Perceptions of students and faculty regarding selected health care practices at Montana State University by Joyce Elaine Lubbers Burgett

A thesis submitted in partial fulfillment of the requirements for the degree of MASTER OF SCIENCE in Nursing
Montana State University

Abstract:
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Generally, faculty and students were in agreement on all three issues. Where there was disagreement, it tended to be one of difference between strength of agreement or disagreement. This agreement was particularly evident between faculty and students on items which dealt with education of both the general public as well as school children on all three of the opinionaires.

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Signature Joyce Elaine Burgess

Date June 17, 1977

PERCEPTIONS OF STUDENTS AND FACULTY REGARDING SELECTED HEALTH CARE PRACTICES AT MONTANA STATE UNIVERSITY

by

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A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Nursing

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ABSTRACT

The purpose of this study was to determine the perceptions of Montana State University students and faculty members regarding primary prevention program measures for the health problems of smoking, alcohol abuse, and inadequate or excessive food consumption. The problem was investigated by: (a) a review of literature related to the problems; (b) a survey of a random sample of students and faculty members from Montana State University regarding their perceptions on the selected health care problems; (c) a tabulation, analysis, and comparison of data gathered.

The results of the study indicated general agreement between faculty and students concerning the items on the opinionaires. The one area of significant difference in perceptions between the students and faculty members was on the smoking opinionaire. The majority of the students felt it was desirable to raise the federal excise tax on cigarettes, differentially based on the level of tar and nicotine content. The faculty responses showed an even split. The other item which pointed out a significant difference was the item regarding the establishment of a state tax on tobacco sales to fund treatment for the prevention of smoking. The majority of students supported this while the majority of faculty did not.

Generally, faculty and students were in agreement on all three issues. Where there was disagreement, it tended to be one of difference between strength of agreement or disagreement. This agreement was particularly evident between faculty and students on items which dealt with education of both the general public as well as school children on all three of the opinionaires.

Chapter 1

INTRODUCTION

The emphasis in disease prevention has changed dramatically since 1900. At the turn of the century, according to the U.S. Department of Health, Education, and Welfare (1975:16), the leading causes of death were pneumonia, influenza and tuberculosis. These conditions were amenable to public health efforts in the area of immunication, chemotherapy and other direct medical actions. Today's major health problems, those of a chronic nature such as heart disease, cancer, and stroke, on the other hand, are apparently linked to contamination of the environment and production-consumption patterns of an affluent life style.

To deal with today's major health problems, therefore, requires intervention in the social, economic, and cultural institutions in ways which produce changes in behavior patterns. This suggests that a program of change in health behavior might begin with feelings expressed by the people to be involved in the program.

Statement of the Problem

The problem of this study was to determine the perceptions of Montana State University students and faculty members regarding primary prevention program measures for the health problems of smoking, alcohol abuse and inadequate or excessive food consumption.

Need for the Study

Today's major health problems, especially chronic diseases, reflect a reduction in earning capacity of the people involved, reducing their efficiency and potential and costing the taxpayers of the United States billions of dollars for health care delivery services both for the care of the ill and the support of their families. According to Kotelchuck (1976:10), "In 1972, one out of every eight civilian, non-institutionalized persons in the U.S. (12.7%) was limited in activity to some degree due to a chronic condition, . . . 3% of the total population was totally unable to carry on his or her major activity." Of the 12.7% of the population restricted in activity, 21% of those individuals are between forty-five and sixty-four years of age, and should be at the peak age for earning capacity.

Kellogg (1975:31) reported that the American Academy of Nursing was in general agreement that the health system should shift from being sickness oriented to being health directed. To enable nurses to be involved with the preventive care concept, the Academy, according to Kellogg, saw a need for more research on what motivates people to seek preventive health care before they become sick.

General Questions to be Answered

The general questions were:

1. What were the perceptions of Montana State University students regarding primary prevention measures for the health problem of smoking?

2. What were the perceptions of Montana State University students regarding primary prevention measures for the health problem of alcohol abuse?

3. What were the perceptions of Montana State University students regarding primary prevention measures for the health problem of inadequate or excessive food consumption?

4. What were the perceptions of Montana State University faculty members regarding primary prevention measures for the health problem of smoking?

