-20th century. Researchers at the time agreed that smoking was a behavior and thus focused on specific characteristics of smokers in order to change this behavior.

Section three of chapter II provides concrete examples of early substitution and behavioral smoking cessation treatments. Substitution therapies with the alkaloid lobeline initially showed promising results in alleviating cigarette withdrawal, but replication of those early studies proved difficult and the effectiveness of this partial nicotine agonist remained very low. Studies show that tranquilizers and amphetamines also failed to improve cessation rates. In terms of behavioral cessation research, aversion therapies with hot smoke or in the form of electric shocks were investigated. Overall, neither lobeline nor aversion therapy was significantly successful in increasing cessation rates.

While cessation researchers' focus was initially on helping smokers quit, the 1970s demonstrated a shift in research interest. Section four of chapter II outlines how cessation scholars began to investigate the issue of smoking relapse. Preventing recidivism and achieving long-term smoking cessation became the goals of researchers. To accommodate complex smoking behavior, scholars began to combine behavioral treatments in an effort to increase cessation rates. Adding anxiety treatment to different aversion therapies showed promise and warranted further investigations. While the majority of cessation researchers understood smoking as a behavior in need of

modification, research on nicotine's reinforcing role in the cigarette habit increased during the late 1970s.

The shift from behavioral smoking cessation methods to pharmacological treatments is addressed in the fifth section of chapter II. Research on nicotine's role in forming the smoking habit led to the identification of the nicotine dependence disorder. Smoking was not just seen as a behavior addiction, but was grouped with other substance addictions such as alcohol. The attempt to replace nicotine to decrease withdrawal symptoms experienced by those who sought cessation became a major research area. However, neither the invention of the nicotine gum or patch, nor the creation of the nicotine nasal spray or inhaler proved to be a cure for all individuals seeking to break the habit.

The fifth section chapter II examines another trend that paralleled the transition from behavioral treatments to pharmacological smoking cessation methods. Rather than confining smoking cessation to clinical settings, the habit was approached from a public health perspective. For example, television advertisements and phone messages were used to spread cessation messages and reached a far wider range of individuals than the cessation programs offered by clinics. Family physicians were also recruited to support cessation efforts and were encouraged to spend time discussing the effects of smoking with their patients.

Finally, the chapter closes with an illustration of the efficacy of smoke-free ordinances and tax increases. Both strategies impact cessation rates positively and can support quitting attempts. This section demonstrates how policy interventions work hand-in-hand with nicotine replacement tools as well as with behavioral interventions.

Chapter III focuses on research methodologies used for the qualitative data-based chapters. The data was derived from the Persistent Smokers Project in Atlanta, Georgia. A brief overview of how qualitative research differs from quantitative inquiry is followed by examples of how qualitative research has been used to conduct cessation studies. Secondly, this chapter introduces the reader to the main research questions which drive the data analysis. The participants are grouped in three categories based on their prior cessation lengths. Additionally, this chapter addresses issues of sample and data collection such as recruitment strategies, eligibility criteria and screening processes, the qualitative interview and its guide, data management strategies and themes of interest. The data analysis is driven by principles founded in the grounded theory approach. For this purpose, a coding scheme was established. All major codes are discussed in detail in chapter III. Lastly, the chapter closes by addressing potential validity concerns and potential limitations to the study.

Mark Twain is attributed with saying that "quitting smoking is easy, I have done it hundreds of times." Many participants in the Persistent Smokers Project would agree with him to the extent that they have tried to quit many times in the past. Similar to Twain's experience with tobacco, the interviewees of the Atlanta project have also relapsed many times. Whether they try the nicotine patch or gum, hypnosis or will power, the result remains the same – these men and women are still smoking cigarettes. The question of why there are an estimated 45.1 million smokers in the United States when there is an ever-increasing variety of cessation tools available is significant.

Chapter IV utilizes the Persistent Smokers Project's qualitative data to provide an inside view of smokers' cessation experiences. The chapter is divided into three sections.

In the first section smokers discuss their quitting experiences and situational as well as internal triggers to cessation. The reasons why people would like to quit are as diverse as smokers themselves and range from trying to avoid negative health consequences to wanting to set a good example for their loved ones. Secondly, smokers focus on quitting barriers that they have encountered in the past and that now stand in the way of quitting. This chapter pays particular attention to the most common barriers to quitting such as other smokers, cravings and, very importantly, the loss of a ritual or friend. Finally, the last section of this chapter presents the qualitative findings on smoking relapse triggers. Participants in the project were able to identify several triggers that end cessation attempts. These triggers fall into two categories – internal and situational triggers. Seeing other individuals smoke or experiencing a stressful situation can lead to the end of a cessation attempt. Overall, the qualitative interviews uncovered several of the complexities of continued cigarette smoking.

Chapter V follows the data presentation and offers a discussion of the qualitative findings and recommendations for public health practices and research. The qualitative findings are placed in the context of other cessation researchers' work and focus on the contribution that this study makes to the field. While some findings confirm what other scholars have discussed in their work, this study adds knowledge in the area of cessation motivators and barriers as well as in the area of relapse triggers.

Understanding what motivates smokers to quit, what barriers prevent cessation, and what triggers cause relapse are important steps in constructing research studies, as well as in designing and implementing successful cessation programs. The knowledge

gained from this qualitative study may be used to further efforts of researchers and practitioners to increase smoking cessation success rates.

Chapter I: A History of Cigarette Smoking

The focus of this chapter is on the introduction of cigarettes to men and women in the United States, who until the inception of the little smokes, used snuff and chew or smoked cigars and pipes. The cigarette moved from a widely opposed and stigmatized item of consumption in the mid 19th century to a popular and commonly used product in the middle of the 20th century. The initial focus of this chapter is on the main socio-cultural, political and industrial events that aided the cigarette's popularization in the United States. Next, a synthesis of the literature on the opposition to cigarette use is presented. Initially, this opposition was driven by moral undertones and later by the medical establishment that sought to hinder the growth and popularity of cigarettes.

During the latter half of the 19th century until the mid 20th century in the United States, cigarettes were seen as effeminate 'coffin nails' on the one hand and a status symbol on the other. The various, and often, contradictory meanings associated with cigarette use throughout the middle of the 19th until the middle of the 20th century are discussed in this chapter. This historical picture of cigarette smoking in the United States is relevant to the inquiry of the meaning of cigarette smoking today and to cessation efforts among current smokers. Tracing how cigarette smoking became such a popular and prevalent behavior and exploring what the habit has meant to smokers over the past hundred and fifty years will serve as the background to later chapters which focus on smokers today.

Humble Beginnings – The Era of Hand-Rolled Cigarettes

In 1492, Europeans learned of tobacco[1] from the Tainos Indians who smoked the plant leaves rolled up in big cigars or cut up in pipes. In addition to these ways of consumption, historian Jerome Brooks (1940) points out that the Native Americans smoked reed cigarettes, pulverized tobacco wrapped in either reed or bark (Brooks, 1940). For this purpose, they would pulverize the tobacco and wrap the substance either in reed or bark and smoke what Eric Burns (2007) refers to as the "world's first cigarettes" (p. 128). Native American Indians used tobacco for medicinal, ritualistic, and social reasons. In Europe, over the next hundred years, tobacco remained a curiosity at best, sometimes used as medication against fever and other ailments but always at the edges of society (Wagner, 1971). The plant was not commercially cultivated until the late sixteenth century. Historian David Courtwright (2001), who traces the history of tobacco, suggests that "by 1620 tobacco was, by any definition, a global crop" (p. 15). Thanks to sailors, merchants, diplomats, immigrants and others, the use of tobacco spread quickly throughout the world and, by the seventeenth century, individuals of all social backgrounds engaged in the habit of consuming tobacco pipes and cigars (Courtwright, 2001).

The reed cigarette, which was popular with Natives in South and North America, was introduced to the early Spanish explorers in the 16th century and brought the custom of smoking the tobacco leaves to their home country. Eventually, the Spanish altered the reed cigarette by changing the wrapper to paper.[2] The new product was referred to as *papelito*, and Brooks (1940) describes the article as a "forerunner of the cigarette" (p. 196). These small smokes were manufactured in Seville and common throughout the 17th

century (Burns, 2007). Historian Richard Kluger (1996) notes the production of a similar product in Barcelona. The *cigarito* consisted of shredded cured tobacco rolled in tan paper. However, customers in Spain preferred to buy the tobacco and paper separately to roll the little cigarettes themselves because it was much cheaper than the commercially manufactured version (Kluger, 1996). From Spain, the habit of smoking small cigars or cigarettes traveled to France where users appreciated the novelty of this tobacco product that set its smoker apart from the cigar and pipe smoking society. The cigarette had a mysterious air and users were attracted to the strange newcomer (Brooks, 1940)

From France the cigarette traveled across the channel to Great Britain. During the Crimean War in the middle of the 19th century, members of the British army learned from French and Turkish soldiers that cigarettes were more convenient than easily broken pipes or overly expensive cigars (Burns, 2007; Kluger, 1996; Wagner, 1971). When the war came to an end in 1856, the cigarette continued to flourish and British soldiers enjoyed their new tobacco habit at home. Appropriately, in Great Britain, the first cigarette company, established in 1856, was run by a returning war veteran (Gately, 2001, p. 185; Wagner, 1971, p. 33). At the time, however, cigarettes still constituted a niche market and cigars were in much higher demand among the British population. Cigars were considered more sophisticated than the small smokes which were mainly consumed by returning veterans and the poor. In the early years of the cigarette's introduction, mainstream British society considered the new product crude and improper (Brooks, 1940).

In the United States, several forms of tobacco consumption were popular before society added smoking cigarettes to its repertoire in the middle of the 19th century.

Foremost, pipe smoking was common in the early days of colonization. Pipes were made of a multitude of materials such as wood, metal, stone, or bone and smoked by both women and men (Kluger, 1996). It was not uncommon to see members of both sexes sit on their doorsteps or even attending church all the while smoking their tobacco pipes (Tate, 1999). While, as opposed to men, women may not have visited taverns and indulged in their smoking habits, their pipe use was accepted and considered ordinary during colonial times (Tate, 1999).

Snuff, while fashionable in England, never quite achieved the same popularity in the United States. Heimann (1960) explains this phenomenon by pointing toward the political relationship of the two countries. America wanted to separate itself from Great Britain and forget about British customs. The author argues that "snuff was associated with everything Americans detested" (p. 118). Additionally, Americans did not grow as fond of sneezing as their British contemporaries and preferred letting the snuff dissolve in their cheeks (Kluger, 1996). Women, in particular, enjoyed this pastime as described by outspoken anti-tobacco reformist Meta Lander (1885) in *The Tobacco Problem*; "circles of young ladies and married ladies meet expressively to practice it" (p. 160). Lander wonders whether there "can any picture be more revolting than that of the miserable, snuff-dipping women" thus expressing her disdain with women using tobacco (p. 160).

While not as prevalent in Europe, chewing tobacco became a quintessential habit in early 19th century America and its use cut across social and cultural strata. Men, women and children chewed and spat more than they smoked cigars and pipes. Eric Burns (2007) writes in *The Smoke of Gods: A Social History of Tobacco* that President Andrew Jackson was instrumental in making chewing a national pastime. Burns jokingly

points out that "neither the eagle nor the tobacco plant was the nation's ideal emblem. It was the spittoon" (p. 110). Americans liked chewing tobacco for several reasons. First, no fire was required to enjoy this product. Additionally, as Kluger (1996) explains, the chew could be enjoyed in situations "unconducive to the pipe, cigar, or snuff. It was splendidly suited to the outdoor life and immune from such vagaries of nature as the raking prairie winds" (p. 14).

In addition to the use of pipes and chewing tobacco, Americans also enjoyed cigars. Yet, not until the war against Mexico in the middle of the 19th century did the use of cigars increase throughout the country. Not everyone could afford the hand-rolled objects that were either imported from Cuba or made in the United States (Kluger, 1996). Cigars provided smokers with an air of sophistication and were consumed almost exclusively by men (Burnham, 1993).

Unlike the beginnings of cigarettes in Great Britain where war veterans were mostly responsible for familiarizing the British population with the small smokes, traveling was the primary vehicle of introduction in the United States. On the one hand, Americans in cities like London saw British contemporaries smoke cigarettes and brought the custom to the United States. On the other hand, tourists who visited US cities in the mid-19th century played a part in spreading the cigarette habit (Brooks, 1952). Immediately, the new product was associated with criminals, the poor, and immigrants. The cheap smokes were considered a novelty product and not taken seriously by cigar and pipe smokers nor by tobacco chewers. The cigarette was weaker in taste and did not have the masculine air of a Havana. At the time, cigarettes were either imported from

Cuba and England or directly manufactured in New York with tobacco leaves imported from Egypt or Turkey (Brooks, 1952).

The cigarette may have never become so popular were it not for two chance occurrences that triggered an increased consumption. The first happened in Caswell County, North Carolina, in 1839 long before the cigarette was a commodity in the United States. Nevertheless, it paved the way for the cigarette's acceptance in society. Different versions of this story are recounted by historians but all agree on the main occurrences: A slave named Steve fell asleep during the tobacco curing process and the fire almost burned out. He was forced to use charcoal as fuel for the curing fires instead of wood. Much to his and everyone else's surprise, the charcoal fueled fire produced a deep yellow tobacco thus creating the mild, sweet Piedmont leaf distinguishable by its golden color. When burned, this particular leaf was easier to inhale than other forms of cured tobacco and predestined for manufacturing cigarettes (Gately, 2001; Sobel, 1978). Eventually this yellow tobacco replaced the foreign grown leaves and made the cigarette more acceptable to the American palate.

The second chance occurrence that helped the cigarette become more popular in the United States originated in the conflict between North and South. For the Civil War soldiers who were not sure how much time there was for a leisurely smoke and who were not fond of chewing tobacco, cigarettes were a perfect match. As British soldiers had discovered decades before, cigarettes took up less space as opposed to other tobacco products and were not breakable like pipes. Joseph Robert proposes several factors that influenced the tobacco habit during the war. Spending time away from the family and feeling less restrained, soldiers were more likely to sample the vaguely familiar cigarette

despite its questionable reputation as the smoke of immigrant workers who knew cigarettes from their home countries and the poor who chose to smoke cigarettes because they were cheaper than other tobacco products. Moreover, crowded living quarters invited the imitation of behavior. Soldiers shared their supplies and showed each other how to roll and smoke cigarettes. The positive effect on numbing hunger and fighting fatigue made the cigarette popular among both camps. Lastly, tobacco for rolling cigarettes was easily obtained by the soldiers since much of the fighting took place in the tobacco growing states; soldiers could easily help themselves to the crude leaves (Robert, 1949).

Burns (2007) as well as Sobel (1978) suggest that the cigarettes were possibly too much tied to the living and fighting conditions of the Civil War which did not allow soldiers time to smoke pipes or cigars. After this period of unrest, Americans went back to smoking cigars and pipes (Burns, 2007; Sobel, 1978). The cigarette was suitable for a quicker pace of life and now that peace was achieved, Americans wanted to take their time again and enjoy their smoking habits by indulging in the more costly cigars and pipes. Burns suggests that "to these men, cigarettes might have brought back too many memories, all of them the wrong kind" (Burns, 2007, p. 132). Despite this backlash of decreased use, the war introduced the cigarette to a wider audience and, in many ways, helped legitimize its status. The government's decision to tax cigarettes illustrates the prevalence of cigarettes achieved during the war years[3] (Burns, 2007; Tennant, 1950). The cigarette now held a position in American culture and life from which it would grow over the next century.

Before the war, hand-rolled cigarettes were mainly imported from Cuba or England and featured a distinctly foreign flavor and connotation. They were primarily sold in New York and came at a price that made them less attractive. Roll-your-own material was sold by W.T. Blackwell's Bull Durham Tobacco Company but only as a side business. After the war, in 1868, the firm of F.S. Kinney with its brand Sweet Caporals[4] was the first to sell American manufactured cigarettes on the national market. Kinney hired immigrant rollers for his shop in Manhattan and predominantly used American grown as opposed to Turkish tobacco (Sobel, 1978). Initially, Kinney's cigarettes were sold in New York but soon the business expanded beyond the city limits. The fact that these cigarettes were less expensive than the imported products and cigars became relevant during the 1873 depression where the smokes sold for a penny a piece as opposed to the two-penny cigar (Kluger, 1996; Brandt, 2007). Many Americans who were accustomed to using tobacco in the form of cigars had to opt for the cheaper alternative.

Other tobacco manufacturers observed the growing market for the cigarette and in 1875 the firm of Allen & Ginter seized the opportunity to produce cigarettes on a larger scale in the American South. They were the first company to manufacture cigarettes in Richmond, a city filled with tobacco factories that focused on producing cigars as well as pipe and chewing tobacco. Soon Allen & Ginter became the leader in the blossoming cigarette business by using different techniques to boost sales (Sobel, 1978). To begin with, Allen & Ginter showed off their new product at the American Centennial Exposition in Philadelphia in 1876 which helped to popularize the cigarette by displaying it along other products such as ice-cream soda (Kluger, 1996; Wagner, 1971).

Additionally, Allen & Ginter sold their cigarettes wrapped in paper which displayed the company's name, thus creating an instant association between product and manufacturer. Inside the package, customers found cards showing women or sports stars (Gately, 2001).

The first attempts to popularize cigarettes were moderately successful. Sales increased from 1.7 million in 1869 to 42 million in 1875 and the figures continued to climb despite society's prejudices against cigarettes (Burns, 2007) According to government tax authorities, 121 different cigarette brands were registered in 1877 (Sobel, 1978). By 1880, two more cigarette factories had opened in Richmond indicating that the demand was growing and that slowly but surely, the little smoke had worked itself into American culture (Robert, 1949).

Examining who smoked during those early years of the hand-rolled cigarette in the United States is tightly connected with the anti-tobacco movement and hostile public opinion concerning the new smoke in the mid to late 19th century. Overall during the 19th century, the cigarette was still a minor seller amongst the available tobacco products. Americans still were busy chewing and snuffing tobacco as well as smoking cigars and pipes. Sobel (1978) suggests that mostly "dandies in eastern cities, immigrants and poor people" purchased the "cheap smokes" (p. 7). Smoking the small, thin cigarettes was considered unmanly and unsophisticated. Additionally, the names given to cigars often reflected political heroes or rulers abroad while the cigarettes had names like Opera Puff, Vanity Fair, Cloth of Gold (Wagner, 1971). These names reinforced the idea that cigars were for real men while cigarettes were for the effeminate. Richard Klein points out "no respecting farmer or rancher or smithy or adventurer could say [those names] without cringing" (Klein as quoted in Burns, 2007, p. 132-133). In 1870, the overall consumption

of cigarettes in the United States was a mere 13.9 million and even ten years later, cigarettes only comprised about one percent of the tobacco industry (Segrave, 2005).

One rather unlikely part of the American population had a hand in advancing sales of cigarettes and at the same time increasing the opposition against this form of tobacco in the early days of the cigarette. Notwithstanding the fact that the number of women who smoked was not substantial, some women were said to have taken to cigarettes as early as 1854. Historians across the board agree that Dr. Russell T. Trall, a health reformer and physician who worked for the temperance movement, was among the first to note that women were adopting the cigarette habit. Trall reported that "some of the ladies of this refined and fashion-forming metropolis are aping the silly ways of some pseudo-accomplished foreigners, in smoking Tobacco through a weaker and more feminine article which has been most delicately denominated cigarette" (Robert, 1949; Tate, 1999).[5] Overall, only a small segment of the female population dabbled in cigarettes but the public seemed outraged about every single occurrence.

While women's use of tobacco was generally accepted during the 17th and 18th century, the 19th century was dominated by Victorian ideals of virtue, cleanliness, moral worth, and self-control (Bowman, 2001). The use of cigarettes violated these standards and middle-class women mostly abstained from using tobacco and, in particular, cigarettes. Therefore, in the mid 19th century, cigarette smoking by women was mainly reserved for female actresses and unsophisticated members of the lower classes. With its inauguration into daily American life, the cigarette immediately drew an air of immorality and most social circles considered it a vice. Most women did not deem the

use proper, womanly, or acceptable to smoke cigarettes and if they used tobacco at all, they preferred pipes.

European women took up cigarette smoking much sooner than their American counterparts; for instance, it was not at all uncommon for a woman in London to smoke cigarettes while in the company of her friends (Segrave, 2005). At the end of the 19th century, women overseas smoked privately but also publicly in railway cars and other public establishments. While foreigners cannot be independently blamed for the increasing cigarette smoking prevalence in the United States amongst women, the visitors from abroad most certainly played their part in introducing American women to the custom. New York quickly became the leading city in the United States where women could be found smoking cigarettes, but the practice did not stop there and soon women in other cities followed suit (Segrave, 2005). Interestingly, while immigrant women often were accustomed to smoking cigarettes and continued the habit after their arrival in the United States, society women were the ones whose cigarette consumption greatly increased at the end of the 19th century. Kerry Segrave (2005) argues in *Women and Smoking in America, 1880 – 1950* that smoking cigarettes "was the by-product of high society, which learned the habit from Europe" (p. 26). Opponents of the cigarette habit were outraged by this development.

Before the cigarette was introduced to the United States, anti-tobacco campaigns focused on moral and health implications of using chew, snuff, pipes, and cigars. Dr. Benjamin Rush, medical doctor and first surgeon general, was among the anti-tobacco pioneers in the nation attacking tobacco use on moral and health grounds in the final decade of the 18th century. He published his *Observations Upon the Influence of the*

Habitual Use of Tobacco Upon Health, Morals and Property in a collection of essays in 1798. In the 19th century, voices of dissent came mostly from the pulpit[6] and sometimes from physicians who held tobacco responsible for many ailments.[7] Overall, these opponents had little impact and were mostly ignored by contemporaries. Neither Dr. Joel Shew's accusation in *Tobacco: Its History, Nature, and Effects on the Body and Mind* that tobacco was responsible for eighty-seven ailments nor George Trask's formation of the American Anti-Tobacco Society in 1850 could convince Americans to abstain from the popular habit.

The use of pipes, cigars, snuff and chew was despised by tobacco opponents. However, the cigarette was eyed with even greater suspicion and provided new fuel to the fading anti-tobacco campaigns. J.D. Hinds argued in 1882 that "there is a large anti-tobacco element, which is constantly gaining strength" (p. 60). One reason why cigarettes were the new vice of the time was that their low prices attracted boys and their mildness caught the attention of women. Convinced that "cigarette smoking is the most pernicious form in which tobacco is used" (p. 109), reformers sought to protect these two particular groups from the evil that would endanger their moral standing. Furthermore, reformers' anti-tobacco campaigns were fueled by the higher prevalence of smoking in immigrant populations, thus illuminating xenophobic tendencies (Tennant, 1950).

At times, reformers made outlandish accusations when it came to proving the wickedness of the cigarette. Lander, for example, explains that cigarettes contained opium and that the wrapper was whitened with arsenic (Lander, 1885). Lander particularly bemoans the use of cigarettes by women and boys and recognizes the product as a leading source of demoralization of the time. Early propagandists were convinced

that cigarettes were detrimental to citizens' health and soul.[8] Tennant summarizes some of the effects cigarettes had on the citizen: "it was a menace to health, created an appetite for drink, weakened the mind, induced insanity, corrupted the morals, and impaired the vision. It caused cancer, constipation, and baldness" (Tennant, 1950, p. 131). Essentially, the cigarette was responsible for any physical or moral evil of the time. Women were even cautioned that cigarette use would render them unable to have children and develop facial hair (Wagner, 1971).

On the whole, the hand-rolled cigarette in the mid to late 19th century occupied a small market; however, historians agree that the new product received a fair amount of attention by the public overall and from zealous reformers. While travelers from abroad as well as Civil War soldiers had a hand in introducing American men and women to the cigarette and in spreading the habit, middle and upper class men were initially uninterested in the effeminate product. Immigrants, lower class men, society women, and boys on the other hand enjoyed the milder and cheaper product. This phenomenon drew heavy criticism from the anti-tobacco reformers who made the cigarette their new target by focusing on moral decay and grave health consequences.

Buck and the Bonsack Machine – The Industrialization and Popularization of Cigarettes

After the Civil War, Washington Duke[9] and his sons began to sell smoking and chewing tobacco. The market, however, was dominated by other sellers and the Dukes were looking for new investment opportunities. Duke's son James, or Buck as family and friends called him, observed the respectable success of cigarette manufacturer Kinney

with his brand Sweet Caporals, Allen & Ginter with their line of cigarettes, as well as W.T. Blackwell with his famous Bull Durham products. Buck was quite fascinated with Allen & Ginter and Blackwell's cigarette advertising strategies and their effects on customers. Convinced that the cigarette industry would prove to be lucrative, the Duke family expanded their product line in 1879 and began producing cigarettes in North Carolina with the help of immigrant cigarette rollers who originally worked in New York (Sobel, 1978). Buck recognized immediately that hand-rolled cigarettes would not be the future of the tobacco industry.[10] Hand rollers were relatively expensive[11] and could only produce a limited amount of cigarettes.[12] Having spent time in the northeast observing cigarette smoking in the cities, Buck recognized the business potential of the cigarette. The young Duke was not the only tobacco business man who acknowledged the shortcomings of hand-rolled cigarettes. The Allen & Ginter enterprise was similarly aware of the problem and tried to change the situation by inviting inventors to submit prototypes of cigarette machines. The winner of the competition was to be awarded $75,000 (Gately, 2001).

In the 1880s cigarette machines were not a brand-new concept. In the previous decade Albert Hooks from New York, as well as William and Charles Emery presented machines to cigarette manufacturers (Tennant, 1950; Sobel, 1978). However, both contraptions were riddled with flaws and rarely worked to their full capacity. In the end, these machines resulted in more of a nuisance than a real help in the business. The cigarette industry was in dire need for a creative mind with a technological understanding or it would be a short-lived enterprise. James Bonsack from Virginia arrived on the scene in 1881 and presented his cigarette making machine to Allen & Ginter (Sobel, 1978).

Initially, Allen & Ginter seemed willing to give the machine a try; however, after detecting a few defects, the company decided to stop the liaison with Bonsack. Sobel (1978) suggests that Allen & Ginter used the flawed beginnings of the Bonsack machine as an excuse to cancel the cooperation, but truthfully, Allen & Ginter feared that Bonsack's machine was too similar to one of its predecessors and they foresaw legal retributions. Furthermore, the company was hesitant to market a machine-made cigarette. They feared that customers would taste the difference in the production method and might abandon the product altogether. Allen & Ginter would soon discover that they let a great business innovation slip through the company's hands.

The young Buck Duke, on the other hand, saw his opportunity immediately and installed several Bonsack machines in his factory. A shrewd business man at heart, he designed a contract with the inventor that guaranteed a far superior business arrangement than his competitors. He paid substantially less for the machines that made his smokes more affordable to customers (Gately, 2001). The Bonsack machine was thirteen times more efficient than an experienced roller whose position shortly became obsolete due to the increased production provided by the machines. As soon as his competitors witnessed Buck's success in the cigarette business, they followed suit and mechanized their production with either the Bonsack or similar machines.

Historians agree that Buck Duke may be credited with popularizing the cigarette in the United States. He is often referred to as the inventor of the modern cigarette (Brandt, 2007). From the perspective of the tobacco industry, several conditions came together that changed the cigarette market profoundly and helped Buck establish his business. First, Buck's enthusiasm for the industry and his keen sense of marketing

techniques benefited cigarette sales. Secondly, the Bonsack machine gave Duke a competitive advantage over other manufacturers. Thirdly, taxes were greatly reduced in the 1880s. The decreased price of the Bonsack machine combined with tax cuts allowed Buck to pass on the savings to customers and charge less for cigarettes than his competitors. Lastly, the cigarette profited from the invention of the safe match,[13] a match that enabled smokers to smoke wherever and whenever they wanted. Sobel (1978) argues that the safe match was "encouraging their consumption during odd moments of the day; in effect, transforming their use from a thoughtful exercise into an almost unconscious habit" (p. 67). The combination of these factors explained the increase in sales of cigarettes and the expansion of the tobacco industry during the late 1880s. In 1885, 60 million cigarettes were sold in the United States as opposed to 9 million in 1883 (Burns, 2007).

Tobacco brand advertizing truly accelerated during the early years of the machine-made cigarettes. Buck watched other tobacco firms lure customers into buying their products by including colorful cards or small tokens of appreciation such as puzzles and pieces of silk in the cigarette packs. Having observed the success of these earlier campaigns, Buck was not afraid to heavily advertize his products and contributed a staggering 20 percent of his profits to popularize his cigarette brands – at this point in time, the most money ever spent in advertising (Gately, 2001). The younger Duke's instant business triumph over his competitors drove him to suggest a merger of the five leading tobacco firms placing himself at the top of the cooperation. The American Tobacco Company,[14] established in the early days of the 1890s, controlled an overwhelming majority of the tobacco business (Robert, 1949). While cigarette use was

most certainly increasing, it was still not considered a large market and constituted only about 5 percent of all tobacco sales.

From the perspective of the population, several other factors were instrumental in the popularization of the cigarette during the late 19th and early 20th century. On the one hand, men increasingly took to the cigarette because of its price advantage in an economy still recovering from an earlier depression. On the other hand, tobacco manufacturers sought to accommodate the male clientele by giving cigarettes masculine names such as 'Rough and Ready' or 'Wage Scale,' thus moving away from the effeminate status of the product (Burns, 2007). Interestingly, while women considered the cigarette as glamorous and chic, men now increasingly flocked to the product because it was now acquiring a touch of masculinity. However, despite the industry's effort to advertize cigarettes to mainstream society, and in particular the male population, respectable men of the upper class preferred their cigar over cigarettes at the turn of the century, and the majority of middle class women refused to smoke. Cigarettes were predominately smoked by the younger and immigrant populations who were familiar with the product from their home country.

Women began smoking cigarettes more readily than men but they were not as visible to society. Predominantly, they consumed cigarettes in their homes or at private parties at the turn of the 20th century. Smoking in public was accepted for their male counterparts, but for women this behavior connoted vulgarity. The public appearance of women was heavily guarded by men at the time and, with very few exceptions, restaurant or hotel owners did not allow a woman to light up in a dining room. Despite the fact that smoking was primarily reserved for the private sphere, newspaper columnists and

reporters began to take note of the female smoking population. Newspapers, such as the New York Times, published opinion pieces discussing the pros and cons of women's use of cigarettes and the prevalence of smoking among the female population ("The Women Who Smoke," 1907). Because women smoked primarily at private gatherings and often sent male companions to purchase their supplies, reliable data on the prevalence of smoking women were unavailable at the turn of the century. To estimate women's usage, reporters relied on tobacco shop owners who sold cigarette brands made especially for women along with adorned cigarette cases, beauticians who attested to their customers' yellow stained fingers and tobacco breath, hairdressers who smelled the stale smoke of an earlier cigarette, and physicians who claimed that they were able to detect cigarettes' effects on the patients' hearts (Segrave, 2005). Even though women's smoking cigarette was not yet a public affair, these sources provided an indication that cigarette smoking was on the rise among women of all classes.

As mentioned above, the tobacco used in cigarettes was produced by a special curing process that resulted in very mildly flavored leaves. Additionally, the tobacco was treated with molasses and licorice. This mixture resulted in a mild yet flavorsome tobacco that was not only attractive to women but also to tobacco novices and consumers of other tobacco products. Those who could not tolerate the strong taste of cigars or pipes were more inclined to purchase cigarettes. Above all, adolescents and uninitiated smokers found the cigarette easier to consume and consequently constituted a large market for the tobacco industry (Brandt, 2007).

Along with the mild tobacco flavor of cigarettes came a new smoking practice. As opposed to harsher cigar and pipe smoke that was mainly kept in the oral cavity, cigarette

smoke was drawn into the lungs where the nicotine had a larger and immediate effect on the consumer. Entering the blood stream through the thin lining of the lungs, nicotine crosses the blood-brain barrier. There, nicotine stimulates the release of dopamine which has a rewarding effect to the consumer (Di Chiara, 1995). The habit is thus physically reinforced.

The effects of urbanization on the American society also led to an increase in the use of cigarettes. Towns grew into cities and smaller cities became larger urban centers with people rushing to and from work, leading a more hectic lifestyle. In the last decade of the 19th century, about one third of the American population lived in an urban environment (Tate, 1999). The leisurely practice of pipe and cigar smoking consumed too much time in this new hectic world, and chewing tobacco was increasingly regarded as uncivilized and unclean. More and more, the effects of the juices produced by spitting tobacco were seen as a health hazard and those who quit their chewing habit were in dire need for a substitute. As confirmed by Sobel (1978), Americans purchased less chewing tobacco at the end of the 19th century while the numbers of cigarettes sold increased steadily. Furthermore, in crowded surroundings, the cigarette was the least offensive tobacco product because the produced smoke was not as heavy and noxious as that of the cigar or the pipe. The cigarette served as the perfect accessory for the busy urban worker who could get in a quick convenient smoke at any time and would not have to carry around additional smoking paraphernalia.

Gately (2001) points out the inherent social character of the cigarette that further increased the product's attractiveness. He suggests that "each pack had the invisible command 'share me' printed on its surface" (p. 210). Smokers often carried around a

pack of cigarettes as opposed to a single cigar or pipe that could not be shared amongst friends and acquaintances. In any given situation, one could offer someone a cigarette and smoke it in a short amount of time while conversing before moving on with one's daily tasks. At social gatherings or functions, the cigarette was far less objectionable than cigars or pipes and much less intrusive (Kluger, 1996).

While the increased use of cigarettes among all strata of the population enraged anti-tobacco reformers, society continued to form a particularly strong resistance to male adolescents and women smoking. This development ultimately heightened the fervor of the campaigners, along with their many supporters, and nothing infuriated the reformers as much as seeing a young boy lighting up in public. Interestingly, the opposition to tobacco consumption was not targeted on other tobacco products that were much more prevalent at the time (Sobel, 1978). The cigarette signified a new cause and united reformers all over North America.

Several of the anti cigarette advocates were tightly connected to the alcohol prohibition movement[15] arguing that both products held a firm grip on their users and would eventually destroy morally upstanding citizens. The new reformers adopted a rhetoric, one originating with Benjamin Rush's work from the late 18th century, illuminating the connection between drinking and smoking and arguing that one led to the other. In *The Truth about Tobacco: How to Break the Habit*, Bernard Macfadden argues that users of alcohol and cigarettes "cannot stop drinking unless they first give up smoking" (Macfadden, 1921). For the American boy, the author foreshadows a grave future: "the first step in the making of a "bad boy" is to teach a good boy to smoke, especially cigarettes. From this humble beginning, he often gravitates to liquor,

"gangism," and most of the crimes that may, ultimately, land him in a reform-school or penitentiary" (Macfadden, 1921, p. 37). The new cause was clear: the unsophisticated, easy to smoke cigarette which attracted the young and female consumers and which also was associated with immigrants and the poor had to be abolished!

Despite the growing prevalence of smoking among women, they were still a leading voice in the opposition movement. Segrave (2005) explains that this phenomenon was "due to societal values – women were moral and pure creatures with an ethical duty to lead the way in reform. Men were held to be on a lower moral plane than were women and in need of guidance in that area" (p. 37). Cassandra Tate agrees with Segrave arguing that "the 'cannon of domesticity' made [women] the guardians of public and private morality and the inculcators of values in the young" (Tate, 1999. p. 23). Among the most vocal of these anti-tobacco groups was the Women's Christian Temperance Union (WCTU) who got involved in the fight against the use of cigarettes. These female reformers in the late 19th and early 20th century were most interested in creating morally upstanding citizens who lived a clean life. Cigarette smoking, alcohol drinking adolescents and women did not fit that paradigm (Tate, 1999). Many religious leaders who supported the WCTU were equally appalled by the cigarette habit and feared the moral deterioration of boys and women in the United States.

Historians agree that Lucy Page Gaston from Illinois represented a key figure in the fight against the cigarette. Described by some as a spinster crusader whose face resembled that of Abraham Lincoln, and by others as "an interesting, colorful, and lively reformer," former schoolteacher Gaston was a major player in the reform arena (Sobel, 1978). Having spent time with the WCTU and wanting to find her own niche in the fight

against vices, she founded the Chicago Anti-Cigarette League in 1899 and the national Anti-Cigarette League in 1901. Perry Duis (1998) argues that "as a teacher, Lucy had been shocked by the number of boys she had caught smoking. Now she decided to devote her life to battling tobacco, especially the cigarette" (p. 194). With enormous motivation, she embarked on this new task.

The Anti-Cigarette League focused on educating the masses about the detrimental effects of cigarettes on moral and physical wellbeing, as well as pressuring railroads to ban smoking from their carts, and convincing employers to not hire smokers. Gaston's anti-tobacco periodical "The Boy" instructed its readers on how to steer clear of the habit and what to do if one had succumbed to it (Gately, 2001). One of her signature activities included a process of converting young boys and girls who took the 'New Life Pledge,' thus promising to abstain from cigarettes for life (Brandt, 2007). She was also successful in recruiting adolescents to aid in the fight against the cigarette. She would unleash these young crusaders on unsuspecting smoking adults and they would take the glowing cigarette right out of a smoker's mouth (Brooks, 1952).

Gaston had plenty of support in her earlier days. Individuals such as William Booth, a British Methodist preacher who founded the Salvation Army, aligned with the cause of the Anti-Cigarette League, convinced that tobacco was the ruin of people. As Burns (2007) and Tate (1999) discuss, Booth laid out his viewpoints in the 'Fifty-four Objections to Tobacco' which included the stunting of growth in the young and tobacco's role in alcohol consumption (Burns, 2007; Tate, 1999). In addition to the Salvation Army, the Young Men's Christian Association (YMCA), encouraging healthy living, supported Gaston's work and condemned cigarette use.

One of the most vocal supporters of Gaston's cause was the industrialist Henry Ford, founder of Ford Motor Company. In his pamphlet spanning four volumes, *The Case Against the Little White Slaver*, Ford (1914) speaks directly to the American boy whom he feels is worth saving. Ford writes that he does "not feel called upon to try to reform any person over 25 of age because by that time the habit has been formed" (p. 5). The reformer urges the male youth to abstain from cigarettes by recounting numerous testimonies by physicians and clergymen about the serious injuries associated with smoking cigarettes. Ford was convinced that adolescents would find a tragic end if they smoked. In his opinion, smoking cigarettes led straight to dropping out of school or work and to a criminal life. Similar to his friend and inventor Thomas Edison,[16] Ford was adamant about not hiring cigarette smoking individuals. Charles B. Towns (1916) could not have agreed more. In his work *Habits that Handicap: The Menace of Opium, Alcohol, and Tobacco, and the Remedy,* the author claims that "the use of cigarettes is responsible for the undoing of seventy-five per cent of the boys who go wrong" (p. 165). The cigarette was the vehicle that transformed the good boy into a menace spending his days drinking and committing petty crimes before graduating to more serious offenses.

Many reformers favored a complete ban of cigarettes arguing that the product was harmful to the public welfare. No two organizations were as involved in this cause as the WCTU and the Anti-Tobacco League led by Gaston. Publishing periodicals, passing out pamphlets, speaking at schools and church meetings, holding community events and offering the New Life Pledge, speaking with legislators, the reformers worked hard to pursue their plans in having the cigarette banned from sale. Their rallying against the 'little white slaver' or 'coffin nail' did not fall on deaf ears in some circles and several

states restricted the sale of cigarettes while others outlawed it completely. Brandt informs the reader that "between 1895 and 1909 twelve states (…) had banned the cigarette totally (Brandt, 2007, p. 258). During this time, children could not purchase cigarettes in 21 states (Burns, 2007). Both occurrences signified the major effects the anti-tobacco movement had on the legitimacy of the cigarette. Furthermore, a tax increase supported the opposition and made cigarettes more expensive for customers. In turn, cigarette sales declined while the tobacco industry warily looked on.

