

INTERNSHIP REPORT

ST. JOHN'S ADOLESCENT HEALTH COUNSELLING SERVICE/
BEHAVIORAL GROUP THERAPY:
EFFICACY FOR THE CESSATION/REDUCTION
OF SMOKING IN ADOLESCENTS

CENTRE FOR NEWFOUNDLAND STUDIES

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E. JEAN BUFFETT



Internship Report

St. John's Adolescent Health Counselling Service/
Behavioral Group Therapy:
Efficacy for the Cessation/Reduction
of Smoking in Adolescents

E. Jean Buffett

Faculty of Education
Memorial University of Newfoundland

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ABSTRACT

This report describes a thirteen week full-time counselling internship completed from April to August, 1988, at the St. John's Adolescent Health Counselling Centre, St. John's, Newfoundland. Included is a statement of the internship objectives and rationale, a description of the internship activities, evaluation procedures utilized during the internship and a required research study. This study was set up to measure the efficacy of a multi-component behavioral group program, 'Freedom From Smoking in 20 Days', with adolescents. T-tests were employed to assess the changes in smoking behavior for 12 adolescent program participants (pre/post and three month follow-up) as compared to a control group of twelve adolescents. It was found that the program participants significantly reduced their smoking rate at program completion and three month follow-up, as compared to non participants.

CHAPTER I

INTRODUCTION

In the fulfilment of the requirements for the Master's degree in Educational Psychology, a graduate student may choose to write a thesis or avail of the opportunity to do an Internship Program in the field. The latter involves a twelve week placement in a setting conducive to the further development of the counsellor's skills and further understanding of the role of the counsellor.

It was this student's desire to avail of the opportunity for further counselling experience by completing the Internship program.

The following criteria were developed by the Department of Educational Psychology when this program option was established:

1. It commences only after a satisfactory performance is achieved in an approved practicum.

2. It commences only after successful completion of all course work (including practicum) required for the degree program as they are defined in the University Calendar.
3. First consideration will be given to candidates who have had little experience in the working milieu which they will enter.
4. Interested students must submit and have approved by the Department a formal Internship Proposal, including, among other points, a statement of professional goals and expectations for the internship.
5. An Intern must be enrolled full-time during the time of his/her internship. He/she may not receive reimbursement for services rendered during the internship but will be eligible for fellowships and assistantships as provided by university regulations.

The Internship option was chosen by this Intern for the following reasons:

1. As this Intern planned to seek employment as a school counsellor, the Internship program would

provide necessary practical experience in preparation for the role of school counsellor.

2. The Internship would provide the opportunity to receive valuable feedback, on this Intern's counselling behavior, from trained professionals in the field, through supervision and consultation.
3. The Internship would provide the opportunity for further experience in individual and group counselling.
4. The Intern would be given exposure to a variety of counselling approaches as demonstrated by the varied backgrounds of professionals with whom one associates during the Internship program.
5. The Internship program would provide the opportunity to conduct a research study involving an age group with whom the Intern would be working, and thus a better undertaking of the age population with whom she works and acquire valuable information for future work with such a population.

The Setting

The guidelines for completion of an Internship Program provided by the Department of Educational Psychology, Memorial University, Newfoundland, suggest that the following be considered in selecting the Internship setting:

1. The quality of professional supervision.
2. The quality of learning opportunities and experiences.
3. The relevancy to, and usefulness of, such experiences in the actual setting in which the Intern ultimately expects to work.
4. The availability of time for full-time involvement of the Intern for a minimum of twelve consecutive weeks.
5. The availability of a qualified field supervisor on-site.
6. The ready access to the university supervisor.

The St. John's Adolescent Health Counselling Service was the setting in which this Intern undertook her Internship Program. The philosophy of the Service

states that it should facilitate the shift in responsibility for health care from parents to the adolescent. This is a multi-disciplinary counselling service involving professionals from the fields of social work, psychology, and medicine. The Service recognizes that the major determinants of adolescent health status are growth and development, lifestyle, and mental health.

The objectives identified for the St. John's Adolescent Health Counselling Service are as follows:

1. To provide adolescents with counselling service and health promotion programs in growth and development, lifestyle, and mental health in St. John's.
2. To demonstrate and evaluate a community-based model of preventative adolescent health services.
3. To provide consultative services to individuals involved in adolescent health care.
4. To provide community education programs regarding adolescent health problems.
5. To provide a centre for education and research in adolescent health care.

The St. Johns Adolescent Health Counselling Service employs one full-time counsellor. Professionals from various fields provide services on a part-time basis. Services are provided specifically for adolescents between the ages of 12 and 19 years. This is extended to their families, where possible. Individual, group, and family counselling is provided and may be related to the adolescent's physical, mental, social, and/or emotional development.

The St. John's Adolescent Health Counselling Service was chosen as the setting for this Internship because of the varied professionals involved in the Service, the programs offered, and the availability of a Supervisor at this setting. Dr. Delores Doherty, Chairman of the Management Committee of the Service, agreed to provide the field supervision. Dr. Bruce Gilbert of the Educational Psychology Department, Memorial University of Newfoundland, assumed the role of University Supervisor for this Internship Program. The professionals of the Service include:

Dr. Delores Doherty, M.D., F.R.C.P (C)

Dr. Alan P. Kenworthy, Ph.D., Clinical Psychologist

Dr. David Aldridge, B.Sc., M.B., B.S., M.R.C.

Psychiatry,

F.R.C.P. (C), Child Psychiatrist

Ms. Debbie Sue Martin, M.N.

Mr. Richard Morris, B.S.W.

Sr. Helen Caule, B.S.W.

Ms. Susan McConnell, B.S.W.

Saint Patrick's High School, Halifax, Nova Scotia, served as the setting in which the Intern evaluated a program dealing with the lifestyle of adolescents. The site was chosen to provide the Intern with a greater degree of generalizability from her research as clients from the Service were experiencing social and emotional challenges.

Internship Goals

In selecting the Internship option, it was this Intern's desire to obtain practical experience in the counselling field. As the Intern hoped to work in the

area of secondary school counselling, the opportunity to work with the adolescent population as a means of further understanding the attitudes, behaviors, and needs of this group, was a general objective of the Internship Program.