5. What were the perceptions of Montana State University faculty members regarding primary prevention measures for the health problem of alcohol abuse?

6. What were the perceptions of Montana State University faculty members regarding primary prevention measures for the health problem of inadequate or excessive food consumption?

7. Was there a difference between the perceptions of students and the perceptions of faculty members regarding smoking, alcohol abuse, and inadequate or excessive food consumption?

General Procedures

This study was developed in the following manner. A review of literature was made to provide documentation for the foundation of the study. From the information elicited in the review of relevant research, three survey opinionaires were developed to gather data concerning Montana State University students' and faculty members' perceptions of measures for the prevention of smoking, alcohol abuse and inadequate or excessive food consumption.

The instruments were mailed to a random sample of Montana State University students and delivered to a random sample of Montana State University faculty members. The data were collected and compiled, and the findings assessed to determine the perceptions of students and faculty as well as to make a comparison of agreement or disagreement between them. The researcher drew conclusions and made recommendations for programs which might be more effective than present approaches to problems of smoking, alcohol abuse, and inadequate or excessive food consumption. Recommendations for further study were based on the perceptions of those surveyed.

Limitations

The study was constructed to consider only students attending Montana State University and faculty members of Montana State University. This study was limited to the population available in spring

quarter of the academic year 1976-77. The data were returned by mail from individual students and collected by the campus mail system from staff members.

Definition of Terms

Alcohol abuse. A chronic behavioral disorder manifested by an undue preoccupation with alcohol and its use to the detriment of physical and mental health, by loss of control when drinking and by a self-destructive attitude in dealing with personal relationships and life situations. (Insel and Roth, 1976:263).

Health care delivery system. The total package of services which includes but is not limited to medical care which reach the consumer. (Archer and Fleshman, 1975:xix).

Primary prevention. A program which includes actions or interventions designed to prevent etiologic agents from causing disease or injury in man. (U.S. Department of Health, Education and Welfare, 1975:98).

Secondary prevention. A program which is concerned with the early detection and treatment of disease to control or cure it. (U.S. Department of Health, Education and Welfare, 1975:98).

Tertiary prevention. A program which includes activities directed at lessening the seriousness of disease by reducing resulting

disability and dependence. (U.S. Department of Health, Education and Welfare, 1975:98).

Summary

The major goal of this research was to ascertain the perceptions of Montana State University students and faculty regarding primary prevention program measures for the prevention of smoking, alcohol abuse and inadequate or excessive food consumption and the differences between the perceptions of students and faculty. The need for the research was based on the fact that the rapidly changing life styles of an affluent culture has initiated health problems requiring behavioral change of society as a whole.

Chapter 2

REVIEW OF LITERATURE

The purpose of the review of literature was: 1) to develop a greater understanding of the changes in health care needs of consumers over the years, 2) to develop a greater understanding of the problems researched in the changing health care practices related to socially acceptable behavior patterns, and 3) to review the results of these research studies to identify findings which might indicate a correlation between chronic illness and smoking, alcohol abuse, and inadequate or excessive food consumption.

The Relationship of Selected Behavioral Patterns to Chronic Illness

Although Americans claim the highest standard of living in the world, Insel and Roth (1976:xviii) state that more than half of the adults in the United States are chronically ill. Heart disease, arthritis, and diabetes partially incapacitate more than twenty-two million Americans. Arteriosclerosis, a loss of elasticity and thickening of the walls of the arteries, hospitalizes thousands of Americans each day and eighty million Americans are classified as overweight. These chronic health problems can result in years of pain, emotional upheaval and disruption of family life while the medical bills for those involved grow steadily higher.

According to Lambo (1975:3), the growing wealth of technology has helped to control the health problems of other eras, but has initiated rapid and profound social changes. As old cultural patterns give way in a changing world, new patterns emerge for which society as yet lacks sufficient controls.

The United States Department of Health, Education and Welfare (1975:98) believes it is more productive to focus attention on the antecedent causes of diseases which may be preventable than treating the diseases themselves. The three stages of prevention are primary prevention, secondary prevention, and tertiary prevention. The Department of Health, Education and Welfare submits that high priority should be given to primary prevention programs aimed at the underlying causes of major disease conditions.