The period between the Civil War and World War I (WWI) saw a great increase in the use of cigarettes particularly among women and adolescents. While the mechanization of the cigarette production was instrumental in the popularization of the little smokes, other factors such as the enticing advertisements which concentrated on lower prices and milder taste in comparison to the harsher, costlier cigars, as well as the continuing urbanization of society were significantly responsible in making the habit more prevalent in the United States. The increase in use was countered by a growing opposition to the product. Zealous reformers focused on moral decay of the society with an emphasis on women and adolescents.

World War I (1914-1918) and the Birth of Advertisement

Even with the fall in sales between 1897 and 1901, the tobacco industry need not have worried about the cigarette's future in the United States. World War I continued to popularize the little smokes just as the Civil War had in the past century. Soldiers, like no other group at the time, smoked cigarettes in ever growing numbers (Brandt, 2007;

Burns, 2007; Gately, 2001). Being a soldier and going to war often coincided with another variable. Even without the war, young men had been attracted to the cigarette and smoked them increasingly. This trend was exacerbated by sending troops abroad to fight in a ruthless war.

The increased use of cigarettes in the period of World War I may be explained by factors similar to those cited above concerning the Civil War. In addition to the lower cost and practicality of cigarettes over other forms of tobacco consumption, young men at the time were accustomed to cigarettes due to their growing prevalence in society and the boys naturally brought them along to war. Chewing tobacco had lost its appeal for most people because of the sanitary and social implications (Kluger, 1996). Smoking provided a type of social bonding activity between young men, many who may have never left home before in a wartime environment that was both unstable and unpredictable. To quote Tate, "a shared smoke was a way of connecting in a disconnected world" (Tate, 1999, p. 90). The cigarette calmed soldiers' nerves before and after battle and suppressed hunger when food was scarce. Smoking was comforting when the young men were full of fear and anxiety.[17] The cigarette became the quintessential coping device for soldiers who witnessed and sometimes participated in atrocities. Smoking took on a distinct meaning and Gately explains that "the freedom to smoke a cigarette implied that the combatant had survived – for now" (Gately, 2001, p. 234).

Many historians tracing the history of cigarettes in the United States quote General Jack Pershing who led the military forces in WWI and who by all accounts said "You ask me what we need to win this war, I answer tobacco, as much as bullets" (Sobel, 1978, p. 84). The government, with the assistance of a variety of organizations and the

support of the tobacco industry, was keen on supplying whatever the soldiers needed; "any man in uniform in 1917-18, in almost any part of the United States or France, could be certain of finding a canteen where he could get free coffee, doughnuts, and cigarettes. Enormous quantities of all three were consumed" (Brandt, 2007, p. 51; Sobel, 1978, p. 86). Additionally, families were encouraged to put cigarettes or loose tobacco in soldiers' care packages sent overseas. In comparison to pre-war conditions, the per capita consumption of cigarettes increased significantly. Before the entry of the United States in the war, 134 cigarettes were smoked per person. After the war this figure climbed to 310 cigarettes (Burns, 2007; Sobel, 1978) illustrating how the cigarette enjoyed an ever increasing popularity during the war years.

It is not astonishing that the government and the tobacco industry worked together to supply cigarettes to the soldiers. The former was primarily concerned with keeping the young men's morale high, while the latter saw the potential increase in market shares. The U.S. government went as far as waiving taxes and export restrictions on tobacco products (Burns, 2007). Perhaps more astonishing was the participation from aid organizations in providing soldiers with smokes. Organizations that once stood in line with Gaston's anti-cigarette crusades were now the ones handing out free cigarettes behind battle lines. Such organizations that had a change of heart included the Salvation Army who abandoned the fifty plus objections to smoking it once reverently supported. The Red Cross and the YMCA[18] behaved similarly and shipped millions of dollars worth of cigarettes to Europe (Brandt, 2007). When aid organization workers were able to hand them out in person they would do so, otherwise, they would either send care packages to soldiers or "when the going got tough, the Y got dogs, strapping cartons of cigarettes to

the backs of all manner of canines, large breeds and small, to transport them quickly and safely to the front lines" (Burns, 2007, p. 158). Thus, due to the efforts of the government and aid organizations along with soldiers needs, the cigarette became a legitimate product handed out by respectable organizations.

Aid organizations' change of attitude observed during the war signified a larger societal development. Throughout this time, the cigarette lost some of its deviancy. Who really cared about the minor moral degradation that was associated with the smoke when soldiers were dying in Europe? The cigarette took a back seat in comparison to other temptations waiting abroad such as prostitutes, gambling, and drugs and was considered rather harmless in the face of death (Tate, 1999). Brandt agrees with Tate and argues that "the moral threat of the cigarette suddenly seemed tame and anachronistic, and smoking seemed positively safe compared to the profound violence confronting the men overseas" (Brandt, 2007, p. 51). By keeping soldiers busy in battle and content with cigarettes, the government, as well as civil organizations hoped to prevent worse transgressions from being committed overseas.

World War I changed the image of the cigarette, now considered manly and heroic and widely consumed among soldiers. Smoking had become a patriotic duty (Brandt, 2007). War veterans returned to the United States intensely devoted to the little companion that had been readily accessible to them abroad while in the trenches, in hospitals or on ships traveling home. When the war ended in 1918 and America welcomed its soldiers back home, three major brands were established on the market: Reynolds' Camel, Hill's Lucky Strike, and Liggett & Meyers' Chesterfield.

In addition to men at home and abroad welcoming the cigarette into their lives, middle-class women increasingly were seen smoking and in the mid 1910s, cigarette smoking by women became more prevalent throughout all classes. Although it was most certainly not the norm for a woman to smoke, society had become more accustomed and accepting of seeing a female light up at parties or even in certain public spaces. Some restaurants experimented with giving women the same rights as men regarding smoking policies (Segrave, 2005). However, overall, restrictions for women smoking in public were still in place in nearly every major city and most contemporaries saw public smoking by women as an insult to morality and good taste. If women rebelled against these conventions and disregarded the rules, they often would be asked to put out their cigarettes (Segrave, 2005). During this time, advances were constantly being made with regard to women smoking cigarettes and toward the end of the 1910s, restrictions were often abandoned and, more so than ever, women were free to smoke with their male companions after dinner or during other social functions.

Lucy Gaston and her followers were flabbergasted by what the Great War triggered in American society and how the tide was turning in favor of the cigarette. Stern allies of the Anti-Cigarette League suddenly withdrew their support and increasingly the efforts of the league were left unheard. Gaston was so appalled by these developments that she tried to sue organizations such as the Red Cross and the YMCA over the distribution of cigarettes to the troops in Europe arguing that states with anti-smoking laws should be prohibited from sending cigarettes to soldiers. However, very few listened to the once powerful crusader (Burns, 2007). After the war, society seemed disinterested in the battle against the cigarette and not even the ratification of the Volstead Act in

1919, which made America a dry country, sparked a new beginning for the reformers. Quite the contrary, Gately (2001) suggests that Americans reacted to evangelist Billy Sunday's declaration 'Prohibition is won; now for tobacco' with an awareness "that their pleasure could not be taken for granted" and they "responded by smoking more than ever, especially cigarettes" (p. 241). The reformers were outraged by the public's response and tirelessly promoted their anti-cigarette stance.

Overall, while the opposition during the second decade of the 20th century became more vocal in pronouncing the cigarette an evil and a moral vice, they were unable to make legislative changes that were successful in decreasing the use of cigarettes and by women in particular. Most bills were overturned in higher courts and existing laws banning cigarette sales were circumvented by sending the cigarettes through the mail. During this time, society appeared more at ease with men and women smoking cigarettes and less concerned with the public display of the habit. The future of the anti-cigarette movement looked gloomy.

The tobacco industry spent the first two decades of the twentieth century establishing its different brands by advertizing to consumers and by providing soldiers with free smokes. Yet, industry insiders realized that the male market was nearly saturated with cigarettes and it was now time to explore new opportunities. Women were naturally selected to be the new target group because, as Sobel (1978) explains, they constituted "the largest untapped market" (p. 92). To entice more middle class women into smoking and to create a greater demand for cigarettes, earlier taboos against women smoking were now cautiously challenged by the industry (Burnham, 1993). In the early 1920s, the tobacco business was still constrained by social and cultural conventions and

therefore only indirectly advertised to women. Liggett & Meyer were among the first[19]cigarette companies to tempt women into purchasing their products. While the female in the ad did not smoke, she asked her companion to "Blow some my way" suggesting that she too would like to have a cigarette (Sobel, 1978). Soon ads for cigarettes became more explicit and openly showed women reaching for a smoke.

The ad campaigns of the time sought to emphasize the connection between smoking and beauty, smoking and style, and smoking and independence. Such advertisements fit the demand of the times. The world women inhabited was changing quickly. During WWI, they were nurses, aid workers, and took on jobs traditionally reserved for men. Women had no intention of losing their new professional privileges without a fight. Cigarette advertisements tapped into women's desire to maintain their newfound autonomy (Burns, 2007). Smoking quickly became a symbol of liberation. Tate (1999) explains that "for women, smoking was one expression of departure from the past. Red mouths, bobbed hair, short skirts, strappy city shoes: these, along with cigarettes in long thin holders, helped define the modern woman in the 1920s" (p. 109). Along the same lines, Gately (2001) argues "women wanted to dance and smoke, and they now voted, their desires could no longer be ignored" (p. 243). The cigarette industry was all too happy to accommodate this new woman by offering a variety of products geared towards delicate female hands.

In the 1920s women's cigarette smoking, now more public and prevalent than ever, moved into a new arena because women in higher education and thus free of parental restrains became attracted to the cigarette (Tate, 1998). College and university campuses around the country dealt with the habit in different ways. While some had

outright restrictions against smoking on campus, other schools decided to let the women govern themselves. Overall, administrators were hopeful that the young students would come to the conclusion that smoking was a vile and dirty habit (Segrave, 2005). College boards and student associations all over the country expelled female students for breaking the anti-smoking rules. Yet as the decade went on, restrictions became less and less severe and more colleges accepted the fact that some of their female students, despite their upbringing and education, were smoking. Sometimes, particular rooms or halls were designated as smoking areas (Sivulka, 1998). Most institutions made it clear, however, that they were not pleased about the development and they preferred their female students to be non-smokers.

Outside of education, women were gaining ground in the battle for the right to smoke publicly. Restaurants had long since given up their opposition to their female patrons' smoking habits and now theaters were following their lead. Additionally, social clubs and sports clubs were making it easier for women to smoke by opening rooms to their members where they could indulge. Even smoking on trains became a regular, acceptable sight (Sivulka, 1998). Street smoking, the last bastion of cigarettes' opponents, was still a social taboo for women during the third decade of the 20th century and cities punished offenders with fines or jail time (Segrave, 2005). The smoking habit spread beyond city limits and Robert (1949) explains that "by the early 1920s in the urban centers of the northeast women smokers were plainly in evidence; by the middle 1920s they could be seen in small towns and villages" (p. 253). Tennant (1950) writes that "in 1924 the editor of the United States Tobacco Journal estimated feminine consumption at 5% of the national total" (p. 136). As this quote indicates, reliable

statistics about the prevalence of cigarette smoking in the 1920s are hard to come by but, with the testimony from tobacco shop owners who attested at the time that many of their customers were women who purchased the same products as their male companions, one may postulate that women were smoking in ever increasing numbers.

The opposition during the 1920s failed to offer new arguments against women smoking cigarettes but was strong and vocal nonetheless. Fear of moral degradation and unfeminine demeanor were cited as reasons for prohibiting smoking. Again, as seen in the past, fighting the smoking habit among women often went hand in hand with trying to impose stricter dress codes and control behaviors such as dancing and drinking. Brandt points out that the anti-smoking reformers considered the cigarette "a marker of sexual accessibility and rebellion from familial and social convention" (Brandt, 2007, p. 58). However, as the years passed by, society listened less and less to these reformers and mostly ignored their diatribes. By the end of the decade, organized opposition to women smoking cigarettes had nearly vanished. Burns estimates that at the end of the 1920s, women consumed about 12 percent of all cigarettes that were sold in the United States. Earlier in that decade, this number had been at only 6 percent (Burns, 2007).

As the third decade of the 20th century opened, America's youth became a huge market for the tobacco industry. Burnham (1993) points out that particularly Reynolds' Camels were popular among young smokers many attracted to the company's advertising strategy (p. 95). Using sports icons and other idols of the time, the tobacco industry lured youths into believing that they too could share this glamorous world of celebrities by smoking a certain cigarette brand (Brooks, 1952). Furthermore, smoking often set these youngsters apart from their parents by widening the generational gap. Brandt explains

that “the cigarette became an increasingly omnipresent prop in the culture of youth, smoking stood as a prominent symbol in the fires that burned between generations” (Brandt, 2007, p. 56). The cigarette acquired a new meaning for these young people. It signified a certain maturity on the part of the smoker who was able and chose to consume cigarettes. For boys, cigarettes symbolized the cool and masculine, whereas for girls cigarettes accentuated femininity and symbolized an ultimately glamorous way of life (Brandt, 2007).

World War I and the tobacco industry’s heavy use of targeted advertisements most certainly played a part in the popularization of the cigarette in the first decades of the new century. However, smoking cigarettes cannot be solely attributed to these two occurrences. Other elements contributed to the success of the cigarette during and after WWI. The cigarette fit the demand of the times. Most Americans adapted to the ever quickening pace of life and the cigarette, “the easily replaceable, instantly rechargeable, immediately gratifying cigarette” was a perfect match for modern Americans, both men and women (Burns, 2007, p. 169). Tennant (1950) summarizes the forces that helped the cigarette become popular, and explains that “increased urbanization, the higher tension of modern industrial society, and the change in the position of women” were all equally important to the cigarette’s success (p. 141). With all these forces combined, there was simply no stopping the cigarette. Cigars were surrounded by an air of stuffiness and tradition while chewing plug was perceived as antiquated and socially disagreeable (Sobel, 1978; Tennant, 1950). Even the outspoken opposition could not achieve long-lasting victories, and, by 1927, laws by fourteen states prohibiting the sale of cigarettes were abandoned (Burns, 2007).

Along with its success during the early decades of the 20th century, the cigarette acquired an amazing set of different meanings and developed into a culturally desirable product. Brandt referred to cigarettes as "a marker of independence and autonomy" that were associated with "sexual attractiveness, physical beauty, and leisure" on the one hand, and on the other hand as objects that "could connote virility, strength and mental acuity" (Brandt, 2007, p.98). Overall, in this time period, the cigarette became the symbol of modernity and the increased prevalence of smokers in society illustrates that the opposition made very little long-lasting progress in those decades.

The Depression, World War II (1939-1945), and Some Puzzling Medical Observations

At the end of the 1920s and into the 1930s the cigarette became an integral part of the good life for both men and women thanks to the role directed advertising continued to play, the growth of cigarette consumption during WWI, and the changing role of women in society which lead to fewer restrictions. For all intents and purposes, America was infatuated with smoking and by the time the U.S. economy came to a screeching halt with the crash of the stock market, Americans smoked more than ever before. Between 1920 and 1930, the per capita consumption had doubled and was now at more than 1,000 cigarettes per capita (Sobel, 1978). Thanks to innovative advertising strategies targeting different groups of consumers, several brands were well established on the cigarette market.

Historians agree that while Americans cut down on other consumer products, the cigarette held up fairly well during this time of financial crisis. Brandt (2007) recounts in

his cigarette history the story of a business writer who concluded that "People, it seems, must smoke cigarettes, as well as eat, in good times and bad." The man considered the cigarette industry "depression proof" (p. 93). Sales of the major producers, however, did go down slightly due to the depression[20] and some people switched to roll-your-own varieties, cheaper no-name products, or purchased single cigarettes, so called *loosies*, from their tobacco shops (Sobel, 1978). But overall, Americans made it clear that they were not going to give up smoking during this desolate time (Kluger, 1996)

Despite the effects of the depression on all businesses, tobacco companies were committed to heavily promoting their products and spent astonishing amounts of their profits on marketing. With new avenues such as radio commercials and motion pictures, advertising continued to help the cigarette maintain its popularity in society. Whether the industry employed print media, radio, or movies, the commercials selling cigarettes targeted two distinct demographics of consumers. On the one hand, advertisers wanted to appeal to the sophisticated smoker who appreciated luxurious living, style, and glamour. Yet, on the other hand, the industry sought to appeal to young men and people who could not afford anything but the cigarette (Burnham, 1993). In this fashion, the advertisements spoke to every single American – rich or poor, man or woman, sophisticated or simple.

During the 1930s and 1940s, cigarette companies took advantage of the media, in particular the radio, to promote their products. Americans at this time thoroughly enjoyed their radios shows. Cigarette companies with their products made their way into American homes by not only having commercials on air in-between music programs, but also by sponsoring particular shows. Lucky Strike's weekly "Your Hit Parade" provided its listeners with a countdown of the most popular songs (Sivulka, 1998). At the same

time, the show inundated its listeners with publicity for Lucky Strike cigarettes. Whether through the print media, radio or movies, Americans in the 1930s were flooded with brand information and smoking became more and more culturally accepted.

In addition to radio shows, the growing popularity of the cinema proved to be an invaluable tool for further imbedding the cigarette even deeper into American culture. Both the silent movies of the early 1920s, as well as the talking pictures of the late 1920s, made use of the cigarette to depict opposing character traits such as anxiety, love, or strength. Initially, the cigarette featured in the pictures of the early 1920s symbolized villainy and evilness. However, as the acceptance of the practice of smoking grew, more and more film heroes smoked cigarettes (Tate, 1999). The manner in which the villain of the early 1920s and later the hero smoked spoke volumes to the audience (Kluger, 1996). The cinema, featuring the lives of others unfolding on screen, provided an escape from the depressed economic state of the country for those individuals who continued to suffer financially in the years following the Depression. Life-size heroes and villains –with cigarette in hand– helped viewers escape reality. Gately (2001) points out that for the first time in history, Americans "had public figures other than their rulers to adore" (p. 247). This idolization and adoration stimulated the imitation of behavior as the population took after their favorite cigarette smoking celebrities. If viewers could not achieve the same lifestyle as their movie stars, they could at least afford the same smoke.

Female smokers clearly benefited from the use of cigarettes by movie actresses in terms of the acceptability of the practice. Film stars such as Greta Garbo and Katherine Hepburn helped publicize the cigarette among American women. Cigarettes no longer denoted villains or bad characters, but instead the heroines and heroes who were rarely

reluctant to light up. Women now were fair game as targets of advertisements. Before 1930 the tobacco industry refrained from targeting women in cigarette advertisements due to societal norms, notably the unease surrounding the issue of women smoking. However, as acceptance for women smoking cigarettes grew, advertisements became more explicit.[21] The "Blow some my way" campaign of the 1920s was replaced by ads that showed women with cigarettes in their hand, leaving little to the imagination. From creating cigarettes of particular mildness to accommodate women's taste to suggesting that cigarettes are better than sweets and thus advocating for a slimmer body type, the tobacco industry began to heavily advertise their products to women (Segrave, 2005).

The 1930s marked a shift in society's reaction to women smoking cigarettes. More venues, such as department stores for example, were open to women smoking in public and women made good use of this privilege. Smoking on the streets of cities was still considered inappropriate but slowly, with an ever increasing number of females smoking, this once established barrier began to crumble (Tennant, 1950). Overall, many still perceived the public display of the cigarette habit as vulgar and disagreeable, but more and more women ignored such sentiments.

The anti-cigarette opposition against women smoking had all but died down in the 1930s and the decades to come. Religious groups continued their attack on the subject due to the moral issues regarding smoking, and reiterated that women who smoke were not effective mothers and were responsible for their own physical deterioration (Campbell, 1936). Despite ambiguous research results, opponents of female smoking suggested that smoking by nursing mothers may have caused negative health effects for infants (Brandt, 2007). Additionally, critics of the cigarette argued that smoking caused

negative consequences concerning the appearance of women, such as pallid lips, pointier faces, and blank eyes (Segrave, 2005). Despite such zealous objections, American women generally ignored such accusations and outrageous claims and continued smoking at their leisure.

The public was accustomed to such claims made by opponents of tobacco concerning a variety of ailments caused by the weed.[22] While some reformers concentrated on the physical effects of smoking, others opposed the use of tobacco on moral grounds. Most of the time, however, "moral considerations were practically indistinguishable from concerns about the health effects of cigarette smoking" (Brandt, 2007, p. 108). This blending of moral assumptions and physical effects in smoking research was somewhat undone starting in the 1920s.[23] At the time when anti-cigarette reformers were still using arguments grounded in the moral opposition to the cigarette habit, a medical doctor in Minnesota made a spectacular discovery. Sobel (1978) recounts that looking at autopsy records and comparing the results with recent lung cancer victims, Dr. Moses Barron noticed the doubling of lung cancer cases in a short amount of time (p. 163). However, the doctor's sample size was negligible and only researchers in the same field learned about the discovery (Burns, 2007).

In an attempt to eliminate the moral bias against smoking by grounding their observations in science, researchers increased their efforts to study the link between smoking and cancer. In 1928, Doctors Herbert Lombard and Carl Doering used a case-control study design to test a variety of hypotheses regarding the causation of cancer. They came to the conclusion that "heavy smoking is more common in the cancer group" and they discovered a dose-response relationship between smoking and disease (p. 487).

Ten years later, Dr. Raymond Pearl, a researcher at Johns Hopkins University, published a report in *Science* and concluded that "the smoking of tobacco was statistically associated with an impairment of life duration, and the amount or degree of this impairment increased as the habitual amount of smoking increased" (Pearl, 1938, p. 217). In comparison to earlier opponents of tobacco who emphasized the negative health consequences of smoking, these researchers moved away from anecdotal evidence to show the connection between smoking and disease. Yet, clearly, science was far from being able to show a cause and effect relationship. Lombard and Doering, as well as Pearl, could only attest to an association between the habit and shorter life expectancy or cancer.

By all means, these research findings – albeit preliminary – coupled with the earlier anecdotal health consequences observed by physicians should have tightened the noose for the cigarette industry. But this was far from reality. Americans continued to enjoy their smokes and paid minimal attention to reports featured in medical journals. Burns (2007) summarizes the public opinion at the time: "Yes, they were doctors and scientists and others with advanced degrees, but no one had ever heard of them before. Who were these guys? Who knew about their credentials, their motives? There were frauds in every line of work, even the most prestigious ones" (p. 196). While some of the risks of smoking had been successfully established, the variability of illness led physicians at the time to circumvent the issue of smoking being implicated in causing cancer by advising their patients to smoke in moderation (Brandt, 2007).

The cigarette industry was well aware of the ongoing research and continued reassuring smokers about the innocence and harmlessness of their products. Cigarette

advertisements would continue to stress how mild and soothing the cigarette was to the throat. “Not a Cough in a Carload” or “Not a Single Case of Throat Irritation Due to Smoking Cigarettes” constituted some of the tobacco industry’s claims (Sobel, 1978). In addition, more and more advertisements featured doctors who appeared to smoke with confidence. Reynolds’ “More Doctors smoke Camels than any other cigarette” which debuted in 1946 used the authority figure of the physician in a white coat to disperse public anxiety concerning the health risks of cigarettes (Gardner & Brandt, 2006). Overall, through advertisements, cigarette makers before World War II (WWII), tried to deflect attention from more serious concerns such as cigarettes’ implications in developing cancer by focusing on minor discomforts such as throat irritation (Sobel, 1978). The ads at the time were meant to put smokers’ minds at ease and increase confidence in the product.

By the time Americans prepared to enter their second world war, the annual per capita consumption had reached 2,558 cigarettes, double the consumption level of 1930 (Kluger, 1996). In the face of another war, negative health consequences of smoking were all but forgotten by the public. Similar to the Civil War and WWI, WWII would introduce the cigarette to many non-smoking young men who would see their comrades light up and, in turn, imitate this behavior. Soldiers smoked for the very same reasons their predecessors had in previous conflicts. They smoked to alleviate the tension of the war, to fight the boredom between battles, and to bond with fellow comrades. Gately adds to this that “cigarettes formed an umbilical cord linking soldiers to civilization. There was little else in the daily grind of being bombed, burned and maimed, of killing or being killed in foreign countries to remind them of home” (Gately, 2001, p. 260).

Because many of the men who went abroad were already smokers, the cigarette became a symbol of the American way of life. On the home front, the situation was very similar, as men, women, and adolescents lit up with fervor (Burns, 2007).

The tobacco industry was elated by the prospect of war because they remembered how WWI had been instrumental in popularizing the use of cigarettes in American society.[24] Cigarette production and sales immediately increased and in the United States there were rumors that cigarettes would have to be rationed to secure a steady supply for the troops (Tennant, 1950; Sobel, 1978; Robert, 1949). The government supported the tobacco industry and Gately (2001) refers to the cigarette as having "quasi-official status" at the time, thus emphasizing the cigarette's contribution to the war effort (p. 265). He explains that tobacco was "an essential wartime material and [the United States] granted military exemptions to those who grew it" (p. 257). Cigarettes were ubiquitous during WWII and either free of charge, part of the combat ration, or very inexpensively offered at commissaries (Kluger, 1996).

After the war, Americans, including physicians, smoked more than ever. In 1947, the per capita consumption was 2,569 cigarettes. Sobel (1978) suggest that "Americans wanted to enjoy themselves after years of depression and war" (p. 149). But soon, they could not remain in ignorant bliss about the health consequences of their beloved habit. In the past three decades, scientific studies emerged that tied the cigarette to serious diseases and a shorter life span. While cigarette advertisements had done all they could to cleverly appease their customers, before long, new studies would surface that would add to the growing body of literature demonstrating the negative health impacts of smoking.

The Plot Thickens – The Causal Challenge and the Response from the Industry

The new decade opened with a damaging strike against the cigarette industry and encouraging results in the quest to find the causes of cancer. Amidst increasing lung cancer rates in the country,[25] in 1950 two studies were published in the same volume of the *Journal of the American Medical Association*. Morton Levin and Hyman Goldstein (1950) studied cancer and non-cancer patients and their tobacco habits. They learned that "there were more than twice as many cases of lung cancer among cigaret smokers as among any other group" (p. 337). At the same time, Ernst Wynder and Evarts Graham's (1950) study of lung cancer patients had similar results concluding that "excessive and prolonged use of tobacco, especially cigarets, seems to be an important factor in the induction of bronchiogenic carcinoma" (p. 336). Both groups of scientists were supported by British researchers Richard Doll and A. Bradford Hill whose article "Smoking and Carcinoma of the Lung" was published a few months later in the *British Medical Journal*. Doll and Hill (1950) conclude that "smoking is a factor, and an important factor, in the production of carcinoma of the lung" (p. 746). Kluger is of the opinion that these three studies "may be said to have marked the end of the age of innocence about the blithe charms of the cigarettes (Kluger, 1996).

The works of Levin and Goldstein, Wynder and Graham, as well as Hill and Doll were damning for several reasons. The researchers had been very careful not to make outrageous claims of causality and merely pointed to the association between smoking and lung disease. They also looked at other disease contributing factors and carefully matched patients with control individuals. Lastly, the scientists steered clear of any moral

claims in connection with cigarette smoking and concentrated solely on scientifically verifiable facts.

To make matters worse for the cigarette industry, mainstream media outlets focused on these scientific studies in an attempt to educate the public. As soon as the research articles cited above were published, the *New York Times* ran an article with the following headline: "Smoking Found Tied to Cancer of Lungs; 94.1% of Males Studied Used Cigarettes." The article summarized the findings from Graham and Wynder as well as Levin and Goldstein (Kluger, 1996). Furthermore, in 1952 a detailed article titled "Smokers Are Getting Scared" appeared in the *Christian Herald*. Author Roy Norr discussed the ongoing research on smoking and lung cancer from the American Cancer Society as well as the findings from Wynder and Graham. The same year, the author synthesized the information from the *Christian Herald* for *Reader's Digest* and published "Cancer by the Carton." Barely two pages in length, Norr managed to summarize the pertinent information on smoking and cancer while painting a fairly grim picture of the relationship between the two.

Instead of ignoring the health implications of smoking, the industry responded by increasing the production of king-size and filter-tipped cigarettes. In 1936, Brown & Williamson introduced a mentholated cigarette with a cork tip that they named Kool. This mentholated cigarette was targeted at health conscientious smokers who wanted to avoid "laryngeal irritation" (Gately, 2001, p. 273). At first merely a curiosity for smokers, the new filter-tipped rose above manufacturers' expectations and slowly its production increased. However, smokers were reluctant to purchase cigarettes with filters and by 1953, only 3 percent of all cigarettes sold in the United States had a filter (Kluger, 1996).

Despite the slow acceptance of filtered cigarettes, the public appeared slightly more cautious with regards to cigarette smoking. For the first time in many years, overall sales declined (Sobel, 1978).[26]

The cigarette industry realized that their smokescreen strategy of filtered cigarettes was not enough to ease smokers' health-related anxieties. To counter the growing body of literature confirming the cancer-cigarette relationship, the tobacco industry published a rebuttal in more than 400 of the nation's leading newspapers in 1954. The so-called "Frank Statement to Cigarette Smokers" undersigned by all leading cigarette manufacturers called into question recent medical research results concerning cigarettes and cancer and denied the existence of a causal relationship between the two. In fact, the authors of this document argued "that statistics purporting to link cigarette smoking with the disease could apply with equal force to any one of many other aspects of modern life. Indeed, the validity of the statistics themselves is questioned by numerous scientists" ("Frank Statement," 1954, p. 15).

Clearly, the Frank Statement meant to disperse the claims that cigarettes were a contributing factor in the etiology of some cancers and sought to discredit medical research on tobacco. The tobacco industry sought to reassure the public by denying the allegations and insisting on the safety of the product. In order to show their commitment to the health of cigarette consumers, the manufacturers announced that they would come together to form the Tobacco Industry Research Committee (TIRC) to provide "aid and assistance to the research effort into all phases of tobacco use and health" ("Frank Statement," 1954, p. 15). In 1954, Americans smoked more reluctantly than previously and cigarette consumption was down by 6 percent (CDC, 2008).

As long as researchers minimized the link between cigarette smoking and cancer to a mere association, the tobacco industry could claim other factors, such as air pollution for example, to be responsible for the increase in cancer deaths. However, two epidemiologists working for the American Cancer Society put an end to these alternative explanations when they published their findings in the *Journal of the American Medical Association* in 1954. This prospective study of 187,766 white men between the ages of 50 and 69 showed, without a doubt, that "death rates increase with amount of cigarette smoking" (Hammond & Horn, 1954, p. 1328). The researchers were particularly interested in cigarettes' role in the development of diseases of the coronary arteries and cancer. More damning than the increase in death was the scientists' assertion that "all the evidence we have seen seems to be consistent with the hypothesis that the association between smoking habits and death rates from lung cancer and diseases of the coronary arteries results from a cause and effect relationship" (p. 1328). The cause and effect relationship was a major setback to the tobacco industry whose masterminds insisted on the harmlessness of their products.

Finally, the public reacted to the mounting evidence against the cigarette and, while consumption decreased overall by 6 percent at the end of 1954, the filtered cigarette became slightly more popular (Kluger, 1996). Unfortunately, the decrease in sales lasted only a short while and by the middle of the decade, smokers resumed their use of the cigarette. Historians suggest that this development may be partially attributed to the tobacco industry's change in advertising practices. Instead of focusing on health claims that were not substantiated by research, ads merely concentrated on the filtered

cigarettes suggesting that the effectiveness of the filter would all but eliminate the risks associated with smoking.

Burns (2007) claims that "the 1950s were the worst decade yet for the American tobacco industry" because of the growing numbers of reports linking smoking and disease (p. 206). Contrary to the pre-WWII era where such knowledge was only circulated in medical journals and was thus almost unavailable to the public, these new findings began to appear in widely read newspapers and journals. The 1960s were even worse than the previous decade because President Kennedy finally reacted to the mounting evidence associating smoking and cancer. He formed the Surgeon General's Advisory Committee on Smoking and Health lead by Terry Luther and aided by eminent scientists around the nation (Sobel, 1978). Luther's report, published and discussed during a press conference in 1964, was very clear on the causal effect of smoking on lung cancer. Now, there was not merely an association between the two but the highest ranking medical official in the nation had confirmed a cause and effect relationship. How would the public and the tobacco industry react to such news? The consequences of the report on the development of public health initiatives and cessation research will be discussed in the following chapter.

Chapter II: A Historical Analysis of Smoking Cessation Strategies

The focus of Chapter II is on smoking cessation research from the last decades of the 19th century, before the cigarette habit was associated with disease etiology, until the 21st century. As soon as Americans took up cigarette smoking in the late 19th and early 20th century in growing numbers, opponents condemned the habit and offered advice on how to forgo smoking. Primarily based on moral, and only secondarily based on health reasons, 19th century physicians and clergymen proposed a variety of remedies to fight the cigarette habit. Cessation research, devoid of moral implications and driven by well-founded health concerns, did not emerge as a serious science until epidemiologists and other medical researchers in the 1950s established the connection between smoking and lung cancer. Driven by this new evidence that emphasized the negative health implications of smoking, researchers sought to learn more about what differentiated smokers from non-smokers as well as quitters from non-quitters and to discover effective cessation methods. During the mid 20th century, efforts mainly concentrated on changing smoking behavior through various types of therapy. Smoking was widely regarded as a negative behavior that needed modification. During the mid 20th century, researchers tried to find a substitute for nicotine to ease smoking cessation. Later in the century, when nicotine's effects on the brain's receptors were scientifically established, researchers shifted their focus from behavioral and substitution therapies to nicotine replacement options[27] and other pharmacological treatments.

Divided into five sections, this chapter initially presents the types of cessation tools that were available before the discovery of the lung cancer-smoking connection.

The second section explores the immediate public health and cessation research responses in the aftermath of the scientifically established etiologic connection between smoking and disease. The third section concentrates on behavioral and substitution cessation tools in the decades before and after the publication of the first Surgeon General's Report linking smoking and lung cancer. The subsequent section focuses on quitting tools adopted in the 1970s and early 1980s. The final section focuses on the development of nicotine replacement therapies, antidepressants specifically marketed to treat the cigarette habit, and medications that block nicotinic receptors in the brain.

The review of cessation treatments presented in this chapter provides the foundation of this dissertation and the primary investigation of how smokers experience cessation. The tracing of the cessation research development provides the reader with an impression of how scholars understood smoking and smokers at different times and how this knowledge affected the cessation research. In other words, the question of whether the relationship between smokers and cigarettes is perceived as a behavior, an addiction, or something in-between, drove researchers in their attempts to find a successful cessation tool or method.

Gentian Roots and Silver Nitrate –Before the Establishment of the Lung Cancer - Smoking Link

Studies show that the first Surgeon General's Report on Smoking and Health (1964) in which a link between smoking and lung cancer was identified, triggered cigarette cessation research by providing an urgent reason for health conscientious

investigators to find a cessation method. However, even before epidemiologists established the causative link between smoking and disease, some individuals acknowledged the difficulty of breaking the cigarette habit and discouraged the use of tobacco products in general, and cigarettes in particular.

In the following section, the early cessation tools and methods are examined. Set in the context of highly developed research methods and standards of the 21st century, these personal observations on smokers and the suggested cures such as chewing on roots and drinking copious amounts of water seem unscientific and therefore must be examined within their historical context. Instead of exhibiting scientific rigor, the published accounts of medical personnel and laypersons are rather anecdotal in nature, often referring to an experience with one smoker and generalizing the singular observation to the entire smoking population.

At a time when cigarette consumption was fairly popular, the early voices of smoking dissent came from a variety of public authorities who spoke against cigarette use for different reasons. Clergymen, as well as members of the medical community, were among the first to condemn the habit and give cessation advice. Smoking was not yet a proven health hazard and more likely to be scrutinized because of its moral implications.[28] While some physicians observed negative health consequences of smoking in their daily encounters with patients and may have believed that smoking could be the reason for these diseases, they had little proof for the smoking and health connection and consequently many joined the clergymen in opposing smoking on moral grounds.

Publications in newspapers and monographs suggest that at the turn of the 20th century, quitting the use of cigarettes was easier said than done. This opinion was reiterated by a journalist of *The Milwaukee Sentinel* in 1894 who focused on the annual New Year's resolution to stop bad habits such as using tobacco. The author of the article concluded that most users of the habit forming substance resumed their smoking routine quickly when experiencing nicotine cravings. Indeed, the journalist continued, individuals who attempted to quit other habits such as drinking or poker playing presumably experienced greater success rates and suffered less than inveterate smokers. The writer predicted that smokers' "good intentions will last anywhere from two hours to two days, and after a period of forty-eight hours their efforts will mostly go down into the history of humanity's weakness with a crash that will betoken another victory for his majesty, the devil" ("Hard to Stop Smoking," 1894). Later in the article, the journalist claimed that "the cigarette habit is rarely more intense than that of tobacco in any other form and sticks so tenaciously that only about one man in every 10000 who has formed it can get rid of it for any length of time" ("Hard to Stop Smoking," 1894). This article, which represents the many that were published throughout the nation, points toward the persistence of the habit on the one hand and the moral offensiveness on the other, by grouping smoking with other deviant behaviors such as drinking and gambling.

Early smoking cessation advice took several forms. On the one hand, contemporaries suggested substitutions with gentian root or the so-called Gold Cure. Both remedies were said to help the avid tobacco user abstain from the habit. On the other hand, anti-tobaccoists prescribed the use of substances that would spoil the taste of cigarettes such as silver nitrate. Apart from using these remedies, some individuals

believed that smoking was a behavior in need of modification. In order to help users quit, advocates of behavioral methods focused on elements such as diet, rest, or exercise to break the tobacco bond. Finally, willpower played a dominant role in tobacco cessation around the turn of the 20th century. Suggestions on combining several of these approaches to achieve abstinence were common. Details regarding these different cessation techniques are discussed below.

In his book *Tobacco – Its Use And Abuse,* Reverend J. B. Wight encouraged individuals attempting to quit smoking to buy ground gentian root and ingest this substance whenever they felt the need to smoke. The root, with its bitter taste, was said to neutralize the appetite for tobacco (Wight, 1889). Wight's colleague Reverend George Trask, who earlier in the century published *Letters On Tobacco, For American Lads Or, Uncle Toby's Anti-Tobacco Advice To His Nephew Billy Bruce,* was in agreement and he believed gentian roots to have a relaxing and calming effect on the nerves. However, Trask postulated that just chewing the root for several weeks most likely would not result in successful cessation. The substitution method with gentian root needed to be coupled with an iron will to never use tobacco again in any form (Trask, 1860).

Reverend J.B. Wight agreed with Trask and spoke of the "single act of self-control involved in giving up the habit" (Wight, 1889, p. 96). However, Wight also acknowledged that each individual smoker was different and that some needed to cut down gradually as opposed to quitting at once. The varying levels of habituation made quitting tobacco easier for some than for others. Wight argued that "strength of constitution, the extent of the habit, and vital force will have much to do with [cessation]" (Wight, 1889, p. 198). In his work *Tobacco: Its Use and Abuse*, Wight first educated the

reader on tobacco's detrimental health effects and the benefits of cessation before he offered his readers the opinion of several medical doctors on smoking cessation. Men needed to "break the bonds of his servitude" in order to achieve "complete regeneration, first physical, then mental" (Wight, 1889, p. 96).