More specifically, this Intern hoped to meet the following goals:

1. To become more aware of the personal, social, and emotional needs of the adolescent through individual and group counselling and to consult with professionals working with adolescents.
2. To become aware of personal strengths and weaknesses as a counsellor through supervision and consultation with practicing professionals.
3. To further develop knowledge of varied counselling theories and techniques. This would be accomplished through participation in case reviews conducted bi-weekly at the Centre. The Intern would also be provided the opportunity to observe professionals in counselling sessions, with adolescents, families, and groups.
4. To gain further experience in group dynamics. This

would be accomplished by viewing groups presently operating through the Service and by implementing an adolescent smoking cessation group.

Consultation with existing group leaders and research in the area would also serve to increase the Intern's understanding of group dynamics.

5. To evaluate a program dealing with the lifestyle of adolescents. This would be accomplished through the close evaluation of the effectiveness of a smoking cessation program for adolescents.
6. To gain a greater knowledge of the services offered by, and the administration of, the St. John's Adolescent Health Counselling Service. This would involve consultation with professionals at the Service and involvement as a counsellor for a twelve-week period. The Intern was involved in completing the intake of new clients and maintaining files of follow-up sessions. As well, the Intern was involved in compiling information relevant to the completion of an Annual report for the Service.
7. To consult with professionals external to the

Centre and directly involved with the adolescent clients receiving counselling. This included consultation with individuals from the Department of Social Services, school counsellors, teachers, and others.

8. To avail of the opportunity to attend workshops and clinics relevant to professional growth. To this end the Intern attended the National Conference of the Canadian Guidance and Counselling Association in Prince Edward Island, June 1-5, 1988. The Intern also attended two workshops at the Littledale Conference Centre. The first, 'Group Work with Adult Survivors of Childhood Sexual Assault', on Thursday, May 26, 1988 and the second, 'Suicide', on Monday, June 13, 1988.

Internship Activities

The activities of the Intern at the St. John's Adolescent Health Counselling Service adequately

provided the experience she had hoped to obtain. The diversity of program offerings and professional staff provided the Intern the means with which to practice her counselling skills and to receive the constructive feedback of qualified individuals.

At the outset, the Intern, with the permission of the clients involved, observed sessions of various counsellors at the Service. It was truly valuable to examine the techniques of these counsellors, who had varied training and experience. Consultations with the counsellors, following these sessions, provided the Intern with a greater understanding of their techniques and ethical considerations.

Under the direction of her Supervisor, the Intern selected from the Initial Assessments file a caseload of clients with whom to work. These assessments had been conducted over the telephone when the referral had been placed with the Service. The Intern chose eight clients with a range of presenting problems. These included: truancy, aggressive behavior both at home and in school, low self esteem, drug abuse, and declining school performance.

The clients were seen for several sessions throughout the period of the Internship. The Intern engaged in individual counselling, family therapy, and consultation with significant others in the community to attempt to meet the needs of the clients. Regular meetings with school counsellors, administrators and teachers within the schools were conducted. All such contacts were recorded in the file of the client for future reference by the Intern. This would also be required by the counsellors who would continue to work with these clients, following the Internship.

The St. John's Adolescent Health Counselling Service strongly recognizes the value of the group approach to counselling and the support it provides to those involved. Many groups have operated through the centre. These include groups for adolescent victims of divorce, family violence, and stress. The Intern was given the opportunity to observe the group process by observing the sessions of a group of adolescent victims of sexual abuse. Outside of this setting, the Intern led a group for adolescents who wished to quit cigarette smoking.

At bi-monthly case review meetings the Intern was provided the opportunity to seek feedback regarding her techniques in her individual sessions. All counsellors of the Service attended. This was invaluable. The Intern presented cases for review and was given insight into various approaches that might be effective. She also had the opportunity to share in the discussions pertaining to other clients being seen at the Service.

The Supervisor, Dr. Delores Doherty was a constant support during the Internship. Regular consultations with Dr. Doherty, regarding the Intern's progress with her clients, were conducted. The Internship, in this counselling environment, was a most effective conclusion to the graduate program in Guidance and Counselling.

Supervision and Evaluation of the Intern

The responsibility for the supervision of the Intern was shared by Dr. Delores Doherty, Chairman of

the Management Committee of the St. John's Adolescent Health Counselling Service, and Dr. Bruce Gilbert, professor with the Department of Educational Psychology, Memorial University of Newfoundland.

The Department of Educational Psychology stipulates that the field supervisor should:

1. be available to consult with the Intern and University Supervisor in the development of the Internship Proposal.
2. have primary responsibility for the on-going supervision of the Intern's counselling behavior and the coordination of the Intern's professional activities conducted in the setting.
3. facilitate the Intern's access to the maximum professional opportunities and the professional personnel in the setting, essential to a full and successful Internship experience.
4. arrange for other professional colleagues to serve in a supervisory capacity to the Intern where her professional activities are especially relevant to their particular areas of expertise.

5. meet with the Intern and University Supervisor midway through the Internship period to assess the Intern's progress and determine any changes in the Internship, if needed.
6. meet with the University Supervisor at the conclusion of the Internship to conclude a summative evaluation of the Intern and her Internship.

The Department of Educational Psychology stipulates that the University Supervisor should:

1. be professionally trained in the area of guidance and counselling and indicate an interest in counsellor training.
2. have sufficient time to consult regularly with the Intern.
3. be responsible, in consultation with the Field Supervisor, for directing the preparation and evaluation of the report on Intern activities.
4. not supervise more than one Intern during a semester in which he/she has full-time teaching responsibilities.
5. meet with the Field Supervisor midway through the

twelve-week placement in order to assess the Intern's progress and to make appropriate recommendations.

The Intern met with the Field Supervisor, Dr. Delores Doherty, twice weekly for one hour, to discuss progress in the Internship Program. With the permission of clients, sessions were audiotaped to further facilitate evaluation of the Intern's counselling skills. As well, the Field Supervisor joined the Intern, periodically, in session with adolescents, to directly observe counselling behaviors.