Three antecedent factors which are associated with major health problems are smoking, alcohol abuse and inadequate or excessive food consumption. These factors, if controlled, could improve the health of large numbers of people, according to the United States Department of Health, Education and Welfare (1975:99).

Smoking

According to Horn (1975:26), studies have confirmed a direct relationship between the incidence of smoking and cancer of the lung, larynx, oral cavity, bladder, and the pancreas; and non-neoplastic

diseases such as chronic bronchitis and emphysema, as well as diseases of the cardiovascular system.

Fuhs (1976:361) contends that the risk of developing coronary heart disease increases directly with the number of cigarettes smoked. "Mortality rates from coronary heart disease are five times higher in heavy smokers (those who smoke over two packs a day) who are between the ages of 35 and 50 years old than in non-smokers."

Of the many chemical compounds in tobacco smoke, Fuhs (1976:362) reports that two of the most significant are nicotine and carbon monoxide. The physiologic effects of nicotine, an addictive drug, on the heart are those of an exaggerated sympathetic response which increases the workload and oxygen demand on the heart. If coronary vessels are narrowed, coronary circulation may be unable to increase the needed blood flow to the heart, which results in local ischemia. The physiologic effects of carbon monoxide on the heart are involved with interference of oxygen transport. The affinity of hemoglobin for carbon monoxide causes oxygen to be displaced from the hemoglobin. The tissues are thus deprived of oxygen supply.

Weiss (1975:954) submitted that although the association between smoking and lung cancer does not prove the direct cause and effect, the association is consistent, strong and specific. He stated the evidence was overwhelming, smoking was the major precursor of lung cancer and

the coherence between the various lines of evidence was of a high order.

Horn (1975:26) reported the relationship between cigarette use and mortality was dose-related. Heavy smokers showed the highest death rates from smoking-related diseases and light smokers (fewer than ten cigarettes a day) even showed substantial risk of disease development.

Fuhs (1976:363) stated that eight hundred billion cigarettes are smoked annually in the United States. Approximately one-third of the adult population of the United States smokes.

Neeman and Neeman (1975:17) state that there has been a decline in the numbers of adult cigarette smokers in the United States population since 1964 when the Surgeon General's Report on Smoking and Health was released. However, they reported, records have shown that cigarette sales have been steadily rising because of the growing number of teenagers who are smoking today. For this adolescent age group, peer smoking was indicated as the most influential motivating factor to start smoking, followed by parents' smoking.

Studies by the National Clearinghouse for Smoking and Health, 1974, as reported by St. Pierre and Lawrence (1975:7) showed a 1% increase in male teenage smokers and a 7% increase in female teenage smokers since 1968.

Because smoking represents a personal-choice health behavior, according to Horn (1975:29), it is used to increase enjoyment of life or cope with life's problems. When carried beyond a certain point, however, this personal-choice health behavior creates problems for the individual and society at large. The problem for the individual involves the threat to his health. The problem for society involves lost man hours from work, higher accident rates among smokers and contamination of the air for nonsmokers. Because of the problem to society, caused by smoking, Horn submits that social forces can gradually play an increasingly important role in institutional change through legislation or change in customs.

Studies, reported by St. Pierre and Lawrence (1975:8), using the cognitive approach to behavior change by teaching the facts and hoping for a change in behavior have been unsuccessful. They submit that fear tactics and threats have been equally ineffective.

Fuhs (1976:365) reported three concepts which were vital to cessation of the smoking habit. 1) Motivation to stop must come from within the smoker so it is important that the smoker explore his feelings about smoking and look for individual motivational sources which may help him. 2) Perception that his state of health is affected by smoking and identify how his present state of health may be altered by stopping. 3) Emphasizing that a smoker has control over his fate and

just as he learned the habit of smoking, he can learn to stop smoking by demonstrating personal self-control.

Alcohol Abuse

Edwards (1975:10) reported that alcohol-related disabilities would rate as one of the world's largest amalgams of health problems on any assessment. Potential danger to physical health includes malnutrition, damage to almost every body tissue such as the liver, nervous system, the heart, the lungs, the stomach lining, and blood forming tissues, as well as broken bones resulting from alcohol related accidents. When used with tobacco, alcohol use increases the risk of developing certain cancers. Potential danger to man's social world includes industrial and highway accidents, family disruption, impairment of working efficiency and capacity of self-support. The potential mental disabilities include delirium tremens and general affective disturbances.