For individuals who could not forgo the habit even after repeatedly trying to stop, the Keeley Institute offered another chance of a smoke free life. The Keeley Institute was founded in 1879 by Dr. Leslie E. Keeley in Dwight, Illinois. Keeley treated patients who used alcohol, opium, and tobacco with a variety of methods. Initially, he attempted to slowly wean patients off their substance of choice over the course of several days and offer them a healthy diet, rest, and exercise to strengthen patients' constitutions (White, 1998). Doctors and nurses at Keeley Institutes throughout the country treated alcohol, nicotine, and other drugs users with a double chloride of gold remedy. The so-called Gold Cure was popular at the turn of the century and by 1890 most US states had a Keeley Institute which used this substance to fight alcohol as well as tobacco use. Similar to George Trask's cessation advice, the founder of this cure did not simply provide his patients with a remedy against their drug use, but he also emphasized individuals' willpower.

Chloride of gold tablets were not exclusive to the Keeley Institute. Newspapers at the turn of the 20th century were filled with ads promising a cure for the tobacco habit. These tablets were available at the local drugstore or through mail-order and according to ads "thousands testify to their efficiency" (Hill's Chloride of Gold," 1893). A similar treatment, the "Terchloride of Gold" cure was so popular around the turn of the 20th century that states were anxious to purchase the rights to produce and sell the product to

customers. Individual success stories were circulated widely through newspapers. Dr M.H. Garten, the inventor of this solution, treated nicotine users as well as inebriates at the Garten Institute in Nebraska and promised his patients that "the use of this remedy results in a thorough and radical cure" ("Your correspondent," 1892).

While the chloride of gold remedy was targeted at tobacco users who wanted to forgo the habit for financial, health, esthetic, or other reasons, Lucy Page Gaston, head of the anti-cigarette league, and Dr. Daniel H. Kress, a neurologist and vice president of the league, introduced the public to the "tobacco destroyer" that could be used on anyone regardless of their quitting intentions. The tobacco destroyer was a solution of silver nitrate that, as Gaston and Kress described, "forms a chemical compound with nicotine which makes smoking very repulsive" ("Quit Cigarets?"1913). The newspaper article published at the time described the story of an unsuspecting messenger boy who was forced to take this cure, which entailed the painting of his throat with silver nitrate, and who was subsequently cured of his tobacco habit. The treatment with the silver nitrate apparently was enough to make the future use of cigarettes so unpleasant that users of this cure never touched their cigarette packs again. Gaston and Kress went on to open several clinics which specialized on nicotine treatment.

Like Wight and Trask, both Gaston and Kress also propagated the use of gentian root whenever individuals experienced the urge for tobacco after having taken the silver nitrate cure. In *Cigarette Wars: The Triumph of "The Little White Slaver"*, Cassandra Tate suggests that "Gaston took to carrying a supply of gentian root with her at all times, to be thrust upon any unwary smokers she chanced to encounter" (Tate, 1999, p. 58). The treatment of the anti-cigarette league was advertised through the telling of success stories

of ex-smokers who, thanks to the silver nitrate solution, were able to quit the habit. These stories of course never told readers how long the cessation time lasted or how many smokers were not able to quit the habit after the treatment.

Not everyone involved in helping tobacco users abstain was entirely convinced that the habit needed to be solely treated or replaced with a substance. Many saw the use of tobacco as a negative behavior that needed to be changed in order to live a tobacco-free and healthy life. One of the advocates of behavioral change was the medical doctor John Harvey Kellogg who started the Battle Creek Sanatorium in 1854. In his book *Tobaccoism Or How Tobacco Kills*, he claimed that his method helped cure thousands of tobacco users. His suggestions on how to cure tobacco use ranged from having a decisive mind to specific actions that each quitter could undertake. Kellogg postulated that smokers who wanted to change their behavior should change their environment and occupation to avoid the association between their surroundings with smoking. He also agreed on the link between using tobacco and using other addictive substances and suggested that stimulants of all sorts needed to be avoided if one was serious about cessation. In this context, stimulants not only included alcohol, but also spicy food, tea, and coffee. Kellogg believed that these substances would create nervousness that would undermine the quitting process. At his sanatorium, Kellogg treated patients with a regimen of special food items that included milk and products rich in starch. He argued that "clinical experience has shown that there is a certain remarkable antagonism between certain foodstuffs and tobacco" (Kellogg, 1923, p. 147).

While Kellogg argued that patients needed to learn how to live without tobacco over the course of weeks and in the end had to change their behaviors, he did not entirely

forgo the silver nitrate solution treatment. However, he could not have been further apart in his thinking from Dr. Kress and Lucy Gaston and in his philosophy on the use of silver nitrate. The operator of Battle Creek Sanatorium did not believe in an antidote for tobacco and argued that "the real remedy is to be found in setting the mind, the conscience and the will, resolutely against the drug and fighting it with manly courage and determination" (Kellogg, 1923, p. 154). To Kellogg, substances such as silver nitrate were of small benefit and should only be used to a limited extent, not as quick miracle cures.

Similar to Kellogg, Bernarr MacFadden developed a program to help the smoker who had the "proper amount of will-power, with the honest desire to break the shackles that bind him to this drug" (MacFadden, 1924, p. 164). Patients staying at his sanatorium underwent extensive fasting and drank copious amounts of liquids. After one or two days, treatment seekers were put on a diet consisting of fruit and vegetables with little meat. MacFadden was convinced that this wholesome diet would eliminate the appetite for cigarettes (MacFadden, 1924). Once again, behavioral modifications and healthy lifestyles as opposed to pharmacological interventions were the core of these treatments.

Aside from behavioral modification and substitution therapy, many medical doctors interested in tobacco cessation believed that will power and one's strength of character were the only prerequisites individuals needed to possess to quit smoking. The individuals discussed in this overview so far all acknowledged the importance of determination and self-control and they saw will power as an essential tool in the cessation effort in an addition to the substitution treatment and behavioral modification.

However, other medical doctors considered a strong will as sufficient in the struggle to quit tobacco products.

Physician Charles Slocum suggested in the preface to his book *About Tobacco and Its Deleterious Effects* that "moral courage and strength of will [help the tobacco user] to overcome the habit's craving for continuance" (Slocum, 1909, p. 8). He particularly addressed physicians and clergymen because the public saw them as role models. However, if individuals were unable to readily quit because their will had been affected by their indulgence, Slocum suggested that these individuals should enter a sanatorium to regain their will power and self-control.

Over the centuries, the remedies suggested by medical experts and community leaders to fight the use of tobacco products fell into several categories. One group of advocates tried to substitute the tobacco itself with another substance while another group advised users of tobacco to make behavioral changes in their daily routines. Both methods were not mutually exclusive and many interventions included strategies from both groups. Overall, the literature concentrated on quick successes and did not take long-term cessation into account. Many other anti-tobaccoists focused on self-control and tried to strengthen the willpower of the afflicted in hopes of curing the tobacco habit. As the reader will see in the following sections, these early observations on how to break the tobacco habit were taking into consideration by later cessation researchers who continued to focus on changing behavior and finding an adequate substitute for the cigarette.

How Knowing the Etiology of Lung Cancer Affected Smoking Research

As Surgeon General Luther Terry and his team of experts reviewed ten thousand[29] documents[30] from the United States and other countries in preparation of the 1964 report that confirmed the causative link between cigarettes and cancer, researchers began a number of investigations including those aiming to develop smoking cessation methods that would successfully decrease the smoking rate in the country (Terry, 1966).[31] However, researchers realized that before they could achieve this goal, they would have to learn about the characteristics and motivations of smokers.[32] Before reviewing these early studies it is important to keep in mind that smoking cessation research was a brand-new effort and that the emerging reports could only be exploratory in nature.[33] Because of the lack of knowledge surrounding smoking, these studies displayed various methodological weaknesses and uncertainties, many of which will be addressed throughout this section. Despite such limitations, the early studies are of value to readers today because they lay the groundwork for future research.

The *Study of Adult Development,* a longitudinal study particularly suited to investigate the differences between male smokers and non-smokers, examined the psychology of smoking by keeping track of male Harvard students' smoking habits over several decades.[34] In 1958, Charles McArthur and his research team examined 252 alumni who had been involved in the study for 20 years. Findings from this study showed that many individuals began but not necessarily maintained smoking because they were influenced by their social environment (McArthur, Waldron, & Dickinson, 1958).

Godfrey Hochbaum (1965), who studied psychosocial aspects of smoking, concurred with McArthur arguing that "social influences played a predominant role in the

early stages of the habit" (Hochbaum, 1965, p. 693). Powell Lawton (1962a) who reviewed published material in his essay "Psychosocial Aspects of Cigarette Smoking" elaborated on the social environment theory and added that reasons such as imitation, curiosity, status striving and rebellion were often implicated in the initiation of smoking (Powell Lawton, 1962a).

These research studies were important because researchers realized that the initiation phase of smoking differed greatly from the processes surrounding continuation. But researchers not only looked at social influences in the initiation and continuation of smoking. Clearly, smokers had other motivations for their habit. For example, McArthur's team (1958) argued that smokers continued to use cigarettes because of personal needs such as tension reduction that developed and needed to be gratified. In MacArthur's longitudinal study on Harvard alumni, smokers were described as emotionally constricted, restless, and impulsive. The study makes no judgment whether these characteristics were inherent or a result of the smoking behavior.

Additionally, MacArthur and colleagues detected a link between tension reduction of anxious individuals and smoking (McArthur, et al. 1958). In support of this conclusion, Joseph Matarazzo and George Saslow (1960) found that compared to non-smokers, smokers scored higher on the Taylor Manifest Anxiety Scale (Matarazzo & Saslow, 1960).[35] However, these researchers refuted the existence of a smoking personality. They argued that "while smokers do differ from nonsmokers in a variety of characteristics, none of the studies has shown a single variable which is found exclusively in one group and completely absent in the other" (Matarazzo & Saslow, 1960, pp. 508-

509). Consequently, the researchers' conclusions foreshadowed the difficulty in finding a cessation tool that would successfully serve the majority of the smoking population.

Powell Lawton agreed with his colleagues on the observation that tension reduction could be a potential motivator in smoking continuation. However, Lawton took the research one step further than his colleagues by trying to investigate additional reasons why people continued to smoke. According to his review of carefully controlled studies, there were four distinct, yet not mutually exclusive, categories of why people smoked: situational, physiological, social, and personal (Powell Lawton, 1962a). These categories showed how complex and different the smoking behavior is for every individual smoker and illustrate the complicated nature of the creation of cessation tools that have to accommodate a variety of motivations for smoking. Hochbaum (1965) supported Powell Lawton in his belief that complex smoking behavior could not be approached with a one-size-fits-all cessation strategy. Smokers were diverse and had a variety of reasons for using cigarettes (Hochbaum, 1965).

While these and other researchers showed great interest in the characteristics of smokers and their motivations for smoking, others focused on smokers' reasons for successfully quitting the habit. Edward Cuyler Hammond and Constance Percy (1958), in their interviews with 333 ex-smokers, discovered that more than 60 percent stopped smoking because of a worsening health condition such as a cough. Strikingly, only a mere 6.3 percent of the participants quit smoking because they were aware of the lung cancer association (Hammond & Percy, 1958). Despite the fact that "by this time most people must have seen reports linking cigaret smoking to lung cancer and other diseases," this low figure indicates that the scientific reports published at that time had not impacted

the average smoker (Hammond & Percy, 1958, p. 2956). Scientific reports were often only published in specialized journals and the general population had limited access to these scientific findings.

Just as smoking initiation and continuation was motivated by a variety of factors such as the social environment and tension reduction, the decision to quit smoking was also driven by a multitude of elements. On the one hand, health concerns – albeit minor as they may be - motivated smokers to quit the habit. In addition, the amount smoked could have an impact on the cessation attempts. McArthur and colleagues (1958) also suggested that the amount of tobacco consumed was inversely correlated with the ability to quit the habit. Accordingly, the less someone smoked, the easier it should be to quit. Furthermore, in their study of Harvard alumni, they learned that good mental health was an additional relevant factor when wanting to quit and successful cessation (McArthur, et al. 1958).

Researchers had to face the question whether smoking was merely a behavior that could be modified or whether smoking was a pharmacological addiction. In the 1960s, the consensus was that smoking could not be compared to other addictions. While scientists did not doubt the existence of withdrawal symptoms in some smokers, they judged these to be primarily psychological and not uniform in nature (Powell Lawton, 1962a). Only the excessive long-term use of cigarettes had the potential to result in pharmacological addiction (Hochbaum, 1965). John Pflaum (1965) argued that the "evidence for a biological addiction is not conclusive" but that excessive smoking could result in a "learned addiction" based on a continuously reinforced behavior (Pflaum,

1965, p. 205). Overall, smoking was viewed as a behavioral issue best treated with modification therapy (Mausner, 1966).

As shown in the past section, the research before the release of the 1964 Surgeon General's Report on Smoking and Health was sizeable. Yet, when the official government response to smoking's implications in disease etiology was released, research efforts intensified significantly. Additionally, the report triggered public action in the fight against smoking. Volunteers interested in decreasing the cigarette habit across the United States formed the National Interagency Council on Smoking and Health. The government responded to the report with the creation of the National Clearinghouse for Smoking and Health, a unit of the Division of Chronic Diseases in the Public Health Services (Guthrie, 1966).[36] Furthermore, visible to every smoker, with the Cigarette Labeling Act of 1965, warning labels on one of the cigarette packages' side panels which read "Caution: Cigarette Smoking May Be Hazardous to Your Health" became mandatory and although many cigarette opponents had hoped for stronger language, the compulsory warnings were a first step to discourage smoking.[37]

Conferences and official meetings, where scientists came together to compare their research findings, were organized after the publication of the Surgeon General's Report. The first of these took place in the spring of 1965 in Pennsylvania and focused solely on the behavioral aspects of smoking.[38] Among the topics discussed were the differences between smokers and non-smokers, how to change attitudes regarding smoking to achieve cessation, and what influenced smokers to quit using cigarettes (Mausner, 1966).

One year later, the National Interagency Council on Smoking and Health held their first conference with state and community council representatives at the University of Maryland. The meeting's main objectives were summarized by the conference chairman Luther Terry himself who suggested that researchers' focus be on defining areas where state and local agencies could work together to prevent smoking initiation, as well as to develop successful treatment plans. Additionally, Terry encouraged the representatives to find effective ways to exchange information relevant to prevention and cessation, as well as to discuss the implications of new research findings. In his "Charge to the Conference" Terry made it perfectly clear that he had no illusions about the Council's efficacy by stating that smoking "was obviously a problem that could not be solved overnight, or in a day, or a week, or a month, or a year" (Terry, 1966, p. 6). Little did he know that smoking cessation still occupied researchers' minds 40 years after this conference.

That same year, the National Research Conference on Smoking and Health was held at the University of Wisconsin in Madison. Daniel Horn, a long time anti-smoking advocate and key figure in smoking cessation research, summarized his conclusions on factors operative in smoking cessation.[39] His model on smoking cessation, which received widespread attention, gives today's reader an idea of where the research was situation in the late 1960s. Primarily, Horn urged cessation researchers to focus on the motivation to change. According to Horn, this motivation came from being an exemplar parent to children or an exemplar physician to patients. Economics as well as ethics also played a role in wanting to quit the smoking behavior. Horn suggested that some smokers also despised being controlled by an outside agent such as the cigarette and wanted to

break that bond. Additionally, cessation scholars should investigate the perception of the health threat. Were smokers aware of the negative health consequences and did they understand the implications of smoking/not smoking on their own well-being (Horn, 1967). Horn argued that using this model of motivation when devising cessation strategies could increase smokers' motivation to quit the habit.

Horn's third suggestion was based on observations made by Silvan Tomkins in 1966. Tomkins (1966) believed that the smoking behavior was grounded in the management of positive and negative affect. On this basis, he distinguished four types of smokers: habitual smokers, creation of positive effect smokers, reduction of negative effect smokers, and addictive smokers who smoke for both the creation of positive and the reduction of negative affect.[40] Horn postulated that with the help of researchers, smokers could learn alternative psychological mechanisms and ways to cope with negative affect and create positive affect (Horn, 1967). Essentially, Horn asked cessation researchers to formulate a more targeted approach to cessation that took varying smoking and quitting motivations into account.

Finally, Horn encouraged research on factors that would facilitate or inhibit the smoking habit. Namely, the role of social forces, interpersonal influences, and the mass media as important elements in shaping the smoking behavior (Horn, 1967). Overall, Horn's outline of factors that he deemed operative in smoking cessation showed researchers in what direction he thought they needed to go and how little was known about the smoking habit in the mid 1960s.

Overall, the Surgeon General's Report on Smoking and Health (1964) spurred research efforts in several directions. Initially, researchers wanted to learn more about

smokers' characteristics and reasons or motivations behind their habit. Furthermore, they were interested in establishing what specific factors influenced cessation. All of the above issues were discussed at national and international conferences solely focusing on smoking.

Electroshock and Lobeline – Early Attempts at Breaking the Smoking Habit

The following section outlines some of the specific substitution and behavioral therapy approaches taken when the negative health consequences of smoking began to emerge in the scientific community.[41] First, this section focuses on the nicotine substitute lobeline.[42] Subsequently, the discussion concentrates on examples of behavioral modification therapies. Both therapies belong to the medical personnel administered therapies and are separate from self-help strategies such as using literature to quit or finding one's own cessation techniques that are not discussed in this chapter.

Long before the medical community realized the deathly health consequences of smoking, practitioners acknowledged that cigarette use often brought on minor disturbances such as throat irritations or coughs. Driven by these concerns and by the observations that some smokers needed help in forgoing the habit and overcoming the miserable deprivation period, John Dorsey (1937) began experimenting with the alkaloid lobeline, which was derived from the leaves of an Indian tobacco plant.[43] Almost thirty years before this investigation began, Charles Wallis Edmund had discovered that a cross tolerance between nicotine and lobeline existed (Edmund, 1909).

Dorsey administered the drug lobeline sulphate to highly motivated patients and instructed them to take an 8 mg tablet after lunch and continue to take a pill when the urge to smoke returned. Even though the author outlined negative side effects, such as nausea and a metallic taste, he insisted that these symptoms only lasted a day or two (Dorsey, 1937). Overall, Dorsey claimed, good results were achieved and that the tobacco habit could be stopped with the regimen.

Irving Wright and David Littauer (1937) agreed with Dorsey in that withdrawal from cigarettes was difficult to overcome. However, they disagreed with the initial dose that Dorsey gave to his patients. When these scientists tried to replicate the lobeline study, they learned that the effects on the digestive tract were so negative that smokers would not adhere to the treatment and complete the lobeline regimen.[44] As a result of these initial trials with lobeline, researchers used the substance in much lower doses.

Aside from these two early studies on lobeline, the drug was mostly tested in the 1950s and 1960s. With the ever increasing amount of research implicating smoking and disease, researchers in Europe, Canada, and the United States were hoping to treat smokers with lobeline injections, flavorless pills, lobeline pastilles with cherry flavor, or lobeline chewing gum. Trying to replace the nicotine in cigarette tobacco with a structurally similar substitute and thus helping smokers to fight the deprivation of nicotine was the overall goal of these cessation researchers at the time (Schwartz, 1969).

The studies reviewed for this section show different levels of success for treating smokers with varying amounts of lobeline over different periods of time. Rapp and Olen (1955), for example, treated the experimental group in their study for less than a week and at the end of the treatment claimed abstinence success rates for about 80 percent of

the participants. A few years later, Rapp, Dusza and Blanchet investigated whether lobeline had a positive effect on smokers who were not motivated to quit. According to their experiments, unwilling quitters who were treated with the nicotine substitute smoked less of each cigarette and thus reduced the amount smoked (Rapp, Dusza, & Blanchet, 1959).

The findings discussed above were supported by Boerje Ejrup (1963) who gave lobeline injections to attendees of a smoking clinic in Sweden. This researcher measured outcome success as either abstinence or substantial reduction of smoking. Combining these two categories, Ejrup achieved good results with lobeline for 97.5 percent of the research participants after ten days of treatment.

Researchers of later studies showed more modest results in their work with lobeline. London (1963), who administered lobeline in a pleasant tasting confection, reported that the abstinence rate after a four week treatment period was merely 13.9 percent, while Swartz and Cohen (1964), who treated smokers with the lobeline gum *SmoKurb* for the same amount of time, reported marginally better results with an abstinence rate of 32.6 percent. Plakun, Amburs, Bross, Graham, Levin and Ross (1966) estimated their success rate to be between what London and Swartz had found.

Some researchers did not agree with lobeline's effectiveness in treating smokers. Early dissenters were Bartlett and Whitehead (1957) who attempted to replicate Rapp's initial success with lobeline. His double-blind study design yielded no success for the drug in comparison to a tranquilizer and a sugar placebo. Griffith Edwards' (1964) research on lobeline as a smoking cessation tool supported Bartlett's findings. The

scientist treated subjects over four weeks with a 4 mg tablet but could not find a difference in terms of quitting rates between control and experimental subjects.

When examining the above studies to uncover why some researchers had enormous success with lobeline while others failed to find the drug effective, one has to turn to the trial methods employed by these scientists. Overall, these published studies suffer from several methodological flaws including small sample sizes. Some of the researchers such as Ejrup or Swartz and Cohen failed to add a control group to their study design and thus could not adequately compare the success of lobeline to an untreated group of smokers. The majority of researchers did not follow up with their study subjects and could not make predictions about the long-term success of their initial findings. Rapp and others (1955) for example only treated the participants for a few days and did not know whether the lobeline effect lasted for more than the treatment period. In fact, Edwards was the only researcher who not only used rigorous research methods, including a control group and a double-blind design, but also had a follow-up time of three months. Furthermore, success rates were mostly based on those subjects that did not drop out of the study. By not including the program quitters, success rates inevitably would be higher. Again, Edwards was the exception in this regard and his research results were based on all subjects who began treatment.

Having reviewed the studies using the partial nicotine agonist lobeline to treat smokers, it is difficult to judge the effectiveness of the cessation tool because of the methodologically flawed studies and the lack of long-term trials. Bernstein & McAlister (1976), in their review of the research, come to the conclusion that lobeline had a rather weak effect on quitters and that this was “primarily a function of placebo and other

nonspecific effects associated with receiving medication" (Bernstein & McAlister, 1976, p. 91). Based on the available material and the data gathered on lobeline's efficacy by researchers such as Douglas Bernstein, Griffith Edwards, Lindsay F. Stead and John R. Hughes, there is currently no evidence that lobeline is more effective than a placebo in the long run (Bernstein & McAlister, 1976; Edwards, 1964; Stead & Hughes, 1997).

During the 1950s and 1960s, two main classes of drugs were examined in cessation research: lobeline as a smoking deterrent and drugs that would suppress the withdrawal symptoms of abstinence such as nervousness, anxiety, and increased appetite. The tranquilizers and amphetamines used in the latter studies showed little to no impact on smoking cessation (Whitehead & Davies, 1964). In Schwartz and Dubitzky's study on the effects of tranquilizers on smoking cessation, the placebo was found to be more effective than the tranquilizer. The authors argued that this could be due to the side effects of the study drug which may have affected adherence to the medication (Schwartz & Dubitzky, 1968). Overall, treatment cessation with the help of tranquilizers and amphetamines remained unsuccessful.

Aside from trying to provide smokers with a drug that would help curb the appetite for cigarettes and treat the withdrawal symptoms, researchers in the 1960s also looked at cessation methods based on psychological approaches such as behavior therapy or rather behavior modification. These studies took a variety of approaches to alter the smoking behavior of participants. The underlying premise for altering the smoking behavior is best summarized by Karl Koenig and John Masters (1965). Generally speaking, the behavior to be modified was considered maladaptive and subjects had to display the motivation to change this neurotic behavior. Additionally, researchers

suggested that outsiders must be able to observe the behavior and it had to occur in discriminate units. Lastly, the behavior had to happen frequently in the population at large (Koenig & Masters, 1965). Smoking fit these criteria and thus behavioral modification was identified as one strategy to initiate cessation. The next paragraphs introduce the most widely used modification strategies and discuss their efficacy with regard to smoking cessation.

Investigators assumed that smoking was a learned behavior and that aversion therapy would help smokers to "unlearn" this undesirable habit. Gerrit Wilde (1964a) employed an apparatus that mixed the smoke of approximately ten cigarettes with hot air. While subjects lit their own cigarette, the aversive stimulus was administered. When the participant put out the cigarette, a rewarding stimulus (peppermint smell) was given. Wilde's study initially claimed success for three smokers, but when the researcher followed up with them a few months later he learned that all of them had relapsed. Wilde thus came to the conclusion that "this particular aversion method is not sufficient to produce permanent results" (1964b, p. 313). Franks, Fried and Ashem (1966) modified Wilde's apparatus and claimed that the treatment was successful in four out of nine subjects. However, a control group was missing and only subjects that completed the program were counted in the final analysis, which introduced an attrition bias. The drop out rate for this study was approximately 60 percent.

Like Wilde, and Franks and others, Marrone, Merksamer and Salzberg (1970) focused their attention on the cigarette smoke itself as the aversive stimulus. However, as opposed to short treatment sessions with the passive delivery of the hot smoke, subjects in the Marrone study chain-smoked for either 10 hours or 20 hours. As opposed to only

seven subjects in the Wilde study, Marrone's research team recruited 32 subjects to participate in the study. Additionally, the latter trial also used a control group and a follow-up period of four months. Marrone's results indicated that the 20 hour group showed higher abstinence rates than the control or the 10 hour group.

Aversive conditioning in the form of electric shock to the index finger was also used on research participants. In a randomized study that included a control group, Steffy, Meichenbaum and Best (1970) learned that using aversion therapy coupled with covert verbalization had potential in reducing the smoking rate. Yet, the scholars also acknowledged that at the follow-up time of six months, a large proportion of the sample had returned to the pre-treatment smoking rate. At the same time, Steffy and others did not give the controls the same amount of sessions and, consequently, one-on-one attention as the experimental group. This introduced a bias into the positive results of this study because the controls were not treated equally.

Instead of solely focusing on aversion therapy, some investigators compared this method with other behavioral modification techniques or placebo drugs. Karl Koenig and John Masters (1965) evaluated the efficacy of desensitization techniques, electric shock, and supportive counseling in smoking cessation. The latter strategy functioned as the control group in this research study. The researchers learned that there were no significant differences between the techniques at the end of treatment and at 6 months follow up time. Unfortunately, the authors failed to account for drop outs and did not report the final abstinence rate. As seen in other studies, cutting down cigarette consumption by 50 percent was regarded as a success. Similarly to this study, Whitman (1969) did not report a significant difference in smoking reduction when investigating

aversive conditioning, information dissemination, helping smokers develop new behaviors by teaching them techniques to unlearn a behavior. The lack of a true control group and a follow-up period makes this study scientifically unsound.

Carolin Keutzer (1968) compared several behavior modification techniques to placebo drugs.[45] Her work lent support to the above findings. Keutzer came to the conclusion that none of the cessation strategies she included in her trial produced significantly better results. However, the cessation techniques used in this study proved to be more effective than not treating individuals at all. At the end of treatment, only three percent of the untreated control group had quit smoking while 23 percent of the treated group remained abstinent. Participants were not followed over time and thus the results of this study provided no information on the long-term efficacy of the cessation techniques.

Behavioral scientists also tested other cessation methods such as using social pressure in a group environment to discourage cigarette use, employing contracts between husband and wife to abstain from smoking, increasing the motivation to become a non-smoker through information dissemination, and group discussion or using white noise as a negative reinforcer (Greene, 1964; Tooley, 1967; Bernstein, 1970; Chappell, Garrod, Jones, Rolfe, & Wesolowski, 1970). All of these studies share methodological flaws: using very few subjects such as Tooley (1967), who tried to modify the behavior of a husband-wife couple, not accounting for high drop-out numbers such as Chappell and others (1970), who did not use the initial number of participants to calculate the success rate, or ethically violating participants by leaving them unaware of their participation in a smoking cessation trial such as Greene.[46] These results were not grounded in rigorous scientific research and thus cannot be used to determine efficacy of

a specific method. However, imperfect as they may be, these studies tell researchers today how smoking was perceived in the early days of cessation efforts: a behavior that needed to be broken and modified.

At times, the studies discussed in this section show short-term success at the end of the treatment period. However, long-term follow-ups that exceeded 6 months are virtually unavailable and consequently, predictions about the efficacy of particular methods are impossible. Some researchers did not follow up at all with their participants. Furthermore, this review illustrates that not a single behavioral treatment was proven to be significantly better than other behavior modification techniques. Often, as was the case with Bernard Mausner's cessation study of counter-conditioning and non-directive group therapy, the placebo group showed the same cessation rate as the treatment group (Mausner, 1966).

Judging the efficacy of behavioral methods is difficult when researchers define "success" differently. While some argue that cutting down smoking by more than 50 percent proves a particular method to be successful, others do not count participants as being successful unless they quit altogether.[47] A third group of scholars expected subjects to cut back by at least 80 percent, otherwise they would not be placed in the successful category. Additionally, the efficacy of a cessation strategy cannot be accurately judged when those who drop out of the study are not counted in the final analysis. As Jerome Schwartz and Dubitzky (1969) explained "most persons who do not complete treatment do indeed turn out to be failures" (1969, p. 1392). Thus the success rate is much lower when these 'failures' are counted in the final tally.

While success in methods grounded in psychotherapy was often difficult to determine, Gordon Paul (1967) argued that outcome studies that measured and manipulated different variables could be beneficial when measuring behavior modification. Keutzer (1968), in her review of smoking behavior modification, summarized the criteria that researchers needed to consider when conducting behavioral studies with smokers based on outcome research. Foremost, subjects and therapists needed to be described in the detail and the effect the therapist has on the subject needed to be controlled. Additionally, any attention given to participants needed a control group that lacked this attention for comparison. Change had to be measured carefully and failure, or successes, needed to be adequately defined from the beginning. Lastly, follow-ups had to be conducted to measure the cessation method's effect after treatment termination (Keutzer, 1968).

When reports on lung cancer and smoking first emerged, researchers began developing a twofold cessation method approach. On the one hand, lobeline showed promise as a substitute that would ease the initial withdrawal symptoms. On the other hand, smoking was primarily understood as a behavior and thus a phenomenon that could potentially be altered. Behavioral scientists developed diverse techniques to combat the persistent smoking habit. Overall however, neither lobeline nor behavioral therapy was the magic bullet against smoking, and researchers came to the realization that smoking was a complicated and pervasive habit that resisted change.

Smoking Cessation Research Is Coming of Age – The 1970s

As seen in the previous sections, scholars conducted scores of studies and gathered much information on smokers and smoking in the early decades of cessation research. They developed models and theories on the initiation, continuation, and modification of the smoking habit, which all shaped the cessation efforts. However, fifteen years after the Surgeon General's Report on Smoking and Health, researchers had not found a breakthrough quitting strategy that worked for the majority of smokers.[48] And, despite the overall slowly decreasing smoking rates in the United States, researchers were faced with the realization that smoking was a persistent habit for many that resisted change. Current treatment options of behavioral and drug therapy did little to alter this reality.[49]

The 1970s were a pivotal phase for smoking cessation research. This section outlines some of the major scientific developments representative of the time period. Primarily, scholars realized that quitting was one problem but that staying quit was a far larger issue (Best, 1975; Bernstein, 1969). The quitting phase, which often coincided with the treatment process, was thus a separate entity from the maintenance phase where the smoker continued to be abstinent over a long period of time. As seen over the past decade, the behavioral treatments, such as aversion or group therapy, often had noticeable successes during the treatment phase. Yet, when subjects were left to their own devices, many returned to their cigarette habit (Bernstein, 1970; Best & Steffy, 1971; Mausner, 1971). Therefore, treatment needed to change and shift focus to the maintenance phase to accommodate smokers in their long-term goals of either abstaining from cigarettes or decreasing their consumption significantly.

William Hunt and Dale Bespalec (1974) reviewed the long-term treatment successes of cessation strategies such as aversive conditioning, drug therapy, education and group support, and hypnosis. Their analysis showed that large numbers of treatment successes relapsed within the first few weeks of abstaining from smoking (Hunt & Matarazzo, 1973; Lichtenstein & Danaher, 1976). This recidivism trend continued to approximately three months post treatment and fewer relapses occurred thereafter. In the end, only about 20-30 percent of those who were able to quit during the treatment phase remained abstinent after six months (Hunt & Bespalec, 1974).[50] Interestingly, none of the treatments fared better than the other. Hunt suggested that a smoker's motivation was critical in the treatment success and "that the problem of therapy choice is a minor one" (Hunt & Bespalec, 1974, p. 435; Bernstein, 1969).[51]

Understanding, and essentially preventing relapse, became one of the key goals in smoking cessation research in the 1970s and drove the majority of cessation efforts. In other words, this time period was not used to create new cessation techniques to be added to the list of behavioral modification strategies, self-help manuals, or group therapy approaches but rather, researchers concentrated on modifying the existing treatments to combat high relapse rates (Hunt & Matarazzo, 1973; Lichtenstein, 1971). Scientists thus hoped to have a lasting impact on smokers' abstinence phase.

The interest in modifying the existing treatment options and improving research methods to achieve cessation success in the long-run was partially driven by research on the characteristics of smokers. Scientists realized that specific treatment modalities needed to be tailored to individual smokers (Best & Hakstian, 1978; Best, 1975). The cessation strategies had to be compatible with smokers' motivations and reasons for

forgoing the habit (Graham & Gibson, 1971; Delahunt & Curran, 1976). During the 1970s, research efforts were intensified to gain a better understanding of why people smoked and continued to do so in the face of looming health consequences (Shewchuk, 1976). Because blanket treatments had failed to show long-term results, researchers were now concerned with characteristics of the individual smoker as opposed to smokers overall (Best & Hakstian, 1978; Fagerstroem, 1978).

In order to accommodate the individual characteristics of smokers and the complex smoking behavior, researchers focused on modifying two existing cessation strategies. For one, they were interested in further exploring the possibilities of using aversion therapy, such as electric shocks or rapid smoking, because these had yielded some positive results at treatment end (Lichtenstein & Rodrigues, 1977). Rapid smoking[52] did not require an apparatus or a therapist and the subject could practice the procedure by itself with relative ease making the treatment more cost effective and convenient than using electric shocks to modify the smoking behavior.

Initial research that administered rapid smoking in a supportive environment[53] was very encouraging, achieving relatively high abstinence rates of 60 percent six months after treatment (Lichtenstein, Harris, Birchler, Wahl, & Schmahl, 1973; Schmahl, Lichtenstein, & Harris, 1972). Bernstein and McAlister (1976) summarized that later trials with rapid smoking were not quite as successful and abstinence rates dropped to about 15-20 percent a year after treatment. These different outcomes were possibly due to other treatment factors than rapid smoking. In his review of the technique, Brian Danaher (1977b) came to the conclusion that "it is likely that a blend of psychological and physiological variables in a structured treatment context contribute to effective

application of rapid smoking" (p. 152). However, not all of the effects could be attributed to environmental and social elements and while the treatment context was of importance when using this technique, rapid smoking alone was a significant variable in cessation treatment (Lichtenstein & Danaher, 1976). [54]

Because researchers had somewhat encouraging results with the rapid smoking technique in the first half of the 1970s, they attempted to reinforce this method by adding other treatment components to the cessation regimen in the final years of the decade. These additional strategies were tailored to strengthen the abstinence maintenance period after treatment termination and to prevent recidivism. Both Danaher (1977a) and Best, Owen and Trentadue (1978) combined rapid smoking with self-management/self-control elements that included learning alternative behaviors, deep breathing techniques, self-reward, and social support. Best and others (1978) also compared rapid smoking with another over-smoking procedure – satiation. Researchers hoped that the different components of the treatment process would address the individual needs of a variety of smokers.

Both studies could not support the idea that a combination of rapid smoking with another behavioral modification strategy was more effective in long-term smoking cessation. While Danaher's combination of rapid smoking and self-control performed worse than the individual rapid smoking treatment, Best and his colleagues achieved higher abstinence rates overall for all his treatment groups. Danaher postulated that the weak impact from the self-control component might be a result of failing to teach subjects critical self-control skills. Another reason for the failure of the combined treatment could be a result of subjects being overwhelmed by the multitude of behavioral

modification strategies that they had to learn in the short amount of treatment time (Danaher, 1977a).[55]

Similar in method to the reviewed Best and Danaher studies, yet different in outcome, Charles Elliott and Douglas Denney (1978) combined rapid smoking in a so-called package approach with such techniques as relaxation, self-reward and punishing, behavioral rehearsal of non-smoking, as well as emotional role playing. After six months, the package treatment group had an abstinence rate of 45 percent while in comparison the rapid smoking group had a rate of 17 percent. Elliott's team, aware of Danaher's failure to show the efficacy of combined treatments, pointed to other researchers' results that supported the package approach. Yet, overall, Elliott and Denney were unable to explain the differences in results but casted doubt on the usefulness of the rapid smoking method as an individual cessation technique (Elliott & Denney, 1978).

At the same time that some researchers concentrated on rapid smoking procedures alone, as well as in combination with other treatment modalities and their effects on long-term smoking cessation, other scientists tested multi-component programs that lacked the rapid smoking element. Knowing that individual treatments such as satiation, group/individual therapy or self-management training had not achieved long lasting cigarette abstinence, and being aware of the complex nature of the smoking behavior, researchers hoped that the individual components of a behavioral modification treatment package would have additive benefits with regard to their cessation efficacy (Delahunt & Curran, 1976).

As expected, the results of the combined treatment conditions varied in their long-term cessation outcomes. Researchers who combined satiation with self-control practices

achieved higher abstinence success rates than using each treatment on its own. At the six month follow up, James Delahunt and James Curran (1976) observed a 56 percent abstinence rate in their combined treatment group as opposed to 20 percent in the negative practice (satiation) and self-control groups. Harry Lando (1977) compared the efficacy of satiation treatment with a broad-spectrum treatment consisting of satiation, contractual management, booster sessions, group contact, and support. At the six month follow up, 76 percent of the combined treatment procedure participants remained abstinent. The control condition (satiation) only had a 35 percent success rate. Lando and McCullough (1978) replicated this study one year later with a similar population and achieved comparable results.

Chapman, Smith and Layden (1971) utilized electric shock therapy with self-management and therapist monitoring post treatment. He observed encouraging results in the combination of the two treatment elements when subjects received post-treatment monitoring for eleven weeks as opposed to only two weeks. The longer monitoring period had a positive effect on abstinence rates. John Conway (1977), who compared electric shock therapy with self-management and did not have the monitoring component as part of the treatment, had disappointing results at a twenty-week follow up with the individual as well as with the combined treatment groups. As a result of his findings, he postulated that shock therapy may not be relevant in smoking cessation research.

Being aware of the smoking-anxiety connection established in the 1960s, researchers attempted to incorporate anxiety management training into a nicotine fading program. The results were disappointing in that the addition of anxiety treatment which included relaxation techniques did not enhance the nicotine fading procedure (Beaver,

Brown, & Lichtenstein, 1981). Beaver and others suggested that this failure could be a direct result of subjects being faced with a very complex program that asked too much of its participants.

In summary, combined treatment programs showed potential in the 1970s and had some successful outcomes in comparison to the single treatment procedures. Critics of the broad spectrum approach argued that the success rates of these treatments were due to non-specific elements such as attention, structure of program, and monitoring rather than specific elements such as satiation, electric shock or self-management tools (Conway, 1977). Nonetheless, researchers thought of these treatment combinations as promising procedures that deserved further investigation (Bernstein & McAlister, 1976).

As this analysis shows, research in the 1970s was driven by behavioral concerns and psychological theories. Overall, smoking was still understood as a maladaptive behavior in need of modification. Bernstein (1969) explained in his review of quitting techniques that smoking could not be classified as an addiction but rather as a habituation which is characterized by psychological and not physical dependence. He based his observations on the lack of uniform withdrawal symptoms in quitting smokers and the missing escalating drug taking regimen seen with substances like heroin or alcohol (Bernstein, 1969). However, despite defining smoking as a psychologically driven behavior, only small victories with combined behaviorally based treatment approaches were achieved and markedly successful cessation strategies were missing from the research.

