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DRUG USE, INTERNAL-EXTERNAL CONTROL,
AND SOCIAL INVOLVEMENT

BY

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ABSTRACT

A stratified random sample of 708 Calgary youth was chosen in order to test the curvilinear relationship hypothesized between Rotter's I-E control and drug use. Thus, utilizing Rotter's social learning theory, internal control was hypothesized to be associated with non drug use and regular drug use while external control was predicted to be linked with occasional drug use. Then, two attitude scales, the I-E and ASF scales were coupled together and related to drug use and to participation in "tight" organizations, "loose" organizations and social activism.

Since marijuana and alcohol were used by the youth more often than other drugs, they were a primary concern throughout the study. In addition, however, a category of "illicit drug use" was included in the analysis.

After executing numerous cross-tabulations, internal control was found to be related to non drug use. This finding showed that a linear relationship existed between I-E control and drug use rather than a curvilinear relationship. The remaining hypotheses were revised to coincide with these new results.

A Pearson correlation analysis revealed that illicit drug use (i.e., marijuana use) was strongly associated with only one type of social participation: participation in "loose" organizations. By attending rock festivals ("loose" organizations), drug users are perceived by society to engage in unconventional behavior.

When a multiple correlation analysis and a rank ordering of Beta weights was executed, I-E control and ASF explained little about social participation. However, illicit drug use in general, marijuana use in particular and alcohol use explained substantially more about social participation than I-E control and ASF. Overall, other independent variables (than those studied here) would have greater influence upon social participation.

In conclusion, the drug and demographic data from the Calgary study were compared with drug and demographic findings in other studies.

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CHAPTER I

INTRODUCTION

During 1971 Raymond Currie conducted a survey among Calgary youth. He chose a city-wide, random sample of young adults, 15 to 24 years of age. He administered a questionnaire that was constructed to emphasize religion and images of man. Although Currie included questions about drug use, the present study is the first analysis of that data.

This thesis will examine the problem of drug use among Calgary youth, the social-psychological state of youth as an antecedent of drug use, and the consequences of drug use upon youth's behavior.

The results will concentrate upon marijuana use by youth since this drug has been used more extensively than any of the other illicit drugs.

The Significance of the Study

This Calgary youth survey is important because it is the only one in Western Canada which is known to utilize city-wide sample of licit and illicit drug users.

Originally, numerous drug items were included in the pretest of the questionnaire. Then, in consultation with Reginald Smart (1970; 1971), who has directed a number of drug surveys in Eastern Canada, the final set of questions was selected. The drug findings from this Calgary survey are, therefore, directly comparable to those in Smart's studies.

Certain generalizations about drug users exist in society. One viewpoint is that drug users are "categorically different" from other youth in some of their social-psychological attitudes. Whether this generalization is realistic will be determined through questionnaire items that distinguish youth who believe they can control desired outcomes in life (internal control) from youth who believe they cannot (external control). This is measured by the use of the I-E scale (Internal-External sense of control of events) developed particularly by Julian Rotter (1962).

Secondly, there is a general belief in society that drug users are "apathetic". This belief will be examined by measuring the extent of drug users' participation and membership in "loose" and "tight" organizations. In addition, the findings will indicate if drug users are social activists.

Organization of the Thesis

A thorough review of the drug literature (relating primarily to marijuana use) is included in the theoretical framework of Chapter Two. From this discussion, it is hypothesized that social psychological attitudes, i.e., internal-external sense of control of reinforcement, are associated with such behavior as drug use. In previous literature, alienation has been linked with drug use and powerlessness, one dimension of alienation, has been linked with external sense of control. Therefore, powerlessness and drug use can be linked here. Subsequently, internal-external control is related to two forms of behavior: participation in "tight" and "loose" organizations. Throughout the theoretical framework, relationships are examined among certain variables viz., internal-external control, organizational participation and drug use. In the latter part of this Chapter, some problems with the rationale of internal-external control are indicated. Consequently, internal-external control is coupled with awareness of social factors for analyzing such behavior as social activism. Next, the hypotheses are formally stated in accordance with the previous theory.

Chapter Three describes the research methodology involved in this survey. The sampling procedures are described; the measurement techniques for all independent

and dependent variables in this study are operationally defined. In conclusion, an outline of the strategy for testing the hypotheses is presented.

Chapter Four presents the finding that youth with an external sense of control are drug users and youth with an internal sense of control are non-drug users. Based upon these results, it became necessary to revise the former hypotheses. Then, a discussion of the association between drug use and various kinds of organizational participation follows. Next, the hypotheses are tested by analyzing multiple correlations and Beta coefficients for several combinations of the dependent and independent variables.

In Chapter Five, the drug and demographic information among Calgary youth is compared with similar information in other studies.

A summary of the entire research paper is found in Chapter Six. In addition, conclusions and suggestions for further research are formulated.

CHAPTER II

THEORETICAL FRAMEWORK

Review of the Literature

Drugs for this study are those chemical and natural substances that alter the structure or function of a living organism, such as alcohol, marijuana, solvents (glue, gasoline, etc.), barbiturates, opiates (heroin, morphine, opium), stimulants (pep pills), tranquilizers, LSD and other hallucinogens. These drugs are classified in a variety of ways by legal, medical, and social agencies. Alcohol is the only legal drug that will be considered in the questionnaire.

Numerous theories of drug use have been studied from a social perspective. Some of these theories state that drug use is connected with the following: the hang loose ethic (Suchman, 1972: 122-136; Blum and Associates, 1970: 11-12; Marihuana and Health, 1971: 43), the cult of experience (Interim Report of the Commission of Inquiry Into the Non-Medical Use of Drugs, 1970: 162-3; Yablonsky, 1968: 57; Rozak, 1969: 56), alienation (Schofield, 1971: 60; Carey, 1968: 52; Carey, 1970: 101), chemical commercialism (Farber, 1970: 57-65; Wittenborn et al, 1969), protest

and rebellion in youth (Kalant and Kalant, 1971: 45; Laurie, 1967: 154), the youth culture in general (Johnson, 1971: 199, 203, 212; Gormely, 1970: xiii), anticipatory socialization (Mauss, 1969: 357-364), hippie movements and/or counter-cultures (Yablonsky, 1968: Rozak, 1969), the deterioration of religion (Goode, 1970: 42; Westhues and Anderson, 1972: 139) and family (Smart, Fejer, White, 1970: 23-4), the drug subculture (Goode, 1970: 22; Johnson, 1971: 25-26, 203, 211-12), social interaction and peer group pressures (Becker, 1971: 384-95), the amotivational syndrome (Grinspoon, 1971: 287, Snyder, 1971: 86-7; Hart, 1970: 167), positive myths about drugs, i.e., drug use increases appetite, visual acuity, intelligence, etc. (Grinspoon, 1969: 17-25; Simmons, 1967), the psychedelic revolution (Marshall and Taylor, 1967; Rozak, 1968: 168), increased artistic creativity (Whitaker, 1969: 88-9; Kalant and Kalant, 1971: 47), self-destruction (Leich and Jordan, 1967: 60; Blum and Associates, 1970: 97), the sensate, hedonistic and pill-taking society (Cain, 1969: 55; Louria, 1968: 16-17; Schofield, 1971: 9), the escape from reality (Mouledoux, 1972: 119-20; Louria, 1968: 18), the permissiveness in society (Schofield, 1971: 180-1; Brenner, Coles, Meagher, 1970: 124), the aphrodisiac properties of drugs (Lewis, 1970: Hart, 1970: 168), psychological abnormality (Louria, 1968: 190; Snyder, 1971: 79), reduction of cognitive dissonance (Wittenborn et al, 1969: 152-3) and conditioning of drug use behavior (Kalant and Kalant, 1971: 76-80). The

first eleven theories emphasize the sociological factors affecting drug use while the remaining theories emphasize psychological factors affecting drug use.

Since social learning theory emphasizes that the major or basic modes of behaving are learned in social situations (Rotter, 1954: 84) it includes both the psychological and social factors. This theoretical approach is somewhat more extensive than the previous theories of drug use.

Among the many social learning theorists Rotter, Seeman and Liverant (1962, 37-38) are explicit with regard to internal and external sense of control of reinforcement.

"On the ideal level, internal control describes an individual who in a specific situation or class of situations believes that what has happened, is happening or will happen is directly related to what he had done, is doing or will do in those situations. If "good" things happen, he thinks that this is the case because he has worked hard enough or skillfully enough to make them happen that way. For example, if he gets an A in class, a raise in salary, a date with a desirable girl or elected to the city council it is because of his own efforts and capabilities in these situations. On the other hand, he feels equally responsible for the "bad" events which happen to him. If he tries and fails to get the above rewards then he either did not try hard enough, did not go about it in the right way, was not skillful enough or is in some other way responsible for his past, present and future failures or misfortunes. . . . In contrast the image of external control pertains to an individual who is engaging in the belief that what happens to him in certain situations is unrelated to what he does in those situations. He achieves satisfactions because he is lucky, other people are responsible, fate is on his side or it was "just one of those

things." The causes of the negative events which happen to him are attributed to forces beyond his understanding and/or control. Failure to attain desired goals or punishments of any kind are attributed to anything but his own activities or lack of them in certain situations."

Internal control of reinforcement is considered to be the extent to which an individual believes he can control what happens to him and external control of reinforcement is considered to be the belief that a person is controlled in all situations by luck, fate or powerful others. In this study, an "internal" youth believes he can control a situation with his own skills but an "external" youth believes he has little or no control over an unpredictable environment. It should be noted, however, that this theory of a sense of control of events focuses on a personality configuration rather than on an environmental condition.

Internal-External Control and Drug Use

There are several studies that have utilized a social learning framework for investigating drug use (Becker, 1963; Becker, 1967; Carey, 1968; Blum, 1970; Chein et al, 1964; Goode, 1970; Sadava, 1971; Berzins et al, 1973). In conjunction with social learning theory, these investigations emphasize psychopathology, delinquency, personality, specific student populations and drug addiction. The aim of this thesis is to employ social learning theory in isolation in order to analyze drug use among youth.

Rotter's social learning theory can be linked with drug use. For example, an inefficient society was viewed by Veblen as less productive because individuals in it believed outcomes were determined by chance or fate (1934). Parallel to this idea is the belief in external control of reinforcements which Rotter related to a general passivity in man (1966: 3). In other words, Rotter found a relationship existed between passivity and external control.

The use of marijuana has been linked with passivity. For example, the amotivational syndrome is characteristic of those marijuana smokers who are passive, non-productive, apathetic, non-effective, and unwilling to concentrate and master new material (McGlothlin and West, 1970: 150-7). Concurrently, the "hang loose ethic" has been connected with marijuana smokers who are non-conformists, apathetic and dissatisfied with the educational system (Suchman, 1972: 122-136). According to Schofield (1971: 116) marijuana smoking makes man passive and peace loving. The evidence suggests that the apathy and passivity descriptive of marijuana users is linked with external control of reinforcement.

Straits and Sechrest (1963: 282) developed the James Test of internal and external control within the framework of Rotter's social learning theory. They found that tobacco

smokers are "external" and non-tobacco smokers are "internal." In addition, tobacco smokers more often use illicit drugs than non-tobacco smokers (Johnston, 1972: 5). These findings suggest that non-tobacco smokers and non-drug users have an internal sense of control while tobacco smokers and drug users have an external sense of control.