Alcohol, according to Insel and Roth (1976:263), is a dependence-producing drug which is classified as a central nervous system depressant. They content that the exact causes of alcoholism are not known, but that studies have shown an apparent genetic contribution to the susceptibility to alcoholism, along with many social factors such as cultural identity problems, movement away from spiritual interests, imitation of parents' habits and peer influences.

Lindesmith, Strauss and Denzin (1975:529) stated that behavior is not in itself considered deviant or nondeviant, but is defined as such by the culture in which it occurs. Alcohol dependence may have a variety of behavioral forms which in some social situations may be considered deviant, in others may be considered conventional behavior.

Edwards (1975:12) contended that alcohol dependence, often referred to as alcoholism, exists in degrees with many cultural colorings, while the alcohol related disabilities (physical, social, and mental) may come singly or in clusters. This disability is one which generally involves other problems. Even in a society permissive toward alcohol dependence, the dependent drinker will gather many related disabilities.

Mitchell (1976:513) submitted there are four drinking patterns associated with the alcohol abuser.

> 1) The reactive drinker. One who has selected alcohol as the primary buffer against tensions of life.
>
> 2) The psychiatric drinker. The manic phase of manic-depressive illness is often marked by excessive drinking. A higher than expected incidence of alcoholism among patients diagnosed as schizophrenic has been documented and attributed both to a marred sense of reality and to efforts to insulate one's self from anxiety.
>
> 3) The cross-use drinker. The cross use of alcohol and other drugs represents another behavior pattern; many substance abusers mix and match their drugs. Experimentation, risk-taking and continual need for heightened reaction can all be behind this cross-usage.

> 4) The recurrent drinker. This pattern of alcohol abuse is characterized by increasing ethanol tolerance and susceptibility to withdrawal symptoms. The individual moves from drinks gulped in sociable surroundings to secretive, compulsive binges, often interspersed with guilty periods of restless abstinence. Eventually, longer periods of heavier intake with lower tolerance and increased physiological signs of deterioration can be expected.

Mitchell (1976:511) stated that of the ninety-five million people in the United States who drink, nine million, or 7% of our adult population are alcoholics or alcohol abusers. One hundred thousand drinkers become alcoholics each year. Women alcohol abusers are becoming more conspicuous in our society and number between 900,000 and 4,500,000. Young people are using alcohol with increasing frequency and one university estimated that one quarter of its students were problem drinkers.

Kandel et al. (1976:50-51) contended that although 82% of the high school students studied have used hard liquor, beer or wine, intense usage may not develop until adulthood. They stated that alcohol and tobacco are the substances most frequently used by youth, in comparison to illicit drugs, and the substances which are most damaging in terms of social harm, yet have caused the least public concern because of our social definitions of appropriate and inappropriate behaviors.

According to Mitchell (1976:511), the cost of alcohol abuse in the United States annually amounts to twenty-five billion dollars in lost work hours, property damage and medical and welfare care.

Insel and Roth (1976:267) noted that treatment of alcohol abuse is difficult. None of the various methods such as Alcoholics Anonymous, psychotherapy, or chemical therapies have met with significant success, although the best rate of success seemed to involve a variety of the above mentioned techniques.

Inadequate or Excessive Food Consumption

The Department of Health, Education and Welfare (1975:103) reported that, "Nutritional problems range from malnutrition and 'dietary subnutrition', to obesity due to overeating, to the quality and safety of the food supply." Malnutrition can cause premature births; some studies have suggested an association between poor nutritional status in pregnancy, and retardation in fetal development. Malnutrition is generally discovered in poverty areas and in the aged population and results in subnutrition, obesity, atherosclerosis, vitamin deficiencies, anemia, and diabetes.

Terris (1975:1041), referring to studies by John Dobbing of the University of Manchester, stated that under-nutrition in early life may permanently reduce the intellectual capacity of men and women. Undernutrition at certain vulnerable stages of development in children

may be irreversible. The sequelae from undernutrition are diffuse and may never depress the individual attainment far below the lower limits of normality, yet may have serious consequences for the intellectual well-being of the people or section of society involved.