The taping policy of the St. John's Adolescent Health Counselling Service is in keeping with the guidelines put forth by the Canadian Guidance Counsellor Association. In the publication Guidelines for Ethical Behaviour the association states:

1. A counsellor or practitioner's primary obligation is to respect the integrity and to promote the welfare of the client with whom he/she is working.
2. The counselling relationship and information resulting from it must be kept confidential in a manner consistent with the obligations of the

counsellor or practitioner as a professional person.

3. Records of the counselling relationship, including interview notes, test data, correspondence, tape recordings and other documents, are to be considered professional information for use in counselling, research, and teaching of counsellors, but always with the full protection of the identity of the client and with precaution so that no harm will come to him/her.
4. The client should be informed of the conditions under which he/she may receive counselling assistance at or before the time he/she enters such a relationship. Particular care should be taken in the event that conditions exist about which the client would not likely be aware.

The Intern's clients were asked for permission to tape certain sessions. Each was informed of the intent of the Intern to share the tapes with the field supervisor for the purpose of evaluation. Such tapes were reviewed in the presence of Dr. Doherty for this purpose.

The field supervisor, university supervisor, and Intern met three times during the period of the Internship to assess the Intern's progress in her placement.

Both supervisors adhered to the basic principles which apply to all supervisory positions, as stated by the Department of Educational Psychology.

1. The Intern's behaviour should be observed in a variety of appropriate professional activities. For example, individual and group counselling, communication of the counsellor's function to others - both professionals and clients.
2. Evaluation of the Intern's interpersonal effectiveness should be primarily based on actual observations.
3. Evaluation should be ongoing and involve suggested action designed to remedy any specific deficiencies, in addition to critical assessment of the counsellor's competencies.
4. The evaluative process should involve the Intern and feedback to him/her must be focused, specific, and supplemented with behavioral evidence.

5. The Intern should also have set specific and operationalized short and long-term professional growth goals.
6. Supervisors should assist the intern in developing an independent, continuing commitment to professional self-examination.

The activities herein described have most effectively enabled the Intern to meet those goals established for the Internship. The professional supervision and feedback provided by the supervisors and other professionals with whom the Intern had the opportunity to work was second to none. The experience has, in many ways, enhanced the Intern's counselling skills and provided an invaluable experience to take into the field of secondary school counselling.

CHAPTER II
RESEARCH COMPONENT

Introduction

In fulfilment of the requirements of the counselling program of Memorial University of Newfoundland, the Intern must undertake a research project during the Internship placement. The project is typically relevant to the population of focus in that Internship. During this Intern's placement at the St. John's Adolescent Health Counselling Service, it became apparent that a large number of the adolescents frequenting the centre were tobacco smokers. It was this Intern's desire to find a group program that would provide teenagers, who wished to quit smoking, an effective means with which to do so. Being aware of the multi-component behavioral approach, 'Freedom from Smoking in 20 Days', which is used, quite successfully, by the Canadian Lung Association with adult groups, the Intern decided to measure its efficacy with the adolescent population.

The Intern and Supervisors agreed that such a measurement would require the use of participants randomly selected from the general adolescent population as opposed to clients from the Service. Using clients as program participants would constrain generalizability, as this group were experiencing personal difficulties of a social and/or emotional nature.

The participants had been selected from a St. John's secondary school and the program commenced in May, 1988. Unfortunately, the program participants were preparing for final examinations and graduation and the attendance at the group sessions quickly waned. All participants decided that they would rather do the program in the fall and the Intern arranged for a member of the Canadian Lung Association to conduct this later session. The Intern cancelled this program and decided to conduct her research at a later date.

After relocating to Halifax, Nova Scotia, the Intern formed a similar group at Saint Patrick's High School, Halifax, in the winter of 1989. Saint Patrick's High School had a population of 875 students

who represented a range of cultures, socioeconomic backgrounds and academic competencies. The Intern felt that a random sample of participants from this school would serve to permit a high degree of generalizability to the adolescent population.

Statement of Purpose

The purpose of the present study was to measure the efficacy of the multi-component behavioral program 'Freedom From Smoking in 20 Days' on the cessation/reduction of cigarette smoking in adolescents. The group approach to presenting the program was utilized. The program uses operant procedures to detect the environmental stimuli that control the smoking response and extinguish their control of the response. Some of the behavioral techniques used include self-monitoring of smoking behavior, self-reinforcement, and contracting.

Rationale

The adverse health effects attributed to smoking are well documented. Medical research has clearly shown that cigarette smoking is associated with heart and blood vessel disease, bronchitis and emphysema, cancer of the lung, mouth, pharynx, bladder, and pancreas and other ailments ranging from minor respiratory infections to peptic ulcers (Doll, Gray, Hafner, and Peto, 1980; Friedman, Dales, and Ury, 1979; Tager, Weiss, Rosner and Speizer, 1979).

"It has long been suspected and recently demonstrated that drug use and abuse does not simply occur, but in fact, is generally acquired through a specific developmental sequence of increasing drug involvement" (Kandel, 1975). Newcomb and Bentler, 1986, in a study involving 654 subjects as part of an eight-year longitudinal study of adolescent and young adult drug use found a significant correlation between early adolescent cigarette use and late adolescent cannabis and hard drug (psychedelics, stimulants) use.

This clear demonstration of risk establishes the need for effective techniques to help adolescents stop smoking. According to Chronic Diseases in Canada

(1986), the percentage of Canadians from ages twelve to nineteen who smoked daily was 24% in 1986, indicating an increase of one percent since 1985. Twenty years ago, the average starting age for smokers was sixteen years. In 1986, it was twelve years of age. Due to the fact that many adults are quitting smoking, tobacco companies are turning their attention toward the youth market. Their advertising, according to Health and Welfare Canada, 1987, has been a factor in encouraging young people to smoke. Considering the health risks involved in smoking and the increased smoking behavior of adolescents, there is indeed, a need for anti-smoking programs for this age group. Health education programs have proven to be of little value in dissuading smoking behavior in youths (Dawley, Fleisher and Dawley, 1985; Johnson, Hansen, Collins, and Graham, 1986). Youths often say that they will only smoke for a few years or that they plan to give up soon, therefore remote threats of physiological consequences to their behavior, are not a motive for smoking cessation. Unfortunately, smoking is as addictive in adolescence as it is in adulthood.