The above theory suggests that all drug users are "externals" but evidence follows showing that drug users have different beliefs about controlling reinforcement depending upon the frequency with which they take drugs. Goss and Morosko (1970) found that alcoholics, i.e., regular drug users, had an internal sense of control over reinforcement. Berzins et al (1973) found that opiate addicts have an internal sense of control because the use of opiates enables the user to exert direct control over reinforcements. Each time the addict uses opiates he achieves control or mastery over his anxieties, conflicts, impulses, moods, bodily states and so on. Furthermore, students with an internal sense of control were shown to use opiates more than other students. According to Blum and Associates (1970: 129) intensive drug users were found to have faith in drugs to achieve personal goals. This suggests that regular users of "hard" and "soft" drugs believe they have an internal sense of control. Blum used

an introversion-extroversion subscale of the Myers-Briggs Type Indicator which cannot be compared to Rotter's scale of internal-external control. Nevertheless, Blum discovered that regular drug users possess a "rosy-colored view" of illicit and licit drugs as tools to control their inner selves and their outer environment. It should be noted that Blum's finding is reported as a discovery and does not explain the "process" by which an individual moves from an occasional to a regular drug user.

Blum's drug users indicated the following functions of "soft" and "hard" drug use: to become less afraid or more courageous, to find out more about oneself, to have religious experiences or come closer to God, to satisfy a strong craving or compulsion, to relieve boredom, to make one feel less depressed, to reduce tension or nervousness, to make a good mood last longer, to relieve or counter-act anger or irritability, to make one more friendly or loving towards others, to reduce or increase one's appetite sensitivity or capacities, to reduce sexual desires, to keep oneself from going into a panic, to kill oneself, to make one smarter, to improve one's performance, to get ready for some stress, to shut things out. It is suggested that drug users who indicate these functions of drug use are stating that they can control the positive reinforcement which their inner selves receive through drug use. Thus,

drug use and internal control are associated in the literature. Blum maintains that the more functions of drug use that a drug user indicates, the more intensively he uses drugs. This suggests then, that regular drug use is related to internal control over reinforcement.

Not only are Rotter's definitions of internal-external control connected with illicit or licit drug use but the basic assumptions underlying social learning theory support the hypothesis that a relationship exists between drug use and internal-external control. The first assumption states that individuals direct their behavior toward goals and needs that give them the most pleasure. In other words, behavior which has the greatest potential for being positively reinforced will occur most often in individuals. This assumption has been applied to illicit drug users by Becker (1971: 384-395) who relates the experiences of the novice marijuana smokers. Initially, the novice defines his drug experience as negatively reinforcing. For example, the novice may experience a dry, burning sensation in his throat, an awful taste in his mouth, fear which develops into a state of panic, no change in his senses, etc. Later, he re-defines marijuana experiences as pleasurable (or positively reinforcing) in order to adjust his definition to fit the one used by the drug users. Thus, marijuana smoking has the greatest potential for being posi-

vely reinforced in a "pot group" and it will occur most often in that social setting.

The second assumption holds that individuals come to value certain needs or goals. For example, the drug user comes to value drugs because he has control over his own body as he wishes (Corbett, 1971: 48), drugs are the center of his life (Cain, 1969: 73), pleasure comes in a pill (Westman, 1970: 3), drugs can produce individual transformation (Carey, 1968: 17), he can escape authentic reality by indulging in a pseudo-reality (Carey, 1970: 99), he can control the amount of any drug he uses (Grinspoon, 1971: 128), he can have intense personal experiences (Blum, 1970: 9-11). The drug user values drugs because with drugs he can view himself as the master of his inner and outer environments. This suggests that some drug users have an internal sense of control over reinforcements. The above findings are not based directly upon social learning theory nor the I-E scale but are related to the concept of internal control as it has been defined earlier.

The literature has suggested that drug users are both "external" and "internal". The third assumption of social learning theory can resolve this theoretical dilemma. It states that individuals come to generalize the reinforcements they receive in one situation to other similar situations. This supposition is applicable to drug users.

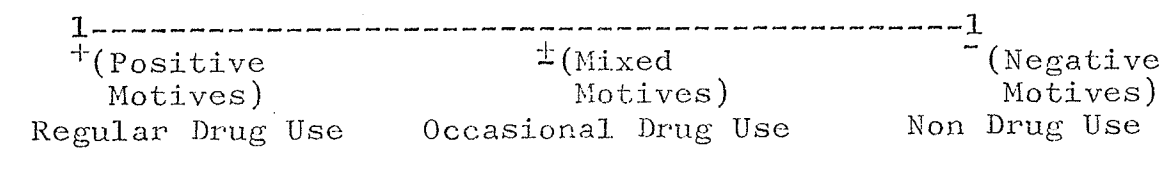
For example, Goode (1970: 176) found that the infrequent marijuana user has more adverse drug reactions than the frequent marijuana user. According to Smith and Mehl (1970: 72) the occasional marijuana user is committed to the "straight" society and gets anxiety reactions when he loses control over his mind or body. These findings illustrate that the occasional drug users receive more negative reinforcement from drug use than the regular drug users. Also, the occasional drug users will generalize their bad experiences in the past to future drug experiences. Since the occasional drug users "lose control" more often it is suggested here that they will regard their drug experiences as unpredictable or chance-determined. The occasional drug users are, therefore, likely to be "externals".

Non-drug users have been linked to an internal sense of control earlier. Non-drug users have very negative views about the use of drugs according to Blum (1970: 52, 54-55). This suggests that the socialization process for these individuals has not positively reinforced drug taking and therefore, drug taking has not been valued. Consequently, non-drug users view a drug(s) as negatively reinforcing and generalize this viewpoint to all drugs. Blum adds further that abstainers are career-oriented, are satisfied with school activities and are optimistic

about fulfilling future plans. This suggests that non-drug users feel they have the personal abilities to control their future outcomes, i.e., internal sense of control. These findings are not the result of measures of Rotter's internal-external control but they have significant implications for this theoretical framework.

According to Blum (1970) individuals may be non drug users, less intensive drug users or intensive drug users depending upon their characteristics (e.g., sex, age, etc.) and their valence of motives for drug use. Negative motives for taking marijuana or alcohol are characteristic of non drug users. Positive motives for taking drugs are characteristics of intensive drug users. Mixed positive and negative motives are found among moderate drug users. Blum's continuum of motives for drug use can be related to non drug users, occasional drug users and regular drug users.

FIGURE 1. Continuum of Motives and Frequency of Drug Use



Since regular drug use is positively reinforcing the individual believes that he has an internal sense of control over desired outcomes (e.g., "good" drug experiences).

Since non drug users find drugs to be negatively reinforcing they continue to develop their skills (without drugs) to control outcomes. Occasional drug users receive intermittent reward and punishment when they take drugs. Consequently, these individuals believe they have little or no control over which type of reinforcement they will receive after taking drugs.

In summary, a sense of internal or external control is associated with the frequency of drug use. The non-drug user feels he does control his own outcomes (internal control), the occasional drug user believes drug experiences are unpredictable events (external control), the regular drug user feels optimistic that he can control the reinforcements he receives (internal control).

External Control, Powerlessness, and Drug Use

Powerlessness is considered here because it can be related to social learning theory. It is one dimension of alienation which occurs in an ongoing debate.

Many theorists have linked powerlessness with an external sense of control of events. Marx, Weber and Durkheim viewed the alienated individual as unable to control his destiny (Rotter, 1960: 3). In addition, Seeman (1959), Neal and Rettig (1963), Rushing (1970) and Neal and Seeman (1964) conceptualized powerlessness as low

expectancy of control over outcomes. This was measured by a low score on the I-E scale.

The drug literature reveals that a relationship exists between alienation and drug use though the powerlessness dimension of alienation has not always been explicit in the studies. Carey (1970: 101) found that marijuana users felt a sense of powerlessness in the face of inflexible political structures. He also found that occasional and regular drug users are alienated to different degrees. Fejer and White (Smart and Fejer, 1971) found that heavy drug users are less alienated than moderate drug users. From these findings it is suggested that regular drug users are less alienated than occasional drug users. It should be recalled, however, that Blum found that occasional drug users have an external sense of control. Therefore, occasional drug users are more likely than regular drug users to be alienated "externals."

According to Blum and Associates (1970: 59) non-drug users may or may not be alienated, are basically satisfied with what they are doing and optimistic about the future. For non-drug users then, it is difficult to see any clear connection with alienation.

As has been discussed already, powerlessness, one

dimension of alienation, is linked with external sense of control. In addition, alienation has been linked with drug use. In this thesis, it will be established whether alienation (i.e., powerlessness) measured by the I-E scale, is linked to drug use thus linking internal-external sense of control of events and drug use.

Internal-External Control, Organization Involvement and Drug Use

Earlier, the social-psychological attitudes of individuals (i.e., internal-external control) have been associated with frequency of drug use. Now, the following theory will link both social-psychological attitudes and frequency of drug use with individuals' behavior (e.g., participation in "tight" organizations, "loose" organizations and social activism).

In this section two kinds of organizational involvement will be considered.

- i) participation in "tight" organizations¹
- ii) participation in "loose" organizations²

¹According to Pertti J. Pelto (1968), anthropologist, a "tight" society is characterized by formality, order, rigid norms, permanence, solidarity, discipline and conformity. Parallel in definition to "tight" societies are "tight" organizations.

²Pelto (1968) also defined a "loose" society as individualistic, expressive, atomistic, self-sufficient, flexible in norms and tolerant of deviancy. Similar to this definition of a "loose" society is the definition of a "loose" organization.

A relationship exists among involvement in "tight" organizations, non drug use and social learning theory. Seeman (1966) utilized Rotter's scale of internal-external control of reinforcement and discovered that Swedish workers with an internal sense of control were active union members. This suggests that individuals with an internal sense of control are not only members of but also participate in "tight" organizations. Smart, Fejer and White (1970: 34) found that "organized" peer group activities were associated with non-drug use. Therefore, non-drug users more than drug users are likely to be actively involved in "tight" organizations.

Organizational involvement, powerlessness (measured by external sense of control of events) and drug use are connected in subsequent theory. Neal and Seeman (1964), using the concept of powerlessness to measure the degree of external control, found that "externals" were members of few or no social organizations. Previously, external control was linked with occasional drug use. Therefore, occasional drug users expected to be "externals" can also be expected to show little or no participation in "tight" organizations.

A relationship exists among involvement in "loose" organizations, drug use and social learning theory. Blum and Associates (1970: 79) found that the more experienced

drug user belongs to no social organizations. In addition, Strickland (1965) found that internals do participate in "looser" organizations. This suggests that the regular drug user, who was theorized to have an internal sense of control, would be involved in "loose" organizations rather than "tight" organizations.

I-E Control Coupled with ASF, Social Activism and Drug Use

In the previous discussion, social-psychological attitudes (internal-external control), behavior (participation in "tight" and "loose" organizations) and frequency of drug use have been discussed in regard to their relationships. Similar relationships can be reported for a third kind of behavior, social activism.

Gore and Rotter (1963) found that Negro college students with an internal sense of control were more willing to participate in marches to alleviate discrimination against themselves than were "externals". Also, Strickland (1965) found "internal" Negro activists participated in demonstrations, rallies, and the like.