Insel and Roth (1976:336) contended that diseases such as coronary heart disease, diabetes, hypertension, obesity, and dental caries have all increased as diets became imbalanced with too much of the wrong kinds of foods such as excessive calories, animal fat, sugar and salt. In the United States, an imbalance of nutrients and fad diets seem to be the primary diet problems causing large number of people to be borderline malnourished.

Obesity, defined by Insel and Roth (1976:342), as the state in which a person's body fat exceeds 10% to 20% of their total body weight, affects 30% of all Americans. Overweight refers to people who weight more than their theoretical ideal weight for their respective sex, age and height. Obesity may be caused by the individual's failure to perceive internal cues from the satiety center of the hypothalmus. Excessive numbers of fatty cells are developed during early childhood, so weight loss or gain later in life consists of changes in size of the fatty cells developed earlier.

The United States Department of Health, Education, and Welfare (1975:103) reported that obesity is related to heightened susceptibility to diabetes, hypertension, arthritis, pulmonary dysfunction,

angina, gall bladder disease, and increases the complications following surgery. Saturated fats and cholesterol in diets seem to be associated with coronary heart disease as are dietary fats in the initiation and progression of atherosclerotic vascular disease.

The quality and safety of the food supply, according to the United States Department of Health, Education, and Welfare (1975:103), is endangered by additives, fortifiers, artificial colors and flavors, inadvertent contaminants, infectious agents and naturally occurring toxins.

Roth and Insel (1976:47) stated that humanity is exposed daily to thousands of chemicals whose potential for mutation is not known at this time. Many chemical additives, such as fluoride in the water, may be harmless until fluoride from an additional source is added to bring the total concentration to dangerous levels.

Behavioral Choices in Health Care

The Department of Health, Education, and Welfare (1975:97) recognized that many of today's major health problems are caused by factors not susceptible to direct medical intervention. "This poses a dilemma for health professionals in defining a proper role for themselves in the prevention of disease and a practical problem for those concerned with setting the boundaries of health planning."

Lambo (1975:3) saw health as more than an absence of disease, but part of the entire socio-religious fabric of man. He visualized health as an integral part of human experience, the responsibility for which each person and society must acknowledge rather than an exclusive responsibility of a single professional group.

Horn (1975:31) stated that the behaviors in the area of personal-choice health options present, "The real challenge to identify the means whereby we can help people--whether children or adults--to develop the capability of understanding the issues in personal-choice health behavior, and the capacity to make choices both in their own self-interest and in the interest of society at large."

Fuhs (1976:367-8) noted that the health worker must attempt to collate the learning program with activities or events which are important to the consumer and that fit into his personal ideas and life style. The author recognized the obligation of the professional health worker to strive actively for health ideals and set an example to increase his or her credibility with the public. The health worker can become actively involved in action to change society's acceptance of certain health options.

Milo (1976:435) stated that a paradox of health professionals is that they know what is most healthful but they don't always practice what they know. Health workers, as well as the ordinary consumer, make the easiest choices available to them most of the time. The aim,

therefore, may be to:

> . . . broaden the range of options available to people and to make health-promoting choices easier and/or diminish health damaging options by making them more difficult to choose. For the most widespread impact, the focus might be on national-level policy-making which would in turn change the range of options for the largest number of people, i.e., the national population.
>
> This frame of reference can also help assess or project the relative effectiveness of various efforts at behavior change. For example, a local effort at conveying more knowledge about healthful diets is not likely to result in changes of eating patterns unless it is accompanied by a combination of healthful, low cost, readily available foods--changes which require effort beyond the individual or small group methods, and extend to the community public and private organizational structure.

Summary

The review of literature pointed out a number of difficult problems and choices to be clarified by the health care delivery worker and the consumer involved. The review revealed that chronic illness was a large factor in the health economics of the nation; and that the health care worker and consumer might begin to assume joint responsibility for coordinating efforts to reach a satisfactory solution to the problem of preventative health care measures.

Chapter 3

PROCEDURES

The problem of this study was to determine the perceptions of Montana State University students and faculty members regarding primary prevention program measures for the health problems of smoking, alcohol abuse, and inadequate or excessive food consumption. Three instruments were prepared and mailed to a random sample of Montana State University students and delivered to a random sample of Montana State University faculty members. The instruments were designed to gain student and faculty perceptions of agreement or disagreement to the items listed in the opinionaires regarding the prevention of smoking, alcohol abuse, and inadequate or excessive food consumption.