Simultaneously to the ongoing behavioral research in response to the Surgeon General's Report on Smoking and Health, scientists began questioning nicotine's role in

smokers' inability to quit the persistent habit. Early research on tobacco smoking and nicotine showed that when nicotine was given hypodermically over the course of a few weeks, the subject preferred the injection over a cigarette (Johnston, 1942). Furthermore, Lennox Johnston observed that smokers suffered much less from nicotine's side effects, such as nausea or dizziness, as opposed to their non-smoking counterparts. Both findings suggest that smokers become accustomed to nicotine's physical effects and that nicotine is among the driving forces behind the smoking habit. Likewise, Finnegan, Larson and Haag (1945) lent support to the hypothesis that nicotine was implicated in establishing the cigarette habit. His experiments showed that smokers who were forced to consume cigarettes with a small amount of nicotine would increase the number of cigarettes smoked.

Researchers in the 1970s knew that nicotine had a variety of pharmacological effects on the human body and brain. While some of the specific actions remained unknown, scientists were relatively certain that nicotine stimulated the central nervous system in small doses and depressed it when consumed in larger doses (Emele, 1975). Generally, nicotine was thought to affect neurotransmitter release in the brain. Specifically, researchers suggested, nicotine had an effect on acetylcholine release in the cortex (Armitage, Hall, & Sellers, 1969). Furthermore, as Michael Russell (1976) explains, nicotine was implicated in amines released in the brain such as "noradrenaline, serotonin and possibly dopamine" (p. 28).

While behavioral researchers seemed to have been unfazed by these research developments, pharmacologically oriented scientists in the 1960s and 1970s built on these early studies on nicotine's role in smoking and postulated that nicotine not only

played a role in the initiation and continuation of the habit, but also in the quitting process. This school of thought, driven by such researchers as Michael Russell and Murray Jarvik, was certain that smokers continued with their habit because "tobacco is a form of drug dependence" (Russell, 1977 p. 15). Therefore, smokers were disinclined to stop consuming cigarettes. In fact, Russell argued, "smokers' attempts to stop smoking have been blocked by the dependency factor" (Russell, 1977, p. 23). These researchers, convinced that smoking was driven by biological rather than psychological factors, were not surprised that behavioral cessation techniques had not been hugely successful in the fight against smoking.

At the end of the 1970s, behavioral scientists, as well as those believing that smoking cessation was primarily driven by biology rather than psychology, did not stand in stern opposition. The lines between these two camps were not clearly defined and many researchers argued that smoking was driven by socio-cultural as well as biologically reinforcing elements and therefore quitting strategies had to take all these components into account when devising new treatments (Gritz & Jarvik, 1975).

Much of what was said about nicotine's role in the smoking behavior was speculative in nature. Reliable animal models for nicotine's reinforcing effects were unavailable in the 1970s and other substances in the cigarette and its smoke such as tar or carbon monoxide could not be ruled out as reinforcing candidates (Jarvik, 1977). However, as the next section will show, a new research direction for smoking cessation was born out of the observation that nicotine had reinforcing properties which influenced the initiation, continuation and quitting process.

Essentially, cessation research in the 1970s focused on modifying existing quitting strategies such as aversion treatment and combining several behavioral strategies into a package approach to accommodate the complex smoking behavior. The majority of the cessation researchers viewed smoking as a psychologically driven behavior that could be modified with the right techniques. The voices of those believing that nicotine was implicated in the smoking habit grew in strength however, and by the end of the decade, scientists suggested that smoking was also reinforced pharmacologically. Therefore, cessation tools had to change to account for the pharmacological component of smoking.

Pharmacological Treatment Therapies – A Breakthrough in Cessation?

Beginning in the late 1960s and early 1970s cessation research progressed in several directions. Due to the sheer volume of investigations conducted during the past 40 years, the final section of this chapter concentrates on the most prevalent developments in cessation research. These trends were identified after a careful review of the published cessation literature. The section begins with an exploration of nicotine's role in smokers' failure to forgo the cigarette habit. In connection with the growing knowledge on nicotine's impact on the central nervous system and the inception of the nicotine dependence and withdrawal syndrome, one of the most significant developments of the past decades is the creation of nicotine replacement therapies. A look at how these tools were incorporated with traditional behavioral tools is further explored in this section. Additionally, researchers focused their attention on other pharmacological treatments such as anti-depressants and partial agonists whose development and efficacy are briefly

addressed. Furthermore, the shift from a clinical smoking cessation approach to public health oriented tactics is one of the key progresses of the past three decades and paves the way to larger impact and potentially higher cessation rates. Finally, this section briefly explores public policy interventions that can assist smokers in their decision to quit such as inflating prices and cigarette bans.

Behavioral scientists in the 1970s and 1980s continued to investigate the social, psychological and environmental elements implicated in smokers' inability to quit the cigarette habit despite long-term, extensive behavioral treatment. Many cigarette smokers explained that they literally could not stop despite the available help. These complaints were not ignored by cessation researchers.[56] Nicotine's role in smokers' inability to quit generated great attention among those interested in the pharmacology of the substance and began to dominate a large portion of the cessation debate. Early work by Finnegan and colleagues (1945) and Johnston (1942) laid the groundwork for later researchers to investigate issues of dependence and withdrawal, and how these two issues are connected with the inability to forgo the cigarette habit.

Researchers also began to explore nicotine's connection with the withdrawal syndrome. Studies conducted in the 1970s and 1980s on tobacco withdrawal came to the conclusion that while not every smoker goes through a homogenous cessation experience, many suffer from subjective effects such as craving tobacco, restlessness, depression, decreased alertness or increased hunger. The physical effects of tobacco withdrawal include a drop in heart rate and blood pressure, sleep disturbances, and increased weight gain (Russell, 1985). Early attempts at easing the withdrawal of cigarettes by giving nicotine to those attempting to quit smoking showed some promise leading researchers to

believe that nicotine was implicated in the tobacco withdrawal syndrome (Johnston, 1942; Russell, 1971).

In the early 1970s, Michael Russell, an important nicotine researcher, was among those who suggested that the smoking behavior was greatly influenced by positive and negative reinforcers and that the reinforcing element driving cigarette consumption was nicotine (Russell, 1971).[57] Nicotine is a positive reinforcer because its consumption induces pleasant feelings, possibly relaxation and stress reduction. It is a negative reinforcer because smokers consume cigarettes to avoid withdrawal symptoms such as irritability and an overall feeling of discomfort (Russell, 1971). Edward Domino and his colleague concurred with Russell on nicotine's reinforcing properties when he summarized the research on animals and men with regard to nicotine's effects (Domino & Lutz, 1973). When researchers from around the world met at a congress in 1985, evidence was sufficient to conclude in the keynote address that "for the overwhelming majority of regular smokers, smoking is primarily a way of obtaining nicotine" (Jaffe, 1985).

With knowledge growing on nicotine's involvement in the tobacco withdrawal syndrome and nicotine as a reinforcing agent, scientists began to understand smoking as a dependence disorder. Thereby, researchers grouped the consumption of cigarettes with the use of other dependence producing drugs such as alcohol, cocaine and heroin (Russell, 1971; Jaffe, 1985). Scientists explained in their work that the basic biological mechanisms of heroin dependence could be applied to other substance addictions because they were not unique to this particular drug. Jack Henningfield (1985) who agreed with Russell and Domino on nicotine's reinforcing effects in animals as well as in humans

discussed the major similarities with other drugs of abuse arguing in his work that smokers could manipulate their nicotine intake by changing their smoking practice to compensate for varying levels of nicotine in test cigarettes. Given cigarettes with little nicotine, smokers would take deeper and larger puffs and increase the puff rate overall than in comparison to nicotine-rich cigarettes (Herning, Jones, Bachman, & Mines, 1981; Henningfield, 1985). Furthermore, Henningfield (1985) explained, tolerance to nicotine is quickly established and goes hand in hand with physical, as well as psychological withdrawal symptoms upon cessation. His conclusion that nicotine is a drug with abuse liability suggesting that nicotine essentially is able to exert control over the user's behavior despite rising costs or other adverse effects is confirmed by other cessation researchers (Henningfield, 1985; Russell, 1985).

Seeing cigarette smokers as physically dependent on the drug nicotine changed the dynamics of the cessation debate. While a dichotomy of smoking as a behavior versus nicotine use as an addiction was rarely suggested by those arguing for the existence of a nicotine dependence disorder, scholars suggested that the nicotine component of the cigarette habit needed to be taken into consideration when working on issues of cessation. Social factors were still considered prevalent in establishing the smoking behavior (Russell, 1971). In particular the onset of smoking was discussed in psychological terms rather than in pharmacological. Peer pressure and curiosity were seen as important elements in first-time smokers. The pharmacological dependence on nicotine became relevant after the initial phase of smoking initiation when the smoker maintained the habit despite well publicized negative health consequences. Overall, even with the continuation of the addiction debate in the 1980s, most scholars pressed for a

biobehavioral conceptualization of cigarette smoking which took the multifactorial nature of the habit into consideration (Pomerleau, 1985).

Both, tobacco dependence and tobacco withdrawal were initially addressed in the *Diagnostic and Statistical Manual of Mental Disorders (DSM) III* published in 1980. Although the guide did not directly implicate nicotine in the development of these disorders, with their publication, the American Psychiatric Association suggested that tobacco use be grouped with other substance dependence disorders and at the same time the publication medicalized the habit and therefore the cessation process. Eight years later, Surgeon General C. Everett Koop confirmed nicotine's involvement in the smoking habit with the publication of the 1988 report titled *The Health Consequences of Smoking: Nicotine Addiction.*[58] The report clearly laid out that tobacco is addicting and that nicotine is the substance involved in this addiction. Furthermore, the Surgeon General equated tobacco addiction with addiction to such drugs as heroin and cocaine thereby acknowledging nicotine's pharmacological actions in the brain, withdrawal symptoms and issues of relapse (USPHS, 1988). The report by the surgeon general followed the world congress on the pharmacologic treatment of tobacco dependence in 1985 and summarizes the sentiment of the larger scientific community.

The shift from viewing smoking merely as a behavior to perceiving it as a dependence disorder and thereby grouping it with other substance addictions such as alcohol or cocaine was underway during the 1970s and 1980s. Partially, this move away from constructing smoking as a behavior was spurred by the failure of the behavioral treatments to show great success for those attempting to quit. Additionally, the growing neurological knowledge on drugs' effects on the central as well as the peripheral nervous

system in general and nicotine's actions in particular gave cessation researchers new innovative tools to investigate smoking cessation methods based on pharmacology rather than behavioral elements. As the reader will see in the following paragraphs, smoking cessation slowly moved out of the psychosocial realm and into the medical arena in the 1980s. Smoking became a medical problem that could be treated with a prescription rather than an individualized quitting plan (Blum, 1984; Sachs, 1985). At the same time, research on psychological factors implicated in smoking cessation was less prevalent and dominated by a biological understanding of addiction.

Observing the withdrawal symptoms and connecting them with the lack of administration of nicotine launched the cessation research on nicotine replacement therapies into overdrive beginning with experiments in the late 1960s and early 1970s. Swedish scientist Ove Ferno stood at the forefront of this research and is widely credited for the creation of the first nicotine replacement method – a chewing gum containing nicotine (Ferno, Lichtneckert, & Lundgren, 1973).[59] Soon, researchers around the world learned that the gum was somewhat effective in alleviating the nicotine withdrawal effects, thus reaffirming the idea that nicotine was the reinforcing agent causing withdrawal symptoms in the smoker who tried to quit the habit (West, 1984).

While cessation researchers, in particular those who believed in treating smokers pharmacologically with a replacement to account for the nicotine deficit in quitters, hoped for a cure-all with the invention of the polacrilex gum, the newly devised product got off to a rocky start and failed to produce great success rates in smoking cessation trials across Europe and the United States.[60] Although researchers in the early phases of testing the nicotine gum argued that the difference between a placebo and active gum was

significant, actual abstinence rates varied greatly depending on research methodology, population treated, length of observation and treatment time. In a comprehensive review of randomized controlled trials using nicotine chewing gum, Lam, Sze, Sacks, and Chalmers (1987) summarized that when the gum was used in cessation clinics as opposed to use in general practices, the success rate after six months was 27 percent while the placebo gum group achieved only 18 percent. The researchers could not find a significant difference between gum and placebo in medical practices and suggested the nicotine gum needed to be properly monitored, its use explained and supervised in order to be effective.

When medical doctors in private practices began to correctly instruct their patients on how to use the gum, success rates in medical practices improved, and, overall, across different settings and populations the gum used individually without other cessation methods is said to increase the cessation success rate by about 50 percent (Stead, Petera, Bullen, Mant, & Lancaster, 2008; Wu, Wilson, Dimoulas, & Mills, 2006). However, it is important to keep in mind that researchers rarely follow their participants for longer than 12 months and that relapse occurs even after that time. Jean-Francois Etter and John Stapleton investigated the long-term efficacy of nicotine replacement therapies by reviewing the available literature and came to the conclusion that studies following their participants for only 12 months overestimate the efficacy of the replacement tool by 30 percent (Etter & Stapleton, 2006). Because participants in both the control and in the active group relapsed, the success rate of 50 percent remained accurate but the actual number of individuals remaining non-smokers and therefore the overall efficacy of the cessation tool declined (Etter & Stapleton, 2006). Absolute

cessation rates for smokers trying to quit with the help of the gum are quite low (Henningfield, Fant, Buchhalter, & Stitzer, 2005).

The gum in its 2mg strength became available as a prescription in 1984 in the United States.[61] In 1992, the Food and Drug Administration consented to the distribution of the stronger gum (4mg) via prescription (Cummings & Hyland, 2005). Till this day, the nicotine gum belongs to the group of first-line treatments as indicated by the *Smoking Cessation Clinical Practice Guideline* in 2000 and deemed a safe and tolerable treatment option unless contraindicated for medical reasons.[62] The gum achieved over-the-counter status in 1996 in the United States and is thus more accessible to the public (Cofta-Woerpel, Wright, & Wetter, 2006). When researchers compared the efficacy of the over-the-counter versus the prescription version of the gum, they concluded that quit rates are similar (Hughes, Shiffman, Callas, & Zhang, 2003). The over the counter status of the gum also ensured that smokers did not have to seek the help of medical personnel to achieve cessation. A potential barrier to treatment had thus been removed.

Since the creation of the nicotine gum, other tools with the same intention have been developed. In 1992, the nicotine patch was introduced to the market and in 1996 the over-the-counter version followed in a range of dosages (Cummings & Hyland, 2005). Through the skin, the nicotine patch delivers a steady dose of nicotine and circumvents some of the side effects of the nicotine gum such as bad taste and jaw pain (Foulds, Steinberg, Williams, & Ziedonis, 2006). Due the nature of the administration mechanism, the compliance rate is better with the patch than with the gum (Hajek, West, & Foulds, 1999).

Between 1996 and 2003, three other nicotine delivery methods were developed that are currently on the market as first-line medications aiding willing smokers to forgo their habit. Particularly the nasal spray and the inhaler spawned interest because instead of providing a steady dose of nicotine throughout the day, these products mimic cigarettes in giving users nicotine in a rapid manner and producing higher peak nicotine blood levels. Thereby, researchers argued, the product could be useful in eliminating sudden nicotine cravings (Foulds, 1994). If smokers are assisted in situations where they experience intense cravings for nicotine, relapse can potentially be prevented. Furthermore, the inhaler handles similarly to a cigarette and the hand to mouth movement may help with the behavioral component of the habit.

Overall, the efficacies of these different nicotine replacement tools discussed do not differ significantly. Several meta-analyses came to the conclusion that those quitting with the help of the gum, patch, nasal spray, lozenge or inhaler double their chance of remaining abstinent. Christopher Silagy and David Mant examined data from more than 50 nicotine replacement trials using gum, patch, nasal spray and inhaler with a minimum of six months follow up. They concluded that all of the cessation tools are effective, and, overall, users are almost twice as likely to remain abstinent at follow-up (Silagy & Mant, 1994).[63] Regardless of whether nicotine replacement tools are used in a clinic setting or unsupervised at home they are associated with improved long-term abstinence (West & Zhou, 2007).

However, the results cited above need to be interpreted with caution. Even after 12 months post cessation, quitters frequently relapse and return to their smoking habit. Relapse rates of 30 percent in the active treatment group during the second year post

cessation are not uncommon (Etter & Stapleton, 2006). Studies that follow participants of nicotine replacement trials for longer than one year have discouraging results and while the odds of quitting are still better with the help of an active replacement tool as compared with a placebo or no help at all, long-term abstinence rates are disappointingly low. Following participants treated with an active and a placebo patch for three years, Mikkelsen, Tonnesen and Norregard (1994) observed continuous abstinence rates of 10.3 percent for the active and 2.8 percent for the placebo group.[64]

In order to increase the efficacy of nicotine replacement strategies, some researchers suggested a combined approach using several replacement tools at once (Henningfield, 1995; Fagerstroem, 1994). Using a passive tool such as the patch with a method that can be administered *ad libitum* such as the nasal spray or the inhaler could potentially decrease overall withdrawal and sudden cravings in quitting smokers (Glover, 1994). However, a meta-analysis of these trials concluded that while in the beginning stages of cessation the combined approach is significantly more effective than a singular replacement method, the effect often diminishes over the course of the year and the combination of nicotine replacement therapies only has a small impact (Sweeney, Fant, Fagerstrom McGovern, & Henningfield, 2001). Cofta-Woerpel and colleagues come to a similar conclusion when reviewing combined nicotine replacement treatments (Cofta-Woerpel, Wright, & Wetter, 2006).

Research on nicotine replacement strategies is ongoing with a particular focus on faster delivery methods. Tests show that a rapid-release gum can achieve faster relief of cravings than the traditional polacrilex gum (Niaura, Sayette, Shiffman, Glover, Nides, Shelanski, et al., 2005).[65] Avoiding a major delay of nicotine administration and nicotine

availability would allow smokers to use the device whenever a craving occurs (Henningfield, Fant, Buchhalter, & Stitzer, 2005). Furthermore, researchers are experimenting with different strengths of existing nicotine replacement tools in order to mimic nicotine levels achieved by cigarettes (Henningfield, Fant, Buchhalter, & Stitzer, 2005). Cessation researchers also focus on long-term use of nicotine replacement methods for individuals who repeatedly relapse when discontinuing the pharmacological treatments (Sims & Fiore, 2002). Innovative combinations of replacement devices are under investigation in several labs (Henningfield, Fant, Buchhalter, & Stitzer, 2005; Rose, 1996). An inhaler that would allow the aerosol to travel directly into the lungs for absorption has created interest (Cummings & Hyland, 2005). Unlike the nicotine from a cigarette, the current inhaler's nicotine is absorbed via the buccal mucosa.

Even with the development of nicotine replacement therapies, researchers did not discard the behavioral treatments that have some effect on cessation rates in the long-run. Beginning with the inception of the gum, researchers attempted to treat smokers from a combined behavioral and pharmacological perspective. The majority of scholars never understood nicotine as solely responsible for smokers' inability to break with the habit. Other factors such as taste, aroma, respiratory tract sensation and behavioral components figured in the cessation process because they facilitated the conditioning of the smoking behavior and created associations with environmental cues (Rose, 1996). Therefore, not only the nicotine component but additional elements involved in the smoking process needed to be addressed during treatment. Essentially, as David Sachs argues, cigarette smoking is driven by psychological and nicotine dependency (Sachs, 1985).

Largely, the predominant reason for using a nicotine replacement tool in the fight against smoking is the withdrawal quitters experience in the first few days and weeks post cessation (Ferno, Lichtneckert, & Lundgren, 1973). Russell views cessation as a two part process. Initially, the quitter uses the gum to overcome the negative side effects of nicotine withdrawal to concentrate on the behavioral and psychological elements of the habit. Later then, the now ex-smoker is able to tackle the nicotine dependence by slowly reducing the intake of the nicotine gum (Russell, 1985). Researchers hypothesized that adding a behavioral component to the cessation process would ensure that smokers achieve long term success and are able to navigate the world as non-smokers. An additional benefit of using a nicotine replacement method is the decreased intense withdrawal symptoms and feelings of discomfort.

As outlined above, nicotine replacement therapies were used in conjunction with many behavioral treatments such as aversive conditioning, skills training, or relapse prevention (Sachs, 1985). When discussing the efficacy of a combined approach, researchers reiterated that using the nicotine replacement therapy with a behavioral treatment could double the initial success rate of the pharmacological method alone provided that the two approaches are used in an integrated fashion (Shiffman, 1985, Glasgow & Lichtenstein, 1987). Passively or mechanically adding a gum or patch routine to a behavioral treatment could not be as efficient as using the behavioral component to promote proper gum use in withdrawal situations that cannot be mastered with behavioral tools alone (Shiffman, 1985).

The early trials of combining any behavioral treatment with a pharmacological component were conducted with the oldest nicotine replacement tool available, the

nicotine gum. Karl-Olav Fagerstroem was among the first to see the benefits of using the gum to enhance behavioral treatments (Fagerstroem, 1982). Hall, Tunstall, Rugg, Jones, & Benowitz (1985) concurred with Fagerstroem's findings and concluded that using the gum with intensive behavioral treatment produced higher abstinence scores one year post treatment in comparison to intensive behavioral treatment alone or gum treatment with a short behavioral treatment component. Overall, adding nicotine gum to a behavioral treatment regimen seemed moderately effective in creating long-term abstinence (Killen, Maccoby, & Taylor, 1984; Hughes, 1991).[66] John Hughes, who reviewed studies where a behavioral component was added to a gum regimen, detected a positive effect in the majority of the trials (Hughes, 1991).

Apart from using the gum in a combined approach, researchers focused on investigating whether the patch could increase abstinence rates when used in conjunction with a behavioral component. Combining the patch with cognitive behavior therapy showed modestly increased success rates in comparison to using both tools independently in a study by Cinciripini, Cinciripini, Wallfisch, Haque, & van Vunakis (1996) at the 12 months follow-up. Researchers have also combined the patch with a variety of group or individual counseling approaches and findings from these studies supported Cinciripini's outcome (Fiore, Kenford, Jorenby, Wetter, Smith, & Baker, 1994; Molyneux, Lewis, Leivers, Anderson, Antoniak, Brackenridge, et al., 2003). However, when compared to the nicotine gum, the combined effect of the patch with behavioral treatment was not as robust (Mooney & Hatsukami, 2001).

Apart from cessation therapies based on nicotine replacement, several other non-nicotinic pharmacological aids were introduced to the market, two of which will be

discussed in this chapter.[67] Namely, the antidepressant sustained-release Bupropion (Zyban) is investigated as a tool to combat the cigarette habit individually and in combination with a behavioral component (Jorenby, Leischow, Nides, Rennard, Johnston, Hughes, et al., 1999). The drug is currently the only first-line therapy approved for smoking cessation (Siu & Tyndale, 2007).[68] The rationale for treating smokers with an antidepressant grew out of the observation that many smokers experienced depressive symptoms when abstaining from cigarettes. Several reviewers examined the efficacy of this treatment regimen and they concluded that compared to a placebo the drug doubled the abstinence rate one year post cessation (Holm & Spencer, 2000; Richmond & Zwar, 2003; Hays & Ebbert, 2007).

The use of partial agonists was explored in creating higher smoking abstinence rates. The drug varenicline was believed to reduce the smoking satisfaction by partially blocking the nicotinic receptors ($\alpha 4\beta 2$) and imitating the actions of nicotine. At the same time, the drug helps maintain a moderate level of dopamine in the brain (Hays, Ebbert, & Sood, 2008). In 2006, the American Food and Drug Administration approved varenicline under the trade name Chantix (Cahill, Stead, & Lancaster, 2008). Because the drug is relatively new, only a few clinical trials have been conducted. The evidence from those trials is encouraging and suggests that varenicline significantly increases the chances of abstinence 6 and 12 months post cessation (Cahill, Stead, & Lancaster, 2008; Stack, 2007). Researchers suggest that in comparison to a placebo, varenicline doubles, and potentially triples the cessation rates in users depending on the length of the initial trial (Oncken et al, 2007). However varenicline's use is not without controversy and in 2008,

new warning labels had to be distributed informing users of potential neuropsychiatric symptoms (Hays et al., 2008).[69]

One trend beginning in the late 1970s and continuing today is the development of pharmacological smoking cessation aids. While initially the focus was on nicotine replacement therapies that are now available in a variety of forms, later research concentrated on using anti-depressants and partial agonists. Despite these innovations, however, none of the available pharmacological treatments is the cure-all for smoking addiction, and long-term cessation results are disappointingly low with abstinence rates hovering around 20 percent.

Another trend coincided with the development from behavioral treatments to pharmacological smoking aids, namely the shift from clinical treatments to more public health oriented ones. The differences between these two distinct cessation approaches are manifold. For one, smoking treatments from a clinical perspective target the individual smoker while the public health approach treats communities in their environments. Trained professionals are often involved in the clinical setting offering multi-session treatments that are costly and timely. The public health approach keeps the costs and time down by using automated phone messages or TV ads to distribute information and non-smoking reinforcement or lay personnel to deliver a short behavioral component. Almost certainly the biggest difference between the two approaches is the cessation success rate. Over one year, clinical methods achieve more than 20 percent in abstinence rates while the public health approach has about half the success (Lichtenstein & Glasgow, 1992).

Cessation researchers are facing a difficult situation. One the one hand, the clinical approach, with its traditional intensive program, has somewhat encouraging

success rates for long-term smoking abstinence. On the other hand however, this kind of treatment does not reach the millions of smokers in the United States who for different reasons are not willing to commit to an intensive treatment. Research indicates that despite innovative creations of smoking cessation methods, the large majority (90 percent) of successful quitters achieved this milestone on its own without ever buying a nicotine replacement tool or visiting a behavioral intervention group (Fiore, Novotny, Pierce, Giovino, Hatziandreu, & Newcomb, 1990). The task at hand is to treat as many smokers as possible and the public health perspective has more potential to achieve this goal than the clinical approach that is limited in its scope and can only treat so many smokers (Lichtenstein, 1985).

Most smokers with the desire to quit have little interest in attending a formalized treatment program at a clinic or community center (Shiffman, 1985). In fact studies show that between 85 and 95 percent of those who quit do so without the assistance of a clinic (Shiffman, 1985; Fiore et al., 1990; Ferrence, Slade, Room, & Pope, 2000; Zhu, Melcer, Sun, Rosbrook, & Pierce, 2000). Therefore, in order to reach larger numbers of smokers, the public health initiative suggests treating the smokers in their environment such as the workplace or the school. Televised advertisements that reach smokers in their homes, as well as self-help literature on cessation received via postal mail or email can encourage smokers to quit their habit (Lancaster & Stead, 2005). Telephone quit lines, offering support, advice and motivating messages are also an integral part of the public health approach. The odd ratios of successfully quitting for these types of interventions range anywhere from 1.1 to 1.3 (Le Foll & George, 2007). While the combined success rates are much lower in comparison with intensive behavioral programs, the reach and impact

of these public health strategies is much larger and the actual number of quitters is notable (Glasgow & Lichtenstein, 1987).

One of public health's major achievements in the battle against smoking is the integration of the family physician in the fight against smoking. David Antonuccio and his colleagues point out that almost three quarters of all Americans visit a physician at least once a year (Antonuccio, Boutilier, Ward, Morrill, & Graybar, 1992). These visits are a tremendous opportunity to briefly remind smokers about the health consequences of smoking and educate them on treatment options. Research shows that even a brief intervention lasting less than five minutes is effective and can have a significant impact on the smoking population (Baillie, Mattick, Hall, & Webster, 1994; Cofta-Woerpel, Wright, & Wetter, 2007; Stead & Lancaster, 2008).[70] These short interventions can increase success rates between 1 and 3 percent a percentage that is added to the unassisted quit rate of 2 to 3 percent (Stead & Lancaster, 2008). Therefore, physicians, nurses or any health professional who come in contact with a patient who smokes is encouraged to follow the 5 A model consisting of asking about the smoking status, advising patients to quit, assessing their willingness to quit, assisting them with their quit attempt and arranging a follow-up (Cofta-Woerpel, Wright, & Wetter, 2007).[71]

Incorporating nicotine replacement methods into the public health approach can be very effective in decreasing cigarette use in the population. The vast majority of quit attempts in the United States are made without the use of a nicotine replacement method and relapse rates are exorbitantly high (Cummings & Hyland, 2005). Research shows that of those who try to quit smoking without assistance, only about 7 percent are abstinent 12 months post cessation date. Those who have sought help double their chance to stay

abstinent (Zhu, Melcer, Sun, Rosbrook, & Pierce, 2000). Promoting the use of the gum or patch can influence quit rates substantially. Changing the prescription status of the gum and patch to an over-the-counter availability is a first step to help increase access and utilization of such tools (Shiffman, Glitchell, Pinney, Burton, Kemper, & Lara, 1997; Shiffman, Mason, & Henningfield, 1998).[72] Combined with a short, physician-intervention, the combined approach can have far reaching consequences for smokers who need the nicotine replacement method to combat uncomfortable withdrawal symptoms (Fiore et al., 2000; MacLeod, Charles, Arnaldi, & Adams, 2003).

To completely discard the more intensive treatments, generally administered at clinics, would be imprudent because different smokers need different intensities of treatments and not everyone benefits from the public health approach. Smokers who are classified as highly dependent on the Fagerstroem test for nicotine dependence and prone to relapse are better served with a program that takes these elements into consideration. Physicians using the 5 A approach can make adequate treatment recommendations for their patients (Fiore et al., 2000).

This chapter concentrates on active cessation tools such as pharmacological therapies, behavioral counseling and other public health strategies that smokers seek out because they are motivated to quit. However, smokers' experiences are also shaped by their socio-cultural and political environment. For reasons of completion, a brief introduction to policy interventions that affect smoking cessation and decrease cigarette consumption and prevalence follows. These interventions include but are not limited to tax increases, clean air acts, and work place regulations.

With the growing knowledge of the detrimental health effects of active and passive smoking, many US communities establish local ordinances that require smoke-free workspaces. Caroline Fichtenberg and Stanton Glantz (2002) reviewed more than 20 studies to examine the effects of these smoke-free environments on overall consumption and on smoking prevalence. They came to the conclusion that smoking prevalence dropped by 3.8 percent and consumption of people who continue to smoke decreased by about three cigarettes a day. Combined, these two figures account for a 29 percent relative reduction of smoking. What this review fails to indicate is what other active tools quitters used or whether the majority quit without further assistance. Either way, these types of smoke ordinances motivated and encouraged current smokers to quit and the study results are encouraging that prohibition of smoking can have a significant public health effect.

Increasing taxes on cigarettes is another valuable tool to encourage cessation and reduction of cigarette use. Research shows that an increase in price by 10 percent resulted in a 4 percent reduction in consumption per capita (Chaloupka, 1999). Particularly adolescents and individuals of lower income are affected by the price increase and less likely to continue the habit.

New York City can be used to showcase the effectiveness of a combined policy intervention. As seen above, tax increases are part of an effort to discourage cigarette sales and motivate current smokers to quit. As part of the city's five component tobacco control strategy, officials increase the price of cigarettes by about 30 percent which translates into a retail price of just under seven dollars (Frieden, Mostashari, Kerker, Miller, Hajat, & Frankel, 2005). At the same time, New York virtually outlaws indoor

smoking and sends all physicians nicotine treatment guidelines. Additionally, educational efforts are increased with media campaigns and advertisements. Finally, these combined efforts are evaluated and results distributed. Frieden and his colleagues conduct a population-based health survey to assess the effects of these control strategies and suggest that since the beginning of the comprehensive intervention smoking prevalence in the city decreased by 11 percent from 21.6 to 19.2 percent (Frieden et al., 2005; Frieden, Bassett, Thorpe, & Farley, 2008).

Overall, these policy interventions work hand in hand with the active forms of smoking cessation methods and have synergistic effects on the smoking prevalence. An individual trying to quit smoking with the help of a nicotine replacement strategy or a behavioral component is exposed to anti-smoking messages through different media outlets that have potential effects on the quitting smoker. Additionally, the high price of cigarettes may have played a part in seeking help to quit the habit. Not being able to smoke in bars or at work can also positively affect the quitting smoker by eliminating situations that are tempting such as seeing others smoke.

The past four decades saw an immense progress with regards to the development of innovative and often moderately effective smoking cessation tools. While the pharmacological treatments do not constitute a panacea for smokers, they are to some degree effective in helping smokers quit their habit. However, the use of these methods is not prevalent in the smoking population. The shift from the clinical to the public health approach has increased the use of replacement strategies and has incorporated family physicians into the fight against cigarette use. The combined effort of public health strategies and pharmacological aids has resulted in encouraging outcomes. Today, the

smoking habit itself is described not merely as a behavior but many researchers characterize smoking as a chronic relapsing disorder that needs continuous attention (Fiore et al., 2000).

Chapter III: Research Methodologies

The data used for this dissertation are part of a multi-year cross-sectional study on the phenomenology of current smokers. This study, also known as the Persistent Smokers Project (PSP), was conducted in Atlanta, Georgia (1R01DA015707, PI: Claire Sterk, PhD). Qualitative and quantitative data were collected between September 2004 and March 2009. Data from in-depth qualitative interviews with 34 smokers guided the dissertation inquiry. The overarching question leading the analysis concerned why smokers cannot quit their habit and continue to relapse despite the available pharmacological and behavioral interventions. Particular attention is paid to quitting barriers and motivators as well as triggers for relapse.

Much of the research on smoking cessation has focused on large populations and has been quantitative in nature using surveys. With regards to quitting, studies have addressed the efficacy of specific cessation tools such as nicotine replacement therapies and behavioral strategies, both individually and in combination (Blondal, Gudmundsson, Oalfsdottir, Gustavsson, & Westin, 1999; Blondal, Gudmundsson, Tomasson, Jonsdottir, Hilmarsdottir, Kristjansson, Nilsson et al., 1999; Cofta-Worpel et al., 2006; Cofta-Worpel et al., 2007). On the other hand, public health methods, such as radio announcements or motivational telephone calls, have been investigated with respect to their impact on changing the smoking behavior in the population (MacLeod et al, 2003). Additionally, researchers have focused on why and when smokers relapse and how best to prevent this occurrence (Lancaster, Hajek, Stead, West, & Jarvis+, 2006; McMurry, 2006; Ockene, Mermelstein, Bonollo, Emmons, Perkins, & Voorhees, 2000). These studies have mainly

focused on a positivistic form of inquiry which tests hypotheses to further cessation research.

Qualitative research differs greatly from quantitative inquiries. Rather than trying to prove or disprove a null hypothesis, qualitative research describes cultural phenomena and focuses on generating new theories. By using qualitative interview techniques that attempt to capture the respondent's view, qualitative researchers hope to learn more about the intricacies of social processes and realities that quantitative research often fails to uncover. Essentially, qualitative research methods elicit detailed and rich descriptions of cultural phenomena and different meanings people ascribe to events (Becker, 2001; Sofaer, 1999). To put it in Max Weber's terms, qualitative researchers are interested in the act of *verstehen* – a concept that implies learning more about people's reasons and motives that drive behaviors (Patton, 2002).

As opposed to quantitative inquiry, which tests hypotheses, qualitative researchers are interested in identifying certain patterns and provide textual evidence in an effort to establish plausible theories (Neuman, 1997). Additionally, qualitative inquiry often moves beyond the mere description of an event and has the potential of generating new hypotheses or refining existing hypotheses and theories which can be used in reframing and redirecting future research (Sandelowski, 2004; Sofaer, 1999; Strauss, 1987; Glaser & Strauss, 1967).

The majority of smoking cessation research is quantitative in nature; however, there are exceptions in the cessation literature and certain groups of smokers have been studied with a qualitative approach. Open-ended and semi-structured interviews are most commonly used in these qualitative investigations. In smoking cessation research,

qualitative methods have been utilized to elicit viewpoints, attitudes, beliefs and experiences of populations that have not been studied sufficiently and that are not fully represented in large surveys focusing on women, ethnic minorities, adolescents, or smokers with specific chronic or acute health problems. In comparison to quantitative investigation, the qualitative research on cigarette quitting is formative and explorative in nature.

In smoking cessation, qualitative research has been utilized to learn more about gender differences between men and women. While women smoke less (18.0 percent) than men (23.9 percent), their overall cessation rates have traditionally been lower than those of their male counterparts (CDC, 2007; Wetter, Kenford, Smith, Fiore, Jorenby, & Baker, 1999). Research suggests that women experience tobacco withdrawal differently than men, which may account for lower success rates in quitting (Leventhal, Waters, Boyd, Moolchan, Lerman, & Pickworth, 2007). To explore the complex differences between genders, qualitative researchers have focused on women's initiation of smoking (Nichter, Nichter, Vuckovic, Quintero, & Ritenbaugh, 1997), perception of smoking (Lennon, Gallois, Owen, & McDermott, 2005), and possible environmental or social components that influence women's quitting behaviors (Hutcheson, Greiner, Ellerbeck, Jeffries, Mussulman, & Casey, 2008). Furthermore, knowing the detrimental effects of maternal smoking on children, determinants of smoking while pregnant or breastfeeding have been investigated by qualitative researchers (Riply-Moffitt, Goldstein, Fang, Butzen, Walker, & Lohr, 2008). The studies cited above all shed light on a particular aspect of a specific population. The knowledge gleaned from the qualitative inquiries

may be used to better serve women in their battle against smoking and to explore gender effective cessation tools.

Additionally, qualitative researchers have investigated ethnic minorities' smoking habits and their cessation experiences. Beliefs and attitudes as well as barriers to smoking cessation have been studied among diverse populations with the goal of learning more about the differences between ethnicities and the development of more effective cessation tools and tobacco control strategies (Burgess, Fu, Joseph, Hatsukami, Solomon, & van Ryn, 2008, Webb, Francis, Hines, & Quarles, 2007). For instance, in the African American community, qualitative researchers have been particularly intrigued by the lack of nicotine replacement usage in the community. The discovery of why African Americans are reluctant to use replacement tools based on nicotine may spur future research on how to market, promote and tailor these cessation tools appropriately (Yerger, Wertz, McGruder, Froelicher, & Malone, 2008). The same reluctance exhibited by this particular demographic group may be found in some American Indian communities where negative attitudes towards pharmacotherapy were identified by using focus groups (Burgess, Fu, Joseph, Hatsukami, Solomon, & van Ryn, 2007).

Because smoking is most often initiated during adolescence, both quantitative and qualitative scholars have been interested in adolescents' use of cigarettes and their particular problems with cessation. Qualitative studies have focused on adolescents' quitting experiences and their coping strategies for temptation, urges, and lack of social support (Falkin, Fryer, & Mahadeo, 2007). Additionally, studies on young smokers' utilization of cessation services and their personal cessation tool preferences have shed light on the design of effective interventions for this at-risk population (MacDonald,

Rothwell, & Moore, 2007). Finally, qualitative researchers have identified particularly vulnerable youths such as lesbian, gay, bisexual and transgender adolescents, and have addressed their specific struggles with cessation and how to develop culturally specific smoking intervention programs (Remafedi, 2007).

Overall, qualitative researchers interested in smoking cessation have not necessarily investigated whether certain smoking interventions work, but rather why they do or do not work and how learning more about certain populations may help in the development of more effective cessation tools. In-depth knowledge on cessation barriers or facilitators serves as a stepping stone for more culturally targeted interventions. Furthermore, qualitative research is at the forefront of identifying those groups that have traditionally been neglected by the majority of researchers such as women and ethnic minorities.