Furthermore, drug users have been linked with social activism in the literature. Marijuana users have been known to participate less in campus organizations and engage more in political activities (such as opposition to the Vietnam War or the draft), 'happenings' and mass protests (Marijuana

and Health, 1971: 43). Goode (1970: 44) found that 40 per cent of demonstrators have tried smoking marijuana. Keniston (1970: 136) states that students who use drugs do not get involved in conventional social institutions. Suchman (1972: 116) discovered that marijuana users with a 'hang loose ethic' are rebellious and engage in protests and demonstrations.

In the preceeding paragraphs, drug users in general and "internals" have been linked to social activism. Regular drug users in particular are hypothesized to be "internal". Therefore, they are most likely to be social activists. Because occasional drug users are hypothesized to be "externals", they are unlikely to be social activists.

Strickland (1965) maintains: "clearly the Internal-External scale appears to be a useful instrument in the prediction of social action. Of primary importance, however, are the implications of the research in identifying variables such as internality-externality that underlie behavioral commitment."

In spite of Strickland's statement, there are logical weaknesses present in the I-E scale. According to Gurin (1969), respondents are confused whether I-E control refers to one's own failures and successes (personal control) or to the failures and successes of others in the

society at large (general control ideology). Thus, the I-E scale does not clearly identify whose successes and failures are being referred to. Furthermore, the I-E scale may be indicating two world views held by respondents: those who have an internal sense of control may be individualistic while those with an external sense of control may be characteristically fatalistic in their outlook. Because of these interpretive problems with the I-E scale, it is suggested that this scale would be a weak predictor of social activism when used alone. For that reason the Awareness of Social Factors scale will be coupled with the I-E scale in order to reinforce it.

The Awareness of Social Factors (ASF) scale measures the degree of awareness within individuals that factors in the environment influence their behavior. Three items in this scale were constructed by Gary Marx (1967: 82) and two items were supplemented by Currie (1973: 92). The former questions refer to poverty, employment and achievement while the latter items refer to the Establishment and welfare. Initially, the ASF scale was constructed to predict social activism. For example, Marx found that the ASF scale is strongly associated with militant behavior among Negroes. The following table shows the existence of this relationship:

TABLE 1
AWARENESS OF SOCIAL FACTORS BY SOCIAL ACTIVISM^a

		AWARENESS OF SOCIAL FACTORS AFFECTING BEHAVIOR	
		<u>HIGH</u>	<u>LOW</u>
<u>MILITANCY</u>	<u>HIGH</u>	50%	11%
	<u>LOW</u>	50%	89%
	<u>TOTAL</u>	100% (219)	100% (92)
			(N 311)

^aGary T. Marx, Protest and Prejudice, New York, Harper & Row Pub., 1967, 83.

Marx's measure of awareness of social factors has certain limitations. First, Marx does not indicate the validity or reliability of his index. Second, his findings may reveal the existence of a spurious relationship. For example, while 50% of those Negroes highly aware of social factors are militant, 50% of them are passive.

Since it has been shown that the I-E and ASF scales may not be sound predictors of social activism when used alone, it is proposed that both scales be coupled together. Table 2 illustrates a possible refinement of Marx's findings when the I-E scale is combined with the ASF scale (page 24).

Cell A suggests that 45% of the individuals who have a high ASF coupled with high internal control would be highly militant. Cell B indicates that 45% of the

TABLE 2

AWARENESS OF SOCIAL FACTORS COUPLED WITH INTERNAL-EXTERNAL
CONTROL BY SOCIAL ACTIVISM

AWARENESS OF SOCIAL FACTORS AFFECTING BEHAVIOR					
HIGH ASF				LOW ASF	
		Internal Control (Participation Effective)	External Control (Participation Ineffective)	Internal Control (Effective Participation)	External Control (Participation Ineffective)
MILITANCY	<u>High</u>	45% ^A	5%	10%	1%
	<u>Low</u>	5%	45% ^B	79% ^C	10%
	<u>Total</u>	50%	50%	89%	11%

individuals with a high ASF and high external control would be passive. Cell C suggests that 79% of the individuals who have a low ASF coupled with high internal control would be passive.

These predictions for social activism can be linked with three types of drug users. Before stating this connection, a clear definition of these drug users is given here. The non-drug user is any individual who abstains from all drugs as well as alcohol. The occasional drug user is any individual who uses drugs infrequently. The regular drug user is any individual who uses drugs frequently. By applying the above definitions to the data in Table 2 the following hypotheses are proposed:

A non-drug user who perceives participation as effective (internal control) and who has low awareness of social factors is likely to be passive with regards to social activism (Cell C). Earlier, it was theorized that non-drug users are likely to participate in "tight" organizations.

A regular drug user who perceives participation as effective (internal control) and who is highly aware of social factors is likely to participate in social activism (Cell A). In addition, it was proposed that regular drug users participate in "loose" organizations.

An occasional drug user who views participation as ineffective (external control) and who is highly aware of social factors is not a social activist (Cell B). Also, it was hypothesized that occasional drug users participate little in "loose" or "tight" organizations.

The Hypotheses

In the light of the above discussion, it is now possible to formulate the hypotheses that will be tested in this study.

Hypothesis I: An internal sense of control over reinforcement is more likely to be associated with regular drug users or non-drug users than with occasional drug users (refer to pp 9, 10, 14).

Hypothesis II: An external sense of control over reinforcement is more likely to be associated with occasional drug users than with regular or non-drug users (refer to pp.10, 11, 13, 14).

Hypothesis III(A): For non-drug users, an internal sense of control over reinforcement coupled with a low awareness of social factors is more likely to be associated with participation in "tight" organizations than with participation in "loose" organizations or social activism (refer to pp 18-26).

Hypothesis III (B): For regular drug users, an internal sense of control over reinforcement coupled with a high awareness of social factors is more likely to be associated with participation in "loose" organizations or social activism than with participation in "tight" organizations (refer to pp. 18 - 26).

Hypothesis IV: For occasional drug users, an external sense of control over reinforcement coupled with high awareness of social factors is more likely to be associated with participation in none or few rather than with numerous "tight" or "loose" organizations and in little rather than a great deal of social activism (refer to pp 18-26).

CHAPTER III

RESEARCH METHODOLOGY

This chapter explains the methods used to choose the sample, the rigor taken to construct and pretest the questionnaire, the characteristics of the sample, the measures utilized for the independent and dependent variables and finally, the strategy that will be used to test the hypotheses.

Sample Design

During 1971 a stratified random sample of 750 young adults, aged 15 to 24 years, was chosen in Calgary, Alberta.³ The following sampling procedures were executed:

a) The units of analysis were enumeration areas (E.A.). These areas are subdivisions of census tracts. Census tracts were not used because they were too few in number and had varying population sizes. A 15 per cent sample of E.A.'s was randomly selected (76) and each one was weighted for the percentage of youths to be chosen from it.

³A more complete explanation of the sampling procedures can be found in the original survey: Raymond F. Currie, Religion and Images of Man Among Calgary Youth, New York: Fordham University, unpublished doctoral dissertation, 1973.

b) City blocks within each E.A. were randomly selected.

c) The households on each selected city block were chosen at random.

d) One respondent was chosen randomly from each household. Alternate households were randomly selected where no eligible youth was found.

Pretest of the Questionnaire

In October, 1970, after the random sample of 76 enumeration areas was selected, a purposive sample of 10 E.A.'s was chosen from the remaining areas for the purpose of pre-testing the questionnaire. Wealthier and poorer areas, concentrated ethnic areas and high rise and single dwelling units were chosen for the pretest. Five interviewers carried out the pretest over a five day period. Ninety-three per cent of the sampled youth completed the questionnaire.

The pretest permitted revisions to be made in the questionnaire. In addition, experience was gained in conducting the sampling and interviewing procedures.

The Actual Interviewing Stage

A team of 28 interviewers was trained. The interviews were conducted from February 23 to March 16, 1971. The interviewers assisted respondents in completing the demographic questions and waited until respondents inde-

pendently completed the questions on attitudes and behavior. Respondents answered the drug questions privately without disclosure of the answers to the interviewers. The completed questionnaires were sealed in envelopes and were returned to the office daily.

Ninety-six per cent of the respondents completed the questionnaires. This high response rate can be attributed partially to the extensive media coverage that the survey received.

The Sample

TABLE 3
COMPARABILITY OF THREE STUDIES BY SEX AND AGE

SEX					
MALES			FEMALES		TOTAL YOUTH POPULATION AGE 15 - 24
AGE		AGE			
15-19	20-24	15-19	20-24		
CALGARY 1966 ^a	25.2 (12,939)	22.6 (11,583)	26.3 (13,505)	25.9 (13,314)	100.0% (51,339)
15% E.A. Sample, 1966 ^b	26.2 (1,869)	21.8 (1,555)	26.7 (1,901)	25.2 (1,797)	100.0% (7,122)
POPULATION SURVEYED 1971	28.9 (205)	23.4 (166)	25.8 (183)	21.8 (154)	100.0% (708)

^aDBS, 1966, 95-625.

^bAlberta PO 1-66, DBS, 1966, Special Print-out available in Population Research Laboratory, University of Alberta, Edmonton.

In Table 3, comparisons based on sex and age are drawn from the total population of Calgary by census tracts in 1966, from the 15 per cent random sample of the Enumeration Area population from Calgary in 1966 and from the sample surveyed in Calgary during 1971. The percentages indicate that the population surveyed in 1971 is representative of Calgary youth in terms of sex and age. The percentage differences among the three surveys are largest for females aged 20 to 24 years. This finding is due to the relatively higher non-response rate for this group.

Measures of Independent and Dependent Variables

This study utilizes data which had already been collected before the study was designed. Therefore, the way in which the following concepts are operationalized had been pre-determined. The categories of drug users however, are comparable to those in Reginald Smart's studies in Eastern Canada.

Drug - is any chemical or natural substance that alters the structure or function of a living organism such as alcohol, marijuana, solvents (glue, gasoline, etc.), barbiturates, opiates (heroin, morphine, opium), stimulants (pep pills), tranquilizers, LSD and other hallucinogens. The main concern is with marijuana since it is the illicit drug found to be used most often by Calgary youth (after a preliminary review of the results). The questions concerned

with drugs are questions 79 through 88 in Appendix I.

Non-drug user is defined as an individual who has not used any drugs in the last six months or who has never used drugs during his life. In Appendix I, questions 81 through 84 and question 88 permit respondents to indicate they have used drugs 'not at all' in the past six months. There are two types of non-drug users: those who "might try" drugs and those who "will not try" drugs when they are not using drugs presently. Question 80 provides responses for these two kinds of non-drug users.

Occasional drug user is defined as an individual who used drugs from one to six times in the past six months. Questions 81 to 84 and 88 permit respondents to indicate this pattern of drug use. Occasional drug use is determined by combining one or two times, three or four times and five or six times into one category: one to six times.

Regular drug user is defined as an individual who used drugs seven or more times in the past six months. Questions 81 to 84 and 88 allow respondents to indicate whether they use drugs regularly.