In this chapter the outline of the study is presented in the following manner:

1. The population is defined and procedures for sampling are examined.
2. The investigation categories are defined.
3. The method of collection of data is discussed.
4. The method of data organization is outlined.
5. The statistical hypotheses are stated.
6. The data analysis is outlined.
7. The precautions taken for accuracy are described.
8. The chapter summary is presented.

Population Description and Sampling Procedures

Students enrolled at Montana State University spring quarter of the academic year 1976-1977 and faculty currently teaching at Montana State University made up the population from which the sample was drawn. There were 8,385 students enrolled at Montana State University and 527 full time faculty members. A random sample of 180 students and 97 faculty members were drawn from the population. The sample was drawn from the students and faculty members as listed in Fussers Guide. The sample from each group was delineated into three subgroups to receive instruments on smoking, alcohol abuse, or inadequate or excessive food consumption.

Description of Investigative Categories

This study attempted to determine how students and faculty members perceived specified primary prevention program measures for the health problems of smoking, alcohol abuse, and inadequate or excessive food consumption. The three instruments were developed from proposed actions listed in the United States Department of Health, Education, and Welfare's Forward Plan for Health publication (1975:100-104). The proposed actions for each health problem were divided into categories of: (1) legislative actions to establish enforcement or regulation procedures, (2) actions requiring behavioral change, (3) incentive

measures, (4) health maintenance measures, (5) areas for further research, and (6) an open ended question to elicit individual response.

Method of Collecting Data

The researcher designed three instruments to determine the perceptions of Montana State University students and faculty members regarding primary prevention program measures for the health problems of smoking, alcohol abuse, and inadequate or excessive food consumption. The instruments, along with a cover letter, were mailed to a random sample of Montana State University students and delivered to a random sample of Montana State University faculty members spring quarter, 1977. A self-addressed, stamped envelope was included in the mailed instruments in which the student respondents returned the instruments. The instruments to faculty members were returned through the on-campus mail system.

Method of Organizing Data

Tables were constructed to answer the questions proposed and to fulfill the purposes of the problem. The tables were constructed to provide information concerning the students' and faculty members' perceptions regarding primary prevention measures for the health problems of smoking, alcohol abuse and inadequate or excessive food consumption. Tables were constructed to indicate the comparison of perceptions of the students and faculty regarding the proposed measures.

Statistical Hypothesis

The questions to be answered by this study suggested the following hypotheses which were tested at the 0.05 level of significance.

1. (H_o) There will be no significant difference between students and faculty regarding the response on the opinionaire concerning prevention measures for the health problem of smoking.

2. (H_o) There will be no significant difference between students and faculty members regarding the responses on the opinionaire concerning prevention measures for the health problem of alcohol abuse.

3. (H_o) There will be no significant difference between students and faculty members regarding the responses on the opinionaire concerning prevention measures for the health problem of excessive or inadequate food consumption.

Analysis of Data

Statistical means and methods were used to test the stated hypotheses. Results from the opinionaire were arranged in tables and the following statistical methods were employed:

1. Numbers and percentages were presented as needed.

2. Frequencies of response were indicated where appropriate.

3. The Chi Square test of independence was used to test the data to determine if a statistically significant correlation existed between the variables.

The five percent level of significance was selected to test the hypotheses.

4. An analysis of the responses of the sample categories were made for the purpose of making inference to a primary preventive health care program for students and faculty at Montana State University.

Precautions Taken for Accuracy

The data compiled from the opinionaire were double checked to guard against error. The data were analyzed by computer at Montana State University with an appropriate program to eliminate computational errors. The open ended questions were summarized.

Summary

As indicated by the outline of procedures, this study proposed to determine the perceptions of Montana State University students and faculty members regarding primary prevention program measures for the health problems of smoking, alcohol abuse, and inadequate or excessive food consumption. To accomplish the purpose of the study, three appropriate instruments were designed to obtain student and faculty perceptions on the selected health care problems. Each instrument on a specific problem was divided into categories of 1) proposed legislative actions, 2) actions requiring behavioral change, 3) incentive measures, 4) health maintenance measures, 5) areas for further research and 6) open ended question.