Successful means of intervention in the smoking behavior of adolescents is essential. The range of approaches and techniques employed in the context of attempts to modify cigarette smoking has been wide (American Cancer Society, 1964; Furnas, 1938; Janis and Muller, 1968; Lawton, 1962; Rosenheim, 1962). Included in these techniques are 'remote control' tactics such as antismoking legislation and advertising, as well as more personalized interventions involving nicotinomimetic drugs, individual and group clinics (which may or may not incorporate drugs), hypnosis, individual psycho-therapy, role-playing, systematic desensitization and various other forms of overt and covert respondent and operant conditioning (i.e., contract management, stimulus control). A review of the literature indicates that almost any such intervention can be effective in eliminating or drastically reducing smoking behavior. No one method notably stands out above the rest. Studies comparing the effects of different treatment approaches have not yielded significant differences in outcome (McFall and Hammen, 1971; Ober, 1968).

Much research has been done to assess the efficacy of the behavioral approach on the cessation/reduction of cigarette smoking behavior (Bernstein and McAlister, 1976; Glasgow, 1978; Guttman and Marston, 1967; Levanthal and Cleary, 1980; Lichtenstein, 1971; Lichtenstein and Danaher, 1976; Lichtenstein and Rodrigues, 1978; Marston and McFall, 1971). Behavior modification is derived from basic research on animal learning by Pavlov and Skinner (Skinner, 1953) and emphasizes the control of antecedent and consequent environmental events (stimuli) in determining behavior (Brady, 1979). The behavior therapies treat the smoking response, not the smoker; smoking is a habit that is to be modified. Operant procedures are designed to detect the environmental stimuli that control the smoking response and extinguish their control of the response. Smoking does not occur in isolation, but is typically one component in a 'behavioral chain' - antecedent - behavior - consequence.

A variety of strategies and tactics have been derived from the behavioral perspective. The outcome

data on many of these programs have been equivocal, but two kinds of programs have yielded good outcomes on sufficient occasions and in various settings so as to warrant both optimism and practical application with the adolescent group. One is an aversion strategy - rapid smoking. The second is the multicomponent program emphasizing application of self-management strategies in the natural environment (Bernstein and Glasgow, 1979; Danaher and Lichtenstein, 1978; Lichtenstein and Brown, 1980).

Research literature leads one to recommend the multi-component approach over the aversion strategy due to serious questions having been raised about the safety of rapid smoking as a treatment (Horan, Hackett, Nicholas, Linberg, Stone, and Lukaski, 1977).

Multi-component cessation programs (such as 'Freedom From Smoking in 20 Days') employ various strategies and methods to control one's smoking behavior. Some techniques which have been reported to have significant effects on smoking behavior and which are utilized in the multicomponent program include self-monitoring of cigarette smoking (Glasgow, Klesges,

Godding, and Gegetman, 1983; McFall, 1970; McFall and Hammen, 1971), self-reinforcement or self-regulated rewards (Dubren, 1977), and contracting (Spring, Sipich, Trimble, and Goeckner, 1978; Winett, 1973).

'Freedom From Smoking in 20 Days' employs a multi-component approach through a self-help behavior therapy manual. The literature indicates that self-help approaches have, indeed, been successful in the past (Glasgow, 1978; Harackiewicz, Sansone, Blair, Epstein, and Manderlink, 1987; Strecher, Becker, Kirscht, Eraker, and Graham-Tomasi, 1985).

The present study involves the use of 'Freedom From Smoking in 20 Days' self-help manuals, as well as eight group contact sessions over the duration of the twenty days. The Canadian Lung Association urges the addition of group meetings to the course of this program. It is believed that prompting by peers is characteristic of a large majority of smoking onset situations (Biglan, 1985; Gordon, 1986; Presson, Montello, Sherman, and McGrew, 1986), therefore it is felt that peer influence can significantly contribute to the success of this smoking cessation program. In

comparing the effect of individual therapy and group therapy on smoking behavior, group intervention appears to have a more significant effect (Sirota, Curran, and Habif, 1985). It is for these reasons that the group sessions will occur during the twenty-day program.

Self-reports of smoking behavior will be the means by which success of the program will be measured. Although there is considerable disagreement about the accuracy of these reports (Lichtenstein and Brown, 1980; Frederiksen et al., 1979, in Wilson et al., 1982), self-report will be the means of measurement as other methods are too expensive and cumbersome (i.e., physiological methods).

Hypothesis

It is hypothesized that the multicomponent behavioral program 'Freedom From Smoking in 20 Days' will be effective in reducing the cigarette consumption of group participants (adolescents). As compared with a control group of adolescent cigarette smokers who will not be receiving the program, program participants

will show a significant decrease in their cigarette smoking behavior. This effect will be followed up at a three-month interval, at which time it is hypothesized that participants' smoking behavior will be maintained at a significantly lower level than pretreatment.

Review of Related Literature

At this time, a brief review of studies demonstrating the effectiveness of the behavioral techniques to be employed in the present program is warranted. This review also examines the merits of the group format on program delivery.

The ultimate goal of any smoking cessation program is to protect the health of the program participants and those immediately affected by the smoking behavior. The ideal would be to prevent the onset of smoking behavior.

Prevention programs vary dramatically in terms of their primary focus. Johnson, Hansen, Collins, and Graham (1986) compared two such strategies for preventing cigarette smoking among high school

students. One strategy emphasized social-pressure resistance skills, while the other focused on education about health concerns which are relevant to high school students. The results suggest that social-influences resistance training was efficacious in reducing transitions to higher use by those who had previously experimented with cigarettes. Health education was most effective in preventing initial experimentation among those who had not smoked prior to the beginning of the study. Neither program was effective in limiting transitions among those who had gone beyond the experimental stage of smoking, and neither had any effect on cessation.