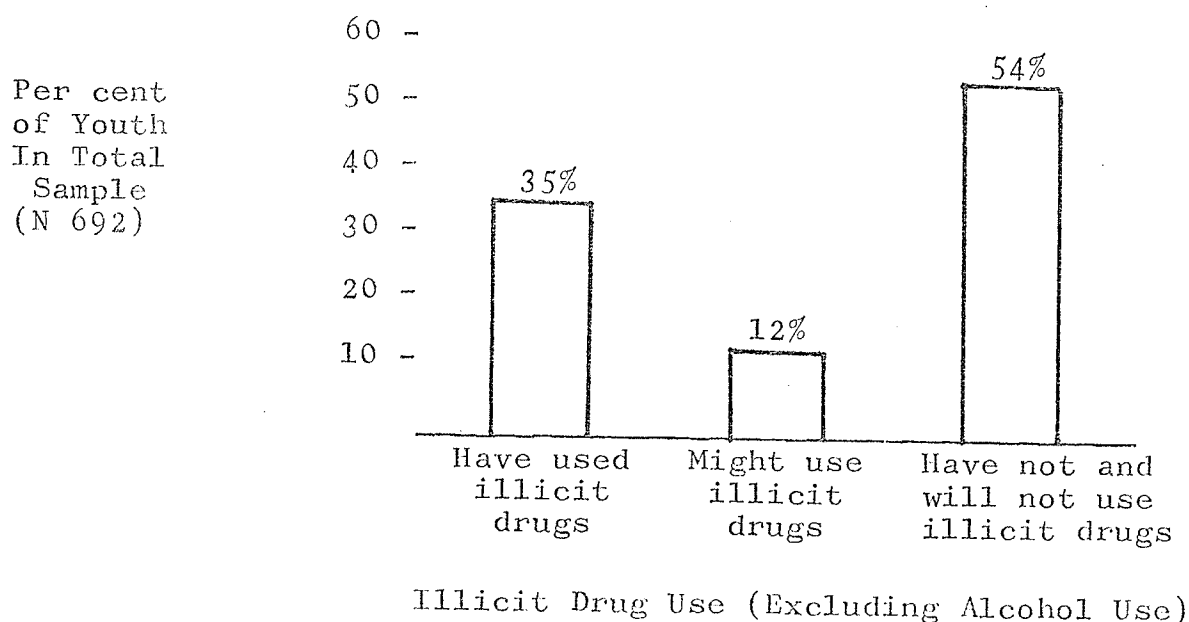
Question 80 permits respondents to indicate their use of illicit drugs (excluding alcohol use).

80. Drugs include marijuana, glue, barbiturates, opiates, stimulants (pep pills), tranquilizers, LSD and other hallucinogens. Check the category that applies to you.

- _____ I have used drugs - I am still using them.
- _____ I have used drugs - I might use them again.
- _____ I have used drugs - I am not using them again.
- _____ I have not used drugs - I might like to try them.
- _____ I have not used drugs - I am not going to use them.

The first three categories were combined into one category for youth having used illicit drugs while the two remaining categories were unchanged. The basic findings for illicit drug use in the sample are given below:

FIGURE 2. Illicit Drug Use In The Total Sample

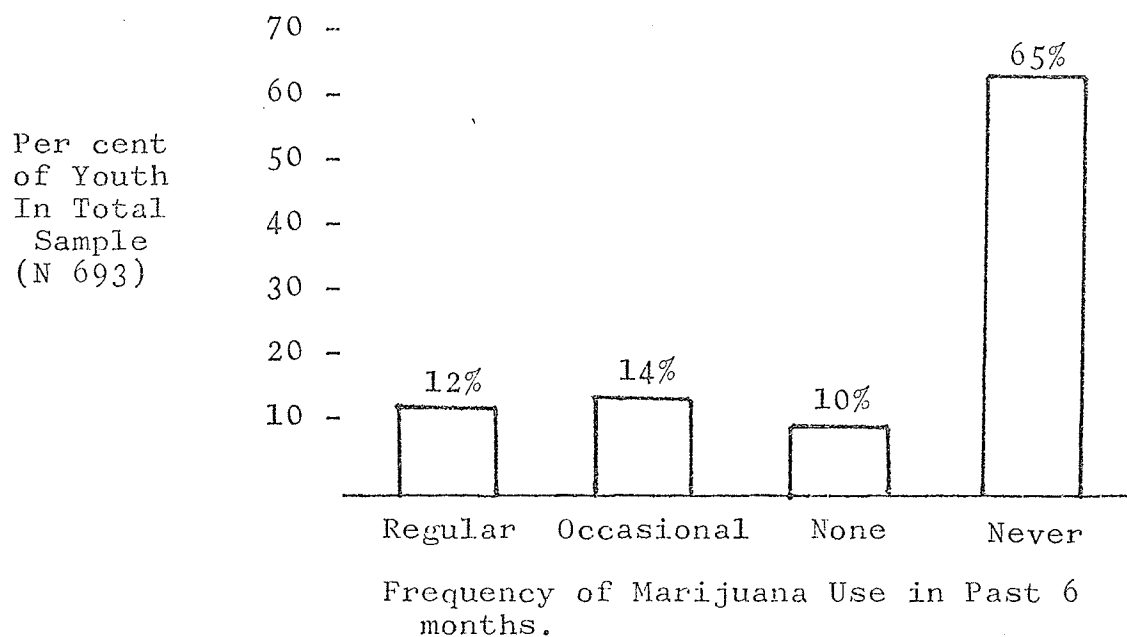


Thirty-five per cent of the total youth sample have used illicit drugs, 12 per cent might use illicit drug and 54 per cent have not used and will not use illicit drugs.

All drug questions considered in the following discussion can be found in the questionnaire in Appendix I.

Question 81 provides responses for youth who have or have not used marijuana in the past six months. The first category is for non-marijuana users. The next three categories are combined to indicate occasional marijuana use. The last category is the response indicated by regular marijuana users. The marijuana findings for the sample are presented in Figure 3.

FIGURE 3. Frequency of Marijuana Use in the Total Sample

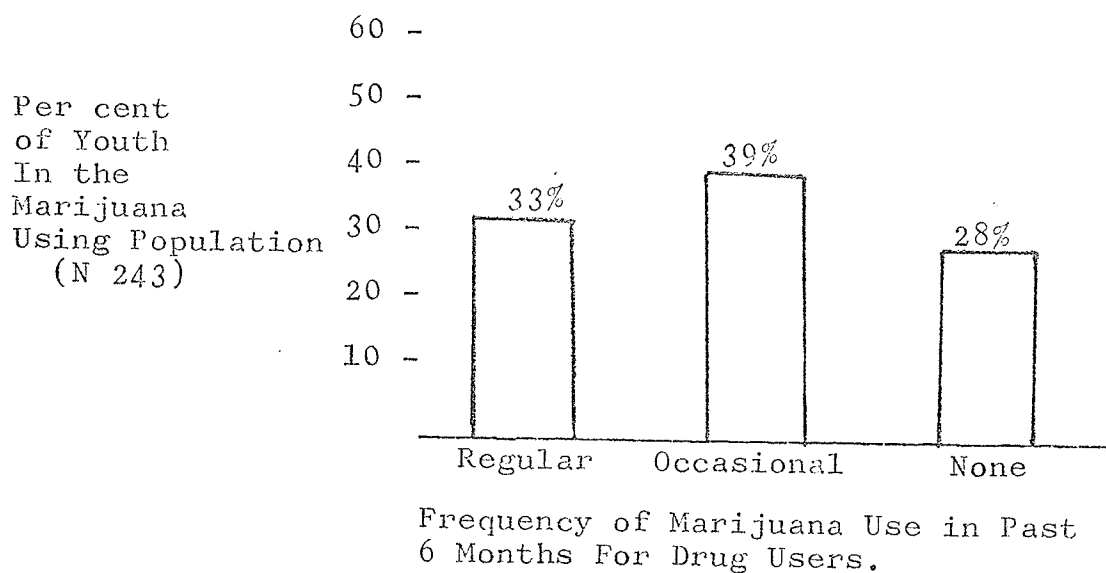


Twelve per cent of the total youth population have used marijuana regularly in the past six months, 14 per cent have used marijuana occasionally in the past six months, 10 per cent have used no marijuana (but say they

have used other drugs) in the past six months and 65 per cent have never used drugs during their lives.

In order to isolate the drug users in the sample, youth who never used drugs are excluded from the following figure.

FIGURE 4. Frequency of Marijuana Use For Drug Users In The Total Sample



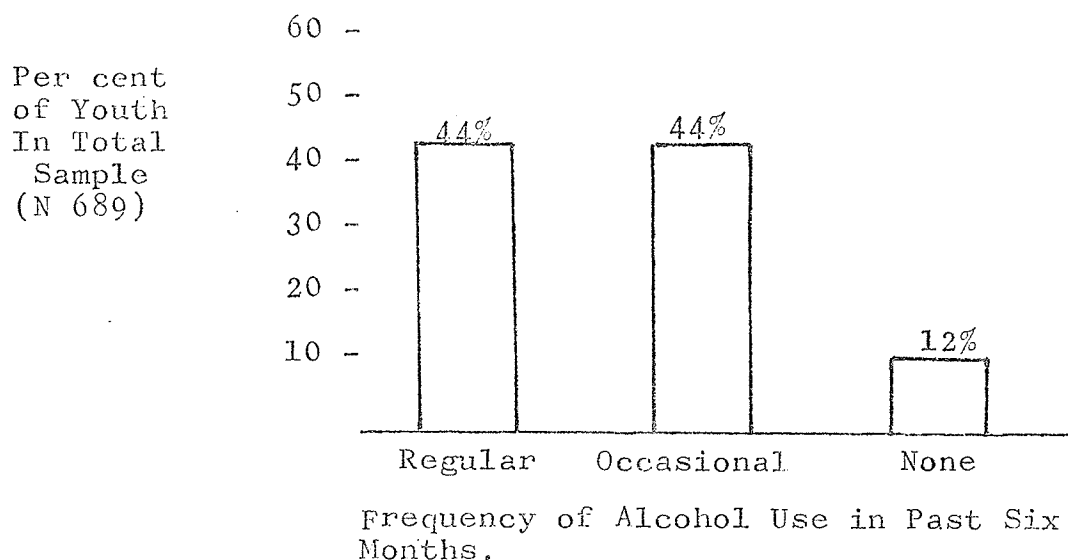
Thirty-five per cent of the total youth population have used illicit drugs while 34 per cent have used marijuana in the past six months.

Thirty-three per cent of the drug using youth are regular marijuana users, 39 per cent are occasional marijuana users and 28 per cent are non-marijuana users.

Question 88 asks youth about the frequency of their alcohol use. The first category refers to non alcohol

users, the next two categories refer to occasional alcohol users and the last two categories are the responses of regular alcohol users. The basic alcohol findings for the sample follow in Figure 5.