In smoking cessation research, the efficacies of nicotine replacement tools and behavioral as well as public health interventions are well known. Yet, scientific knowledge on how to increase the effectiveness of such interventions is in its infancy. Learning more about smokers' attitudes, beliefs, and struggles with quitting may advance researchers' understanding of cessation. This qualitative study adds to the cessation debate by shedding light on the intricacies of the relationships of smokers and their cigarettes. The focus of the data analysis is on the experiences that surround quitting and the related relapses that can accompany quit attempts. Learning what types of barriers smokers encounter when attempting to quit the cigarette habit and what motivates smokers to quit furthers the cessation debate by uncovering additional elements that shape cessation experiences.

Research Questions

This dissertation is driven by one major research aim: gaining a better understanding of why persistent smokers have failed to quit smoking despite the available behavioral and pharmacological interventions. More specifically, the research questions can be stated thus: are there differences among smokers who have successfully quit for a year or longer, those who have quit for more than two weeks but less than a year, and those who have quit for two weeks or less. These particular lengths of time were selected because they represent common quit patterns for smokers. In essence, these three groups were established to investigate whether the length of cessation results in a particular quitting narrative with similar themes and subthemes. I am specifically interested in how these three groups of smokers narrate their quitting experiences. Does the length of past cessation periods have an influence on the quitting experience and how does that differ for the three groups? What motivates smokers to initiate another quit attempt? What are the reasons smokers give for not wanting to quit? Additionally, I am interested in the barriers smokers encounter when they attempt cessation. Are the barriers different for smokers who have been relatively successful with quitting in the past as opposed to those who have only quit for a few days or weeks? Lastly, I would like to know what constitutes a relapse for smokers. What are the triggers that lead to the continuation of smoking? Are the triggers different for the three groups of smokers?

Establishing the Cessation Groups

In order to find answers to the research questions established in the first section of this chapter, the data were manipulated to establish three quitting groups. Two questions from the quantitative interviews were used in this process. The first question – "*What is the longest period that you have gone without smoking a cigarette since you began to smoke regularly?*" – and a second that focused on quitting plans in the future were used to divide smokers into those who have quit for less than two weeks and those who do not want to quit or cannot quit (never-quitters), those who have quit for less than a year and have no plans to quit in the immediate future (no-plan quitters) and those who have quit for a year or more and would currently like to quit (seasoned quitters).

Sample and Data Collection

Recruitment strategies

Because smoking has become less and less socially acceptable and more stigmatized over the past decades, not every smoker is comfortable lighting up in public (Goldstein, 1991; Kim & Shanahan, 2003). This study utilized two recruitment procedures to target both groups: those individuals whose smoking is not visible to outsiders and those who are comfortable smoking in public.

Active recruitment strategies targeted public or visible smokers. Recruiters spent time in popular smokers' locations that allowed smoking, such as bars, around office buildings where employees spent their smoke breaks, coffee house patios, parks, bus

stops and sidewalks. Often recruitment of smokers was done when the opportunity presented itself. This type of outreach is a common element in public health, often utilized in recruiting ethnic minority populations or marginalized populations such as the homeless (Alvarez, Vasquez, Mayorga, Feaster, & Mitrani, 2006; 2006; Tommasello, Myers, Gillis, Treherne, & Plumhoff, 1999; Melchior, Huba, Brown, & Slaughter, 1999). Approaching smokers whenever the situation was favorable allowed researchers to be flexible in their recruitment efforts. When the situation was opportune, recruiters generally seized the moment and began a conversation with the smoker that ultimately led to the introduction of the project details.

For the passive recruitment, team members hung paper flyers in public areas such as coffee shops, community centers, stores, restaurants or bulletin boards at Atlanta area universities. The paper flyers contained the name and telephone number of an interviewer and a brief list of eligibility criteria. For a portion of the project, virtual flyers were posted in online forums such as Craigslist. The passive recruitment method facilitated the recruitment of those individuals who interviewers did not observe smoking and thus increased the reach and diversity of the study population (Linnan, Emmons, Klar, Fava, LaForge, & Abrams, 2002).

A final recruitment strategy involved snowball or chain-referral sampling. Smokers who were already participating in the study were asked whether they knew anyone who would be willing to become a respondent. This strategy was particularly useful in identifying smokers that the researchers might have missed with active recruiting methods since not every smoker lights up in public (Kaplan, Korf, & Sterk, 1987; Atkinson & Flint, 2001). There were no differences between the respondents based

on the various recruitment strategies. Incentives of $5 were given to those who referred an eligible smoker who completed the interview.

As a whole, recruitment efforts continued to be flexible throughout the smoking project. As interviewers learned about new bars or popular places that attracted smokers, recruitment efforts would shift to those venues. To recruit a wide variety of smokers with different attitudes and beliefs remained an integral component of the recruitment process.

Targeted sampling guided the recruitment with the field staff receiving regular updates on specific targets for a specific recruitment period. As Watters and Biernacki (1989) explain in their work on recruitment of substance abusers, targeted sampling allows researchers to systematically recruit specific numbers of certain populations into the study. There were certain weeks where team members increased their efforts to enroll African American women into the study. At other times, interviewers targeted individuals with higher education. The targeted sampling approach allowed for a flexible recruitment strategy that ultimately resulted in a diverse sample. Active recruitment was utilized for the targeted sampling approach.

As the study evolved, theoretical sampling was used to recruit additional subjects into the study. This method is based on the principles found in grounded theory, namely the comparative method of analysis. Data derived concepts drive future recruitment efforts to reveal and further refine certain concepts (Strauss & Corbin, 1998).

Eligibility and screening process

Individuals who lived in the Atlanta metropolitan area and were 18 years or older, who smoked more than twenty cigarettes a week, and more than 100 cigarettes in their lifetime, were eligible to participate in the study. To determine eligibility for the study,

potential participants were screened over the phone or in person by the interviewer using a standardized screening form. Respondents were asked for demographic information such as gender, date of birth and age. Racial or ethnic background was also defined. Furthermore, during the screening process, the interviewer asked in what year respondents smoked their first cigarette and how many years they have smoked overall. Lastly, team members inquired about the current smoking patterns and how many cigarettes smokers consumed during an average week. Recruiters carried the screening forms with them when out in the field.

Screening often took place in public spaces where smokers spent time and recruiters could approach them easily. Because this study focused on persistent cigarette smokers, only those individuals that currently consumed more than 20 cigarettes a week were eligible to participate in the study. This criterion was most often cited for excluding smokers from the study because these individuals consumed less than the required amount. In many cases, smokers who were ineligible to participate in the project considered themselves social smokers. They did not light up every day but only in certain locations or situations and with certain people. Interviewers who recruited participants in bars where alcohol was served often experienced these types of smokers.

Interview

Team members met the study participants in various places throughout Atlanta for the face-to-face interviews. These included one of the research offices, a respondent's home, or coffee houses. Bars or doughnut shops were also popular places to meet participants in order to conduct the taped portion of the interview. In general, the respondents were asked to indicate their preferred location for the interview.

Smokers were informed that their participation was voluntary and that they could stop the interview at any given moment without having to provide an excuse or explanation. Furthermore, respondents learned that all information gathered during the interviews would remain confidential and that their names would not appear in the dataset or in future publications. Names used throughout this dissertation are fictitious. After the interviews, participants received a card with study contact information and their assigned study number. They could call the provided contact number after the interview to withdraw their consent to participating in the smoking project. The PSP was approved by the Institutional Review Boards (IRB) at both Emory University and Georgia State University.

Before a team member administered the interview, the participants were asked to read a consent form explaining the purpose and procedures of the study. Interviewees were informed about the time commitment of the interview. Participants were asked whether they had any questions or concerns regarding the study or the data collection procedure. Some participants requested the interviewers to read the consent form to them. After participants were familiarized with the details of the study, they were asked whether they consented to participate. In lieu of the interviewees signing the consent forms, interviewers signed their own names and dates and assigned a study number to the interview participant. This procedure ensured that the anonymity of the participants remained intact.

The study offered participants a financial reward of $15 in cash for the qualitative interviews. Interviewees were paid after participation in the study and signed a money receipt form to acknowledge the payment. Participants were informed that the money

receipt form could not be traced to a particular study number and thus anonymity was kept.

Interview guide

The interview guide was developed based on the literature and formative research. Using the interview guide which provided topics to be covered during the interview gave structure for the team members and ensured that the same general topics were discussed. The open ended questions allowed interviewees to answer in their own words and offer their personal experiences (Patton, 2002). The type of interviewing strategy gave interviewers sufficient flexibility to probe areas of interest and to gain a deeper understanding of the issues discussed. Through head nods or verbal cues, study participants were encouraged to talk at length about their experiences. Asking open ended questions as opposed to closed ended questions also brought the benefit that respondents were not influenced by pre-existing answers (Schuman & Presser, 1979).

Themes of interest

Quitting and relapsing experiences are the two major topics explored in this dissertation. Questions on how smokers describe the quitting experiences and what motivates them to quit are at the center of the investigation. More specifically, the focus is on barriers and motivators to quitting and how these elements can shape the cessation experience.

Data management

The semi-structured, open-ended interviews lasted anywhere from approximately one hour to two hours depending on how forthcoming the interviewees were regarding their smoking experience. Once the interviews were completed, each team member wrote

field notes with relevant information on important points discussed during the interview, on the participant's body language or pertinent comments made while the audio recorder was off. The interviews were recorded with a digital recorder and later transcribed by a professional transcriber. To ensure the accuracy of the interview transcript, the interviewer listened to the audio recording while reading the transcript to eliminate mistakes and then approved the transcription.

Once the interview was completed, the digital recordings were sent to a team member who was responsible for distributing the recordings to one of the professional transcribers. This procedure happened within hours of the interview. The digital recording was then deleted from the personal computer of the interviewer to ensure the safety of the data. On average, the transcribers took one to two weeks to transcribe the interviews. The digital recordings as well as the final version of the interview transcript were then stored on a well protected university computer server with access only to team members. The consent forms were kept at an office in a locked file cabinet at Emory University.

Data Analysis

The data analysis is driven by principles found in grounded theory. However, grounded theory strategies, as laid out by Glaser and Strauss (1967) and modified by Strauss and Corbin (1998), were not strictly adhered to and were modified when necessary. For example the interviews used in this dissertation were collected before the

analysis commenced. The grounded theory approach asks for data collection and analysis to take place simultaneously. This resulted in a secondary data analysis.

As opposed to testing hypotheses which is often the objective of quantitative research, the grounded theory approach allows researchers to describe certain phenomena and generate new hypotheses. In order to analyze the data, a coding scheme was developed. The coding process helped to organize the data into conceptual categories and themes which were subsequently used in the data analysis process. The qualitative interviews with the smokers were coded on three different levels. Initially, 34 interviews were read and broad themes were written into the margins. The focus was on the data and connections between the themes were not made. The second pass through the data is referred to as axial coding and involved the review of the initial codes. New codes still emerged at this point in the coding process but the emphasis was on exploring overarching categories and concepts that clustered together. Finally, the data were selectively coded to look for cases that illustrate themes. These cases can be used to make comparisons and demonstrate contrasts (Neuman, 1997).

Coding Tree

After the initial pass through the data used for this dissertation analysis and the development of the axial codes, thee large categories emerged from the data of the 34 interviews. The interviewees provided in-depth information concerning the topics of quitting experiences, barriers to quitting, and relapse triggers. In the following, I briefly introduce each larger category and describe its themes and subthemes.

The smokers' quitting experiences are shaped by situational and internal motivators. Smokers identified five situational triggers. The theme "other people" such as partners and children/grandchildren was prevalent among the participants. Having important people in one's life can motivate smokers to quit. Furthermore, the "social consequences of smoking" was identified as a theme that influences the quitting experience. Not being able to date a non-smoker impacted some of the participants. Thirdly, the theme "pregnancy" emerged from the qualitative narratives. Being pregnant or having a pregnant partner can trigger a cessation episode. Additionally, with the prices of cigarettes steadily rising, smokers discussed "money" as a driving force in smoking cessation. Lastly, the lack of concrete situational triggers such as "other people" was addressed as a theme in smoking cessation.

Internal triggers were instrumental in motivating smokers to think about quitting. Three major themes emerged from the discussion of the participants. "Negative health consequences" were identified as an important factor in shaping the quitting experience. Those negative consequences can either directly affect a smoker or be instrumental in initiating a cessation period or the detrimental health effects can have an indirect impact. A loved one may be affected by smoking or the smoker foresees health troubles in the future. "Avoidance strategies" were identified as a further subtheme to "negative health consequences." Showing "doubts" about the accuracy of health research, "rationalizing" the decision to smoke by setting a quit date far in the future and succumbing to a sense of "fatalism" that quitting is not going to reverse the health consequences are examples of avoidance strategies.

"Shame and fear" is another theme that comes to light when discussing internal triggers to cessation. Being ashamed in front of parents and children was identified as a motivator in initiating a quit attempt. Lastly, not having internal triggers to stop smoking influenced the quitting experience.

When smokers discussed barriers to quitting smoking, five prevalent themes came to light. Smokers showed that the "fear of losing" constituted a barrier to their quitting attempts. There are several subthemes to the "fear of losing" theme. Smokers were afraid of "losing a ritual," "losing a friend," losing control," "losing a routine," and "losing the one thing that works." Furthermore, the theme "smoking context" emerged from the narratives of the participants as an obstacle to quitting. Within this context, three major subthemes came to light. "Stress," "other smokers," and the "inability to cope" without cigarettes were powerful barriers to quitting and discouraged smokers from attempting cessation. The third large theme that surfaced from the interviews was the issue of "addiction." Smokers felt that being addicted to cigarettes stands in the way of quitting. One particular subtheme to "addiction" is the "physical effects" that ensue when smokers have attempted cessation. Knowing how it feels to not smoke for a period of time can discourage smokers to attempt quitting. Fourthly, smokers identified "excuses" as a prevalent theme when discussing quitting barriers. Subthemes such as "readiness," "reservations," "justifications," and "weakness" came to light. Smokers use these excuses to explain why they have not succeeded in quitting or are not planning to quit. These excuses are powerful barriers that inhibit smokers from planning the next quit attempt. Lastly, "enjoyment" emerged as a theme in the discussions on quitting barriers. Enjoying

cigarettes led to the continuation of smoking and was identified as an obstacle to cessation.

Relapse triggers were either perceived as situational triggers or as internal triggers. For situational triggers three themes emerged. “Other smokers” were implicated in the relapse experiences. These “other smokers” were either “directly” involved in the relapse experience by offering the ex-smoker a cigarette or these “other smokers” were “indirectly” involved in the relapse experience and the ex-smoker requested a cigarette from them. Secondly, the participants illustrated how the theme “alcohol” played a role in their relapse experiences. Finally, the theme “pregnancy” served as a situational trigger for relapse. Once the pregnancy was completed and therefore the reason to quit removed, female participants relapsed.

Internal triggers to relapse played a major role in ending the cessation period for smokers. Three prevalent themes emerged from the data. On the one hand, the theme “stress” was discussed by the smokers. Stress was either experienced as “immediate” or “prolonged” meaning that one major stressful event or a serious of smaller occurrences might trigger a cessation relapse. The theme “cravings” was prevalently addressed by the interviewees. “Irritability” when not smoking, “wanting” a cigarette, and hindrance of “functionality” in every day life were subthemes discussed by the smokers. These subthemes played important roles in the relapse experiences of the interviewees. Lastly, an internal trigger to relapse was an “overblown confidence level” with regard to cessation success. When smokers believed they had overcome the cigarette habit and issues of addiction, they often thought they could socially smoke one cigarette. A single

cigarette led to the next and soon these smokers found themselves in a full relapse situation.

Potential Validity Concerns

Whether the interviews with smokers truly measured smoking habits, attitudes towards quitting, and meanings surrounding the cigarette habit raise concerns about the validity of the data. Therefore, one of the potential threats to the validity of the study is that people who were interviewed were not smoking at all or were smoking a much smaller or much larger number of cigarettes. This study relied on self-reporting of smoking patterns and status. This project relied on the participant's truthful answers and did not utilize any biochemical verification. Research shows that when compared with measured serum cotinine levels, self-reported smoking status and self-reported smoking patterns can be taken as very good indicators (Caraballo, Giovino, Pechacek, & Mowery, 2001). Therefore, self-report does not constitute a validity concern in this study.

The financial incentive may have driven some individuals to participate in the study despite lacking the eligibility criteria. Because this project utilized a snowball recruitment technique where researchers allowed study participants to refer other smokers, these interviewees may have notified their smoking peers about the eligibility criteria. Referrals however were not as common in this study and therefore the threat to validity should be marginal. Most smokers were recruited via an active strategy or called because they saw a flyer in a public setting.

The qualitative interviews focused not only on current smoking patterns, experiences, and behaviors but also on events in the past. The accuracy of retrospective data can be a problem for the validity of a study. However, in this qualitative project, the different meanings participants attributed to their smoking behaviors as well as interpretations of past events are the focus of the dissertation. Researchers suggest that when respondents reconstruct their past experiences, these reconstructions become the reality in their current situations (Maines, Sugrue, & Katovich, 1983). Therefore, the stories participants shared with the interviewers have become part of their reality and of their lives and are valid in their own right.

An additional threat to the validity of the study is the presence of social desirability. Interviewers run the risk of receiving answers to controversial questions that do not reflect the participant's true opinion but constitute a socially acceptable response. To decrease this potential risk, threatening or more intrusive questions were asked toward the end of both the quantitative and the qualitative interviews. Additionally, the qualitative interviews followed the quantitative interviews and the rapport built during the first meeting was utilized in the in-depth interview.

To increase validity, smokers had to answer many questions more than once. For example during the initial quantitative interview, they were asked about the number of cigarettes smoked during a week. Then during the qualitative interview, the team members had participants recount each cigarette smoked during the day. This triangulation of data collection is used to uncover discrepancies.

Credibility and reflexivity

Many qualitative researchers do not address internal and external validity in their work because both concepts are traditionally more relevant in positivist perspectives of quantitative research. The term credibility has been used to address the strength of a particular study (Becker, 2001). Patton distinguishes three elements that add credibility to qualitative research: rigorous methods, the credibility of the researcher, and the philosophical belief in the value of qualitative inquiry (Patton, 2002). In this study, precautions were taken to ensure high quality data. The principal investigators of the study approved each interviewee and the corresponding interview guide before interviewers met the participants and conducted the qualitative portion of the study. Researchers on the team were trained through previous coursework, qualitative interview experience from other studies, and project related training sessions. Lastly, qualitative interviewing was seen as valuable and effective in gaining insightful knowledge on smoking behaviors.

Recently, qualitative scholars have also suggested practicing self-awareness of their own involvement in the data collection and analysis process to increase the integrity of the qualitative data (Finlay, 2002; Gergen & Gergen, 2001). This process is referred to as reflexivity. Throughout the data collection process, I have reminded myself of the unique cultural and educational background that I bring to the study. Acknowledging preconceptions and challenging certain assumptions about the overall topic of the dissertation has resulted in data that is more authentic in its scope.

Potential Limitations

As Andrea Fontana and James Frey point out in *The Handbook of Qualitative Research* race, class, hierarchy, status and age all shape the interview process (Fontana & Frey, 2000). Female respondents may have been more reluctant to open up to a male interviewer and vice versa. An African American male may have had a different rapport with a Caucasian woman than he would have with another African American male. This might have influenced the experiences related and ultimately the data collected. A gender and ethnically diverse interviewer team was present in this study to minimize these limitations.

The interview process may have also been influenced by whether the interviewer was a current, an ex-smoker, or a never-smoker. Questions or probes by interviewers who have an inside knowledge on quitting procedures may have elicited more information about the topic because the rapport would have differed. On other hand, a non smoker may not have been as sensitive when discussing relapse experiences. All these factors could have potentially influenced the stories related during the interview and the relationship between the interviewer and the participant.

To minimize these limitations, interviewers were of different ages and both male and female. There were non-smokers and ex-smokers on the team.

Chapter IV: Qualitative Inquiry

Participants

Ten people fit the category of "seasoned quitters," indicating that they have engaged in multiple quitting attempts, one of which lasted a year and longer. Moreover, they currently are planning to quit smoking. The median age of the participants was 43 years, with a range between 23 and 60 years (Average Absolute Deviation from Median: 8.2).

The "seasoned quitters" reported smoking 116 cigarettes on average with a range between 20 and 280 cigarettes (SD 86.8; Median: 70; Average Absolute Deviation from Median: 64). In comparison to the other subgroups, the "seasoned quitters" smoke more than the "no-plan quitters" who do not want to quit in the near future but have been successful for a year or less when attempting to quit. The "seasoned quitters" smoke less than the "never-quitters" who do not want to or cannot quit.

The ten "never-quitters" are younger than the ten "seasoned quitters" and the fourteen "no-plan quitters." The median age of the "never-quitters" was 32.5 with a range between 18 and 56 years (Average Absolute Deviation from Median: 10.1). Among the ten "never-quitters" are five students which differentiate this group from the two other groups. The "never-quitters" consume the most cigarettes in a week. They average 134.5 cigarettes with a range of 30 and 280 cigarettes (SD 80.8; Median: 140; Average Absolute Deviation from Median: 61.5)

There are fourteen "no-plan quitters." They have the tendency to be older than the "never-quitters" but younger than the "seasoned quitters." The median age of the

participants was 35 years with a range between 21 and 53 years (Average Absolute Deviation from Median: 9.07). They are more likely to be single than members of the other two groups and smoke less than the "seasoned quitters" or the "never-quitters." They average 88.4 cigarettes a week with a range of 27 and 210 cigarettes (SD 51.3; Median: 80 Average Absolute Deviation from Median: 37.5) as opposed to 134.5 for the "never-quitters" and 116 for the "seasoned quitters."

Themes

When reflecting on smoking cessation, the three groups of respondents identify several main themes such as motivators to initiate a quitting experience, barriers to quitting, and issues of relapse.

Quitting Experiences

Interviewees in all three groups identified several triggers that lead to a cessation attempt. These triggers fall into two categories. Situational motivators such as other people, personal relationships, financial reasons, social ramifications and pregnancies can be responsible for initiating a cessation period. On the other hand, interviewees point toward internal triggers such as negative health consequences and feelings of shame or fear in connection with their smoking behavior that can spawn a quitting attempt.

For the "seasoned quitters," "negative health consequences" is one of the predominant themes when discussing internal triggers to quit smoking. There are two

subthemes to this larger theme "negative health consequences." These consequences can either directly affect an individual and be experienced by that smoker or the smoker can fear the future negative health consequences in a more abstract and indirect fashion. Marc, the college professor with a two pack-a-day smoking habit, is an example of someone who is already experiencing the negative health consequences and who is aware of the negative health effects of smoking. He elucidates:

> I developed a real bad cough, and I'd notice that when I really did something very strenuous, strenuous physical exercise, I was out of breath in a minute. I noticed that real easy on the sailboat. (…) I just found myself out of breath when I would exert myself, and so I just decided what I would do is just quit.

Noticing the effects smoking has on his physical well-being triggered a quitting episode of over a year. Despite the fact that his wife continued to smoke, Marc decided it was time to quit smoking for good.

Charles, the assembly worker, had a similar experience to Marc who was motivated to quit because of the effect smoking had on his breathing and his physical abilities. Charles noticed at the age of 25:

> got tired smoking and my breathing was kind of like heavy.… I'd get short of breath.…Because I liked staying in shape and play ball and I exercised, you know, pretty regular. I mean my breathing, I was getting out of breath more easier. I used to run a mile, no problem, and I was (taking deep breaths in like having trouble breathing).

In addition to noticing the effects of smoking on his own health, Charles saw the negative health effects on his immediate family. He goes on saying:

> And I was seeing people, you know my aunts and uncles and things and you know, at ages you know they're dying from cancer, catching cancer and all this so I just- it was just the wrong thing to be doing.

His uncle eventually died of cancer and Charles still remembers him "coughing, coughing all the time." Charles succeeded in cutting down and eventually quitting and stayed quit for the next three years. Currently, Charles is cutting down again because a doctor diagnosed him with high blood pressure.

As mentioned above, the theme "negative health consequences" as a trigger to smoking cessation can also have an indirect impact on smokers. Jason, a 27-year-old, who works in a coffee shop but whose passion lies with playing music and with going on tour, illustrates this case. He is currently cutting down on his smoking. He explains:

> it's more or less for health reasons, because I don't want to wind up like having cancer, getting cancer you know. …I mean my brother like smokes like all the time. I mean I can tell his health…he's put on a lot of weight and like- I don't know, I can just tell just like his body is not doing well from smoking cigarettes.

While he is currently not experiencing any health effects that relate to his smoking like Marc, Jason's brother indirectly serves as a negative example to Jason.

Similar to Jason, Lauren who is currently quitting and has not smoked for eight days is certain, "Yes, there are health concerns and that's why I quit." She adds to the subtheme "indirect or abstract negative health consequences" by indicating that she does not want to quit just for herself but also for her partner and child. The possible negative health consequences of smoking have convinced her to stop smoking for her own sake and also for the "benefit" of her non-smoking husband's health. Good health is the main reason and motivator for her present quit attempt. She goes into more detail and explains:

> So the only reason I'm quitting is not because I'm sick of it, I hate it, I don't like the way it makes me feel. It's none of that for me. The only thing it is for me is if I could do anything to improve my health and hopefully live longer so I can live to be with my son, I think I owe that to him, and it means that much to me. That is the only reason. That's it. If there were no health risks involved with smoking I'd be a smoker until the day I die.

Lauren not only comments on the overall health consequences of smoking but also gives specific examples such as knowing that smoking "can cause lung cancer" and being aware of the dangers of second-hand smoke.

Overall, this group of "seasoned quitters" is very aware of the negative health consequences of smoking and they take the effects smoking has on their health seriously. Their health is affected directly or indirectly by smoking and the "seasoned quitters" use this knowledge to initiate cessation events. This group of participants is also able to give concrete examples of diseases such as lung cancer, emphysema, or high blood pressure which can be caused by their smoking.

Caroline identifies a very different cessation theme and an internal trigger to quit smoking. She says, "My decision to stop smoking or try to stop smoking has more to do with the shame and the fear." While she does not elaborate on those two terms, she does give insight throughout the interview into those feelings of "shame" and "fear." For example, Caroline's father died of lung cancer recently and her motivation to stop is connected with feelings for her mother who already lost a loved one to smoking. Additionally, when talking about her children she says:

> If I smoke they will… even no matter how much I hide it from them, they'll know and uh they will emulate it. I can't stand that. …in my mind, you don't…mommas don't smoke, you know…It's not ok to smoke, I don't wanta be a smoker. I am one but I don't want to celebrate it ….

Her relationships with her children and mother are situational motivators for Caroline to quit and judging from her comments the fact that she continues to smoke

bothers her so much that she has made an appointment with her physician to discuss smoking cessation.

Apart from the internal triggers "negative health consequences" and "fear or shame," a number of other themes emerge when analyzing the "seasoned quitters" interviews with regards to situational cessation triggers. One prevalent theme is "influence of other people." This theme contains the subthemes "influence of partner" and "influence of child/grandchild." Additionally, smokers identify "pregnancy," "money," and "social ramifications" as themes in the quitting experience.

Jessica, the young waitress, illustrates the subtheme "influence of partner" when her boyfriend became a quitting motivator. She points out that she had wanted to quit for her own sake but the boyfriend's attitude toward smoking cessation was very beneficial in her going forward with that plan:

> And the only reason I quit back when I did quit for him was because like I wanted to quit anyway. Like I was really annoyed with being a smoker. It was, you know, something that almost like cramped my daily lifestyle and I didn't want to be a smoker. I wanted to quit and being with someone who was not a smoker was the perfect opportunity to quit, and I just saw it as motivation for myself to quit, and that's how I used it. So, you know, he had expressed interest in 'it's really not good for you, I don't want you to smoke', and that was like alright, good, I'm going to quit, you know.

Even though Jessica relapsed to regular smoking when her boyfriend of two years who had moved to California broke up with her for the duration of a few months, she says, "I firmly believe that when I move to California in a few months, it will be that easy for me to quit again." She draws this conclusion because when she is with her boyfriend now she does not have the urge to smoke. Jessica smokes more when she is stressed from work

and finds herself in a bar environment. In the past when she quit, her boyfriend Jason was instrumental in breaking the habit of going to the bar after work. She explains:

> So, he doesn't really go out and do things where he like he's in a hugely social atmosphere. And then when we're together it was just kind of like, we had no problem staying home and ordering pizza and renting a movie and just being with each other. So I wasn't really in the environment where I felt the need to smoke.

Due to her boyfriend's influence, Jessica quit smoking for two years and plans on quitting as soon as she moves to California.

What the boyfriend is for Jessica, her son and future grandchild are for Lauren. At the time of the interview, Lauren has not smoked in eight days. She successfully quit during her pregnancy and again about 10 years ago for a three year period. She explains her reasons for wanting to quit now:

> I want to live to see my grandkids. That is my sole reason. I enjoy smoking. I have good memories of smoking. I like it….So the only reason I'm quitting is not because I'm sick of it, I hate it, I don't like the way it makes me feel. It's none of that for me. The only thing it is for me is if I could do anything to improve my health and hopefully live longer so I can live to be with my son, I think I owe that to him, and it means that much to me. That is the only reason. That's it.

Being with her son and thinking about possible grandchildren triggered Lauren to set a quit date and to stop smoking. Later during the interview, she also points out that health concerns played into her decision to finally quit smoking.

Another theme that emerges from the interviews of the "seasoned quitters" is that of "social consequences of smoking" and how these consequences can function as a situational trigger for smoking cessation. For example, Alex, the pharmacist, explains:

> The smell, um, I don't like the smell of it. Um, I also think there are some social ramifications, I mean it is just not as easy to smoke any more. I mean you know there are people who don't want go out on a date with a smoker that are people

> who don't you know, there are a lot of social ramifications a lot more now. Um it has become almost acceptable now to discriminate against smokers.

As a single 40-year-old, the social implications of being a smoker are quite important to Alex. He takes into account that smoking may limit the number of men he can date. Meanwhile Alex portrays himself as a very considerate smoker:

> I am much more conscious of nonsmokers' right to have a smoke free environment. … And I remember when I was not smoking how much, how offensive I found it, I would never smoke in a restaurant. I would never smoke in like at a dinner table when someone was eating, I think that is just rude.

Later he explains that it is "disrespectful" to smoke around a non-smoker "because I know what it smells like." Alex takes the "social ramifications" into account when smoking and they appear to shape where and when he smokes. When he is asked how the changes in society have impacted his smoking, he concludes, "I think positively, because they are actually reinforcing to me that I am making a good decision regarding others and it reiterates to me where there is a desire for me to quit." Alex is an example of how society's negative reaction to smoking can have a positive effect on a smoker and lead to contemplating cessation attempt.

A prevalent theme which was brought to light by the "seasoned quitters" is that of "finances" and how the price of cigarettes can influence smokers to think about quitting. Both Lester and Charles illustrate this situational trigger well and they are great examples of how money can impact smokers. When Lester, a self-employed 46-year-old, is asked to identify the top five reasons for him to quit, he responds, "Save money. Save my life. Health. Umm, social stigma. …. Just general feelings of well being." Looking back at this smoking history, he states:

> Well, you know, when I first started smoking they were (pause) sixty-five cents a pack on base at the PX. I think at some point I said, 'Well if they ever get to a dollar, I'm not going to smoke anymore.' When they broke a dollar, I remember saying, 'they ever gets two dollars I'm not going smoke anymore.'
> And, I'm pretty sure I said, 'If they ever get to three dollars, I'm not going smoke anymore.'

Lester currently continues to smoke 210 cigarettes a week because he feels he has not made the "commitment" to quit. Even though he says that if he quit he would "not miss, you know, spending 3 dollars and 50 cents a pack on em" the costs of cigarettes have not impacted him enough to quit.

Charles, the assembly worker who is in his forties, also brings up the price of cigarettes. When he is asked what makes him tired about smoking, he replies, "It's mostly be buying them." Charles had initially thought, "When cigarettes get a dollar I'm going to quit smoking. I'm not going to pay. Now I'm paying about four dollars a pack for them." As opposed to Lester who only says that the price would be a reason to quit but does not act on that, Charles is currently cutting down on his smoking by avoiding buying packs. He explains, "I got somebody that sells me loose cigarettes." The price of cigarettes has led him to cut down on his consumption.

As pointed out by others in this group, Caroline has used those situational cessation motivators like her children successfully in the past. She identifies "pregnancies" as another important situational quitting trigger. When she wanted to get pregnant, she explains:

> I would do whatever crazy internal dialogue or negotiations I needed to do to make sure I didn't, because it was for the sake of someone else…it was for the sake of my child, you know.… and I'll do all kinds of things for somebody else that I won't even entertain if I was doing for myself.

The “no-plan quitters” reiterate some of the themes identified by the “seasoned quitters” with regards to internal and situational cessation triggers such health issues, the influence of other individuals, and pregnancies.

Similar to the “seasoned quitters” the theme “negative health consequences” is prevalent in the discussions of the “no-plan quitters.” While some of the participants in this group restate how negative health consequences of smoking are directly and indirectly experienced and how knowledge of these consequences can trigger cessation episodes, members of this group identify new subthemes to “negative health consequences.” The subtheme “avoidance strategies” is prevalent in the discussion of the “no-plan quitters.” Some smokers doubt that smoking is detrimental to health and hence do not experience health concerns as an internal trigger to quit smoking. Additionally, others rationalize their smoking behavior and despite the fact that these smokers are aware of the negative health consequences they have reasons for not wanting to quit. Lastly, some have a fatalistic outlook on their future, believing that they have smoked so long that quitting would not result in improved health outcomes.

The “seasoned quitters” discussed how directly experiencing negative health consequences can trigger a quitting episode. Many smokers in the “no-plan quitters” group have similar stories to tell with regards to cigarettes’ effects on their well being. “Breathing” is a reoccurring theme with the “no-plan quitters” and effects on breathing can trigger a cessation attempt. Dennis, the 45-year-old father of three, remembers:

> And my son, he was getting up to some age where he wanted to start learning sports and stuff. And I remember one time we was on the court, running down the court, and I got short of breath. … And that’s when he put it on me. He said Daddy, it’s because of smoking.

Consequently, he was able to quit for two years before he relapsed when his wife divorced him.

Similarly, Ethan, the young lawyer, recounts an incident when "shortness of breath" triggered a quitting episode. He explains, "I started getting winded like walking up – you know Athens is a real hilly campus, you know, and so I started getting winded just walking up hills …." Both, Dennis and Ethan associated those health effects with smoking and subsequently attempted to quit their habit. As opposed to Dennis who was able to quit for two years, Ethan was not successful at quitting despite the fact that he wanted to.

Other health consequences such as "chest pain" can trigger a quitting episode. Amber illustrates this theme by pointing out that when she experienced chest pain, she promised herself "I'm going to quit smoking." She tried to keep that promise and attempted cessation three times in a row; each subsequent time lasted a bit longer than the previous attempt. Overall, Amber has noticed that due to her smoking she "can't run. … it's kind of scary sometimes." This professor and mother is aware of the negative health consequences. When the interviewer asks her how smoking is affecting her health, she jokingly says, "Well, it's not making it really good now is it (laughs)." Because of her awareness and for health reasons, Amber only smokes about five cigarettes a day.

As pointed out by the "seasoned quitters" negative health consequences can also affect smokers indirectly and function as a trigger to smoking cessation. While the "no-plan quitters" have no intention of quitting in the immediate future, they can have long-term goals of quitting. Daniel's case illustrates how the potential future health consequences influence him. The 31-year-old is currently not experiencing negative

health effects but says that he wants to quit at some point to "escape the long term dangers" of smoking. Later during the interview he names some of the long term dangers such as lung cancer or heart disease. He explains, "I mean I'm in pretty good health now and I'd like to keep it that ways, so I'd like to quit…. I just didn't have a strong enough desire to quit."

"Negative health consequences" are not always confronted by smokers and seen as serious threats. One major subtheme to "negative health consequences" emerges when analyzing the discussions of the "no-plan quitters." Tracy, the 31-year-old police dispatcher who only recently attempted to quit for the first time in her life and relapsed after a little more than 2 weeks illustrates how "avoidance strategies" in connection with the theme "negative health consequences" can keep smokers from attempting to quit the habit. While Tracy points out that she heard that smoking causes "lung cancer" and "it makes people sick and that type thing." Using the "avoidance strategy" doubt she says:

> I think that part of it could be true. Well I think a lot of it is true, I'm just not sure how long it has to go before that happens. You know the health messages say that, you know, from the way they say it instantly you'll have this, that, and the other, so I'm just, I would like to know how long can you smoke without any of this happening. And I know everybody's different so I'm pretty sure that there's some type of something.

Tracy does not completely believe the health messages and questions that every smoker will get sick. She remains doubtful about whether the negative health consequences will affect her in the short-term future.

"Doubts" that the research on "negative health consequences" is applicable to all smokers prevents Jay, a 21-year-old college student from initiating cessation. While he

understands that "smoking generally has certain effects" on the person, he explains to the interviewer:

> I feel like it is only applicable to the people they actually study. It's like, okay, you can say seventy-five percent of these people will do this or whatever but you haven't tested me, so I'm not part of the statistic. I'm just factored from the statistic done on other people. … I mean if someone did a research on me and said that I will die in the next so many years if I continue to smoke, you know then, but if is was just general research that as always is in my opinion is just dependent on the individual….

Jay believes that the "research is just too broad" and hence he has doubts that the findings pertain to his situation. He notes that he is healthy and does not plan on ever quitting unless:

> I mean... the only time I can even really imagine not smoking is like if I'm like really, really old and I shouldn't be smoking anyway because it's just- like I understand smoking generally has certain effects even the general person and to cut their life by a couple of years or whatever, so I feel like at that age I'll care more about it because it will be like I'm coming close to an end anyway, so let me just be as healthy as possible.

Tracy further illustrates the subtheme "avoidance strategies" in the "no-plan quitters" group when she reacts with doubts to her children's request that she quit smoking due to negative health consequences. The mother of two acknowledges that these types of warnings by her children have affected her in the past and encouraged her to initiate cessation. However, at the same time, she is avoiding the reality of "negative health consequences." She explains:

> I think if I knew that, or like I said before, if I saw somebody that it really had an effect on and you know and I saw that this was really a problem opposed to somebody's telling me, then I probably would stop.

The health messages broadcasted by health agencies about the detrimental effects of cigarette use are not enough for smokers like Tracy.

Furthermore, the subtheme "avoidance strategies" and "doubts" is demonstrated when Tracy explains why the health consequences of smoking cannot be a true problem for society. She argues:

> They [society] are giving you the health risks and they're telling you that this can happen, this could happen, this could happen, but I think if it really, really was a problem that they would just stop it and then it would be just like illegal drugs.

By putting the responsibility of the product cigarettes on the government and public health agencies, Tracy avoids grappling with the negative health consequences that she has heard about such as lung cancer. She rationalizes her use of cigarettes by saying that she has always been healthy and because cigarettes are not illegal they are not that bad for her.

Jay's interview adds more depth to the "rationalization" and "avoidance strategies" subtheme. He serves as a great example of a young smoker who thinks of himself as invincible. While he thinks that smoking "could cause lung cancer, it could cause throat cancer, it could do this or could do that. . But like I get checkups regularly. I do that. I do all that." He trusts in the "checkups" he gets from his doctor and avoids the fact that a checkup is possibly not going to save him when he is diagnosed with a serious disease.

In the "seasoned quitters" and in some of the "no-plan quitters" knowing about negative health consequences triggered a cessation effort. There are members of the "no-plan quitters" group that add another dimension to the topic "negative health consequences" and the theme "avoidance strategies." Knowing the detrimental effects of

smoking can cause the opposite to triggering a cessation period. Thomas, the middle-aged former entertainer presents such a case of "avoidance strategy" and "fatalism." While Thomas lists "lung, heart disease, circulatory problems" as health risks in connection with smoking he thinks:

> Uh and you know they say that you, that your body repairs itself after you quit smoking, but there's no guarantee because people get lung cancer after they quit smoking for you know ten or fifteen years…. So you know you're gonna put yourself through all that fear and all that torture….---and deny yourself… right, and you can still wind up (laughs) with a heart attack or lung cancer. And then, then you start to rationalize that well whatever damage I've done, I've done.