In a study conducted by Dawley, Fleischer, and Dawley (1985) which examined the attitudes of light to heavy smokers, toward smoking, it was found that the more cigarettes a person smokes, the greater likelihood of denial or distortion of information about the health hazards of cigarette smoking. Such an attitude may contribute to the ineffectiveness of a health education approach to cessation of an acquired smoking behavior in adolescents.

Elder and Stern (1986) have presented an Environment and Skills Model of smoking acquisition which involves an integrated examination of the antecedents, behaviors, and consequences of smoking. The model outlines four major areas of primary focus: (1) modification of the antecedent deficits in, or attitudes knowledge, or attitudes related to smoking by traditional health education approaches; (2a) modification of the social pressure to smoke by remediating interpersonal behavioral deficits through a skills-building approach to resisting pressures; (2b) modification of the decision-making process during experimentation with smoking behavior through more global personal and interpersonal skills-building approaches; and (3) modification of the consequences for smoking/not smoking by way of contingency management strategies. Whereas health education models focus on altering the constellation of antecedents in order to discourage smoking onset, the Environment and Skills Model includes examination of behaviors and consequences. Although the effectiveness of this model has not yet been directly measured, the fact that it

draws heavily upon the theories of behaviorism may predispose its success, considering that behavioral therapy has met with substantially positive results in smoking cessation, as follows.

Among the many behavioral methods that have been applied to the treatment of cigarette smoking, the aversive technique to rapid smoking has tended to be among the most, if not the most effective (Bernstein and McAlister, 1976; Lichtenstein and Danaher, 1976). This technique requires that subjects smoke their customary brand of cigarettes in a rapid, continuous fashion, inhaling one puff every six seconds until no further smoking is tolerable.

Because of the stressful nature of the rapid smoking procedure, there has been a good deal of work on its physiological effects. Horan, Hackett, Nicholas, Linberg, Stone, and Lukaski (1977) reported significant increases in heart rate, blood pressure, and carboxyhemoglobin during rapid smoking. More importantly, cardiac abnormalities were observed in two individuals undergoing the procedure. Horan, Linberg, and Hackett (1977) marshal evidence indicating that

the illness-inducing effect of rapid smoking is actually a form of nicotine poisoning. As such they point out that it is a potentially hazardous procedure.

Other behavioral techniques which have been reported as having significant effects on smoking behavior include self-monitoring of smoking behavior, self-reinforcement, and contracting. Self-monitoring is a standard procedure in social learning oriented treatment programs for addictive behaviors. In order to obtain baseline data, clients continue their usual smoking habits and tally each cigarette smoked. Self-monitoring should continue throughout the treatment program as a way of tracking progress. In a study conducted by McFall (1970), it was found that when subjects self-monitored their frequency of smoking, smoking frequency and duration were significantly affected by self-monitoring, indicating that self-monitoring is a reactive data-gathering procedure. McFall and Hammen, 1971, also found that self-monitoring may account for temporary behavior change found in most smoking treatments.

Self-reinforcement has been found to be effective

in producing behavioral change. In a study conducted by Dubren (1977), 61 recent ex-smokers who had stopped smoking as part of a televised 'clinic' were assigned to either a tape-reinforcement or nonreinforcement condition and were followed up a month later. The group that had been sent a special phone number that they could call to receive different prerecorded reward messages on a daily basis (tape reinforcement) had significantly fewer recidivists (10/29) upon follow-up than the group (nonreinforcement) that had not been sent the number (21/32). The results indicate that such a self-regulated reward system can be an extremely effective tool in preventing short-term recidivism among neophyte ex-smokers.

Winett (1973) and Spring, Sipich, Trimble, and Goeckner (1978) obtained reasonably good results by employing contingency contracting as the major treatment in smoking cessation programs. The smoker deposits a sum of money (e.g., \$100) at the outset and then portions of this money are refunded contingent upon meeting previously stipulated abstinence goals.

In the hope that individual procedures will

combine to form a more powerful and comprehensive program, multicomponent treatment programs have been developed, (Lichtenstein and Brown, 1980). Multi-component cessation programs are comprised of three interrelated phases: preparing to quit, quitting, and maintenance. Elliott and Denney (1978) compared the effectiveness of a multicomponent treatment program with a single treatment condition (rapid smoking), a nonspecific treatment condition, and an untreated control condition. The multicomponent condition was shown to produce substantially higher abstinence rates (45%) and lower percentages of baseline smoking (41%) after six months than the other treatment and control conditions. Lando (1977) compared a broad-spectrum behavioral approach to a control limited to one week of aversive conditioning (satiation). Thirty-four subjects were randomly assigned to conditions. Results indicated a dramatic treatment effect, with 76% of experimental subjects (as compared to 35% of controls) remaining abstinent at a six month follow-up.

Self-help manuals are sometimes utilized in multicomponent behavioral approaches. Strecher, Becker,

Kirscht, Eraker, and Graham-Tomasi (1985) conducted an evaluation of a minimal-contact smoking cessation intervention with 213 inpatients and outpatients at a Veterans Administration Medical Center (VAMC). The intervention had three components: brief consultation from a health practitioner; administration of a self-help smoking cessation manual; and provision of an incentive to adhere to recommendations in the manual. Despite the fact that all patients who smoked were included (motivated to quit or not), the program had a high degree of acceptance by patients who smoked, with over 60% agreeing to participate and take home the self-help smoking cessation manual. The program was effective in getting patients to reduce their daily smoking, and marginally effective in influencing smoking cessation, with some patient groups exhibiting higher cessation rates than others. Harackiewicz, Sansone, Blair, Epstein, and Manderlink (1987) compared self-help manuals with and without a drug component (nicotine gum). Subjects in the 'self-help with drug' group were superior to the 'self-help' group in initial cessation but were inferior in maintaining abstinence.

Subjects in the 'self-help' group (without drug) made fewer external attributions for success and remained abstinent longer.