FIGURE 5. Frequency of Alcohol Use in the Total Sample

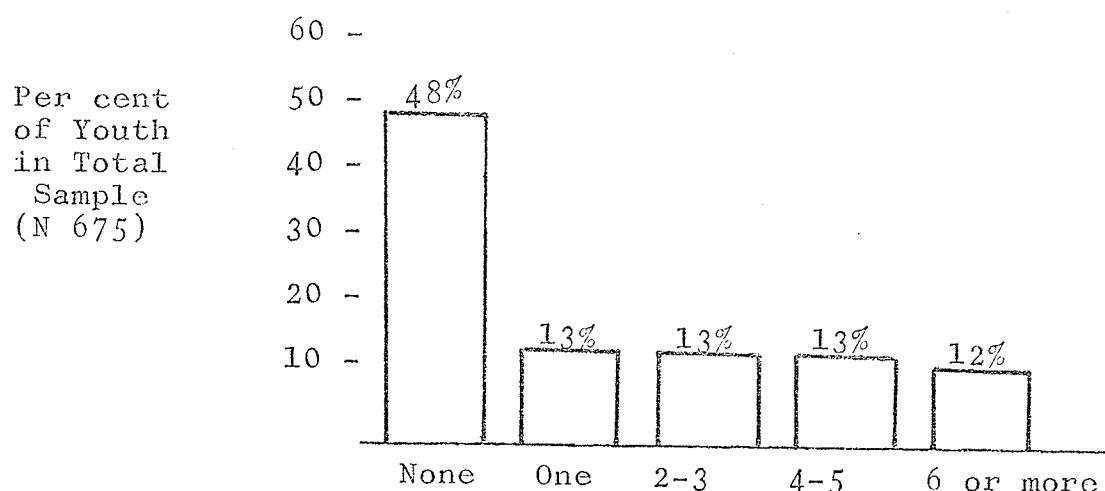


Fourty-four per cent of the total youth population have used alcohol regularly in the past six months, 44 per cent have used it occasionally and 12 per cent have not used it at all.

The marijuana using subgroup (Figure 4) is made up of 243 youth while the alcohol using sample (Figure 5) is comprised of 689 youth. It is evident, then, that more youth consume alcohol than smoke marijuana.

"Tight" Organization is any formal group regularly organized for some social purpose such as a club or union. The kinds of "tight" organizations considered in this study are indicated in questions 66 to 74. Question 75 reveals the degree to which youth participate in "tight" organizations as measured by the number of meetings attended. Figure 6 presents the findings for the sample with regards to participation in "tight" organizations.

FIGURE 6. Number of "Tight" Organizational Meetings Attended per Month in the Total Sample



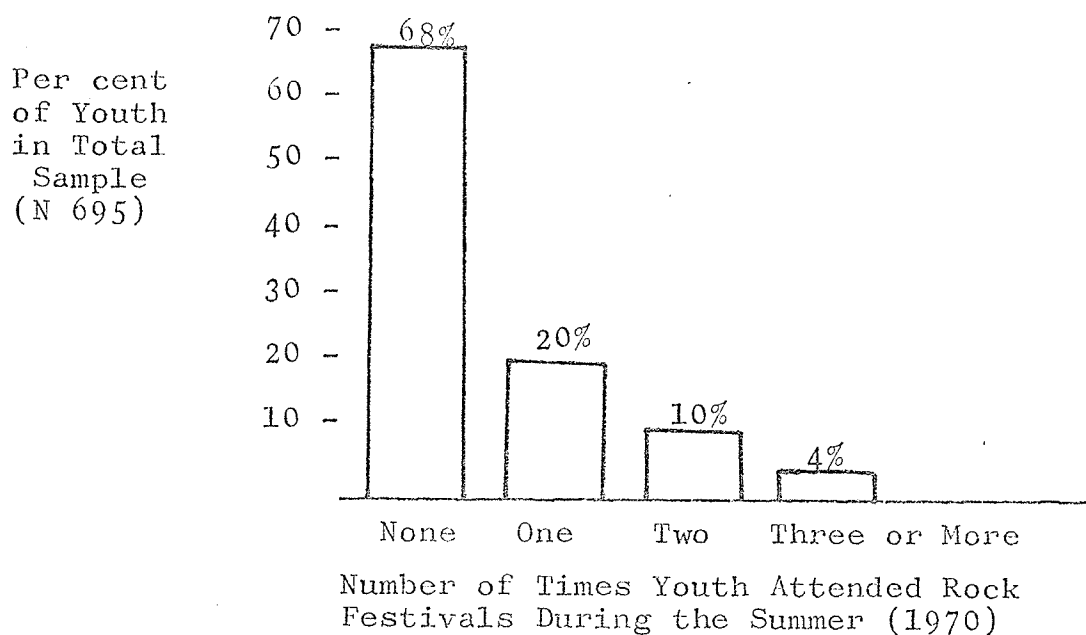
Participation in "Tight" Organizations, i.e., Number of Meetings Attended per Month.

Fourty-eight per cent of the total youth population have attened no "tight" organizational meetings per month, 13 per cent have attended one, two or three and four or five respectively and 12 per cent have attended six or more meetings.

"Loose organization" is any informal group only arbitrarily organized for some social purpose e.g., play group or beer drinking group. There is only one question pertaining to rock festivals which measures this dependent variable (question 77).

Sixty-nine per cent of the total youth population attended no rock festivals the previous summer, 20 per cent attended one rock festival, 10 per cent attended two rock festivals, 4 per cent attended three or more rock festivals. The bar graph shows the distribution of youth according to the per cent attending rock festivals.

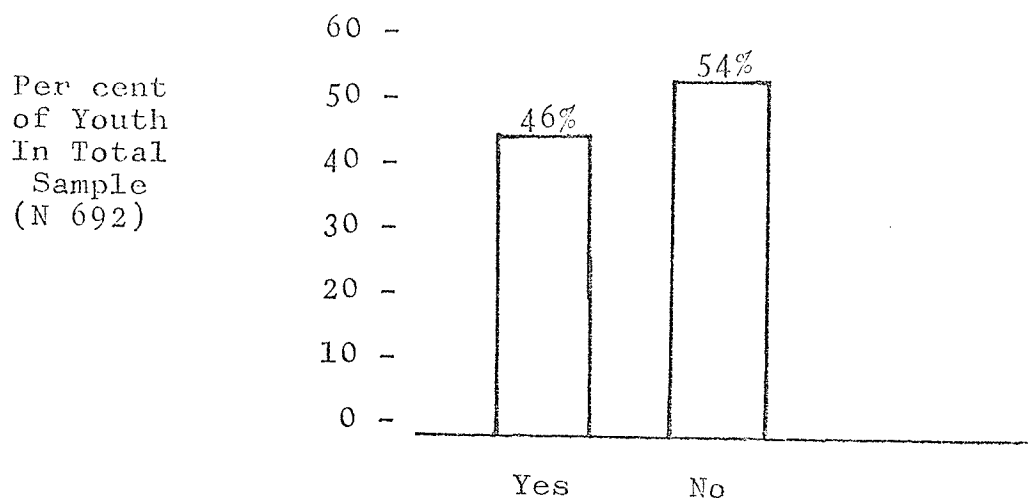
FIGURE 7. Number of Times Youth Attended Rock Festivals During the Summer (1970) in the Total Sample



Social activism is the public display of behavior by any group for the purpose of a social issue. Two types of demonstrations are considered examples of social activism (questions 76 and 78).

The findings for the total sample with regard to participation in Miles for Millions marches, walkathons, etc. are presented in Figure 8.

FIGURE 8. Participation in Miles for Millions, Walkathons, etc. in the Total Sample.

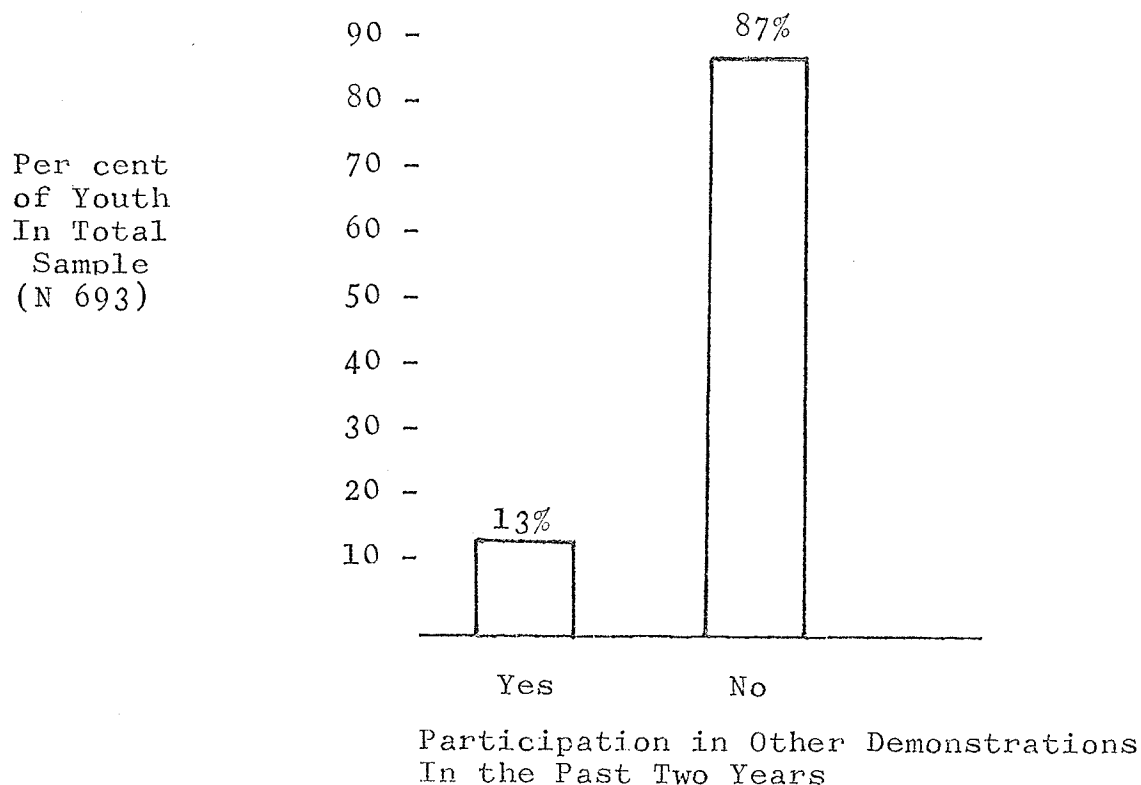


Participation in Miles for Millions,
Walkathons, etc. In Past Two Years.

Forty-six per cent of the total sample have participated in Miles for Millions or walkathons while 54% have not.

The findings for the total sample concerning participation in other demonstrations during the past two years are illustrated in Figure 9.

FIGURE 9. Participation in Other Demonstrations in the Total Sample



Thirteen per cent of the youth in the total sample participated in other demonstrations while 87 per cent did not participate in them.

Fourty-three per cent of the respondents involved in other demonstrations participated in a coaches strike at school, 21 per cent participated in other school-related demonstrations (e.g. student rights demonstration), 20 per cent participated in demonstrations which were directed at world or national social issues (e.g. women's liberation, poor people's march, etc.), 11 per cent participated in demonstrations directed at local social issues (e.g. clean

up projects, walking to improve physical fitness) and 5 per cent participated in other demonstrations but did not specify their forms or causes. For the most part all participation in other demonstrations consisted of conventional as opposed to radical forms of behavior.

Internal control of reinforcement is the belief of an individual that man can control the reinforcements he receives with his own skills. External control of reinforcement is the belief that man cannot control the reinforcement he gets in an unpredictable environment (i.e. reinforcement is chance or fate controlled). These concepts are measured using 16 items of Rotter's I-E scale (1966: 11-12) and 2 items from Gurin's scale (1969: 36-41). The forced-choice questions give two choices: one internal or one external response. These are found in questions 48 to 65. The responses were determined to be internal or external prior to the administration of the questionnaire.

The scores on the I-E scale range from 0 to 18 with a high score indicating more internal control. When Pearson correlations are executed, the I-E scores are based upon this range. Since the mean of the I-E scores is 10.21 and the standard deviation is 3.39 it was possible to break the scores down to low (0 to 7), medium (8 to 13) and high (14 to 18) categories. When cross tabulation is the method of data analysis, I-E scores are grouped into those

three categories.