Accepting this fact however does not lead him to believe that he will develop a smoking related disease. Conveniently, he argues, "… that smoking is like Russian roulette, you can smoke for years and never get lung cancer and may never significantly affect your health and then maybe the next cigarette you pick up and smoke may be the one" that harms you. At this stage of his life, he is "sort of in denial" about health risks associated with smoking.

Becky, a 47-year-old mother of two, agrees with Thomas in that smoking can lead to disease but does not necessarily have to. She freely admits, "I'm going to die from something. My granddaddy, when he wasn't smoking cigarettes he was chewing tobacco and he lived until like 83, 84, so." Becky and Thomas both serve as examples of how "fatalism" can be used as an "avoidance strategy" to contemplate cessation.

The theme "fatalism" as an "avoidance strategy is widespread with the "no-plan quitters" irrespective of age. Kiana is 26 years old and the mother of two children. She has smoked for ten years and postulates:

> It could affect me in a negative way. Well I mean all of it is negative, but I mean you know, drastically to the point where you know I might have lung cancer or

> you know develop emphysema, or you know, COPD or something like that. But I mean, you can't reverse time and you know if I was to stop now I would still have a risk either way it go, just because you know I've smoked, so.

Kiana already feels the effects of smoking in that she occasionally experiences episodes of "short breath." Currently, she is not interested in quitting because she feels she is not ready to give up her cigarettes.

As presented above, "negative health consequences" can serve as a trigger to a quitting episode in some "no-plan quitters." In other participants knowing about the detrimental health effects of smoking triggers a number of avoidance strategies. Doubts about whether the health consequences of smoking are truly dire were expressed by the "no-plan quitters." Additionally, smokers in this group rationalized their behavior which stood in the way of quitting. Lastly, a sense of fatalism is prevalent with the "no-plan quitters."

In the following section, other cessation triggers are presented. Four additional themes emerge from the interviews of the "no-plan quitters." Similar to the "seasoned quitters" there are situational triggers, for example other individuals which include partners or children/grandchildren and issues with finances. Cigarettes are expensive and purchasing them leaves less discretionary income. Additionally, smokers discuss the potential social repercussions of smoking and how those can lead to a quit attempt. Pregnancy is a major theme with smokers and can be a decisive factor when contemplating cessation.

As brought to light by the "seasoned quitters," other individuals can be instrumental in triggering a quit attempt. Tracy, the 31-year-old police dispatcher and mother, illustrates one of the subthemes to "other people." Her child complained so

bitterly about his mother's smoking that she finally gave in and began a cessation period. She explains:

> …I'll light a cigarette and he'll roll the window all the way down and hold his head out the window and (making sound like dying) and oh, you're killing us… Well, you know, like my son rolling down the window and sticking his head out and I'd get tired of hearing that. So I was like, you know what, I'm just going to stop….it was just I'm tired of hearing you say it. Not really that I was concerned about his health, because I really don't think his health is affected.

Tracy insists that she did not quit because she was concerned about her or her son's health, but rather, she was annoyed by his comments.

As opposed to Tracy's case in which a child triggered a quitting episode, smokers provide information on how "other people" could potentially influence their smoking habit. Thomas currently sees no reason to quit smoking. Cigarettes are a friend to him when he gets lonely. He postulates, however, that a significant other may be able to change his smoking habit. He says:

> To want to quit…uh influence of someone else…yeah maybe if I had someone who was really, really close to me who said I would really like for you to stop doing this…let me try to help you or maybe we could [quit] together or, or something like that, yeah.

In other words someone close to him could take the place of cigarettes since Thomas mostly smokes when he is by himself.

A prevalent theme with participants in the "no-plan quitters" group is the financial burden of smoking. Daniel, a 31-year-old who works full time in computer sciences cites finances as the number one reason to quit. He explains, "I don't know, it's you know probably $120, $150 bucks a month I could save if I quit smoking; adds up." Michelle, the HIV/AIDS counselor echoes Daniel's reasoning and says, "It's costing you money

and a fair amount. You figure two packs a week, add that up, and that's money I could be putting on something else or saving and stuff like that."

Pregnancy as a situational trigger in smoking cessation was identified as a theme by the "seasoned quitters." The "no-plan quitters" reiterate the notion that pregnancy can both directly or indirectly affect smokers and prompt them to quit. How a pregnancy can indirectly influence a smoker to forgo the habit is illustrated by Dennis, the 45-year-old father of three who once quit because he could not keep up with his younger son's energy, His wife's pregnancy trigged a cessation episode. He explains:

> At that time she didn't smoke at all and she didn't like me smoking in the house even before she was pregnant. But when she got pregnant it was more of a [trend] of her house and the baby's house, so and that's when, I mean I stopped for about…three or four months.

Ethan, who with 27 years is much younger than Dennis, is thinking about how pregnancy could affect his smoking behavior. Currently, Ethan, who works as a lawyer, smokes 30 cigarettes a day and his motivation for quitting smoking is low. However when asked what would prompt a quitting episode, he reveals:

> Once Lauren gets pregnant I'll probably quit then. That's probably when I'll quit. Or before that when we're trying to get pregnant, that's probably when I'll quit. You know having a baby and stuff. If I'm responsible for somebody else's health then that's more than just me. I can do that.

While his own health is not a trigger for Ethan to quit smoking, having the responsibility for someone else's health would possibly prompt him to change his habit.

Becky, the 47-year-old mother of two, is an example of how pregnancy and nursing can directly influence expecting and new mothers to quit smoking. Becky quit

cold turkey as soon as she knew about the pregnancies. Becky used to work in the hospital and saw the effects nicotine can have on an infant first-hand. She explains:

> Yes the minute I found out I was pregnant I stopped and that was my first child born in 1985 and my reason is because I did not want to give them the nicotine through my system. I stopped from the day Dr. Bosman told me I was pregnant until the day I stopped nursing, which was 90 days after my daughters were born.

Becky relapsed as soon as the situational triggers pregnancy and nursing were removed. She never tried to quit outside of her two pregnancies.

Kiana, the 26-year-old mother of a son, also quit when she was pregnant. However, her quitting episode did not begin immediately once she found out that she was pregnant. As opposed to Becky who stopped cold turkey as soon as she learned about her condition, Kiana waited a few weeks before she stopped smoking. She says:

> …I was like six weeks pregnant and I had found out like two weeks before then I was pregnant, and I think I might have gone through a whole pack of cigarettes that day I found out. I was like so nervous I didn't know what was going on and it took me like, I think I might have been like three, like maybe three and a half months pregnant, and I was like okay, I got to quit because I know it's not good.

Kiana relapsed the day she came home from the hospital.

Lastly, social repercussions were identified as a theme and a possible situational trigger in smoking cessation. Jay, the young college student who cannot see himself giving up his smoking habit, explains what it would take for him to quit smoking. He reveals, "Maybe if it had something related to like my future as far as career wise then that would most likely cause me to stop smoking." Jay is not about to jeopardize his career opportunities by smoking.

Similarly, Jacob who keeps his smoking hidden from all his co-workers and only smokes in the privacy of his home, almost got caught buying cigarettes by his boss. Both were at a convenience store and Jacob says:

> And I was with David and I was at the counter, the beer was on the counter, and I was about to say, and it came out partially, Marl-. And he looked at me and he said 'what did you need?' and I said nothing. And he said 'no, you said something.'

This incident scared him so much that, had his smoking been exposed, he would have quit smoking immediately. Jacob was able to cover up the incident and continued to smoke privately.

The "seasoned quitters" and the "no-plan quitters" identify strong motivators that provoke them to think about the next cessation attempt such as situational triggers in the form of significant others and children or financial and social reasons as well as internal triggers in the form of health consequences. In this aspect, these two groups of smokers are very different from the "never-quitters." The most prevalent theme that emerges from the discussion of the "never-quitters" is the lack of concrete triggers to initiate a cessation attempt. Furthermore, similar to the "no-plan quitters," the "never-quitters" also utilize particular avoidance strategies to explain the continuation of their smoking habit.

Sarah, an 18-year-old college student, illustrates the theme "avoidance strategies." She has smoked for two years and right now has no intentions to quit. In the past, she only stopped smoking for a few days when she went on vacation with her father who was unaware of her smoking habit. Similar to the "seasoned quitters" this young woman agrees that there is a multitude of negative health consequences connected to smoking and that she knows "all the information from health class and other people already." She

says, “It’s not like I didn’t hear like the Surgeon’s General’s warning before I started.” On top of that, Sarah worked at a local pharmacy for two years during her high school years and people there would give health advice. When she received her last physical, the doctor even told her, “Stop, it’s not good for your lungs, be sure you don’t do it anymore.”

Sarah identifies an important subtheme to “avoidance strategies” which explains why, as opposed to the experiences of the “seasoned quitters,” knowing about the possible health consequences does not influence Sarah to stop during her college years. The subtheme “rationalization” emerges from her discussion on smoking cessation. With regards to health, she reflects on her decision to continue smoking, “Like I think most people just take their chances and that whole ‘it’s not going to happen to me’, and I admit that I’m part of that.” She goes on explaining her decision to continue smoking:

> And then I’m seeing population graphs that tells me the world’s too populated anyway, and that life expectancy doesn’t have anything to do with it, so it doesn’t- it’s not really- I just want to make the most of what time I do have. I could get hit by a bus and it wouldn’t matter whether I smoked or not. So, maybe I’m just too young to take life seriously enough.

She says that when she is ready to quit it will not be connected to health reasons but “it’s more to do with the fact that, okay, I’m done being a smoker now.” She believes that she will quit before she is 30. She explains her plans:

> It’s the big milestone, you know. It’s like when you’ve crossed from being like a young girl to a woman. It’s just the point, and you’ve only got a few years left that you can even have kids if you want to, so you want to make sure that you’ve stopped smoking by then.

Before Sarah is 30, she thinks she still needs the cigarettes to get her through the “stress” of being in college and graduate school.

Carrie is a 20-year-old college student who has tried unsuccessfully to quit twice in the past four years. She presents another example of a young smoker who knows about the negative health consequences and utilizes "rationalization" as an "avoidance strategy." Carrie's first quit attempt was in high school and lasted only two days and the other quit attempt was in college where she cut down in order to eventually quit smoking completely. The second attempt was cut short by the death of Carrie's mother who died of a brain aneurism and was a smoker. Her outlook on health is similar to Sarah's. Carrie is aware of the negative health consequences and wonders:

> But the people that's walking down the street, I don't know why they need to tell me that I'm killing myself, you know. It's like what do they expect me to do, throw a cigarette on the ground and be like 'oh my gosh, thank you for telling me, I had no idea.' It's that warning on the side of the box. I totally missed that warning all these years, you know.

Like Sarah, Carrie also has the idea that she will quit by 30. She rationalizes her behavior:

> …my lungs are a lot more resilient and they can fix themselves a lot easier than if I'm after 30 and I keep smoking and then there's no way of fixing it. . I don't want to have to go through the process of quitting while I'm in college and everything. I'd rather go through that process a little bit later in my life when things aren't as crazy and hectic and stressful.

Both Carrie and Sarah are in similar positions in life and have comparable views on smoking and health. Anna and Christina are also young female college students who are equally aware of the health consequences of smoking but their "avoidance strategies" differ from those of Carrie and Sarah.

Anna, a 24-year-old college student, illustrates how the subthemes "fatalism" and "doubts" work as "avoidance strategies" in her reasoning to continue smoking. She has

never cut down and only stopped smoking once when she visited her ex-finance's father "dying of degenerative lung disease and he had trouble breathing normally." She did not want to exacerbate his condition and decided, "I cannot smoke around this man. … I just didn't want to be the one responsible for making him go into a cough attack." Other than that she "never had a reason to" stop smoking.

When Anna is asked whether she thinks that smoking is bad for her health, she says, "Sure… so is McDonald's. I eat McDonald's. And so is not working out, and I don't work out. …I'm not a super health-conscious person." She also believes that she has the same chance of getting lung cancer as anyone else, thereby showing her doubts of the smoking – lung cancer connection. Her attitude on health leads back to her believing, "Because when it's your time to go it's your time to go. It don't matter who you are, if you smoke or not, what you do with your life doesn't matter. If it's your time to go it's your time to go." This fatalistic outlook on life and death helps her justify her smoking behavior and the lack of desire to quit the cigarette habit.

"Doubts" are also a prevalent subtheme and avoidance strategy in Christina's discussion. The 34-year-old full time student who is married with two daughters and one stepdaughter thinks that smoking "it's bad for you" and she has seen her smoking mother suffer from emphysema. On the other hand, she says:

> I went to the doctor and you know she found a lump in one of my breasts, and then I had… I went for a mammogram. But she said it was because I smoked, and I'm going, how can that be? (laughs) Within my breast… there's no… you know what I mean? I just don't see the connection (laughs).

Christina finds it "ridiculous that everything is about smoking. …people seem to attribute everything to smoking these days…. I mean I wonder how much they look at other

(emphasis on other) factors, maybe there was something else that they're having problems, you know?"

She is not entirely convinced that smoking is responsible for every disease and finds other explanations and rationalizations for causes. She explains her reservations, "There's so much out there, who can you believe? I have looked it all up, but I don't know who to believe."

Instead of seeking out more information on the link between bad health and smoking, she admits to avoiding the subject altogether. The other day on TV, she saw "the inside of the lungs of a smoker, trying to gross you out." Her response to these TV ads is, "I just don't watch them."

As opposed to Sarah and Carrie who are aware of the negative health consequences and believe that their smoking is temporary and tied to a specific lifestyle, e.g. college, and age, Christina and Anna have doubts on the effects of smoking on their health. While both can point toward specific health consequences of using cigarettes, the two women are more inclined to avoid making a strong connection between disease and smoking.

Kate echoes Christina's "doubts" that every cancer is really related to her smoking. Kate, the mother of three, who has never tried to quit or cut down in the past, is asked how she feels about possible negative health consequences related to smoking. She states:

> I feel it can happen to me. I mean I don't have to have to get cancer because I smoke to get cancer in any kind of way and in any given point of time. That's why I never hadn't thought about stopping because, I have a sister that found cancer in her armpits. She don't smoke. She don't smoke. I never thought about it.

A possible cancer diagnosis does not provoke Kate to quit. She says, "…I won't be thinking about that." Health reasons are not prompting Kate to quit because you can get cancer without ever having smoked and not everyone that smokes will get cancer. The uncertainty of possible negative health effects leaves enough room for both Kate and Christina to continue to smoke.

In comparison to the "seasoned quitters," and the "no-plan quitters," the "never-quitters" either believe that they will quit in the future, like the two college students Sarah and Carrie, or they doubt that the health consequences are truly that dire like Kate, Anna and Christina.

Situational triggers like pregnancy emerge in the discussion of the "never-quitters" as a possible quitting motivator. Anna, the 24-year-old college student with a carton a week habit, agrees with Andrew in that preserving her own health is not a trigger for her to quit but the life of someone else would lead her to reconsider her position on smoking. She says:

> never had a reason to [quit] … I think the only way I would quit smoking is if I got pregnant. Cause I do not want to put something into someone else's body that they don't want in their body, you know. That just seems wrong.

However she cannot predict whether she would stay quit, she continues, "I don't know. (laughs) Couldn't say."

Kate illustrates how a situational trigger can initiate a quit smoking attempt. Despite the fact that Kate smoked during her three pregnancies she now believes that she can quit when her grandson comes to stay with her in two weeks. Unlike Mike, Anna, Andrew and Peter who all believe that they will attempt smoking cessation when the right person comes into their lives, Kate has a concrete cessation trigger in the form of her

grandson. She explains, "I'm going to start working on it cause I have a grandson coming home in two weeks, so there's going to be a challenge, but I need to start at least trying, attempting to anyway." Before she knew that her grandson was going to live with her, Kate was very much like the other smokers mentioned above. She says, "I never have really had a real, real reason to [quit], but with my grandson coming and I know he's going to be little …that will be a good reason for me to do it."

Not having a situational or internal trigger to stop smoking is a prevalent theme with the "never-quitters." Mike, the 31 year old software designer who lives with his smoking girlfriend and has never quit, illustrates this case. He began smoking at 16 years old because he "didn't see any reason not to try it." He continued to smoke and "didn't really give a whole lot of thought to it." He didn't consider himself a regular smoker until he left home to attend college. Currently, he explains:

> I don't really think about [smoking] that hard. I mean I think I want a cigarette and I have one and then that's that. So it's not even something that I you know concentrate on. … I'm getting older and I should be, I should be thinking about quitting. … I mean I guess even though I felt like I should smoke less, it was never compelling enough for me to (laughs) to actually try, I guess.

As opposed to the "seasoned quitters" and "no-plan quitters' who have significant others or children that function as situational triggers to quit, Mike does not have either.

Andrew, a 47-year-old who works in the electronic business, also lacks a significant other who could trigger a cessation episode. On top of that, Andrew has been diagnosed with depression in the past and he believes, "With the depression thing, with uh I believe they call it self-medicating, with uh I used alcohol, and I could smoke you know in an evening … I would smoke too much." Andrew has not been in a significant relationship in 24 years and in many ways lives in what he calls a "bubble." During the

time in the "bubble" he took care of his ailing parents and cancer ridden sister who recently passed away. Andrew echoes Mike's explanation for not having a good reason to quit. He explains:

> I think, actually the only thing that, that would probably ever do something like that would be my point in time in my life when, won't really occur, I always knew it would be, if I did get married and I had to, that that would do it. (…) Yeah, it would always have to be somebody else in a sense, I don't really think for myself.

Andrew's own health is not reason enough to quit even though he does believe that he is more likely to get cancer because of his cigarette smoking. His explanation for not being bothered by the possible negative health consequences is, "I'm just at the wrong place with my job at work, you know, I, I can't …."

Barriers to Quitting

All three groups of smokers identify strong barriers to quitting in their discussions on cessation. "Fear of losing," "smoking context," "addiction," "excuses," and "enjoyment" emerge as prevalent themes when smokers discuss quitting barriers.

The "seasoned quitters" identify the theme "fear of losing" as a prominent factor that keeps them from attempting to quit smoking. Several subthemes to "fear of losing" such as "loss of ritual," "loss of friend," "loss of control" and "loss of reward" emerge from the interviews.

How the "loss of ritual" can impede cessation attempts is illustrated by Lester, a self-employed 46-year-old "seasoned quitter." He explains that he would miss certain aspects of smoking:

> But what I would miss would be a ritual and a habit that's become an ingrained part of my life….I think it provides me more with a (pause) a safe, comfortable habit. It's, it's a known entity that I can, you know, fall back on. … It's a known entity that is very psychologically appealing, and safe, and comfortable ….

Throughout his life, he has learned that smoking makes him feel better and offers him a "form of relaxation" and "stress relief."

Furthermore, apart from losing a comfortable habit, Lester's biggest fear would be "losing a friend." Lester says, "Because I…could be fear of just giving up my just one last friend. (nervous laugh) My one last way to… The one last thing that I had to control the way I feel with."

This current sentiment of not wanting to lose the "one last thing" that controls how he feels ties back to his childhood when he was physically abused by his father as well as his brother and sexually abused by his cousin. He says, "Early on, I was searching for some kind of way to change the way I felt. The cigarette was just a stab in the dark." He experimented with cigarettes during the time of abuse but eventually stopped until he became a regular smoker two months after he entered the Navy. As a young man during the 1980s, Lester's partner died from complications with AIDS and Lester felt a "sense of abandonment." Throughout his life, cigarettes have helped him deal with stress and served as a coping mechanism. Quitting to Lester is much more than putting down his cigarettes. He would lose a "friend" and "ritual." Smoking has become such a constant in his life and has accompanied him through such difficult situations that he is unsure whether he could do without in the future.

"Loss of control" as a subtheme to "fear of losing" is elaborated on by Caroline, also a "seasoned quitter," who is afraid "of uh doing without it." As a single mother

raising two developmentally delayed children, she sometimes feels "overwhelmed" and not sure whether she is "doing it right." Smoking cigarettes, she says:

> reaffirms my status as an adult; it reaffirms my image of myself in control. … So when you smoke, it's like you remind yourself, oh yeah that's right….I'm in control, I make these decisions, I make these choices…they may be bad but nobody but me makes them.

The issue of control she describes is visible throughout her smoking career. As a child growing up with a father who liked to smoke in the car, she recalls, "I would get really nauseous and bad headache. But once I started, you know, the puffing on a cigarette, for some reason it didn't bother me." A similar situation occurred when she encountered a smoking roommate in college:

> …my roommate, my dorm mate, a nice girl, had asked for a non-smoking room because she had wanted to quit smoking. But she couldn't quit, so she was smoking in the room, and it was like being in that car with my dad, so it was like (makes coughing, choking sounds), you know?
> …And we had the window open, but it just wasn't working, so I started smoking to make myself comfortable in my room.

To Caroline, smoking served as a "protection" in these situations. She changed an adverse situation by smoking and put herself in control.

Caroline identifies an additional subtheme to the "fear of losing." Throughout the years, Caroline has used cigarettes as a "reward" and losing this reward presents a barrier to smoking cessation. She wonders:

> If I supplanted the cigarette with something else as a reward, then that would be my reward; that would be my replacement addiction. But I can't think of anything that would work that's healthy, you know? … I, I have this feeling that if I don't smoke uh like if I don't have the reward of smoking to offer myself, then I'll just lose my temper with my kids… or I'll fall into the pit of despair… or I will not have the energy that I need… or I won't have the uh the relaxation that I need.

In her mind, smoking allows her to "function on the same level as everyone else." To Caroline, the thought of losing the "reward" constitutes a barrier to smoking.

Through Caroline's discussion a new theme emerges. She gives information on how the theme "addiction" has kept her from taking on a permanent smoke-free identity and how it prevented her from staying quit after her pregnancy. Even though she stopped smoking for four years, she explains:

> I mean even when I quit for four years it was with the understanding you know the understanding with my addiction, the negotiation, that it wasn't forever. You know now I can't make that promise, right? Because before I could tell myself I'm quitting because I'm pregnant, I'm quitting because I'm nursing. As soon as these things… I promise you, big addiction that is making me crazy, as soon as this is done, you will get your fix.

As soon as the situational motivators to stop smoking and stay quit such as the pregnancy and nursing period were removed, the respondent gave in to her nicotine addiction. Throughout the cessation period, she "was always thinking about [smoking]."

The "seasoned quitters" identify "smoking context" as a large theme when discussing quitting barriers. Subthemes such as the role "other smokers" play, "stress," and the "inability to cope" emerge from the discussions of the "seasoned quitters."

Being in a shared environment with "other smokers" such as a bar or someone's home can discourage participants from attempting to quit. Jessica, the waitress who likes to hang out with her friends at bars, illustrates this subtheme:

> I go to a bar with someone how does not smoke, I don't really feel the need to smoke. But if I go to the bar with someone who does smoke and they're smoking, then I feel the need to smoke. … it would be way easier for me to want to quit if I didn't hang out with people that smoked.

The "majority of the people" who work with her smoke, and traditionally Jessica and her co-workers meet at a local bar once their respective shifts are over. Smoking is "just part of [her] life routine now" and Jessica has difficulties separating herself from her smoking friends by becoming a non-smoker. She rationalizes, "I'm only smoking now because of hanging out with people that smoke." Her intention is to quit altogether when she moves to California to be with her current boyfriend who encourages her to quit smoking.

"Stress" is a prevalent subtheme to the larger theme "smoking context" in the discussion on barriers to quitting. The different levels of stress that individuals in the "seasoned quitters" group experience keep them from initiating a quit attempt. Mary who is responsible for several foster children and who spends her days at a local church often works more than 12 hours a day. In her world, the stress of raising children, running the ministry programs and keeping the house in order has kept her from quitting smoking. She explains to the interviewer:

> I've been working since uh, since you saw me last. I worked no less than 12 hours a day.
> *So that's what stopped- that's why you hadn't quit yet, is that what you're saying?*
> Right. I've gone- I couldn't get-, I have to get this in order.

Focusing on her daily tasks keeps her so occupied that she currently cannot quit smoking.

As opposed to the "seasoned quitters" who have quit for more than a year and want to quit in the immediate future, the "no-plan quitters" have stopped smoking for up to one year in the past but are currently not interested in cessation. Yet, these individuals identify many of the same barriers that the "seasoned quitters" present in their interviews. Additionally new and important themes such as "addiction" and "excuses" emerge from the interviews of the "no-plan quitters."

The "no-plan quitters" elaborate on the theme "fear of losing" and similar to the "seasoned quitters" identify several subthemes. Lester from the "seasoned quitters" group is afraid of losing a friend. Thomas, a 53-year-old who smokes half a pack of cigarettes a day reiterates and expands this theme. Thomas explains:

> cigarettes becomes your friend. Smoking is still you know for people like me who spend a lot of time by themselves, I still describe them as friends because they just provide comfort…they provide a satisfaction that almost substitutes the presence of another being.

Thomas who, like Lester, does not have a partner spends a lot of time by himself and similarly to Lester, Thomas also deals with the death of a partner. He says, "You're alone and depressed but you've got your cigarettes, so maybe you'll get through the night. …there is a lot of fear associated with it [quitting]."

The "loss of control" was pointed out by "seasoned quitter" Caroline and is reinforced by Jacob, a "no-plan quitter." Jacob, a 32-year-old who smokes about 80 cigarettes a week has an interesting smoking pattern. He only smokes at home and hides his smoking behavior from his colleagues at work. His smoking pattern is directly related to his perceived cessation barrier. For Jacob the barrier to quitting smoking is "loss of control because of planning out [the] day." Each morning, Jacob takes his time to smoke several cigarettes. He elaborates:

> I can order tasks while I'm smoking. As I wait on a cigarette to burn down and I'm taking a drag, I can kind of think of okay, today you've got ABC followed by XYZ. I think it would be very boring and I would probably lose the structure that I have. So it's making me think to order tasks without having to put energy or effort or conscious energy or effort on it. I'm doing something else while I'm thinking about what I've got to do for the day. Whereas if you just sit down in a room and say, okay, what do you have to do today, you're going to go crazy really. ABC, for me I'll go crazy.

Jacob identifies another subtheme to "fear of losing." The "loss of routine" is a barrier to smoking cessation. He explains to the interviewer what this loss would mean to him, "Loss of the structure of my day. In terms of what the impact would be, that would be – it would be chaotic. It would be chaotic for me. I would have to adjust to a new routine."

"Loss of routine" goes hand in hand with the "fear of change." Fearing the adjustment to a new life – that of a non-smoker – can constitute a barrier to quitting. Clara, the mother of two, illustrates this case. Like Jacob, she also uses her cigarettes in the mornings to plan the day ahead. She illustrates the subtheme "fear of adjustment" or "fear of change" by explaining:

> I mean that one cigarette in the morning has been a constant throughout my life for so many years, you know.… it would be very much a different way of life… and it's almost a um scary thing almost you know well. Okay, what am I gonna do in the mornings, now?

During the interview, Clara begins picturing a morning without her cigarettes and she reveals:

> I don't even wanna think about waking up and not having that cigarette in the morning with my cup of coffee. I can't imagine that. … I dread it….and right now it's pissing me off, right now I'm not in a good mood.

Just the thought of quitting and facing the barrier "fear of change" distresses her.

Experiencing "stress" has been identified as a subtheme to "smoking context" and as a quitting barrier by the "seasoned quitters." However, "stress" is also a subtheme to the larger theme "fear of losing." Amber, the college professor and single mom, exemplifies this notion of fear of losing something that works for her in stressful situations. She explains:

> And so one of the reasons I'm fearful of completely quitting is how am I going to deal with stress. I'm going to go get cigarettes, I know I will. Let's say I quit for a month. God forbid something happens, really bad, super stressful. I go buy cigarettes.

Amber has a history of smoking more when she is stressed and using cigarettes to deal with stressful situations. For example, she does not smoke at work unless "I'm like, oh, some stressful thing, I'll go out to my car." When she relapsed the last time, it was because she was stressed out over her ex-husband's visit.

"Inability to cope" without cigarettes is a subtheme to the larger theme "smoking context" and is identified by the "no-plan quitters." Amber's case illustrates this subtheme. She indicates in her interview that she would not know how to deal with stress "because that's all I have known my entire adult life." In fact, when the interviewer proposes "a run" instead of smoking, Amber responds with, "Those things are dumb." Not knowing alternative ways of coping with stress constitute a barrier to quitting smoking in Amber's life.

The "no-plan quitters" identify a theme which has previously not been identified by the "seasoned quitters" in their discussion on cessation barriers. Ethan, a 27-year-old lawyer with a pack and a half habit a day, illustrates how "addiction" to smoking has kept him from quitting successfully. As a college student, Ethan noticed the negative effects of smoking such as "getting winded just walking up hills." He tried to quit smoking at that time and realized:

> I couldn't quit smoking….You're addicted to a substance, you know. You feel like you're not in control, like you're powerless, you know. Like you don't have any willpower, whatever….I guess I just accepted the fact that I can't quit smoking.

When discussing barriers to cessation, "other smokers" constitute a prevalent subtheme in the interviews of the "seasoned quitters." In contrast, only few of the "no-plan quitters" identify "other smokers" as a barrier to quitting. Emily, a 44-year-old, who smokes almost a pack of cigarettes each day, illustrates how her partner influences her smoking behavior. She explains that her "partner has absolutely no interest and expresses active refusal to quit smoking. … I know that's an excuse, but [quitting smoking] certainly would be much easier if he were going to quit smoking." Emily realizes that her smoking cessation not only depends on her partner's behavior but on other elements such as the stress she experiences with her father's Alzheimer diagnosis and her lack of motivation to quit.

The "no-plan quitters" identify a new theme with regards to barriers and smoking cessation. Smokers' own "excuses" can keep them from initiating a quitting period. Subthemes to "excuses" such as "readiness," "reservations," "justification," and "weakness" emerge from the discussion of the "no-plan quitters."

Kiana, the 26 year-old mother of a son exemplifies "readiness" as a subtheme to "excuses" by explaining:

> I think I have to be ready to stop. I don't think anything is going to make me realize, okay, now's the time. I think it has to be really, truly my decision and I'm going to have to want to do it. .. I want to quit, but I'm not, you know, for real about it.

She quit before when she was pregnant but outside of her pregnancies, she has not attempted another quitting period.

Michelle, the HIV/AIDS counselor takes the theme "excuses" one step further. She explains how her own "reservations" keep her from quitting successfully, "Not being

truly ready to accept the fact that you want to totally stop. That I want to totally, totally stop." What prevents her from quitting are "reservations" about quitting. She says, "Well I was actually making reservations why I need to keep on smoking. I don't get to see my mom and I'm here in Georgia and I know she's sick and stuff like that." She finds "justifications" for her smoking throughout the day such as "I miss the bus, the reason why I need to do it [smoking]."

Arguing along the same lines is Clara. She makes "excuses" for her own behavior and explains how her "weakness" stands in the way of quitting successfully. This excuse becomes a powerful barrier. Clara says:

> I am weak here…in the mind. I haven't convinced myself with my mind yet, you know? I mean if, if, if I believed that you, you can do anything that you put your mind to… for some reason I can't, I can't put my mind to do that, and that makes me weak.

Furthermore, she agrees with Amber that she uses cigarettes as a coping device to deal with stress. She postulates, "I guess I don't have anything else that I associate with relaxing, you know? I mean it's …if I had something else that I enjoyed um doing that I could do in the same amount of time …." The inability to cope with stress constitutes a barrier to cessation.

As opposed to the "seasoned quitters," and the "no-plan quitters," the "never-quitters" have only quit for two weeks or less and are not interested in quitting or feel that they cannot quit. They identify fewer barriers to quitting because they are averse to going through the process of cessation. The "seasoned quitters" are the most experienced with cessation and can talk about potential barriers to quitting such as "stress" and "social environment." The "no-plan quitters" are able to reiterate some of the themes identified

by the "seasoned quitters" and introduce new themes such as "addiction" and how the "excuses" can interfere with initiating a cessation attempt. With regards to quitting barriers, the "never-quitters" focus on "issues of addiction" in connection with the inability to quit smoking.

The theme "addiction" is prevalent with the "never-quitters." Mike, the 31-year-old software developer with a pack-a-day habit that he picked up during his college years, agrees with "no-plan quitter" Ethan, and Mike illustrates how addiction has kept him from quitting smoking. He thinks, "I'm pretty addicted. I mean I think it would be difficult for me to quit. … I just think psychologically it would be difficult [to quit] because I think I'm very psychologically addicted." On top of that, he identifies another theme in the area of barriers to quitting. He admits, "It's [smoking] something that I enjoy so it's something pretty… you know that I enjoy pretty consistently." The enjoyment of smoking and his belief that he is addicted to cigarettes constitute barriers to quitting.

A subtheme to "addiction" is "physical effects" and it emerges from the discussion of the "never-quitters." For Christina, the mother of two girls and stepmother of a daughter who currently attends college, the physical effects of not smoking create a huge barrier for cessation. She began using tobacco products such as snuff during childhood and later switched to cigarettes during high school. She explains what happens to her when she does not smoke:

> Yeah, it's hard to describe. I get headaches, my stomach you know knots up, nauseous. Mostly it's the irritability. And I don't know where that…I don't know where that comes from exactly. I mean, it's possible that it's just psychological, the irritability. But, it's just uh… I call it physical because it's you know… my body goes, give me a cigarette right now, and it's… you know, it just eats away at you inside.

To prevent the physical results of withdrawal such as the nausea or the headaches, Christina takes preventive measures to avoid such effects. She says, "I probably smoke more often than I technically need to just to make sure that that feeling doesn't come." The nausea and headache brought on by not smoking go away when she resumes her habit. In the end, smoking "feeds an addiction" Christina explains.

Relapse

The prevalent themes revealed by the participants in the three groups on the topic of relapse fall into two large categories. Interviewees describe situational relapse triggers such as having other smokers around them, drinking alcohol and pregnancies. Internal relapse triggers such as stressful situations, issues of craving as well as being overly confident come to light. Additionally, apart from relapse triggers, participants define what relapse means to them.

The smokers in the "seasoned quitters" group differentiate themselves from the other respondents because of their extensive quitting history, including the ability to stop smoking for one year or longer. Unfortunately, this trajectory also makes them experts on relapse experiences. Before I present relapse triggers, I introduce definitions of relapse from the "seasoned quitters'" perspective. Some participants in this group experience a slow relapse that eventually leads to regular smoking. Jessica, a 23-year-old college student who quit entirely for two years illustrates this concept:

> I think I definitely knew that at that point if I was going to start smoking again it wasn't just going to be like that one cigarette that night that I was upset. … I would smoke like one cigarette and then a few days later I'd smoke like two or

> three, and then you know more and more, and then I finally just like started buying them ….

On the other end of the relapse spectrum is 55-year-old Mary who relapsed after 13 years of cessation and progressed more quickly into the old smoking habit than Jessica. Mary was "right on. It was right on again." Charles, the 43-year-old correction officer, echoes Mary's experience and says, "Just picked up one and buy a pack and that's the way it goes. You buy that pack and you never saw it again." None of the interviewees speak about isolated relapse experiences when they smoke one cigarette and then resume their smoking cessation. Judging from the responses of the "seasoned quitters," relapse constitutes a break in cessation and the resumption of smoking on a regular basis.

The "seasoned quitters" identify the theme "seeing other people smoke" as a strong situational relapse trigger. Mary, a church missionary who smokes more than a pack a day, was able to quit four times in the past. The longest she has been able to quit is 13 years. She linked this quitting attempt to being "saved." She increased her missionary work by taking in several foster children and eventually started a drug recovery program. She mentions that when she relapsed after 13 years, she immediately tried to quit again but was only successful for two or three weeks before she resumed smoking. Mary explains, "Everybody around me was still smoking, constantly, constantly, you know, it's really when I got trapped into it." She finds it difficult to resist smoking when other smokers are around her and is prone to pick up a cigarette in those situations. At the time of her relapse, as part of her work at a local church, she was heading a drug recovery program and most of the participants in the program were trying to quit harder drugs. In

this environment, she was the only person who did not smoke. About a year ago, Mary tried to quit smoking again:

> I quit for about 3 weeks….and it was um, a homeless man that was very obnoxious, came up on the porch and even the guys at the church next door, they would walk out on the sidewalks and smoke, just out of respect, you know? And then um, this homeless guy…he kept smoking and blowing the smoke on the, you know, he was just a real obnoxious guy, and I picked up another cigarette that day.

Being in the presence of a smoker and smelling the cigarette smoke provokes Mary to relapse.

Jessica's experience is similar to Mary's in that being with other smokers can trigger a relapse. In her case, she was with one particular smoking friend. While the 23-year-old college student acknowledges other elements that influenced her to relapse, she also describes her close friend with whom she hung out the night of the relapse as a "horribly bad influence." She says, "I'd been hanging out with her and she'd been smoking and you know I'd been like really good about it and not smoking. Just like, no, I'm not going to smoke … but that night it was really the combined mentality of oh screw it …." She borrowed cigarettes from her friend and soon began to buy them again regularly. Apart from her cessation period of two years, Jessica has always been and continues to be a person who smokes at a bar with her friends and colleagues.

Adding to the topic relapse and situational trigger "other people," Lauren, a 43-year-old mother who is currently trying to quit and has not smoked in eight days, explains what a smoking environment can do to her cessation attempt. She announces to the interviewer that she will steer clear of such situations for the next month:

> I am still scared, I am still treading water with it, I'm concerned. But after about four weeks under my belt being away from it, I'm strong enough to be around it

> in terms of – I don't want to be around it all the time because I don't want to put myself, I don't want to make myself vulnerable by putting myself around that much temptation…

She knows from prior experience with quitting to avoid this temptation at this time in her cessation phase. She acknowledges the connection between being around smokers and wanting a cigarette and avoids situations that will tempt her to smoke.

Internal triggers can be similarly involved in a smoking relapse experience with the "seasoned quitters." Most of the interviewees identify "stress" as a theme in their relapse occurrence. Stress can be a result of one major event that has to be dealt with immediately or it can be a consequence of smaller incidents that build over time and cause prolonged episodes of stress. Within the larger theme stress and relapse, Marc illustrates this subtheme of "immediate stress" well. The college professor who, with 60 years is the oldest participant and with a two pack-a-day smoking habit the heaviest smoker among the "seasoned quitters" group, has quit successfully twice in his life. He cannot remember the circumstances of the first relapse and explains, "The first time, that's not real clear to me …. The second time is clearer." Several years ago, he was able to quit for about a year. Yet, when he was faced with his son's car accident, he immediately went back to smoking. Hearing about his son's car wreck was too much immediate stress to handle. Marc explains the situation:

> I came back home from the sabbatical early because of the car wreck, and the first thing I did when I got in the car was light a cigarette. As I said, I think in many respects cigarettes are tied up very much stress or a means of coping with stress.

He relapsed not just for one cigarette but pretty quickly worked himself up to his old smoking habit. With Marc, this pattern of all or nothing is not just visible in his smoking

habit but also in his alcohol consumption. He explains, “My problem is I can’t stop. If I have one drink, I’ll just keep on. … Cigarettes is about the same thing.”