Glasgow, Schafer, and O'Neill (1981) compared the effectiveness of two self-help books for smoking cessation, Danaher and Lichtenstein's 'Become an Ex-smoker' and Pomerleau and Pomerleau's 'Break the Smoking Habit', against a minimal treatment control book, the 'I Quit Kit', published by the American Cancer Society. The authors reported that each of these treatment programs produced modest but statistically significant changes in smoking behavior and had similar relapse rates between post-treatment and follow-up. When self-administered, the minimal treatment program was found to be at least as effective as either of the behavior therapy books. With therapist contact, however, a large improvement in long-term abstinence rates (47% vs. 8% self-administered condition) was noted in the book-directed treatments. The overall abstinence rate declined from 27% at post-test to 11% at follow-up, with the same pattern regarding therapist versus self-administered

conditions noted at both stages. Glasgow et al. (1981) suggest that proficiency in using self-help treatment techniques may require the skills and encouragement of a therapist.

Further to this, Lichtenstein, Ranson and Brown (1981) found that individuals who had experienced anti-smoking treatment programs, found group counselling preferable to individual approaches. Sirota, Curran, and Habif (1985) conducted a study including eight male smokers with chronic pulmonary and/or cardiac disease. The subjects participated in a 9-week treatment program that consisted of gradual nicotine withdrawal, self-management techniques, and relapse prevention strategies. At 1-year follow-up, 50% remained abstinent, while those who relapsed were smoking substantially less than prior to treatment. Nonspecific factors of group influence and support, as well as weekly feedback of CO (carbon monoxide) levels, were judged as particularly important components of treatment.

Self-report is the most commonly used method of evaluating smoking rate (Frederiksen et al., 1979).

This technique typically involves asking subjects to estimate the number of cigarettes they smoke per unit time. There is considerable disagreement about the accuracy of these reports. Lichtenstein and Brown (1980) feel the rates of false self-reports is low in programs where rapport has been established between the counsellor and participants. Frederiksen et al. (1979) feel that self-reports are open to 'bias, distortion, or deliberate falsification'.

It is apparent from the studies cited above that the multi-component behavioral approach to the cessation/reduction of cigarette smoking has had a positive significant effect. As well, it is demonstrated that the group approach has a similar effect. The researcher hopes to replicate these findings with an adolescent population.

Methodology

The administration of a smoking behavior survey to 875 students of grades X, XI, and XII of an urban secondary school facilitated the selection of program

and control group participants (see Appendix A).

A questionnaire measuring cigarette smoking behavior was administered to each of the program and control group participants, prior to commencement of the program (see Appendix A). The group was led by the researcher. The group met on eight occasions over the course of the program.

Subsequent to the conclusion of the program, the same pretreatment questionnaire was administered to program and control group participants, to measure smoking behavior. At three months following this, the same questionnaire was administered to program and control group participants.

The effect of the 'Freedom From Smoking in 20 Days' behavioral program for the cessation/reduction of adolescent smoking behavior, was, thus, measured.

From the results of the initial survey questionnaire, administered to 875 grade X, XI, and XII students of Saint Patrick's High School, those indicating a desire to quit smoking and interest in availing of a program constituted the group from which twelve participants for the 'Freedom From Smoking in 20

Days' program were randomly selected. Those indicating a desire to quit on the questionnaire, yet were not interested in availing of a program, constituted the group from which twelve control group participants were randomly selected. These groups were balanced by age and sex. A check of the randomization process later confirmed that there were no significant differences in average daily consumption of cigarettes between the experimental and control groups $\{t = .76, df = 22, p. > .05\}$ with an average daily consumption of 13.8 and 12.5 cigarettes respectively (see TABLE I).

Prior to commencement of the program, treatment and control group participants were administered a questionnaire aimed at more specifically describing their smoking behavior.

During the first treatment group session, an overview of the program was presented by the researcher. 'Freedom From Smoking in 20 Days' utilizes a comprehensive self-help manual of 62 pages which is designed to lead users through a series of exercises

TABLE 1

Means, standard deviations, and t-scores for number of cigarettes smoked in pre-t st, EXPERIMENTAL vs CONTROL.

EXPERIMENTAL VS CONTROL			
VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION
GROUP 1	12	13.8250	3.245
GROUP 2	12	12.4833	5.162
T	DEGREES OF FREEDOM		2-TAIL PROB
.76	22		.454

culminating with cessation on the 16th day of the 20-day schedule. The exercises include the Horne Test of why one smokes (Horne, 1975), keeping a log of cigarettes smoked, identifying smoking triggers, and signing contracts with oneself to quit. This manual also contains information about weight control, deep breathing, and muscle relaxation exercises, as well as preparing oneself to behave as a nonsmoker when among smokers. A second book is included in the program and is a 28-page maintenance manual designed to assist the ex-smoker during the first year after quitting. This manual emphasizes learning to cope with situations that trigger the urge to smoke. Both books rely on behavior modification to break the smoking habit.

During subsequent group sessions, support and encouragement was provided to participants by the researcher and others within the group. The process included the sharing of suggestions and tips by group participants.

On the day following the final day of the program, the treatment and control group members were re-administered the questionnaire given at pretreatment.

Additional questions relating to the smoking behavior of family members and friends and a description of affiliation to 'other' group members (i.e., treatment to control) were addressed at this point. Three months from this date, the questionnaire was again administered to the treatment and control groups.

Analysis of Data

Comparative scores were obtained for each subject by summing the number of cigarettes smoked per day. T-tests were used to analyze the differences between pretreatment measures, post-treatment measures, and follow-up measures. An account of these comparisons appears in the next chapter.

Ethical Review

Information obtained through surveys and questionnaires will remain confidential in keeping with Principle 9, Research with Human Participants, in the "Ethical Principles of Psychologists", APA, 1981.

CHAPTER III
RESULTS OF PRESENT STUDY

Using two groups of subjects, experimental and control, this researcher collected three measurements of cigarette smoking behavior for each group (pretreatment, post-treatment and follow-up - see TABLE 2 and TABLE 3. These measurements were compared.

HYPOTHESIS # 1: Subjects in the experimental group, program participants, will exhibit significantly decreased smoking behavior from pre-treatment to post-treatment and follow-up.