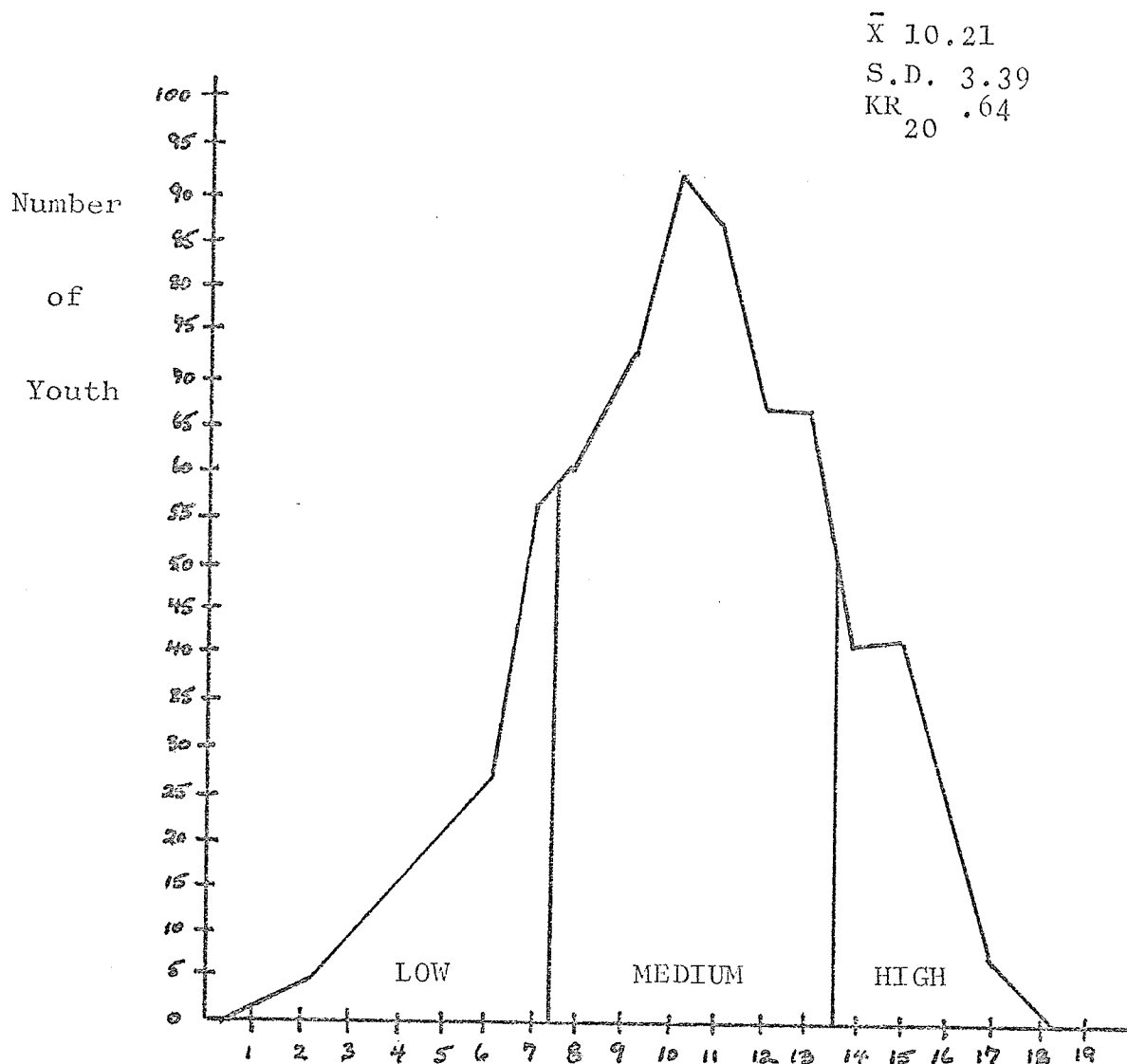
The Kuder-Richardson 20 reliability test produced a co-efficient of .64 revealing a relatively high degree of internal consistency. This finding approximates the KR_{20} reported by Rotter (1966: 13).

The I-E scores in Figure 10 approximate the normal curve distribution. Thirty-six per cent of all youth who answered the I-E questions fall in the "tails" of the curve. Thus, one third of the total youth population have an internal or external sense of control. The remaining two-thirds of the youth population (64%) have medium I-E scores.

Awareness of Social Factors (ASF) is an individual's realization that factors or elements in his social environment can influence his behavior. The individual perceives "others" or "the environment" having control over what he does. Consequently, the totality of the environment controls man's reality.

Questions 89, 91 and 98 of the ASF scale were constructed by Gary Marx (1967: 82-3) and questions 96 and 97 were added by Currie (1973: 92). Each question takes the form of a Likert scale. Agreement with questions 89, 91, 96 and 98 and disagreement with question 97 gives the respondent a high score.

FIGURE 10. Normal Curve Distribution of I-E Scores



\bar{X} 10.21
S.D. 3.39
KR $\frac{.64}{20}$

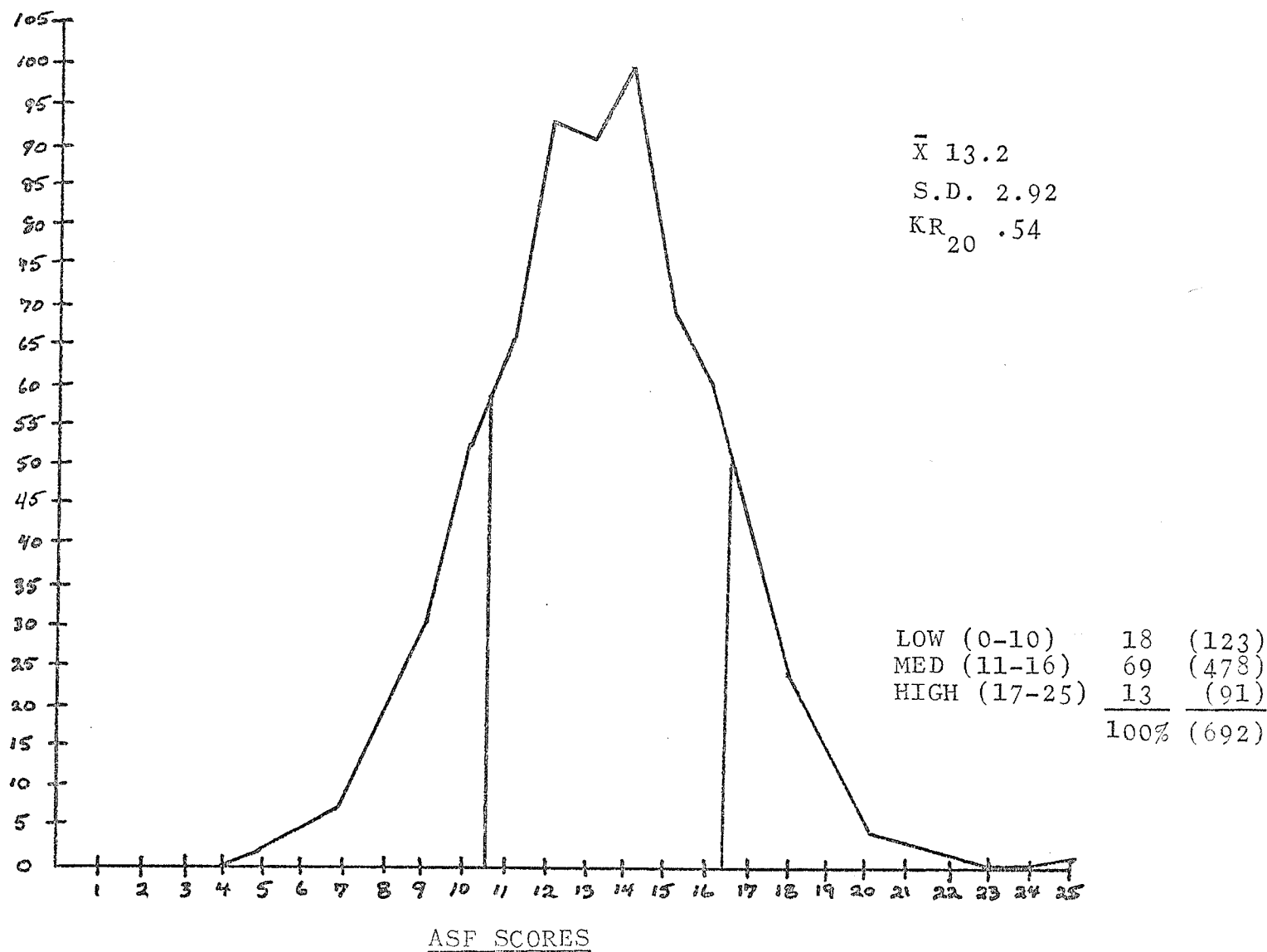
<u>I-E SCORES</u>			
LOW	(0-7)	19	(136)
MED	(8-13)	64	(448)
HIGH	(14-18)	<u>17</u>	(119)
		100	(703)

The scores on the ASF scale range from 0 to 25. This interval scale of ASF scores permits Pearson correlations to be performed on the data. Since the mean of the ASF responses is 13.2 and the standard deviation is 2.92 the scores were reduced to three categories: low (0 to 10), medium (11 to 16) and high (17 to 25). When cross-tabulation is performed on the ASF scores, the data are compressed into these three categories.

The Kuder-Richardson 20 test of reliability is rather low in magnitude (.54). However, correlations among the ASF items themselves are significant and range between .10 and .28 (Currie: 1973: 92-3).

In Figure 11 the ASF scores approximate the normal curve distribution. Nearly one-third of all the youth (31%) fall at the extreme ends of the normal curve. This is the region where the high and low ASF youth are found. The remaining two thirds of all youth (69%) have medium ASF scores.

FIGURE 11. Normal Curve Distribution of ASF Scores



Strategy for Testing the Hypotheses

The hypotheses will be tested by use of the following statistical tools:

(a) Cross-tabulation permits division of the Calgary youth sample into subgroups in order to discover how the dependent variables vary from one subgroup to another (Zeisel, 1968: 118). In particular, cross-tabulation can point out the differences among non, occasional and regular drug users. Furthermore, this statistical analysis is used with the survey data because tests of significance (e.g. chi square test) and measures of association are reported under every joint frequency distribution (Nie et al., 1970: 116).

(b) Similar to plain crosstabs are crosstabs with controls which permit any variable to be held constant while the dependent and independent variables vary.

(c) Pearson's product-moment correlation coefficients describe the degree and direction of linear association between two variables that are intervally scaled.

(d) Partial correlations indicate the degree and direction of relationship between two intervally scaled variables while holding constant a third variable.

All findings are considered statistically significant if they yield a $p \leq .05$. The significant statistics will be reported in Chapter IV.

CHAPTER IV

THE RESULTS

Discussion of Findings for Hypotheses I and II

Hypotheses I and II relate to the I-E scale and illicit drug use.

Hypothesis I: An internal sense of control over reinforcement is more likely to be associated with non drug users or regular drug users than with occasional drug users.

Hypothesis II: An external sense of control over reinforcement is more likely to be associated with occasional drug users than with regular or non-drug users.