The subtheme “immediate stress” is identified and further elaborated on by Jessica, the young waitress and college student. She quit smoking for her boyfriend who disliked the habit. Jessica says, “He very much just doesn’t want me to smoke because he knows that it’s bad for me and he doesn’t want me to do bad things for me because he cares about me ….” He likes being with her though and Jessica explains, “He doesn’t say like, if you smoke I am not going to be with you…He doesn’t tell me not to smoke. He’s very respectful about it…” Since she only smoked on weekends when going out with her friends to bars and lightly during the week after work to “decompress,” Jessica did not mind giving up smoking. At the time of her quitting smoking she reveals, “I smoked a lot…I was really addicted to smoking, and then I quit when I got to be with him, I mean at that point in time like I was smoking probably a pack of cigarettes a day.” She quit for two years, but when her boyfriend broke up with her via an email, she was so angry, sad, and depressed that she immediately met with a friend at a bar and picked up a cigarette. She describes the situation:

> but that night it was really the combined mentality of oh screw it, I’m so depressed, I’m just gong to smoke, and why I don’t have anything to not smoke for anymore, because you were my reason to not smoke and you’re not going to be in my life anymore. You broke up with me, so screw you, I’m going to smoke. You know, like it was those, all of like emotions combined, so.

She goes on saying that in this situation, the cigarette did not make her less “angry” at her boyfriend but it was able to “calm” her down. She indicated that she was utterly overwhelmed with being by herself, having to take finals the following week and now being responsible for the dog they owned. Moreover, breaking up with her boyfriend took

away a significant reason for staying quit. The immediacy of the break-up that resulted in emotional stress may have triggered the relapse, but the work and bar environment she encountered as well as school stressors and lack of her boyfriend's disapproval of her habit facilitated the continuation of her smoking.

After that night, Jessica states, "I would go to the bar with this one girl all the time and she smoked and you know I would start, like one night I had like one cigarette of hers and the next night I had three or four, and the next night, you know." Within three months she began to buy her own again and is now smoking regularly on weekends.

The subtheme "prolonged stress" as opposed to "immediate stress" is exemplified by Alex, a 40-year-old pharmacist. Similar to Marc and Jessica, Alex states that stress was responsible for his smoking relapses. However, as opposed to Marc who was faced with his son's car accident and thus one major stressful event, Marc experiences a period of stress that covers several weeks. He quit smoking in 1985, 1994, and 2001. In Alex's situation, the job demands were so great in his 1994 quit attempt that even though he stopped smoking for four years, he relapsed and started to smoke again. In his own words, Alex explains, "I started back again with more job stress." The relapse coincided with Alex's completion of his pharmacy degree and the beginning of work in the field. During an earlier cessation period that began in 1985 and ended in 1991, Alex experienced a stressful period in his life when he moved out of his parents' house. He explains matter-of-factly to the interviewer, "I moved south away from my family. I really didn't have any familiar support. You know? I used it as a mechanism for helping me with the stress." Alex insists that stress is the driving factor in his relapse to smoking. When the interviewer asks, "So if we are ranking the factors that bring you back to

smoking number 1 would be stress, what would be 2, 3, and 4?" Alex responds, "There wouldn't be any, I really can't think of any other cause for me to be smoking."

The subtheme "prolonged stress" is further elaborated on by Charles, a 43-year-old African American with a 60 cigarettes a week habit who found employment as an assembly worker. He lost his wife a few years ago but has a new significant partner in his life. In the past, Charles was able to quit once for three years and he is currently cutting down on his smoking because he has been diagnosed with high blood pressure. When he was 25, he explains, "I got tired of smoking and my breathing was kind of heavy, you know, harder to breathe." This realization triggered the quitting period. At the same time, Charles began to work out more physically to prepare himself for the job demands of a correction officer. However, when Charles began working at the penitentiary and despite not having smoked for three years, he relapsed within six months of working at the jail. He blames his smoking relapse on the stressors he experienced at his job. When he is asked to elaborate on the situations at the jail that were particularly stressful to him, he explains:

> When I was in there, the ghetto, the inmates, a lot of can't, can do, you can't do. I mean like, one thing they can say what they want to you but you can only say certain things, you couldn't hurt, you know you got to keep yourself like professional, you know. And you got guys, they be sitting back with pens ready to write you up for something, you know. Then the officer, you know, the sergeant puts pressure on you, putting you places you don't really want to be. And they're supposed to be rotating you out, and he got his favorite picks, so he put you down, like in the gutter part, you know, like in isolation where the guys really just buck wild, you know.

The combination of the stress at work and the situational trigger of the smoking environment after work that was previously discussed in this section influenced Charles

and ultimately played a role in his smoking relapse. Even though he subsequently changed jobs, he continued his smoking habit.

The "seasoned quitters" identify "cravings" as an internal trigger and an additional theme in smoking relapse experiences. Lauren, a 43-year-old administrative assistant who smokes a pack of cigarettes a day, has quit twice during her smoking career. While pregnant, she quit for approximately six months. She explains:

> …about two to three months into the pregnancy they started making me nauseous. Sick to my stomach. And I had never got morning sickness and it wasn't in any way associated; it was the cigarette….And then about my eighth month the cravings started. I don't remember any withdrawal but I do remember I started wanting one about my eighth month…that's when I started smoking during my pregnancy. It was like two weeks before the baby was born.

The physical reaction to smoking made her quit. However, eventually the cigarette cravings overwhelmed her and she relapsed. Lauren started to smoke again "like maybe two a day." Her smoking increased when she had to take care of her young son while her first husband stayed out all night long. Lauren recounts, "He didn't come home at night. I smoked constantly because I was upset nightly. I was stressed."

Being "overly confident" about one's own cessation success is a theme that was identified by some in the "seasoned quitters" group and functions as an internal relapse trigger. Ten years ago, Lauren indicates that she was bothered by the negative health consequences of smoking and she says, "You've heard, that it's not good for you and you know you've read things or had personal experiences with people whose parents have died from lung cancer or sisters or brothers, so you know it's not good for you …." During her second cessation period, she was able to quit for three or four years but made the "mistake" to think that she could smoke just one cigarette:

> But the addiction, I thought I could have one cigarette and you can't. And once I smoked that one cigarette that I thought I could and still stay quit, the addiction was stronger than I was at that point in time. This time I know I can't ever make that mistake. If I had never made that mistake I think I would still be quit.

After that one cigarette she began to smoke regularly again. Casually smoking a cigarette every once in a while did not work out for Lauren. She knows for her current quit attempt she "cannot have one puff."

Overall, the "seasoned quitters" identify powerful internal and external triggers to smoking relapse. Other smokers regardless of whether it was one particular smoking friend or several smoking individuals were heavily implicated in influencing a smoking relapse. Additionally, internal triggers such as immediate and prolonged episodes of stress were evident with the "seasoned quitters." While craving was also identified as an internal trigger to relapse, this theme was minor in comparison to the theme stress. Lastly, being overly confident about having quit smoking and believing that one cigarette will not result in a full relapse and regular smoking was discussed by the "seasoned quitters" as a theme in smoking relapse.

The "no-plan quitters" have successfully quit for up to a year in the past but are not planning on quitting in the near future. Similar to the "seasoned quitters," the "no-plan quitters" have varied experiences with relapse situations. There are some commonalities in the themes acknowledged by this group of respondents; however, the "no-plan quitters" also identify themes that have not been previously mentioned by the "seasoned quitter" such as the situational relapse trigger "alcohol." Before discussing the particular internal and situational triggers, the "no-plan quitters" give information on what constitutes a smoking relapse and how they define relapsing.

Jay, a 21-year-old college student reiterates the theme "slow relapse" introduced by "seasoned quitter" Jessica, the 23-years-old waitress who attends college and smokes about a pack of cigarettes a week. Jay, who smokes only three cigarettes on weekdays and five on weekend days, describes his relapse, "Not like right away, like all of a sudden three a day, but it just picks up generally, gradually back up like that." Thereby he echoes what college student Jessica pointed out.

As previously discussed, the "seasoned quitters" do not address isolated relapse experiences when they smoke one cigarette and then continue to remain abstinent. This theme is reiterated by some and expanded by others in the "no-plan quitters" group. Dennis illustrates this point when he is asked about his relapse experience. When his wife left him he began to smoke again and says that the relapse lasted "up till now." He agrees with the statement that he did not sneak cigarettes in between. While Dennis does not give details on how quickly he became a regular smoker again, he remained a smoker for 16 years until another serious quit attempt in 2005.

As opposed to Dennis who never sneaked cigarettes during his quit attempt, Amber says:

> So what I would do for the first few times that I "quit," I'd go buy a pack of cigarettes, like spend four dollars, and like just take three of them and throw the rest in the garbage at the store. And just smoke like the three that day.
> *And then the next day, what do you do?*
> Nothing
> *You'd still be quitting?*
> Yeah. So I tried that.

Despite the fact that she smoked, she considered herself quit, and this experience of smoking a few cigarettes here and there did not lead to full-time smoking and thus did not constitute a relapse experience in her mind.

The "seasoned quitters" identify an important theme in their relapse experiences – "other smokers." The "no-plan quitters" report parallel occurrences. However, the "no-plan quitters" identify two novel subthemes to the larger theme "other smokers." For one, "other smokers" can be actively involved in the relapse event of a former smoker by offering cigarettes to the quitter. When Jay, the 21-year-old college student who only smokes about a pack-and-a-half over the course of a week, quit smoking for about 12 weeks, he relapsed when he was going out to the bars with his friends. He explains, "I'm at a club and just one random night and then all of a sudden I'm offered one from one of my friends and after smoking it I'm just like, oh yeah, and it kind of picks up like off that." Jay is not only influenced by the friend who offers him a cigarette but also by the powerful internal trigger of being overly confident. At the time of the relapse, Jay realized, "…after awhile I just felt like it wasn't, like my smoking wasn't that serious enough to quit. It was just like I've proven myself that I'm not addicted." The immediate situational relapse trigger comes in the form of an offered cigarette while Jay's inflated confidence can be interpreted as an internal trigger that influenced him overall.

Secondly, "other smokers" can also be passively involved in triggering a relapse event. Dennis, the 45-year-old construction worker had just separated from his wife and blames the break-up situation for the relapse that occurred. In his words, "I was heartbroken. … I was really upset." The first cigarette after staying quit for 2 years was smoked at his sister's house party. Dennis describes the scene, "I asked for a cigarette, everyone was smoking, so I just joined in. That's where it came back." The immediate trigger to smoke was situational. Dennis hung out with other smokers and cigarettes were

available when he asked for them. As opposed to Jay who was offered a cigarette and did not refuse, Dennis actively sought out cigarettes from another smoker.

Internal triggers such as stress also prompt the "no-plan quitters" to relapse. The "seasoned quitters" identified immediate and prolonged stressors as subthemes to stress. The "no-plan quitters have similar experiences with regards to immediate stressors and relapse occurrences. Tracy, a 31-year-old single mother of two children who smokes about four packs of cigarettes a week, was barely able to quit for two weeks before she relapsed. Even though she says, "I felt pretty good and I felt okay. I missed the things that I associated with smoking, like talking on the phone or driving or, like, after I eat." However, those situations that she pointed out did not lead to the relapse. Rather, she explains:

> I was trying to buy a house and they kept taking me through the ringer about well you need this and now you're going to need more money, and now the house is this price, and now, you know you're going to have flood insurance, and you're going to have to do this, and it just really got to the point where I was like, you know what, I'm not going to be able to do this. Either somebody's neck is going to be wrung or I just need to go buy me a pack of cigarettes.

Similar to Marc, a "seasoned quitter" who struggled with the immediacy of his son's accident, Tracy was overwhelmed by the daunting task of buying a house, figuring out the financial side of it, and, on top of that, she just recently quit smoking. Interestingly, when she did decide to go out and buy cigarettes, she had a strategy in mind to avoid a complete relapse to smoking. She says, "… well I'm not going to buy the usual brand that I usually smoke …. I'll just buy something else that I know I'm not going to like … and that way there won't be a problem stopping." Unfortunately the plan did not work out and the next pack she bought was of her own brand.

Amber also elaborates on the subtheme "immediate stress" as a relapse trigger and she explains that she has quit smoking "like a thousand times." She admits, "I don't ever see myself truly quitting. I can't think I could live without them." Her last quit attempt took place a year ago and was triggered by a health scare. She promised herself, "Lord, if this is not cancer I'm going to quit smoking." Amber describes a series of quit attempts in response to the promise she made to herself, "I kind of quit three times. Once in January, once in February, and once in April. First time lasted like nine days…the second time was like two weeks. And then the third time was almost a month." With the interviewer she discusses the relapse situation that ended the final quit attempt in this series. She explains, "And what happened the last time was my son's father was coming into town and that's what did it. … It gave me anxiety so I had to go buy cigarettes. … That stressed me out." The issue of anxiety is brought up several times throughout the interview. Amber takes medication when her anxiety gets out of control. Dealing with men is a particular trigger for her and she points out, "When I'm under a high amount of stress and anxiety it's always about men, always. I'm a fanatic."

Subthemes to the overall theme "stress" such as immediate and prolonged stressors were brought to light by the "seasoned quitters" and the "no-plan quitters." Daniel, who has quit three times in the past and was most successful using Wellbutrin, reiterates those subthemes and implicates them in his last relapse experience. However, the 31-year-old introduces two new relapse themes. He explains his relapse after three months of successful smoking abstinence, "I had a run of bad luck right after I moved from North Carolina to Georgia. Uh a lot of things, bad things happened and because of the bad things that were happening, I'd started drinking heavily again." Apart from the

break-up, Daniel does not elucidate on what the "bad things" were that happened to him. It is clear, however, that he experienced a period of prolonged stress. What is more important in this short passage is the theme "alcohol" as a situational trigger for relapse.

For Daniel, alcohol and smoking are highly associated. He began his smoking career because he was drinking. He says, "I grew to enjoy it as having a cigarette with beer, or a shot … that's kinda how I became a regular smoker. … I started smoking without drinking eventually." Later during the interview, Daniel provides an important piece of information that explains his relapse, "You can smoke without drinking, but you can't drink without smoking." Because he was serious about quitting smoking, Daniel had simultaneously also quit drinking. When he relapsed on drinking, he also relapsed on smoking.

The second situational relapse theme that triggers smoking and which comes to light through Daniel's discussion is the lack of a prescription for the anti-smoking medication Wellbutrin. The young man was doing well with the drug but at the time of his move to a different state, his insurance changed. He explains:

> I moved states and my insurance had switched over and…I needed to go to the doctor to get a local prescription to have it covered by my insurance and I never made it to the doctor. I was just too lazy to go to the doctor to uh to get a new prescription.

In Daniel's relapse case several triggers combined and led to his continuation of smoking.

"Alcohol" as a situational trigger and a relapse theme is also introduced by Thomas, a 53-year-old smoker who works in customer service. Like Daniel, Thomas has had periods in his life where he drank large amounts of alcohol. Throughout the interview he addresses several quitting attempts with regards to alcohol. Thomas has tried to quit

smoking three times in the past and every time, he attributes his relapse to drinking. In his own words:

> I don't know how that's possible, because each time I quit …, when I started back it was because I was drinking… because it lowers your resistance. … you have a drink or two or if you get a little buzz on, the first thing you're gonna look for is a cigarette, you know?

At this point in his life, Thomas "stopped wanting to quit." He explains:

> I had some motivation for not smoking as much or quitting before because I was an entertainer and because I was a singer and a dancer. Well I'm kinda past all of that now, so uh I don't worry so much about that.

With regards to alcohol as a situational trigger for relapse Thomas identifies an important subtheme. He points out that drinking lowers his resistance to smoking. Ethan, a young 27-year-old lawyer, has that very same experience. He currently smokes 30 cigarettes a day and he has tried to quit smoking seven times in the past. Overall, looking back at his quit attempts, Ethan explains:

> I didn't have a difficult time quitting smoking, I had a difficult time staying quit …. More often than not I'd go out drinking and figure well I'll just have one cigarette and I'll just have two cigarettes, I'll just buy a pack, you know, and the next thing I'm back to smoking.

He describes the escalation of smoking when alcohol is involved. Specifically, he remembers his longest quit attempt that lasted two and a half months when he was in college and a group of friends decided to quit together. "One by one" they all relapsed. Ethan explains, "I went out drinking and was at a bar and I said 'hey, can I have a cigarette?' And yeah, the rest is history." He agrees that other quit attempts have ended in a similar fashion.

The "seasoned quitters" identified "cravings" as an internal relapse trigger and important theme in smoking relapse occurrences. The "no-plan quitters" add another dimension to this theme. Cravings can trigger a relapse at any time but in Kiana's case, cravings are paired with a situational trigger. Similar to Lauren, a "seasoned quitter," Kiana eventually quit smoking during her pregnancy. She says, "I think I might have been like three, like maybe three and a half months pregnant, and I was like okay, I got to quit because I know it's not good." Parallel to Lauren's experience, throughout this quitting episode, Kiana experienced intense craving for cigarettes. Kiana was able to cope without her cigarettes because she reveals, "I mean I always knew it wasn't good, but just to know that I'm pregnant and you're not supposed to smoke when you're pregnant." Then her situation changed, and the day she brought her child home from the hospital she asked her smoking partner for a cigarette. She explains:

> The baby was asleep and I was like, oh God, I want a cigarette so bad. …so I asked him for a cigarette. I went outside and I just stood there and I smoked a cigarette and it just felt like, oh I've missed you.

Lauren, on the other hand, did not wait for the situational change of giving birth but relapsed to smoking while still pregnant. Three themes emerge from Kiana's description. First, she reached the end of her pregnancy and thus the reason for quitting in the first place was gone. Second, the cravings to smoke reappeared and third, there was someone around who smoked and whom she could ask for a cigarette.

The "never-quitters" have not successfully quit for more than two weeks and about half of the ten individuals in this group have not quit even for a day. Despite their limited experience with quitting, five of these smokers give information on relapse experiences. While there are some commonalities on situational smoking triggers with

the "seasoned quitters" and the "no-plan quitters," the "never-quitters" give more information on how internal triggers such as issues of cravings are related to relapse experiences. Subthemes to cravings such as "irritability," "wanting" and "functionality" are also addressed by the "never-quitters." Additionally, this final group of smokers defines what relapse means to them.

Similar to the "seasoned quitters" and the "no-plan quitters," the "never-quitters" define relapse as the continuation of regular smoking and not as an isolated event. While the "seasoned quitters" describe quick and slow relapses and the "no-plan quitters" speak about slow relapses to regular smoking, the "never-quitter" group did not identify the slow relapse in their discussion. The only "never-quitter" who gives information on how quickly she relapsed is Carrie, a 20-year-old college student. She quit for two days while in high school. When she relapsed, she explains, "Right back to where I started kind of thing."

The "seasoned quitters" and "no-plan quitters" introduce the larger theme "other smokers" as a situational relapse trigger for smokers attempting to quit. Brian, a 22-year-old college student who works in construction, exemplifies the "never-quitters'" perspective. He has had a few "kind of half-assed attempts at quitting." He explains what "half-assed" means:

> Well it would be things like me saying, well I guess I won't smoke today and you know I wouldn't smoke that day and then the next day I'd be like, all right, well maybe I'll try quitting. I'll actually try quitting and then within a week or so I'd be back smoking.

He elucidates why his recent quitting attempt was cut short:

> …my boss is a smoker and the other person I work with is also a smoker, so when I had my last brief attempt at quitting it was hard because that was kind of the one

> thing that you could get a break for…if you're smoking a cigarette there's kind of an excuse for why you're not working I guess. … I think a lot of it is when I see other people smoking it makes my desire to smoke stronger.

Currently, Brian does not think he is "ready" to quit and has no plans to quit in the near future.

"Cravings" are the most prevalent theme in the "never-quitters" discussions and they function as an internal trigger to relapse. Christina, the 34-year-old student and mother of two daughters and one stepdaughter identifies "irritability" as an important subtheme to the larger theme "cravings." She has used a form of nicotine ever since she was eight years old and her sister's boyfriend gave her snuff. She now smokes a pack a day with no intention to quit in the near future. Christina has tried to quit smoking. She says:

> Not that I haven't tried to stop it, a lot of times, but it's just …powerful. And every time I try to stop, I get irritable….it wasn't twenty-four hours, I'm so, I am craving a cigarette so bad, I just can't even stand myself, let alone anybody else around me.

Once, Christina was able to quit for eleven days. She explains why she relapsed:

> I just… I couldn't stand the, you know… it was the cravings that kept coming and coming and coming. They did get a little less over the eleven days because you know the first day I was determined and you know I did okay on the first… and my determination slowly got worn down and so I (pause)… it's just like a wearing down of your resolve to, to keep resisting.

Even with the use of nicotine replacement tools like the patch or gum, Christina has not been able to successfully quit. The cravings eventually overwhelm her. She explains, "For the first four hours with the patch, you're fine. You know, the craving and

everything is okay and then, you know, it's like it creeps back upon you and the patch doesn't work anymore."

On the other hand, Carrie, the 20-year-old college student remembers "wanting" as the internal relapse trigger and subtheme to "cravings." She was able to quit smoking for two days while she was still in high school. Looking back she says:

> I remember like really, really, really, really, really, really, really wanting a cigarette…I bummed one from a friend. I remember that. And I was like oh screw it, I can't do this anymore. I was like you're going out and buying me a pack right now.
> …I realized I could not quit while living in my house. Because that, it was a mess. I mean my mom, I mean my dad for some reason still lives in the house while they were divorced and it was just very hectic times, and I was pretty much caught in the middle of a lot of it

Peter, who with two packs a day is the heaviest smoker in the "never-quitter" group, echoes Carrie's experience with not getting over the "wanting" of cigarette. He says, "I have tried to quit for 20 years. … for the last two years I have just, I just don't give it a second thought." One time he succeeded in not smoking cigarettes for eight hours. He explains:

> *But when you stopped for eight hours, did you ever get over that hump?*
> No, I started smoking more.
> *You never got over the hump of thinking about it?*
> No.
> *For eight hours you thought about it*.
> Yep. Never got over the hump.

During another quit attempt that Peter describes, another subtheme to cravings comes to light, that of "functionality." At that time, Peter ran out of cigarettes and he used this opportunity to initiate a quit attempt. He decided, "Okay, this is my last one. I am just going to go cold turkey. And for three days I don't get anything done, I am not

focused, I can't function. Because I have to have a cigarette." He adds that he turns "into a son-of-a-bitch" when he goes through the nicotine withdrawal. The immediate physical and psychological effects of not smoking are too intense for Peter and he relapses.

Chapter V: Discussion of Qualitative Findings and Recommendations

In the final chapter of this dissertation, I use the knowledge gained from the historical investigation to place the empirical findings on quitting motivators, cessation barriers, and relapse triggers in the larger context of past and present research cessation literature. The qualitative findings are reviewed against the available literature in order to show where our study agrees or disagrees with other researchers and where our study adds knowledge. I emphasize the contributions that this study makes to research on persistent cigarette use and public health practices. Additionally, I offer thoughts on future directions in cessation research. Finally, I concentrate on public health implications with regards to future smoking prevention.

The research literature on smoking cessation indicates that although few smokers succeed at their first cessation attempt, as many as 70 percent of all smokers have initiated a quit attempt in the past (CDC, 2002). Due to the eligibility criteria, all respondents in this study have had at least one quit attempt. There are a variety of reasons why many smokers would want to quit their habit just like there are for those who do not want to quit. In the following, I introduce motivators to quitting which are discussed in the research literature as well as self-exempting strategies to rationalize the smoking behavior.

According to the literature, smokers identify several main reasons for wanting to quit their habit. The most prevalent motivator for cessation is the effect smoking can have on immediate and future health (Gilpin, Pierce, Goodman, Burns, & Shopland, 1992; Halpern & Warner, 1993; McBride, Pollak, Lyna, Lipkus, Samsa, & Bepler, 2001;

Hyland, Bauer, Giovino, Stegner, & Cummings, 2004; Vangeli & West, 2008). Overall, our study confirms the finding that negative health consequences are given as the most prevalent reason for smokers to initiate a quit attempt (Gilpin et al., 1992; Halpern & Warner, 1993; McBride et al., 2001; Hyland et al., 2004; Vangeli & West, 2008).

While agreeing with this strong cessation motivator, participants in our study add a more nuanced perspective to the existing research literature on health consequences and quitting smoking. The "seasoned quitters" who have quit for longer than one year in the past and "no-plan quitters" who have quit between two weeks and one year but currently do not have a specific cessation plan agree that health is a driving force in their desire to quit in the future. However, there is a distinct difference in their discussion on health consequences and smoking. Prior length of cessation and plans to quit in the near future separate the "seasoned quitters" from the "no-plan quitters." The "seasoned quitters" who have abstained from cigarettes for one year or more seem to have accepted the negative health consequences and believe that these can directly or indirectly affect them. Despite the fact that they relapsed in the past, they are willing to attempt cessation again, and they are motivated by health reasons. Having these health reasons does not necessarily protect these smokers from relapse experiences in the future.

As opposed to the "seasoned quitters," some of the "no-plan quitters" have adopted avoidance strategies that prevent cessation based on health reasons. Some of the participants in the "no-plan quitters" group express doubts about the cancer-smoking connection and do not believe the results of medical research that has been conducted. Others rationalize their behavior by explaining that they are health conscious and receive regular check-ups which serve as illness prevention. A sense of fatalism also prevents

some smokers in the "no-plan quitters" group from accepting the negative health consequences. Believing that cancer can strike anyone, smoker or non-smoker, and believing that one has already done too much damage to one's health are avoidance strategies used by the "no-plan quitters."

The "never quitters" agree with the avoidance strategies identified by the "no-plan quitters." As opposed to the "seasoned quitters" who are strongly motivated to attempt cessation because of negative health consequences and the "no-plan quitters" who despite the avoidance strategies employed are able to identify health as a smoking cessation motivator, none of the "never quitters" identifies the negative health consequences of smoking as a motivator for cessation. These study participants rationalize their smoking behavior by explaining to the interviewer that they will quit by the age of thirty; they cast doubts on medical opinions, and express the view that smoking cannot be that bad for their health, and convey a sense of fatalism about their future. Having very few motivators to initiate smoking cessation is indicative of this particular group. Not wanting to quit and not having quit in the past for longer than two weeks is associated with using avoidance strategies to prevent cessation.

Our study suggests that those individuals who have the least quitting experience use the most avoidance strategies to prevent smoking cessation. Smokers who have quit for one year or longer do not use such strategies and are more influenced by detrimental health effects of cigarette use. The "never quitters" on the other hand appear unfazed by negative health consequences, and they are most likely to use avoidance strategies. One explanation for this phenomenon could be the age difference between these groups. The "never quitters" are on average younger and more likely to be in college. They may

perceive the health consequences of smoking to be in the distant future and thus these effects are not seen as an immediate threat.

This study proposes that research needs to focus on identifying those health consequences that are predictors of cessation. What are the differences between short-term health consequences such as a cough and long-term health consequences such as lung cancer, and how do these consequences affect cessation motivation? In addition to focusing on the different types of negative health effects, more in-depth research on self-exempting beliefs of smokers is needed. Learning more about the mechanism of how smokers rationalize and excuse their behavior gives cessation researchers the opportunity to design interventions with such beliefs in mind. Our study proposes that these avoidance strategies are prevalent among subgroups of smokers, and that they can stand in the way of contemplating cessation. Smokers in the "no-plan quitters" group and the "never quitters" group minimize the negative health consequences by casting doubt on the medical research and by explaining that there are other risk behaviors such as eating fatty foods or not exercising that could lead to bad health. The self-exempting beliefs shield smokers from health messages distributed by the media or health professionals. As our research shows, there are a variety of self-exempting beliefs. Researchers need to focus on the qualitative differences between the avoidance strategies. Which ones are particularly prevalent and persistent in smokers and which ones are easily dismantled? Studies need to be conducted in order to identify which strategies are particularly successful in preventing the smoker to initiate cessation. Finally, it is essential to investigate how smokers can overcome these avoidance tactics. Here, research needs to focus on how to make health messages more salient to improve knowledge in those that

have used doubts and rationalization to justify their smoking behavior. Overall, researchers need to explore how self-exempting beliefs in smokers can be challenged by interventions.

Social motivators such as being surrounded by family members and friends who encourage smokers to quit their habit have positive effects on smoking cessation (Gilpin et al., 1992; Halpern & Warner, 1993; Hymowitz, Cummings, Hyland, Lynn, Pechacek, & Hartwell, 1997). The data from our study largely confirm the findings of other cessation researchers in that individuals in the smoker's environment can have a positive influence on smoking cessation. The "seasoned quitters," the "no-plan quitters," as well as the "never quitters" agree that other people who encourage cessation function as motivators. While smokers in the "seasoned quitters" group and the "no-plan quitters" group have concrete partners or children in mind whom they reference in the qualitative interviews, the large majority of the "never quitters" group speaks about other individuals and their influence on the smoking habit hypothetically. They can imagine that there could be a partner in the future that may affect their willingness to attempt cessation. Other people such as partners or children can therefore be an immediate motivator or these individuals can be a more abstract concept that may become a reality in the future.

One explanation that the "never quitters" speak about partners and children hypothetically rather than concretely is that they are on average younger than the "seasoned quitters" and the "no-plan quitters." Because they are younger and less likely to have children and husbands or wives, they are less likely to be influenced by significant others and in turn motivated to quit. Another factor that might explain why this group is less likely to be surrounded by non-smokers who function as cessation

motivators is their current educational status. The "never quitters" are more likely to attend college at the time of the interview than the two other cessation groups. Since smoking rates are higher in college students than among other adult smokers (Rigotti, Lee, & Wechsler, 2000; CDC, 2003), these young participating college students are more likely to surround themselves with smokers than other adult smokers.

The importance of social relationships and the resulting pressure from partners and friends should be explored in further studies to determine which social variables and attitudes are of particular relevance in smoking cessation. The dynamics of the relationship between smoker and non-smoking partner, parent, child or friend needs to be examined to learn which elements are more likely to result in successful cessation. As our study shows, some smokers are greatly influenced by their immediate social environment and would like to abstain to improve their own health but also the health of the people around them. What are the characteristics of smokers who are influenced by significant others as opposed to those who ignore such influences? Researchers need to explore the relationship and dynamics between smokers and their social environment and whether targeting non-smokers in intervention messages and procedures increases cessation rates. Non-smoking partners, children and friends can play an important part in the smoker's cessation attempt by being encouraging and supportive of the quitting episode.

Kahler and colleagues suggest that those smokers who associate their smoking behavior with negative social consequences such as "disrespected," "blamed" or "insulted" are more likely to initiate cessation than those smokers who associate their smoking behavior with positive social consequences such as "appreciated," accepted" or "valued." (Kahler, Daughters, Leventhal, Gwaltney, & Palfai, 2007). Additionally, an

unfavorable public sentiment of smokers and their habit can encourage cessation (Kim & Shanahan, 2003). Our study supports the hypothesis that social consequences such as limited career opportunities or choice of partner can shape the smoking behavior. For one of the "seasoned quitters," the fact that smoking may limit the number of individuals who would want to be romantically involved with him is enough of a reason to decrease his smoking. Similarly, a "no-plan quitter" postulates that he would quit if his career was jeopardized due to this smoking habit. In contrast, the "never-quitters" do not foresee negative social effects as being influential in their decision to stop smoking.

The "never quitters" seem to be affected the least by negative social consequences. This group is on average younger and more likely to be currently enrolled in college than the participants in the "seasoned quitters" and the "no-plan quitters" groups. Some interviewees in the "never quitters" group express the wish to quit when they are older. It is possible that college students whose smoking rate is highest in comparison to other age groups do not experience social ramifications in the same fashion than older smokers who are in the workplace and have fewer smoking peers (CDC, 2006).

Only the "seasoned quitters" and the "no-plan quitters" explore negative social consequences during their qualitative interviews. In terms of future studies, researchers need to focus on reasons why those who have only quit for two weeks or less in the past do not experience such social repercussions. Judging from a literature search, the research on how negative social effects influence smokers and their habit is in its infancy. In the future, the question whether social repercussions are useful tools in the fight against smoking should be further explored. What are the long-term consequences of shaming

smokers to quit their habit? Furthermore, the attitudes and characteristics of those who are receptive to messages that stress the negative social consequences of smoking and encourage cessation need to be examined.

Smokers are not just influenced by detrimental health consequences, other individuals, or negative social effects. The cost associated with the habit constitutes an additional reason for attempting cessation. Not wanting to spend money on cigarettes is a motivator for smokers to contemplate a quit attempt (Garvey, Heinold, & Rosner, 1989; Gilpin et al., 1992; Klemp, Robertson, Stansfield, Klemp, & Harding, 1998; Vangeli & West, 2008). Both "seasoned quitters" and "no-plan quitters" agree that saving money is an incentive for future cessation plans. Participants in the "seasoned quitters" and "no-plan quitters" groups recognize that they spend too much money on their cigarettes and that price increases have affected them and their discretionary income. However, it is important to add that participants in the "seasoned quitters" group and the "no-plan quitters" group are not motivated enough by the price of cigarettes to initiate a quit attempt. Price remains an incentive to quit but these smokers show that this fact alone is not going to lead to cessation. The "never quitters," on the other hand, do not identify cost as a motivator for quitting. During the qualitative interviews, this group of smokers never once mentions the costs associated with smoking.

Overall, research shows that the cost of cigarettes is an incentive for smoking cessation. Further investigations focusing on the impact of price on smoking cessation are needed to learn more about the strength and nature of the association. For example, is cost a cessation motivator by itself or only in combination with other motivators such as health or social implications? Additionally, costs can not only affect cessation but costs

can also lead smokers to switch to cheaper brands or to forgo other expenditures in favor of tobacco. More work needs to be conducted focusing on the overall effects of cigarettes' price increases. How do smokers react to the price increase and to what length do they go to continue their smoking habit? For example, one participant from the Persistent Smokers Project avoids buying packs of cigarettes and tries to buy loose ones on the street. This behavior decreases the amount he smokes overall but has not lead to a full quit attempt.

Pregnant smokers display a particular ability to change their behaviors in order to protect the unborn child. At a time where women are not only responsible for their own well-being but also that of the fetus, many women are able to curb alcohol consumption (Bruce, Adams, Shulman, & Martin, 1993; Durham, Owen, Bender, Senner, Davis, & Leff, 1997; Ockene, Ma, Zapka, Pbert, Goins, & Stoddard, 2002). In comparison, smoking cessation studies focusing on pregnant women have found similar effects (Cnattingius, Lindmark, & Meirik, 1992; Fingerhut, Kleinman, & Kendrick, 1990). Pregnancy triggers instant cessation in many smoking women. Scholars suggest that spontaneous quitting in pregnant smokers occurs at about 30 percent (Floyd, Rimer, Giovano, Mullen, & Sullivan, 1993; Husten, Chrismon, & Reddy, 1996). The large majority of these quitters is highly successful until the end of their pregnancy (Solomon & Quinn, 2004). Many women are driven by concerns for the health of their unborn child such as spontaneous abortions, stillbirth or preterm birth as well as by wanting a trouble-free pregnancy (Curry, Grothaus, McBride, Lando, & Pirie, 2001; USDHHS, 2001). Additionally, they experience social pressure to quit while pregnant (Floyd et al., 1993).

The "seasoned quitters," the "no-plan quitters" and the "never quitters" confirm cessation researchers' findings that pregnancy is a time where the female interviewees are more likely to contemplate quitting smoking. Overall, the study participants agree that an unborn child is a chief reason for initiating a quit attempt. However, there are differences between the three cessation groups. The "seasoned quitters" and "no-plan quitters" report that they have quit in the past for their pregnancies. Several women have quit for each of their pregnancies and relapsed in-between those cessation attempts. Interestingly, protecting the unborn life is important not only to the mothers but also to the fathers of the children. Dennis, a "no-plan quitter" stopped smoking for several months because his wife was pregnant. The "never quitters" differ from the "seasoned quitters" and "no-plan quitters" in that they have not quit for a pregnancy in the past. Only two of the five female "never quitters" have children and both women smoked during the pregnancies. The other three female "never quitters" are between the ages of 18 and 24 and are still in college and without children. One of these younger women postulates that she will initiate a quit attempt if she becomes pregnant.

While many women do indeed quit during their pregnancies there are those that continue the habit. Research needs to focus on how these women can be motivated to quit smoking while pregnant. Are these women experiencing cessation barriers specific to their condition? Investigating the socio-demographic and psychological variables of quitting pregnant women and how they differ from smoking pregnant women is a step in the right direction. However, investigations also need to focus on safe cessation tools for pregnant women. Once these women show motivation to quit they possibly need help to overcome withdrawal symptoms and cravings.

The "never-quitters" and some of the "no-plan quitters" are influenced by the prevalent reasons negative health consequences, social motivators or the cost of cigarettes (Gilpin et al., 1992; Halpern & Warner, 1993; Hymowitz et al., 1997). Those not willing to attempt cessation often use strategies to justify and rationalize their smoking behavior. Particularly self-exempting beliefs can stand in the way of quitting smoking. Among these self-exempting beliefs are thinking that one does not smoke enough to suffer the long-term health consequences of the cigarette habit, that everything in life causes cancer or the fatalistic outlook that you have to die of something. These beliefs function as justifications for one's cigarette consumption (Oakes, Chapman, Borland, Balmford, & Trotter, 2004; Peretti-Watel, Halfen, & Gremy, 2007).

Overall, this study confirms the findings of other researchers in that health consequences, other individuals and finances are important reasons for smokers to want to quit in the future. However, this study adds important information on how avoidance strategies keep smokers from engaging with the topic cessation. Particularly those who have not been able to quit for longer than two weeks are prone to doubt the current research. They rationalize their smoking behavior and express a sense of fatalism about their future. It comes as a surprise though that the "no-plan quitters" who have been able to quit between two weeks and one year use the same avoidance strategies as the "never quitters." The prevalence of these ideas in the smoking community is an important finding because it influences the design and implementation of smoking interventions.

In order to properly design smoking cessation interventions, investigators should examine whether cessation motivators change over the course of the cessation experiences and with each unsuccessful cessation attempt. I propose that knowing what

smokers with a particular cessation history face during their cessation attempts can improve quitting outcomes. Results from our study suggest that researchers should look at the length of past cessation attempts and how prior quitting experiences can predict cessation motivators. Smoking motivators change depending on the smoker's quitting history. Overall, identifying the appropriate cessation motivators is crucial in helping smokers achieve long-term cessation success.

Furthermore, researchers need to investigate whether certain motivators are more likely to result in successful long-term cessation as opposed to others. Studies need to be conducted to find out whether there are motivators that are short lived and more likely to result in relapse situations and which motivators are more likely to result in success.

Quitting motivators is only one topic discussed by the participants in the study. Another dominant theme identified in the smokers' interviews is the barriers they face when wanting to quit their habit. Research on quitting barriers has been conducted in order to better serve the needs of smokers who attempt cessation (Orleans, Jepson, Resch, & Rimer, 1994; Moffatt & Whip, 2004; Theobald, Smith, & Fiore, 2005). The barriers most commonly identified in research are other smokers, enjoyment of smoking, craving for cigarettes, loss of a means to handle stress, fear of weight gain, alcohol use and nicotine dependence (Hotham, Atkinson, & Gilpert, 2002; Qidwai, 2004; Swartz, Noell, Schroeder, & Ary, 2006).

This qualitative study with persistent smokers confirms many of the cessation barriers named by other scholars in the quitting literature. Overall, participants in the "seasoned quitters," the "no-plan quitters," and the "never quitters" groups report cravings for cigarettes, anticipated loss of smoking as a ritual or friend, a means to

control stress, other smokers, and enjoyment as barriers to quitting successfully. Either individually or in combination, any of these barriers can stand between smoking and cessation.

While validating many of the barriers discussed in cessation research, this study adds knowledge to the previously identified quitting barriers. While the quitting barrier fear of not being able to control one's mood or handle stressful events has been explored by other researchers as well as with smokers in the current study, our data shed light on how perceiving the cigarette as a companion can constitute a quitting barrier. Fearing loss of that friend can prevent some smokers in the "seasoned quitters" group and the "no-plan quitters" group from initiating a quit attempt. Smokers with few social contacts express this fear in the current study. The cigarette becomes such an important element in these smokers' lives that the prospect of losing the only reliable companion is too daunting a task.