In order to test this hypothesis, the experimental group was administered a pre-treatment questionnaire designed to measure the number of cigarettes smoked per day. Following the 20 day program, participants were administered a post-treatment questionnaire to measure the number of cigarettes smoked per day. A t-test was computed to compare pretest mean (13.8) and post-test mean (8.9). The results reflect a significant

TABLE 2

Mean number of cigarettes smoked per day by subjects in
EXPERIMENTAL GROUP:

E X P E R I M E N T A L	S	AGE	PRE	POST	FOLLOW-UP
	1	18	12.9	14.4	14.4
	2	16	14.4	8.0	7.7
	3	17	15.4	6.3	5.0
	4	16	17.3	12.0	10.6
	5	17	15.9	11.6	8.3
	6	17	14.7	11.7	11.7
	7	17	13.7	7.6	10.7
	8	17	15.1	13.7	13.4
	9	17	6.3	4.9	4.0
	10	18	18.0	8.4	7.1
	11	17	12.6	5.0	6.7
	12	16	9.6	3.6	4.0

TABLE 3

Mean number of cigarettes smoked per day by subjects in
CONTROL GROUP:

C O N T R O L	S	AGE	PRE	POST	FOLLOW-UP
	13	18	18.6	19.3	20.0
	14	16	12.3	12.6	12.6
	15	18	17.1	20.7	19.3
	16	18	9.1	9.1	8.9
	17	16	9.4	4.3	5.0
	18	17	10.4	13.7	13.0
	19	18	24.0	31.1	30.4
	20	16	7.1	6.6	6.3
	21	16	8.7	7.9	7.1
	22	17	10.0	10.7	10.7
	23	17	8.0	8.4	7.9
	24	17	15.1	13.4	12.9

reduction in mean number of cigarettes smoked ($t = 5.1$, $df = 11$, $p. < .01$) (see TABLE 4). The experimental group was also administered a questionnaire designed to measure smoking behavior at three months subsequent to the completion of the program. A t-test was computed to compare the mean number of cigarettes smoked at pre-treatment (13.8) and at follow-up (8.6). The result reflects a significant reduction in smoking behavior ($t = 4.94$, $df = 11$, $p. < .01$) (see TABLE 5).

HYPOTHESIS # 2: Subjects in the control group will not demonstrate a significant reduction in smoking behavior over the same period used in the measurement of the smoking behavior of the experimental group.

To measure this hypothesis, a questionnaire was administered to the control group at the same time questionnaires were administered to the experimental group (pre-treatment, post-treatment and three month follow-up).

A t-test was used to determine if there was a difference between mean number of cigarettes consumed daily by control group in pre-treatment measures (12.5) and post-treatment measures (13.2).

TABLE 4

Means, standard deviations, and t-scores for measure of number of cigarettes smoked by EXPERIMENTAL GROUP (pre vs post).

EXPERIMENTAL GROUP			
Paired samples t-test:			
ITEM 9 - # cigarettes pre-test			
ITEM 10 - # cigarettes post-test			
VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION
ITEM 9	12	13.8250	3.245
ITEM 10	12	8.9333	3.653
T	DEGREES OF FREEDOM		2-TAIL PROB
5.1	11		.000

TABLE 5

Means, standard deviations, and t-scores for measure of number of cigarettes smoked by EXPERIMENTAL GROUP (pre vs follow-up).

EXPERIMENTAL GROUP			
Paired samples t-test:			
ITEM 9 - # cigarettes pre-test			
ITEM 11 - # cigarettes post-test			
VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION
ITEM 9	12	13.8250	3.245
ITEM 11	12	8.6333	3.526
T	DEGREES OF FREEDOM		2-TAIL PROB
4.94	11		.000

The results did not reflect a significant reduction in cigarettes smoked ($t = -.77$, $df = 11$, $p. > .05$) (see TABLE 6). A t-test was also used to compare mean number of cigarettes smoked in pre-treatment (12.5) and follow-up measures of cigarette consumption (12.8). The results did not reflect a significant reduction in smoking behavior ($t = -.46$, $df = 11$, $p. > .05$) (see TABLE 7).

DISCUSSION OF RESULTS

On the basis of the significant results in the comparison of pretreatment with post-treatment and follow-up smoking behavior of the experimental group, the hypothesis was accepted. It was hypothesized that such a reduction would occur with the behavioral multi-component participants. As well, it was hypothesized that no such reduction would occur with control group participants as was indicated by the non-significant results from those comparisons. These results lead the researcher to infer that the behavioral group approach to smoking reduction, 'Freedom From Smoking in 20 days' is an effective intervention program with adolescents.

TABLE 6

Means, standard deviations, and t-scores for measure of number of cigarettes smoked by CONTROL GROUP (pre vs post).

CONTROL GROUP			
Paired samples t-test:			
ITEM 9 - # cigarettes pre-test			
ITEM 10 - # cigarettes post-test			
VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION
ITEM 9	12	12.4833	1.490
ITEM 10	12	13.1500	7.456
T	DEGREES OF FREEDOM		2-TAIL PROB
-.77	11		.460

TABLE 7

Means, standard deviations, and t-scores for measure of number of cigarettes smoked by CONTROL GROUP (pre vs follow-up).

CONTROL GROUP			
Paired samples t-test:			
ITEM 9 - # cigarettes pre-test			
ITEM 11 - # cigarettes follow-up			
VARIABLE	NUMBER OF CASES	MEAN	STANDARD DEVIATION
ITEM 9	12	12.4833	5.162
ITEM 11	12	12.8417	7.281
T	DEGREES OF FREEDOM		2-TAIL PROB
-.46	11		.656

However, cessation is a preferred outcome over reduction. This researcher cites various limitations in this study which may have inhibited cessation by participants.