The instruments were mailed to a sample of 180 students and delivered to 97 faculty members at Montana State University. The data were compiled and analyzed to test the stated hypotheses. Chi Square test of independence was used to analyze the data at the five percent level of significance. The data were then presented in appropriate tables for drawing conclusions and making recommendations.

Chapter 4

ANALYSIS OF DATA

The purpose of this study was to determine the perceptions of Montana State University students and faculty members regarding primary prevention program measures for the health problems of smoking, alcohol abuse, and inadequate or excessive food consumption. The data and analysis are presented for each of the three questions under investigation.

Tables are presented to analyze each individual item of each opinionaire with regard to differences in perceptions between faculty and students regarding the items under investigation. The tables contain the number and percentages of faculty and students responding to the scale of each item. They also include the calculated value of chi square, the critical value of chi square, the degrees of freedom, the level of significance, the decision made about each item, and comments on the significance or non-significance of each item.

Method of Sampling and Number Sampled

The sample of faculty members was drawn from the faculty teaching at Montana State University spring quarter of the academic year 1976-1977. There were 527 academic year faculty members at Montana State University during spring quarter, 1977. A systematic random sample of 97 faculty members was drawn.

The sample of students was drawn from students attending Montana State University spring quarter of the academic year 1976-1977. There were 8,385 students enrolled at Montana State University during spring quarter, 1977. A systematic random sample of 180 students was drawn.

Table 1 reveals the number of faculty and students who were sent instruments and the number and percentage of returns usable for the purpose of this study, as well as the number and percentages of unusable returns. The returns which were unusable indicated a large number of omitted items.

Table 1. Number and Percent of Faculty, Students and Instruments Involved in the Study

Items	No.	%
Number and % of faculty who were mailed instruments	97	100
Number and % of faculty who returned instruments	63	64.9
Number and % of instruments usable for the purpose of study	60	61.8
Number and % of instruments unusable	3	4.76
Number and % of students who were mailed instruments	180	100
Number and % of students who returned instruments	101	56.1
Number and % of instruments usable for the purpose of study	92	51.1
Number and % of instruments unusable	9	8.9

Data Tabulated

The responses of all faculty and students who completed the three instruments involved in the study were carefully checked and scores for the three instruments were tabulated. These individual scores were combined and computed to establish chi square tables for each question in each individual opinionaire under investigation. Tables were constructed for each item of each opinionaire from individual scores obtained by carefully pairing the frequency of responses to each scale item between faculty and students. The tabulated scores were analyzed by an appropriate program of chi square run at Montana State University Mini Stat Center. All of the computed statistical values were compared to the appropriate critical values at the .05 level of significance.

Table 2. Number and Percentage of Students and Faculty Responding to Item #1 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	10	50	7	35	2	10	1	5
Students	10	33.33	12	40	6	20	2	6.66

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of x^2 = 1.72

Critical value of x^2, df = 3, = 7.82 at .05 level of significance.

Decision: Retain the null hypothesis.

Comments: There is no significant difference between the perceptions of students and faculty members at Montana State University regarding their degree of agreement with the statement:

1. Develop consistent state and local alcohol control laws oriented towards prevention of abuse.

Table 3. Number and Percentage of Students and Faculty Responding to Item #2 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	11	55	5	25	4	20	0	0
Students	18	60	11	36.66	1	3.33	0	0

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of $x^2 = 3.90$

Critical value of x^2, df = 2, = 5.99 at .05 level of significance

Decision: Retain the null hypothesis

Comments: There is no significant difference between the perceptions of students and faculty members at Montana State University regarding the degree of agreement with the statement:

2. Increase communication between control agencies and those agencies involved with alcohol-related problems.

Table 4. Number and Percentage of Students and Faculty Responding to Item #3 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	0	0	4	20	4	20	12	60
Students	2	6.66	7	23.33	8	26.66	13	43.33

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of x^2 = 1.35

Critical value of x^2, df = 2, = 5.99 at .05 level of significance.

Decision: Retain the null hypothesis.

Comments: There is no significant difference between the perceptions of students and faculty members of Montana State University regarding the degree of agreement with the statement.