In terms of future research, the different types of relationships between smokers and cigarettes need to be further investigated. In other words, scholars need to focus on what the cigarette is used for in the smokers' lives. Our data show that when cigarettes fill the role of friends or companions cessation is difficult to achieve. Identifying in what type of situations, the cigarette takes on this particular role can help in the cessation process. Determining what smoking means to smokers is essential when developing intervention strategies.

Recent research studies show that smokers' disengagement beliefs or excuses can constitute barriers to quitting (Oakes et al., 2004; Kleinjan, van den Eijnden, Dijkstra, Brug, & Engels, 2006; Kleinjan, van den Eijnden, Dijkstra, Brug, & Engels, 2009).

Examples of such beliefs are thinking that everyone has to die, if smoking was really bad it would be outlawed or everyone acts unhealthy sometimes (Kleinjan, et al., 2006; Kleinjan et al., 2009). Participants in this project confirm these findings and add new information on how excuses can prevent a successful quit attempt. Some of the interviewees feel too weak in their resolve to quit smoking or simply do not think that they are ready to forgo the habit. These attitudes constitute insurmountable obstacles when it comes to quitting smoking. Participants doubt their own readiness to quit their habit or express reservations that they can succeed in quitting. Justifications are also used to explain why quitting is not an option. Overall, these excuses give smokers an opportunity to continue their habit while rationalizing their own behavior.

In our study, the "no-plan quitters" exhibited such excuses, while the "seasoned quitters" and "never-quitters" did not. One possible explanation for this outcome is that the "seasoned quitters" who have successfully quit for more than a year and are well aware of their quitting capabilities have outlived such disengagement beliefs. Disengagement beliefs could be part of the history of quitting smoking and signify a specific stage in the quitting experience process. The "never quitters" who are in an early phase of cessation experience may not feel the need to justify their behavior in such a fashion and rather concentrate on enjoyment and issues of addiction.

Future research needs to focus on how these disengagement beliefs and excuses develop in smokers and what differentiates someone who adopts these beliefs from someone who does not. Are there differences in attitudes and health risk awareness? Furthermore, scholars should address how to challenge such disengagement beliefs in order to promote smoking cessation. I suggest that investigating which of these

disengagement beliefs is more persistent and more difficult to eliminate could lead to more effective cessation treatment. Additionally, the association between past cessation length and adoption of disengagement beliefs needs to be explored to deliver more targeted interventions. Our study shows that those smokers who have not quit for more than two weeks and those that have been able to abstain the longest among the group of participants do not utilize such beliefs. Further studies should investigate whether the "seasoned quitters" have in the past used disengagement beliefs and how they have overcome such obstacles.

While our study largely confirms the barriers identified in the cessation research literature, some findings come as a surprise and have previously not been discussed by other scholars. Researchers have paid close attention to barriers of particular populations; yet, they have not used a qualitative design to investigate how prior length of cessation can have an effect on quitting barriers experienced by the smoker. This study identifies a shift of barriers associated with past cessation experience. The qualitative data show that there are distinct differences between the "seasoned quitters," the "no-plan quitter," and the "never-quitters" in terms of existing cessation barriers.

As seen in the previous chapter, the "seasoned quitters" who have been able to quit for one year or longer identify fear of loss as their strongest cessation barrier. In comparison, issues of addiction play a minor role with these experienced quitters. Additionally, the "seasoned quitters" confirm other research studies and speak about other smokers and stress with regards to cessation barriers. Similarly, the "no-plan quitters" are also afraid of losing a crucial part of their lives upon smoking cessation and

they agree with the "seasoned quitters" on barriers such as addiction, stress and other people.

What sets the "no-plan quitters" apart from the "seasoned quitters" are the excuses used to explain the inability to quit smoking. Participants in the "no-plan quitters" group use a variety of excuses to explain why they cannot stop smoking. These excuses form powerful barriers against quitting. This behavior is not observed with those smokers that have been able to quit for at least one year and sometimes several years.

Excuses constitute prevalent cessation barriers for many smokers. Our study suggests that the less successful smokers have been with cessation attempts, the more likely are they to use excuses to explain the smoking habit. Research should focus on long-term quitters to determine how these smokers were able to move past this barrier. Furthermore, scholars can investigate the qualitative differences between excuses used by smokers. I suggest that knowing which excuse constitutes the largest barrier can have an impact on intervention designs.

In comparison to the "seasoned quitters" and the "no-plan quitters," the "never quitters" identify the fewest quitting barriers. They never quit for more than two weeks. Their most prevalent obstacle is their addiction to cigarettes. They also enjoy the habit and cannot quite see themselves as giving up on smoking. They do not express the fear of loss theme that the other two groups exhibited. The "never quitters" seem too occupied with the immediate effects of cigarette withdrawal to point towards other quitting barriers. From previous quit attempts, they remember that the consequences of withdrawal as opposed to longer term consequences such as losing a comfortable habit or

losing a friend. On average, this group of smokers is younger and smokes more cigarettes than the other two groups.

The "never quitters" were unable to identify many barriers to cessation which set them apart from their two counterparts. Research needs to focus on these smokers that have not been able to abstain for longer than two weeks. Identifying reasons why these smokers are less likely to name barriers to cessation would add substantially to our understanding of how these smokers conceptualize their own smoking behavior. For example, studying smokers' self-awareness with regards to cessation barriers is one research area that warrants further attention.

Overall, these three groups of smokers are distinctly different when discussing cessation barriers. While they share the common bond of addiction as a barrier to cessation, each group can be characterized by particular cessation barriers. While the "seasoned quitters" name barriers such as loss of a friend, ritual, control or a reward, issues of addiction, as well as the inability to deal with stressful situations without their cigarettes, the "no-plan quitters" mostly focus on fear of loss and issues of addiction. Their self-exempting beliefs separate them from the "seasoned quitter" and the "never quitters." Lastly, the "never quitters" are mostly concerned with issues of addiction as well as the enjoyment of smoking. This shift of cessation barriers which appears to be associated with length of past cigarette abstinence is relevant information when designing intervention programs because different quitters show different needs when it comes to cessation.

As discussed in the previous sections of this chapter, participants in the Persistent Smokers Project give much information on quitting motivators and barriers to cessation.

A third major topic emerges from their discussion on smoking cessation. Smoking relapses appear to be an important component of participants' cessation experiences and interviewees provide much valuable insight into this area. In the research literature, there is significant variation in the definition of the term relapse. Some cessation scholars differentiate between "lapses" and "relapses." In this context, smoking lapses are described as occasional slips during a period of abstinence. The smoker may smoke one cigarette and then resume the cessation period (Piasecki, 2006). Other researchers use a more conservative definition and interpret a lapse as a relapse and do not investigate the period of abstinence that follows the smoking occurrence. Typically, however, relapses are characterized by the continuation of the smoking habit and by regularity of smoking after the relapse episode (Piasecki, 2006). In this smoking study, independent of past cessation periods, smokers do not identify isolated lapses but concentrate on relapses which they describe as the continuation of smoking. Similarly to processes described in the research literature, the three groups of smokers illustrate the difference between slow and quick relapse occurrences. This study supports findings by Conklin, Perkins, Sheidow, Jones, Levine and Marcus (2005) that quick returns to pre-quit smoking levels occur more often than slower returns.

In the relapse context, the three groups of smokers concentrate on triggers that lead to relapse situations. A brief review of the available research on smoking relapse indicates that the large majority of smokers (70 percent) expresses the wish to quit smoking in the near future (CDC, 2002). About one third of all smokers initiates a quit attempt each year; however, few of these are successful (Rigotti, 2002). According to the

Centers for Disease Control and Prevention only 4.7 percent of current smokers were able to quit for at least three months in the year 2000 (CDC, 2002).

Smokers who are attempting to quit their habit are particularly vulnerable during the first hours and days of their current quitting episode and the large majority of quitters relapses within the first week of cessation (Hughes, Keely, & Naud, 2004). Overall, more than 80 percent of those who attempt to quit their smoking habit relapse within one year (Hunt & Branch, 1971). Those smokers who undergo intensive counseling and pharmacologic treatment better their chances of successful cessation and 30 percent remain abstinent after one year (Fiore, Bailey, & Cohen, 2000). Smokers who are trying to quit without the help of available cessation treatments fare worse than their counterparts and only 5 to 15 percent remain abstinent (Cohen, Lichtenstein, Prochaska, Rossi, Gritz, Carr, et al., 1989; Conklin et al., 2005). After the first year of successful smoking cessation, relapse rates slow down, but they do not come to a halt and relapse can occur years and even a decade after the initial quit date (Blondal et al., 1999; Krall, Garvey, & Garcia, 2002).

Overall, our study agrees with the above findings that relapse does not just occur in the first days, weeks, and months after the cessation date but continues to take place and affects ex-smokers even years after quitting. Smokers in the “seasoned quitter” group fall into the category of late relapsers. They quit for at least one year in the past and four of the ten smokers in this group indicated that they quit between two and five years. Despite these long time periods, they relapsed and are now currently smoking on a regular basis. While most quitting research focuses on early relapse experiences, the

qualitative differences between early and late relapses need to be further investigated in order to prevent both situations in the future of smokers who initiate cessation.

Because many smokers express the wish to quit smoking but are unsuccessful in their attempts, cessation scholars have focused their attention on learning more about the elements that promote smoking relapses. Over the past three decades, these researchers have identified a variety of relapse triggers that often end the smoker's cessation attempt. In the following, I introduce the most prevalent triggers and contrast them with our empirical findings. Identifying elements that lead to smoking and building cessation programs to help smokers deal with these triggers can result in decreased relapse rates.

One of the most prevalent relapse triggers identified in research studies is the craving for a cigarette. Cravings can be particularly strong in the first few days of the cessation attempt. When smokers experience strong cravings, they often alleviate those negative feelings by going back to their habit (Cummings, Jaen, & Giovino, 1985; Killen & Fortmann, 1997; Piasecki, 2006; Zhou, Nonnemaker, Sherrill, Gilsenan, Coste, & West, 2009). Strong cravings for cigarettes are often brought on by cues in the environment of the ex-smoker such as smoking paraphernalia or other smokers (Shiffman, Shadel, Niaura, Khayrallah, Jorenby, Ryan, & Ferguson, 2003). While cravings can be particularly intense during the first few days and weeks post quit date, they are also experienced by quitters who have been abstinent for several months. Research on whether cravings are experienced differently after months of cessation as opposed to days of cessation is relevant in order to prevent these occurrences.

Overall, this qualitative study confirms the prevalent relapse trigger craving identified in the research literature. Despite their differences in past cessation lengths, the

"seasoned quitters," the "no-plan quitters" as well as the "never quitters" report that cravings for cigarettes often prompt a relapse episode. Participants in all three cessation groups describe the wanting of cigarettes as an internal trigger to relapse and the continuation of their cigarette habit. However, there are qualitative differences in the experience of cravings. The difference in smokers' descriptions of the "wanting" of a cigarette lies in the sense of urgency. While the "seasoned quitters" and "no-plan quitters" have successfully quit their habit for a longer time period and can function without the immediate withdrawal symptoms, the "never quitters" are more concerned with alleviating irritability and impaired functionality and relapse within a much shorter time frame. One "never quitter" has not made it past the eight hour mark in his quit attempts because he simply cannot tolerate his inability to focus and function. Our data show that cravings can be experienced differently depending on length of cessation.

Other smoking individuals play a prominent part in ex-smokers' relapse situations. Seeing someone else light up either at the workplace or in the home environment can trigger relapse episodes (Cummings et al., 1985; Cui, Wen, Moriarty, & Levine, 2006; Yang, Fisher, Li, & Danaher, 2006). Often the trigger "other people" is paired with a social situation where alcohol or coffee/tea is consumed. Independently as well as in combination with other smokers, these drinks predict smoking relapse (Cummings et al., 1985; Garvey et al., 1992; Krall et al., 2002).

Our study confirms the importance of other smokers in the relapse process. Both being surrounded by smokers and smelling the cigarette function as situational triggers. Smokers describe encounters in bars, in other people's homes, or at work as particularly relevant for such relapse situations. The present study adds to previous research that other

smokers can either be actively or passively involved in the relapse occurrence. Smokers can either ask directly for a cigarette because they see others smoke and want to smoke as well or someone offers them a cigarette in a social context and they accept. Both situations can end the cessation attempt and smokers in this study describe that even after months and years of cessation this one cigarette smoked in a social context where other smokers were around is responsible for a full relapse to regular consumption. Furthermore, in this social context, alcohol is named as a relapse trigger by some smokers in the study.

Also, this study suggests that other smokers are implicated not only in late relapse situations but also in early relapse occurrences. The role that other smokers can have on those attempting cessation needs to be explored in more detail. In this context, scholars can also focus on other influential factors such as bar and home environment or the role alcohol plays in those relapse situations where other smokers are present. Shedding light on how these relapse triggers interact and how they build on each other can help decrease the relapse rate in ex-smokers.

Low self confidence about the current quit attempt as well as feeling down can prompt relapse episodes (Garvey et al., 1992; Yang et al., 2006). However, our study shows that when the "seasoned quitters" and "no-plan quitters" have too much confidence about their abstinence and about being in control of their quit attempt a relapse to smoking is possible. Reasons why ex-smokers who experience relapse after years of cessation have hardly been studied. Our data suggest that an overblown confidence can lead smokers to believe that they are able to have one cigarette and then

resume cessation. However such occurrences can quickly lead to the continuation of smoking.

I suggest that cessation researchers investigate the role confidence can play in relapse occurrences. This study suggests that those long-term quitters who are confident about their abstinence can relapse because they underestimate the psychological and physical effect a single cigarette can have on them. This single cigarette in turn can lead to a full-blown relapse situation. Identifying characteristics that predict this type of relapse is essential if one wants to prevent this occurrence in long-term quitters.

Cessation researchers have paid close attention to differences in relapse triggers of smokers who relapse within days or a week and smokers who relapse after a few months. Strong cravings and severity of nicotine dependence are highly associated with earlier relapses while social factors such as other smokers are often implicated in a later relapse situation (Cummings et al., 1985). Researchers such as Piasecki (2006) caution that more research on qualitative differences is necessary to optimize appropriate treatments.

Judging from the research literature, cravings in the first days and weeks post-cessation date can prompt relapse situations. Our participants verify these finding and also add important knowledge on cravings and the relation to relapse. While the “never quitters” who have been unable to stop smoking for more than two weeks almost exclusively blame cravings for their relapse occurrences, the “no-plan quitters” and “seasoned quitters” also implicate cravings in their relapse experiences. The qualitative data show that cravings do not necessarily disappear after a few weeks of abstinence. As

"seasoned quitter" Lauren explains, she experienced cigarette cravings after six months of not smoking and subsequently relapsed.

While some scholars propose that other smokers are mostly implicated in later relapse situations, this study suggests that the influence of other smokers plays a role in early relapse situations as well. For example, "never quitter" Brian who only quit for a week explains how his coworker and boss prompted him to smoke a cigarette. Seeing them smoke cigarettes increased his desire to smoke and is ultimately responsible for his relapse.

Research confirms a link between perceived stress and smoking relapse occurrences (Pomerleau, Adkins, & Pertschuk, 1978; Shiffman, 1982; Piasecki, 2006). Our study corroborates these findings overall. However, a pattern comes to light that has not been identified in the research literature so far. Only the "seasoned quitters" and the "no-plan quitters" identify stress as an antecedent to relapse. The "never-quitters" who have only succeeded in quitting smoking for two weeks or less do not implicate stress in their relapse experiences. They are more focused on issues of cravings and withdrawal as well as other smokers in their environment. Additionally, our smokers differentiate between the immediate stress of a car accident of a loved one or the prolonged stress of a job or a relationship. Both types of stress wear down the determination of the abstaining ex-smoker and can eventually lead to relapse situations.

Our study verifies that there are distinct qualitative differences in relapse experiences depending on early or late relapse occurrences. Those smokers that quickly relapse are more concerned with the immediate effects of cravings and other people around them. The "no-plan quitters" who have often quit for many months and the

"seasoned quitters" who have quit for one year or more identify similar antecedents to their relapses. Cravings, other people and stress are similarly experienced by these two groups of participants. What sets the "seasoned quitters" apart from the two other groups is that overblown confidence can prompt them to smoke a cigarette, which leads to a relapse situation.

The Past and the Future of Smoking Cessation Research

As seen in chapter II of this dissertation which focuses on cessation tools used throughout the past century, a plethora of behavioral and pharmacological methods has been developed to help smokers quit their habit and to ease the transition to becoming ex-smokers. Initially, many of these tools were seen as new miracle drugs that would achieve spectacular quitting rates. So far, none of these claims have been substantiated by researchers in the cessation field. Even when combining behavioral and pharmacological treatments, at best, smokers' abstinence rates after twelve months are modest and rather unimpressive.

As described in chapter II smoking was initially seen as a behavior and cessation methods focused on modifying the smokers' actions and thoughts in order to achieve abstinence. Decades later, scientists discovered the psychostimulant effects of nicotine on the central as well as the peripheral nervous system and began to understand nicotine's effect on the brain's different neurotransmitter systems. They concentrated on nicotine's reinforcing nature which became the focal point of research. Positive reinforcement in the

form of mood enhancement and stress reduction and negative reinforcement in the form of relief of withdrawal symptoms work together to maintain nicotine addiction.

Researchers who focus on developing new tools to combat the cigarette habit have used the knowledge gained through animal models and brain studies. Recent research developments include different types of nicotine replacement therapies such as the gum, patch or inhaler, the antidepressant bupropion and varenicline. Of late, researchers are increasingly working on immunotherapeutic approaches to help smokers initiate cessation and prevent relapse occurrences (Hall, 2002).

While these nicotine replacement and behavioral cessation studies give much information on the efficacy of their tested treatment method, they unwillingly provide researchers with much more. In the following, I briefly address three key areas that are in dire need of cessation researchers' attention when developing intervention models. Primarily, studies conducted in the past show without a doubt that we have yet to fully understand why smokers have such difficulty forgoing the habit. Instead of trying to decide whether we need to treat a behavior, an addiction, or a combination of both, researchers need to shift their attention and concentrate on what smoking means to the individual smoker. Only if we understand the complex relationship between smoker and cigarette and learn more about the dynamics of this bond, can we begin to understand and approach issues of cessation. For some smokers this bond to their cigarettes may be determined by physical elements while for others the issue is behavioral in nature.

Another important area in cessation research is the occurrences of relapses. Our data verify that quitting is an ongoing process for smokers with an undefined end and that relapses can occur many years after cessation. Instead of focusing on quick results with

pharmacological aids and short follow-up periods with treatment subject, smoking cessation needs to take a long-term approach. There are those smokers who are able to quit with pharmacological help but many cannot stay quit and later relapse. Researchers need to focus on the question of how we can keep smokers abstinent throughout the years. What are the cessation tools that smokers who want to quit need immediately and how do those differ from those tools that ex-smokers utilize months and years after the cessation date? Research that approaches cessation as a process rather than an event can help construct intervention models that seek long-term success.

Lastly, the discussion of successful smoking interventions has to include increasing utilization of different types of treatment. While researchers have developed a number of tools that show some positive effects on cessation rates, most smokers do not use such methods but opt to quit on their own (Fiore et al., 1990). When smokers try to quit "cold turkey" without the help of behavioral or pharmacological cessation tools, success rates are dismal and relapse is almost always part of the smoker's reality (Cohen et al., 1989; Conklin et al., 2005). Researchers need to identify those barriers such as price, accessibility, or negative side effects that can keep smokers from trying to quit. In the future of cessation research, focusing on overcoming such barriers should be an integral part. Bridging the gap from clinical theory to public practice is a future research area that needs to be explored.

Recommendations for Public Health Practice

Overall this study shows that the variable past cessation success should be taken into consideration when designing and implementing new cessation treatments and when promoting health messages. The needs of smokers who have quit for a short while as opposed to many months appear to be quite diverse. These individual differences need to be reflected in cessation treatments by personalizing health messages and offering targeted help.

Motivators and self-exempting beliefs

Identifying subgroups of smokers with different cessation experiences and their particular quitting motivators is important in increasing the relevance of smoking cessation interventions. Customizing behavioral treatments using knowledge on the type of motivation appropriate for each smoker could result in more targeted and applicable interventions.

At the same time, self-exempting beliefs need to be addressed by health professionals and treatment facilities. As pointed out in chapter II of this dissertation, the integration of the physician in the fight against smoking is of crucial importance. Addressing these avoidance strategies during brief interventions can have a significant impact. Additionally, breaking down these beliefs during behavioral modification treatment can help initiate the cessation process and prepare smokers to attempt cessation.

Our findings show that many smokers are aware of the negative health consequences of smoking. However, our data also suggest that there are still many smokers who use self-exempting beliefs such as doubts and rationalizations to justify

their smoking habit. Because health is the biggest motivator to cessation, smokers need to be educated about the long-term and immediate consequences of their smoking habit. On an individual level, smoking cessation programs need to educate smokers on the health outcomes of their habit. Additionally, health professionals should include information on health and smoking during their time with patients. The 5 A model introduced in chapter II should be part of every doctor's office visit (Cofta-Woerpel, Wright, & Wetter, 2007). This gives health professionals the opportunity to remind the smoking patient of the negative consequences of their habit. Help can then be offered in the form of nicotine replacement tools or referrals to quitting groups. On a broader level, health promotion campaigns need to concentrate on the effects of smoking on the body through broadcasts, the Internet or print media. Customizing these messages to target different groups of smokers can increase the relevance for smokers.

Cessation programs should utilize the connection smokers have with their partners, children and friends. Often smokers are motivated to quit because they do not want to harm their loved ones or because they are embarrassed to smoke despite the known negative health consequences. Instead of solely focusing the treatment on the smoker and increasing the motivation to quit, key individuals should also be part of the treatment plan. They can play a supportive role in the cessation process and can encourage the smoker to follow through with the quitting plan.

Some smokers are motivated to quit because of the expense of cigarettes. Our study verifies this cessation motivator. As discussed in chapter II, tax increases on cigarettes are one way to encourage cessation or reduced use of cigarettes. Price increases

are particularly relevant when targeting adolescent smokers who have less money to spend and who are more affected by tax increases (Chaloupka, 1999; USDHHS, 2000).

Barriers to quitting

Because smoking means many different things to its users, barriers to cessation vary greatly. Cessation treatment programs should focus on identifying the individual barriers for each smoker who is seeking assistance. For some this will be the addictive component of smoking. Offering those smokers nicotine replacement tools can double their cessation success. On the other hand, if the smoker uses the cigarette to combat stressful situations or depressive episodes, nicotine replacement may not be the appropriate strategy to break down the quitting barriers. Smokers who experience stress may benefit from learning other techniques to help them cope with such situations while individuals suffering from depression should seek help for this disorder.

A smoking environment is often implicated as a barrier to cessation. As suggested previously in this dissertation, a smoke-free environment affects overall consumption and smoking prevalence. Smoke-free policies in bars, restaurants, workplaces and other public spaces are desirable to minimize this barrier and to encourage smoking cessation.

Triggers to relapse

An important finding of our study is that relapse occurs not only during the first days and weeks of cessation but it can happen after years of successful abstinence. Smoking cessation programs not only need to prevent the early relapses but they also need to take late relapses into consideration when designing interventions. Often pharmacological treatments and behavioral modification attempts last only weeks or a few months. Afterwards, ex-smokers are left to their own devices and many struggle to

stay quit. A longer follow-up period needs to be implemented to prevent the continuous relapse occurrences. Furthermore, smokers need to be educated about the possibility of a late relapse. This knowledge allows them to implement strategies to avoid relapse situations.

Because cravings are experienced by many smokers trying to quit, the management of these cravings needs to be part of any comprehensive cessation plan. Using a nicotine replacement method can have a positive effect on cravings. Researchers also suggest that cue-exposure therapies can help extinguish cravings in the quitting smoker (Piasecki, 2006).

Smoke-free policies are also effective in eliminating a popular relapse trigger. Seeing other people smoke in public spaces and bars can end a cessation attempt. By creating a smoke-free environment, ex-smokers are less likely to be prompted to relapse.

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Footnotes

[1] Dr. A. Ernst is among the first to write on the etymology of the word tobacco. He bases his analysis on a report made by Oviedo in 1851. According to Ernst, the word taboca was used to describe a small tube in the shape of the letter Y which was used to inhale or snuff a plant mixture (Ernst, 1889). Only later was the word used to describe the leaf itself and it was changed to tobacco. Other historians agree with Ernst and Robert Heimann explains that the words taboca or tobago were initially used to describe a hollow Y-shaped tube which Native Americans used to consume the smoke of burning leaves (Heimann, 1960).

[2] In *"Sold American!" – The First Fifty Years* published by the American Tobacco Company, the unnamed author explains that the distinction between a cigar and a cigarette is not only the size but also the wrapper. "A non-tobacco wrapper makes it a cigarette" (The American Tobacco Company, 1957, p. 7).

[3] Richard Tennant who examined the statutes passed in the 38th congress indicates that an Internal Revenue Law was adopted on June 30, 1864 which levied $1 per hundred packages on cigarettes. A $3 tax was put on the same quantity of more expensive cigarettes (Tennant, 1950).

[4] Kinney treated the tobacco used to make Sweet Caporals with sugar and licorice to achieve the level of sweetness that his customers desired. This flavor combination gave these cigarettes their name (Sobel, 1978).

[5] A work of interest is John Ellis *Deterioration of the Puritan Stock and Its Causes* which the author published in 1884 in New York City. This book traces the moral decay of women in the 19th century and its arguments are reiterated by anti-tobacco reformers.

[6] For an example of a sermon directed at the evil of tobacco, refer to Reverend Hawes *Tobacco: The Bane of the Times* which he delivered on several occasions and published in 1861.

[7] For an early example of a physician's accusations with regard to tobacco's impacts on health see chapter II of *The Use and Abuse of Tobacco* by John Lizars, M.D, originally published in Edinburgh in 1856 and reprinted in Philadelphia by P. Blakiston, Son & Co in 1883.

[8] For an in-depth analysis of the moral and physical effects of tobacco refer to William Andrus Alcott's *Tobacco, Its Effects on the Human System, Physical, Intellectual, and Moral* which was published in 1883 by Fowler & Wells in New York City.

[9] For a comprehensive and scholarly history of the Duke family refer to Robert F. Durden's *The Dukes of Durham, 1865-1929*. As opposed to earlier biographies written on this family, Durden's work is well researched and documented.

[10] In 1880, cigarettes only had about 1 percent of the market as opposed to chewing tobacco with 58 percent (Tate 1999).

[11] Before the invention of the Bonsack machine, rollers represented 90 percent of the production costs of cigarettes (Gately 2001).

[12] Hand-rollers could turn out about five cigarettes a minute (Gately, 2001).

[13] According to Allan Brandt, "safe" is a relative term in this context. The truly safe match which was free of phosphorus was not invented until the early 20th century (Brandt, 2007).

[14] In 1911, the American Tobacco Company was dissolved by the Supreme Court because of anti-trust laws that forbade monopolization (Gately, 2001).

[15] In *Clean Living Movements: American Cycles of Health Reforms*, Ruth Clifford Engs analyses how the temperance, the anti tobacco, and the women's rights movement fit into the larger health reform developments.

[16] Scientist Thomas Edison was mostly concerned with the wrapper of the cigarettes arguing that it had a detrimental effect on the brain (Gately, 2001)

[17] In *Cigarettes are Sublime*, Richard Klein gives the cigarette even more meaning by describing it as "the little gift [the soldier] gives to himself to regain his self (Klein, 1993, p. 137)

[18] Tate notes that "by the end of the war, the YMCA had shipped 820 tons of cigarettes, 187 tons of smoking tobacco, 176 tons of chewing tobacco, and 34 tons of cigars to France" (Tate, 1999, p. 77).

[19] Prior to this landmark ad campaign, Philip Morris had advertized their product Marlboro by using the byline "Mild as May" clearly trying to attract female smokers (Gately, 2001).

[20] Burns explains that in 1930, 124 billion cigarettes were sold as opposed to 117 billion in 1931 (Burns, 2007).

[21] Nancy Bowman offers an in-depth analysis of the relationship between cigarette advertisements and women and examines other forces that shaped the female cigarette consumption habit (Bowman, 2001).

[22] An example of these scientifically unsubstantiated accusations can be found in the publication *Tobacco and Health* by Arthur Steinhaus and Florence Grunderman. Readers of this pamphlet learn that smoking is associated with ulcers, bad vision and high blood pressure to name a few. The authors also advise women who smoke to abstain from becoming mothers because of the detrimental effects of the nicotine on the unborn (Steinhaus & Grundermann, 1941)

[23] For an early example of the blending of moral and physical concerns with regard to using tobacco in general and cigarettes in particular, refer to D.W.C. Huntington's *The Tobacco Scourge* from 1886.

[24] Sobel (1978) points out that the "tobacco company executives knew the statistics by heart: Cigarette production went from 18 billion in 1914 to 26 billion in 1916, the last full year of peace before President Wilson's war declaration. Two years later, consumption was over 47 billion" (p. 127).

[25] Hammond and Horn (1954) report that "rates for lung cancer rose from 5.3 per 100,000 in 1930 to 7.1 per 100,000 in 1948, an increase of 411%" (p. 1327).

[26] While most historians argue that the decline in cigarette use was solely a result of the cigarette's negative health implications, Harry M. Wootton, a writer for the trade journal Printers' Ink, adds that decline in new smokers, drop in personal income as well as increasing taxes were also partially responsible for lower consumption figures (Wootton, 1954, p. 27).

[27] In this context, substitution therapies included substances that were not nicotine based such as lobeline. Replacement therapies, on the other hand, contained nicotine such as the nicotine gum, the patch, or the nicotine inhaler or nasal spray.

[28] As mentioned in chapter 1, during this time, smoking was associated with moral deterioration overall, and sexual promiscuity as well as criminal behavior in particular.

[29] Luther himself gave the number ten thousand at a national conference. Others have given lower numbers of about seven thousand articles (Ward & Warren, 2007).

[30] According to the Surgeon General's Report, these documents included published papers, written presentations which had been given at conferences as well as reports prepared for the committee by members of the research community (USPHS, 1964).

[31] It should be noted that researchers at this time period were quite unsure about the goals they wanted to achieve. Was abstinence truly an attainable goal or was decreasing the amount smoked a more practical approach. There was no consensus on this question which can be seen in the published research.

[32] According to the *International Smoking Statistics*, the total cigarette consumption which included hand-rolled cigarettes in 1955 was 9.3 cigarettes a day for every female and male adult over the age of 15. This number would rise steadily until 1963 when for the first time the consumption decreased (Forey, Hamling, Lee, & Wald, 2002).

[33] It is important to keep in mind that researchers at the time had experience with alcoholics and those addicted to narcotics. Smoking was not yet grouped with these substances however.

[34] This study not only focused on smoking but also on many other health variables.

[35] According to Matarazzo and Saslow (1960), the test is a 50 item questionnaire which measures conscious anxiety.

[36] Immediately, the National Clearinghouse began to study smoking opinions, attitudes and beliefs with the help of surveys (Schuman, 1977). The first of these surveys was administered a few months after the Surgeon General's Report on Smoking and Health was released.

[37] Eugene Guthrie points out that according to a Public Health Service survey eight out of ten Americans favored the warning labels on cigarette packs (Guthrie, 1966).

[38] Interestingly, not every scientist at this first conference was convinced that researchers had the right to influence the smoking behavior. Instead many wanted to solely focus on educational methods to give smokers a choice in their behavior. Bernard Mausner recounts at the National Research Conference on Smoking and Health that Daniel Horn responded to these ethical issues by pointing out that the smoking behavior is too dangerous to its user to leave unchanged (Mausner, 1968).

[39] Horn gives a similar outlook on smoking cessation at the National Interagency Conference on Smoking and Health in College Park, Maryland on May 1-3, 1966. Furthermore, he published a paper "Some Dimension of Model for Smoking Behavior Change" in 1966 with essentially the same information.

[40] Tomkins suggests that the positive affects are excitement, enjoyment and surprise. The negative affects include distress, anger, fear, shame and contempt (Tomkins, 1966, p. 17).

[41] During the 1960s, methods included educational techniques, lectures based on fear arousing, self-help texts, nicotine substitutes, 5-day plans, aversion techniques, group therapy, individual psychotherapy, hypnosis, various drugstore remedies and others (Schwartz, 1969b). This chapter can only give examples of these cessation methods and concentrates on techniques administered by medical personnel.

[42] Lobeline products included Bantron, Nikoban, Lobidan, or Tabusine (Schwartz, 1977).

[43] Some researchers believed that this plant was used by the Indians as a substitute for when real tobacco leaves were unattainable (Wright, 1937).

[44] Jost and Jochum have named these negative effects the nicotine-lobeline syndrome which is similar to the principle of using the substance antabuse in treating alcoholism (London, 1963).

[45] In her work, Keutzer explains that she uses coverant control by reinforcing anti-smoking thoughts, a breath-holding technique practiced whenever the subject craved a cigarette, and negative practice which included smoking satiation (Keutzer, 1968).

[46] Greene (1964) explains in his publication that the research subjects were "mildly retarded young adults."

[47] Bernard Mausner explains the divide between these different scholars by referring to research by Coch and French (1960). From a behavioral modification perspective, he reiterates, "partial goals which seemed attainable produced successful retraining where an apparently unattainable total goal resulted in withdrawal from the retraining situation. For smokers the goal of total abstinence may seem so remote as to be unattainable; the attempt to reduce rather than eliminate smoking then becomes a partial goal which may be perceived as realistic (Mausner, 1966, 254).

[48] Legislative actions and national antismoking campaigns also had very little measurable success during the 1960s (Bernstein, 1969).

[49] According to the Health Interview Survey, there were approximately 49 million cigarette smokers above the age of 17 in the United States in 1970. At the time, 24 million were counted as ex-smokers (Monthly Vital Statistics Report, June 2nd, 1972.)

[50] Douglas Bernstein (1969) came to a similar conclusion in his review of the cessation research and Ovide Pomerleau and colleagues (1978) supported Hunt's figures in their study on recidivism. Lichtenstein (1982) gave a more conservative estimation and suggested that about 15-20 percent of those who were abstinent after treatment continued to be abstinent at the six month mark (Lichtenstein, 1982).

[51] Richard McFall and Constance Hammen concluded that non-specific treatment factors such as motivation, structure of program, and self-monitoring were responsible for the similar treatment outcomes in different studies. All studies reviewed have these three components in common (McFall & Hammen, 1971).

[52] Lichtenstein and Danaher explained that rapid smoking requires "subjects to smoke rapidly and continually and/or blowing warm, stale smoke in the subject's face" (Lichtenstein & Danaher, 1976, p. 94).

[53] A supportive environment was created by the therapist who gave encouragement, discussed the inevitable success of the treatment, and who overall supported subjects in their cessation efforts.

[54] A considerable amount of research is dedicated to estimating the risks associated with rapid smoking. Apart from the negative side effects such as nausea and dizziness, rapid smoking can also affect cardio-vascular health and most researchers only treat those subjects with the rapid smoking technique that can produce a clean bill of health from their physicians. Some researchers have gone as far as comparing rapid smoking with nicotine poisoning (Horan, 1977).

[55] Oscar Barbarin (1978) supports Danaher in his conclusion and similarly argued that in his study of rapid smoking and symbolic aversion "it is likely that participants attempting to apply several techniques may not be able to master each of them fully" (Barbarin, 1978, p.1571).

[56] In an article on dependence disorder, Russell (1971) argues that "as many as three out of four smokers wish to or have tried to stop their smoking, but less than one in four ever succeeds in becoming a permanent ex-smoker. Thus most smokers only continue smoking because they cannot easily stop" (Russell, 1971).

[57] It took researchers many more years to learn the mechanisms through which nicotine acted to reinforce behavior. Only in the late 1980s and early1990, did scholars discuss the involvement of the mesolimbic dopamine system in the self-administration of nicotine (Corrigall, 1991).

[58] For this report, more than 50 scientists reviewed more than 3000 references (West & Grunberg, 1991).

[59] The full name of this newly devised method is nicotine polacrilex gum. It is a resin complex of nicotine and polacrilin in a base of chewing gum. Buffering agents such as sodium carbonate and sodium bicarbonate are responsible for increasing the salivary pH of the user which boosts the absorption of the nicotine via the buccal mucosa (Corelli, 2002). In contrast to nicotine obtained through cigarettes, the nicotine in the gum is not as quickly absorbed and produces less variable nicotine plasma levels (Henningfield, 1993).

[60] Roberta Ferrence explains in his work on nicotine that in the beginning phases of the gum, clinicians showed great resistance in prescribing it to smokers because the mechanisms of the gum were not fully understood by everyone. Nicotine was seen as a poison and dependence on this substance in the early days of nicotine replace therapies was often questioned (Ferrence, 2000).

[61] The gum had been available in Europe since the early 1980s.

[62] First-line medications are those that have been approved by the U.S. Food and Drug Administration (FDA) and are deemed safe and effective. Second-line treatments show efficacy when treating smokers but are not approved for smoking cessation by the FDA. These second-line treatments often have harsher side effects or cause other medical concern (Cofta-Woerpel, Wright, & Wetter, 2006).

[63] Combining the results of all nicotine replacement trials under observation, 18.6 percent in the active group as opposed to 10.6 percent in the placebo group abstained from smoking (Silagy & Mant, 1994)

[64] Continuous abstinence is different from point prevalence abstinence in that the former measures abstinence over a long time period whereas the latter generally measures abstinence during the past seven days. The continuous abstinence rate is more stringent than the point-prevalence rate and often lower.

[65] Researchers who reviewed the efficacy of NRT's came to the conclusion that the faster delivery systems may have a slight advantage on long term smoking cessation rates when risk rations are compared. Most researchers agree that any form of NRT doubles the cessation rates in the long run when compared with no

treatment (Hughes, Goldstein, Hurt, & Shiffman, 1999). Combining a traditional NRT such as the patch or the gum with a quick acting NRT such as the nasal spray or the inhaler shows a benefit over each treatment alone (Stead, et al., 2008)

[66] The findings of combined nicotine replacement therapy with a behavioral component are not always homogenous and effect sizes vary significantly (Baillie et al, 1994). These may indicate that other treatment components such as setting, study population or level of nicotine dependence play a part in the cessation effort.

[67] For an in-depth discussion of additional second line medications such as tricyclic antidepressants, monoamine oxidase inhibitors, opioid antagonists as well as novel medications such as immunological approaches to nicotine addiction or glutamatergic agents refer to *Medication Treatments for Nicotine Dependence* edited by Tony P. George in 2007.

[68] As an interesting aside, currently the precise mechanisms of Bupropion are not well understood but research suggests that the drug can reduce cravings and other withdrawal symptoms (Siu & Tyndale, 2007).

[69] Clinical trials are not perfect and many other medications have suffered from the same fate. The longer they are on the market and used by various populations, the more researchers learn about potential side effects and the medication's efficacy. As a result, labels to warn users are added.

[70] Cockalingam Viswesvaran and Frank L. Smith conducted a meta-analysis on smoking cessation treatment and conclude that physician advice can produce up to 7 percent successful quitters as opposed to 6 percent in the no treatment control group (Viswevaran & Smith, 1992).

[71] Originally the 4 A approach was developed by the National Cancer Institute in 1989. The Agency for Health Care Policy and Research added the last question (follow-up) in 1996 (Karnath, 2002). Currently, the 5A approach is part of the Clinical Practice Guideline on Treating Tobacco Use and Dependence which is published by the Public Health Service (Fiore et al, 2000).

[72] Cost of these replacement tools is an issue for many smokers of lower income because they have to buy a certain amount of each method (Cummings & Hyland, 2005).