TABLE 4

INTERNAL-EXTERNAL CONTROL BY ILLICIT DRUG USE

	<u>Illicit Drug Use (Excluding Alcohol)</u>			
	<u>Yes</u>	<u>Might</u>	<u>No</u>	<u>Total %</u>
Internal Control				
<u>HIGH</u>	30	8	62	100 (117)
<u>MEDIUM</u>	33	13	54	100 (440)
External Control				
<u>LOW</u>	45	10	44	100 (135)
				(N 692)

$$\chi^2 = 10.69$$

$$d.f. = 4$$

$$p \leq .05$$

The results in Table 4 support the hypothesis that youth with an internal sense of control are less likely to have used illicit drugs than youth with medium and low I-E. As I-E scores increase (i.e., high internal control), illicit drug use decreases among youth.

When I-E control and illicit drug use are cross-tabulated, the I-E scores are combined into high, medium and low categories. In order to examine the I-E scores when they are intervally scaled, a Pearson's correlation ($r = -.09$) was calculated. This correlation is significant ($p \leq .02$) for 690 youth but is too low to be of great predictive value. To a great extent, the statistical significance occurs here because of the large sample size.

The question measuring illicit drug use among Calgary youth has certain limitations. The item excludes alcohol use and cigarette use within the drug list and does not clarify which drugs are considered "other hallucinogens." Because the general question on illicit drug use does not permit respondents to indicate frequency of use, the findings in the table cannot be related to occasional drug use or regular drug use. This distinction is essential for testing the first two hypotheses.

Therefore, internal-external control will now be cross-tabulated with the frequencies of marijuana and

alcohol use in order to refine the drug findings concerning both of the hypotheses stated earlier.

TABLE 5
INTERNAL-EXTERNAL CONTROL BY FREQUENCY
OF MARIJUANA USE

<u>Frequency of Marijuana Use in the Past Six Months</u>					
	<u>Regular</u>	<u>Occasional</u>	<u>None</u>	<u>Never Used Drugs</u>	<u>Total %</u>
Internal control HIGH	8	13	11	69	100 (119)
MEDIUM	10	13	10	67	100 (439)
External control LOW	20	16	9	55	100 (135)
(N 693)					

$$\chi^2 = 14.30$$

$$\text{d.f.} = 6$$

$$p < .05$$

Once again, as I-E scores increase, the frequency of marijuana use declines. Since this cross-tabulation compresses I-E scores into three categories, a Pearson's r was again calculated to indicate the relationship between I-E scores which are interval values and the frequency of marijuana use. The correlation results are the same as the cross-tab results. In other words, as I-E increases, marijuana use decreases. This holds true even when controlling for the impact of age, socio-economic status, where

youth grew up, school attendance, mothers living or deceased and parents separated or divorced. Because these correlations ($r = -.10$) are low in magnitude, they will have little predictive value.

In addition, there is no support in the table for the hypothesis that "internals" are associated with regular marijuana use.

Table 5 can be collapsed for the purpose of examining the relationship between internal control and marijuana use only among drug users. In this manner, the question on marijuana use will isolate the drug using population from the total population.

TABLE 6

INTERNAL-EXTERNAL CONTROL BY FREQUENCY OF
MARIJUANA USE FOR DRUG USERS

<u>Frequency of Marijuana Use in the Past 6 months for Drug Users</u>				
	<u>Regular</u>	<u>Occasional</u>	<u>None</u>	<u>Total %</u>
Internal control				
HIGH	24	41	35	100 (37)
MEDIUM	31	40	29	100 (145)
External control				
LOW	44	36	20	100 (61)
				(N 243)
<hr/>				
	$\chi^2 = 5.76$			
	d.f. = 4			
	N.S.			

As I-E scores increase there is a consistent trend for regular marijuana use to decline among the drug using population. Although there are no significant differences among the frequencies, internal, drug using youth are least likely to use marijuana compared to medium and low I-E, drug using youth. Even more important there is no support for the hypotheses that internal youth who use drugs are regular marijuana users nor that external youth who use drugs are occasional marijuana users.

The drug question on marijuana use tests the association between I-E control and frequency of marijuana use. Another drug item tests the relationship between I-E control and frequency of alcohol use. Both of the relationships which are tested are similar in form and differ only in the type of drug being analyzed.

TABLE 7

INTERNAL-EXTERNAL CONTROL BY FREQUENCY OF
ALCOHOL USE

<u>Frequency of Alcohol Use in the Past 6 Months</u>				
	<u>Regular</u>	<u>Occasional</u>	<u>None</u>	<u>Total %</u>
Internal control				
HIGH	45	40	15	100 (114)
MEDIUM	42	46	13	100 (440)
External control				
LOW	49	44	7	100 (135)
				(N 689)

$$\chi^2 = 5.26$$

$$\text{d.f.} = 4$$

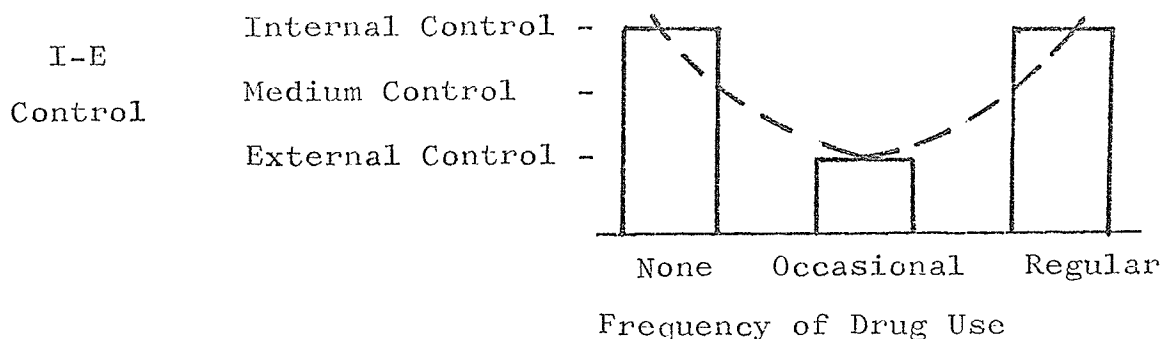
N.S.

Consistent with the coding of other drug use patterns, non alcohol users refer to youth who consumed no alcohol in the past 6 months, occasional alcohol users refer to youth who consumed alcohol once, twice or less per month, and regular alcohol users refer to youth who consumed alcohol three or more times per month. By comparing tables 7 and 6 it is evident that alcohol use is much more widespread than marijuana use.

Although there are no significant differences among the frequencies in Table 7, as internal control increases, the trend is for non alcohol use to increase slightly and for regular alcohol use to be somewhat curvilinear. Therefore, internal youth are less likely to consume alcohol than external youth. Because a great number of youth consume alcohol, the I-E scale does not distinguish adequately between the social-psychological characteristics of alcohol users and non-alcohol users.

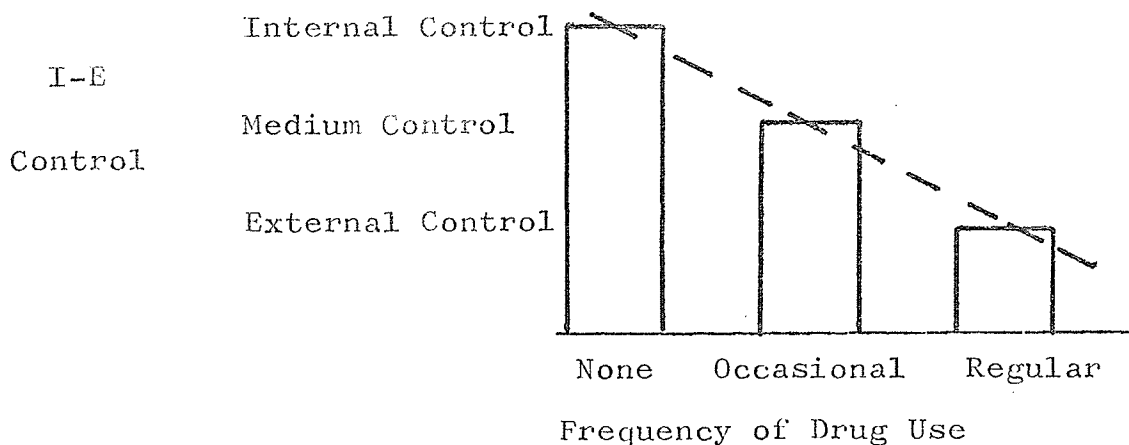
Based upon the theories of Blum and Associates (1970) and Berzins et al (1973) it was hypothesized that a curvilinear relationship exists between internal-external control and frequency of drug use. (Figure 12 page 55).

FIGURE 12. Curvilinear Relationship Between Internal-External Control and Frequency of Drug Use



However, a linear relationship was found between I-E control and frequency of drug use. For example, internal control is linked with non drug use but is not related to regular drug use. Furthermore, external control is not associated with occasional drug use (Figure 13).

FIGURE 13. Linear Relationship Between Internal-External Control and Frequency of Drug Use



In conclusion, as I-E scores increase, illicit drug use decreases, marijuana use declines in the total youth population, marijuana use tends to decline in the drug using

population and non alcohol use tends to increase slightly. The support is not very strong even for the linear relationship because the correlations are weak and the chi square values are not always significant.

According to the operational definitions, regular drug users have used a drug seven or more times in the past six months. Perhaps this criterion is too low and should be included in the category of occasional drug users. Then it might have been more possible to distinguish between occasional and regular drug users. On the other hand, if this criterion is too high for some drugs it should be lowered and a new definition for regular drug use established.

Formal Revision of Hypotheses III and IV to Concur with Previous Findings

The emphasis up to this point has been on the attitudes of drug users. For example, a linear relationship exists between I-E control and frequency of drug use. Now both the attitudes and the behavior of drug users will be examined. It should be recalled that the hypotheses referring to attitudes and behavior are constructed in accordance with a curvilinear relationship between I-E control and frequency of drug use. Therefore, the former hypotheses must be revised to concur with the new evidence.

Previously, it was hypothesized that internal control, non drug use and low awareness of social factors would be associated with participation in "tight" organizations. Since a linear relationship exists between drug use and I-E control this hypothesis remains unchanged.

Earlier, occasional drug use, external control and high awareness of social factors were expected to be linked with little participation in "tight" or "loose" organizations and social activism while regular drug use, internal control and high awareness of social factors were expected to be linked with participation in "loose" organizations and social activism. It has now been established that external control and drug use are positively related among Calgary youth. Therefore, drug use, external control and high awareness of social factors are expected to be associated with participation in "loose" organizations or social activism.

Hypothesis III is repeated while Hypothesis IV is formally revised below:

Hypothesis III: For non drug users, an internal sense of control over reinforcement coupled with a low awareness of social factors is more likely associated with participation in "tight" organizations than with participation in "loose" organizations or social activism.

Hypothesis IV: For drug users, an external sense of control over reinforcement coupled with high awareness of social factors is more likely associated with participation in "loose" organizations or social activism than with participation in "tight" organizations.