The motivation of the program participants may not have been as high as is necessary to result in smoking cessation. In the pre-test questionnaire (Appendix A), the students were asked their reasons for wanting to quit smoking. In the experimental group, eight participants cited 'money' as their primary reason. Only four cited 'health' as their primary reason. Adults more often consider health as a motivator and such motivation has proven to have a positive effect on program success (Kaufert, Rabkin, Syrotuik, Boyko and Shane, 1985). Young people feel that they will only smoke for a while and then quit. Therefore, health, the very powerful motivator, is not an influential factor. It may have been more effective for this researcher to have focused on more immediate physiological effects of smoking (i.e. affect an athletic performance, yellowing teeth, bad breath and smelly clothing) to motivate program participants.

Another limitation pertains to the attendance rate of program participants. The average number of sessions attended by participants was 4.5, with only three participants attending all eight sessions. Meetings were conducted at lunch hour which conflicted with sports programs, school club meetings, tutorials and the lunch 'break', in general, which no doubt affected attendance. This, in turn, affected group cohesiveness and the overall effect of the group process.

A third limitation is the 'Freedom From Smoking in 20 Days' program's utilization of the self-help manual, during the program, and a maintenance manual, for use following the twenty day program. The manuals contain an overwhelming variety of procedures including self-monitoring and hierarchical reduction; stimulus control suggestions; self-reward, self-punishment, and behavioral contracting; thought stopping and other cognitive interventions; information on the hazards of smoking and reasons for not smoking; suggestions for alternative behaviors to smoking, and so forth. This program may be sacrificing quality for quantity.

Program participants, due to limited attendance at group sessions and the overwhelming number of procedures to employ, may not have received sufficient instruction on how to implement the strategies and may, as high school students, viewed it as too much work! Consequently, subjects may not have learned any of the techniques well enough to have used them successfully.

Despite the fact that smoking cessation did not occur with any of the program participants, there was a significant reduction in smoking behavior.

It is not possible to determine which components of the program most effectively contributed to this. However, from the post-treatment questionnaire (Appendix A) the researcher did note some suggestive findings which deserve further exploration.

The value of the supportive nature of program participants and group facilitator was cited as encouraging of smoking reduction. The importance of a warm "client - therapist relationship" (Pachecek, 1979) and social support more generally (Hall et al., 1983) in successful smoking cessation has been reported previously.

Program participants also felt that the learned ability to recognize smoking triggers was beneficial in precluding smoking reduction. The programs use of stimulus control suggestions and relaxation techniques was believed to effectively contribute to overall smoking reduction.

Self-monitoring of number of cigarettes smoked and often, recording information about the situation in which smoking occurs, is part of almost every behavioral intervention program. Subjects identified this assessment technique, self-monitoring, as sufficient to produce a reduction in smoking behavior. This replicates the findings of Kanoly and Doyle, 1975, and Levanthal and Avis, 1976, who suggest that smokers, not necessarily trying to change their smoking rates but who have monitored cigarette consumption, may produce at least short-term reduction under some conditions.

Smoking reduction can have a very positive influence on the health of the smoker and his/her ability to quit altogether. Such reduction may reduce the smoker's need to maintain a high level of nicotine

in the blood and, also, lead to increased feelings of control and confidence relative to coping with situations that stimulate the smoking response.

In summary, the multi-component behavioral group program, 'Freedom From Smoking in 20 Days', was found to be effective in reducing the daily smoking rate in adolescents, but, was ineffective in eliminating the smoking response.

CHAPTER IV

RECOMMENDATIONS

The multi-component behavioral group program, 'Freedom From Smoking in 20 Days', was found, by the researcher, to be effective in reducing smoking behavior in adolescents. The adverse health effects, due to smoking, and the 'significant correlation between early adolescent cigarette use and late adolescent cannabis and hard drug use' (Newcomb and Bentler, 1986), make it imperative to implement such programs on a wider scale with the adolescent population.

The present study utilized self reports as a measure of smoking behavior to assess program effectiveness. It would be valuable to utilize methods of measuring smoking reduction independent of subjects reports, in the evaluation of multi-component behavioral group programming. Self-reports of smoking behavior are, for obvious reasons, not the most accurate of measures. Measuring subjects carbon monoxide (CO) levels may be warranted for a more

adequate assessment. Smoking introduces CO into the blood which can be estimated from breath samples by means of an apparatus similar to that which is used to test blood alcohol level. This may either support or refute the findings of the present study.

Further research should attempt to determine which of the individual components, of this multi-component program, prove to be most effective. Such research would require tightly controlled designs so that specific contributions could be assessed. These more effective components could then be utilized. This would decrease the amount of 'homework', perceived as a deterrent by the adolescent participant and, thus, encourage wider participation.

It may also be of particular value, for researchers in smoking cessation, to study how group cohesiveness can be fostered. Program participants cited group support as a particularly encouraging aspect of the program. The ability to increase this perception of support would, no doubt, lead to increased efficacy of smoking cessation programs.

The ability of programs aimed at encouraging

smoking cessation/reduction in adolescents is limited. Smokers cannot wait for the development of 'perfect' techniques to assist them in their attempts to quit. The methods employed in this study, and other methods yielding success, must continue to be applied with the adolescent population to discourage this serious addiction.

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APPENDIX A

QUESTIONNAIRES

HI! My name is Jeanne Buffett. I am a Graduate Student with the Department of Educational Psychology, Memorial University of Newfoundland. I am interested in studying adolescent smoking behavior and could use your help. Please take a minute to answer the following questions. The information you provide will be shared only with me, as your teacher will place these questionnaires in an envelope when completed, seal the envelope, and forward it on to me. It is possible that I may wish to contact you at a later date. If so, this will be done during school hours. There will NOT be a home contact made to attempt to set up a meeting.

NAME: _____

AGE: _____ SEX: _____

Are you a cigarette smoker? _____

How old were you when you started smoking? _____

How many cigarettes do you smoke per day? _____

Would you like to quit cigarette smoking? _____

What is your main reason for wanting to quit?

If there was a program made available to you, to assist you in breaking the smoking habit, would you be interested in participating?

NAME: _____

How many cigarettes do you smoke per day? _____

(Program Participants Only)

What part of the program did you consider most effective in helping you reduce your smoking behavior (if any)?

What part of the program presented the most difficulty to you?

Would you recommend this program to others? Why/Why Not?

NAME: _____

How many cigarettes do you smoke per day? _____