3. Reduce the alcohol content of certain beverages.

Table 5. Number and Percentage of Students and Faculty Responding to Item #4 on the Alcohol Abuse Opinionaire

	Strongly Agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	10	50	2	10	6	30	2	10
Students	5	16.66	7	23.33	9	30	9	30

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of x^2 = 7.81

Critical value of x^2, df = 3, = 7.82 at .05 level of significance.

Decision: Retain the null hypothesis

Comments: There is no significant difference between the perceptions of students and faculty members at Montana State University regarding the degree of agreement with the statement:

4. Restrict advertisements for alcoholic beverages.

Table 6. Number and Percentage of Students and Faculty Responding to Item #5 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	10	50	3	15	3	15	4	20
Students	8	26.66	7	23.33	6	20	9	30

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of x^2 = 2.86

Critical value of x^2, df = 3, = 7.82 at .05 level of significance.

Decision: Retain the null hypothesis

Comments: There is no significant difference between the perceptions of students and faculty members at Montana State University regarding the degree of agreement with the statement:

5. Exclude advertising for alcoholic beverages as a deductible business expense for tax purposes.

Table 7. Number and Percentage of Students and Faculty Responding to Item #6 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	6	30	9	45	1	5	4	20
Students	5	16.66	11	36.66	6	20	8	26.66

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of x^2 = 3.33

Critical value of x^2, df = 3, = 7.82 at .05 level of significance.

Decision: Retain the null hypothesis

Comments: There is no significant difference between the perceptions of students and faculty members at Montana State University regarding the degree of agreement with statement:

6. Adjust the tax rate according to the amount of absolute alcohol in the beverage.

Table 8. Number and Percentage of Students and Faculty Responding to Item #7 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	9	45	9	45	0	0	2	10
Students	11	36.66	11	26.66	5	16.66	3	10

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of $x^2 = 2.08$

Critical value of x^2, df = 2, = 5.99 at .05 level of significance.

Decision: Retain the null hypothesis

Comments: There is no significant difference between the perceptions of students and faculty members at Montana State University regarding the degree of agreement with the statement:

7. Establish a state tax on alcohol sales to fund treatment and research for prevention of alcohol abuse.

Table 9. Number and Percentage of Students and Faculty Responding to Item #8 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	7	35	11	55	2	10	0	0
Students	22	73.33	6	20	2	6.66	0	0

Faculty - N = 20 Students - N = 30

Comparison: Calculated values of $x^2 = 7.53$

Critical value of x^2, df = 2, = 5.99 at .05 level of significance.

Decision: Reject the null hypothesis

Comments: There is a significant difference between the perceptions of students and faculty members at Montana State University regarding their degree of agreement with the statement:

8. Develop cooperative educational programs on the limits of responsible drinking, identification of problem drinkers, and availability of community resources.

Table 10. Number and Percentage of Students and Faculty Responding to Item #9 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly disagree	
	No.	%	No.	%	No.	%	No.	%
Faculty	11	55	7	35	2	10	0	0
Students	19	63.33	10	33.33	1	3.33	0	0

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of x^2 = 1.04

Critical value of x^2, df = 2, = 5.99 at .05 level of significance.

Decision: Retain the null hypothesis

Comments: There is no significant difference between the perceptions of students and faculty members at Montana State University regarding their degree of agreement with the statement:

9. Give special support to programs effective in early detection, and to treatment services designed to meet the needs of those in earlier stages of alcohol-related problems.

Table 11. Number and Percentage of Students and Faculty Responding to Item #10 on the Alcohol Abuse Opinionaire

	Strongly agree		Agree		Disagree		Strongly agree	
	No.	%	No.	%	No.	%	No.	%
Faculty	15	75	5	25	0	0	0	0
Students	18	60	11	36.66	1	3.33	0	0

Faculty - N = 20 Students - N = 30

Comparison: Calculated value of x^2 = 1.20

Critical value of x^2, df = 1, = 3.84 at .05 level of significance.

Decision: Retain the null hypothesis

Comments: There is no significant difference between the perceptions of students and faculty members at Montana State University regarding their degree of agreement with the statement:

10. Conduct research to establish greater understanding of the relationship of alcohol use to pregnancy and fetal health.