The Findings Relating Drug Use and Participation

TABLE 8

FREQUENCY OF MARIJUANA USE AND ALCOHOL USE IN THE PAST SIX MONTHS BY PARTICIPATION IN "TIGHT" ORGANIZATIONS, "LOOSE" ORGANIZATIONS AND SOCIAL ACTIVISM

	Social Participation							
	<u>"Tight"</u> <u>Organizations</u>		<u>"Loose"</u> <u>Organizations</u>		<u>Miles for</u> <u>Social</u>		<u>Other</u> <u>Activism</u>	
					<u>Millions</u>		<u>Demonstrations</u>	
	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>	<u>%</u>	<u>N</u>
<u>Frequency of Marijuana Use</u>								
Regular	48	(37)	74	(40)	48	(38)	28	(22)
Occasional	48	(44)	53	(50)	50	(47)	22	(20)
None	52	(34)	48	(32)	59	(39)	15	(10)
Total Population	49	(115)	50	(122)	52	(124)	22	(52)
<u>Frequency of Alcohol Use</u>								
Regular	50	(145)	41	(122)	42	(125)	14	(42)
Occasional	50	(148)	30	(90)	47	(144)	14	(42)
None	64	(51)	12	(10)	55	(44)	10	(8)
Total Population	52	(344)	32	(222)	46	(313)	14	(92)

Non marijuana users more frequently participate in "tight" organizations and Miles for Millions marches. On the other hand, marijuana users (regular or occasional) more likely participate in "loose" organizations and social activism via other demonstrations. Similarly, non alcohol users more frequently participate in "tight" organizations and Miles for Millions marches than alcohol users while alcohol users (regular or occasional) more likely participate in "loose" organizations and other demonstrations than non-alcohol users. Because participation in social activism via Miles for Millions, etc. would be considered conventional behavior in society, it is not a good indicator of social activism. Therefore, according to the evidence, non drug use can be associated with conventional behavior and drug use can be linked with unconventional behavior.

The Pearson correlation co-efficients which follow describe the degree and direction of linear association between drug use and various forms of participation. (Table 9, page 61).

The strongest relationships are clearly among illicit drug use, marijuana use, and participation in "loose" organizations. An increase in illicit drug use and marijuana use accompanies an increase in participation in "loose" organizations. These associations support the findings in Table 8.

TABLE 9

RELATION BETWEEN DRUG USE AND PARTICIPATION IN "TIGHT"
ORGANIZATIONS, "LOOSE" ORGANIZATIONS,
AND SOCIAL ACTIVISM

<u>Types of Drugs Used</u>	<u>Participation in "Tight" Organizations</u>	<u>Participation in "Loose" Organizations</u>	<u>Social Activism By Means of Miles for Millions etc.</u>	<u>Social Activism By Means of Other Demonstra- tions</u>
Illicit Drug Use	-.04	.46*	.08**	.19*
Marijuana Use	-.02	.45*	.05	.21*
Alcohol Use	-.08**	.19*	-.06	.02

* $p \leq .001$

** $p \leq .05$

The weaker relationships are as follows:

a) as illicit drug use increases, participation in Miles for Millions, etc. and other demonstrations increases.

b) as marijuana use increases, participation in other demonstrations increases. This finding coincides with the trends presented in Table 8.

c) as alcohol use decreases participation in "tight" organizations increases; as alcohol use increases, participation in "loose" organizations increases. These relationships reinforce the trends already discussed for Table 8.

The Analysis of Multiple Correlations and Beta Coefficients
For Testing the Hypotheses

At this point, a multiple correlation coefficient analysis⁴ is utilized to test the remaining hypotheses and to determine the degree of goodness of fit of the least squares surface to the data by the best fitting straight line. It has been shown that a linear relationship exists between the dependent and independent variables. Now, the primary concern is to determine the explanatory power of illicit drug use, I-E control and ASF (the independent variables) when taken together upon participation in "tight" or "loose" organizations and social activism (the dependent variables). In addition, partial regression coefficients can be standardized to produce Beta coefficients. These coefficients reveal the amount of standardized change produced in social participation (the dependent variable) by a standardized change in one of the independent variables when the other independent variables are held constant. Utilizing both of the above techniques, it can be established which factors are most important to participation.

The multiple correlation coefficients are zero-order correlations between the actual values obtained for the dependent variable (participation) and those values predicted

⁴The multiple regression equation in this survey takes this form: $Y = a + b_1 X_1$. Y represents participation in "tight" organizations, "loose" organizations or social activism while X_1 represents illicit drug use, marijuana use, alcohol use, I-E control and ASF alternately.

from the least squares equation. The square of these multiple correlations indicates the percentage of variation by the best fitting equation ($Y = a + b_1 X_1$).

The results for participation (dependent variable) and three combinations of independent variables are indicated in Table 10. The p was determined by an analysis of variance test for significance.

TABLE 10

MULTIPLE CORRELATION COEFFICIENTS BETWEEN PARTICIPATION IN "TIGHT" ORGANIZATIONS, "LOOSE" ORGANIZATIONS OR SOCIAL ACTIVISM AND THREE INDEPENDENT VARIABLES (WHICH ARE COMBINED WITH I-E AND ASF) AMONG CALGARY YOUTH, 1971

	Illicit Drug Use, I-E, ASF	Marijuana Use, I-E, ASF	Alcohol Use, I-E, ASF
"Tight" Organizations	.07	.06	.10
"Loose" Organizations	.47*	.46*	.22*
Social Activism			
a) Miles for Millions, etc.	.08	.06	.07
b) Other Demonstrations	.21*	.23*	.12**

*p < .01

**p < .05

In Appendix II, the tables showing the analysis of variance test for significance of multiple correlations for the independent variables are presented.

The results in Table 10 reveal that most of the multiple correlation coefficients are fairly low in magnitude. Consequently, the independent variables have low explanatory power concerning participation in "tight" organizations and social activism but higher explanatory power for participation in "loose" organizations. The multiple correlations between the independent variables and participation in "tight" organizations and social activism (via Miles for Millions marches, etc.) are not statistically significant. Therefore, it is clear that other independent variables are more important when considering these two types of participation.

Now, the Beta coefficients will be utilized to compare the relative influence of the major independent variables in the hypotheses upon participation. The calculated Beta coefficients are presented in Table 11 along with the rank order of these coefficients (page 65).

The Beta weights indicate the degree and direction of the associations among the independent variables and participation. First, the Beta weights for participation in "tight" organizations and illicit drug use, I-E control and ASF are examined. As ASF, illicit drug use, marijuana use and alcohol use decrease and internal control increases, participation in "tight" organizations increases. The direction of these Beta weights support the hypothesis that non drug users with an internal sense of control coupled with low ASF could

TABLE 11

STANDARD PARTIAL REGRESSION COEFFICIENTS AND RANK ORDER
OF INDEPENDENT VARIABLES ON PARTICIPATION IN "TIGHT"
ORGANIZATIONS, "LOOSE" ORGANIZATIONS AND SOCIAL
ACTIVISM IN CALGARY, ALBERTA, 1971

Participation	Independent Variables						Rank Order of Beta Weights				
	Standard Beta Weights										
	Illicit Drug Use	Marijuana Use	Alcohol Use	I-E	ASF		Illicit Drug Use	Marijuana Use	Alcohol Use	I-E	ASF
Tight Organizations	-.04			.02	-.05	2				3	1
		-.01		.03	-.05			3		2	1
			-.08	.02	-.06				1	3	2
Loose Organizations	.46			-.06	.00	1				2	3
		.45		-.06	-.01			1		2	3
			.19	-.08	.06				1	2	3
Social Activism											
a) Miles for Millions etc. .08				.01	.03	1				3	2
		.05		.00	.03			1		3	2
			-.06	-.00	-.3				1	3	2
b) Other Demon- strations .18				.05	.10	1				3	2
		.20		.06	.09			1		3	2
			.03	.04	.12				3	2	1

be associated with participation in "tight" organizations (Hypothesis III). It should be noted again, however, that the multiple correlations for all of these variables are low in magnitude as shown in Table 10.

Now the Beta weights for participation in "loose" organizations and the independent variables are discussed. When ASF, illicit drug use, marijuana use and alcohol use increase and internal control decreases, participation in "loose" organizations increases. This outcome supports the hypothesis that drug users with an external sense of control coupled with high ASF participate in "loose" organizations (Hypothesis IV). In this case, the multiple correlation coefficients for these variables (Table 10) are significant and much higher in degree than the coefficients for participation in "tight" organizations and social activism.

Since the multiple correlation coefficients for participation in social activism via Miles for Millions, etc. are found to be so low, it is predictable that the Beta weights will provide only a minimum of additional information. Nevertheless, the Beta weights reveal two things: i) as ASF, internal control, illicit drug use and marijuana use increase, participation in Miles for Millions, etc. increases ii) as alcohol use and internal control decrease and ASF increases, participation in Miles for Millions, etc. increases. Both statements contradict portions of the fourth

hypothesis which states that drug users with external control and high ASF would be linked with participation in Miles for Millions, etc. One reason for these contradictory findings may be that participation in Miles for Millions, etc. is not considered to be social activist behavior but rather conventional behavior like participation in "tight" organizations. Another reason might be that the I-E scale has too many general questionnaire items and, therefore, cannot extract those specific social-psychological characteristics which accompany drug use or non drug use behavior.

Once again, the multiple correlation coefficients concerning participation in social activism via other demonstrations are so low in magnitude that the Beta weights give little supplementary information. However, the Beta weights reveal that as ASF, internal control, illicit drug use, marijuana use and alcohol use increase, participation in other demonstrations increases. This finding does not support the hypothesis that drug users who have external control and high ASF are associated with participation in other demonstrations (Hypothesis IV). Because respondents in the survey reported school-related demonstrations, it might be more logical to view participation in other demonstrations under conventional behavior such as participation in "tight" organizations. Other reasons for the results being contrary to Hypothesis IV may be: a) too much generality in

the I-E scale for distinguishing the social-psychological characteristics of drug users from non-drug users b) a lack of sophistication in the indicator of social activism e.g., school-related demonstrations are not considered to be social activist behavior.

At this point, the rank orders of the Beta weights are discussed. Illicit drug use ranks first for all modes of participation except "tight" organizations where it ranks second. Marijuana use ranks first for all types of participation except "tight" organizations where it ranks third. Alcohol use ranks first for all types of participation except other demonstrations where it ranks third. Internal-external control ranks either second or third for all types of participation while Awareness of Social Factors (ASF) ranks 1-3 for each type of participation. It is evident that illicit drug use in general and marijuana use in particular are the most important factors (of those relevant to this study) which affect social participation. Alcohol use follows next in importance, then ASF and finally, internal-external control.

Summary

According to the first hypothesis, internal control is associated with non-drug use and regular drug use. However, the findings revealed that non drug use and internal control are related while regular drug use and internal

control are not related. In the second hypothesis a relationship is thought to exist between external control and occasional drug use. The results, nevertheless, established that external control and occasional drug use are not associated. By means of these previous findings, it is shown that a linear relationship exists between I-E control and drug use rather than a curvilinear relationship.

Next, the remaining hypothesis were formally revised to comply with the linear association between I-E control and drug use.

Up to this point, attitudes such as I-E control were linked with drug use. Then, a Pearson correlation analysis was utilized to relate drug use and social participation. The strongest relationships were among illicit drug use, marijuana use and participation in "loose" organizations.

The third hypothesis establishes that non drug users who have internal control coupled with low ASF are associated with participation in "tight" organizations. After a multiple correlation analysis, it was revealed that drug use, internal-external control and ASF were not important factors affecting participation in "tight" organizations. In addition, the Beta weights for these independent variables and participation in "tight" organizations were calculated. The direction of these Beta weights supported Hypothesis III.

Part of the fourth hypothesis states that drug users with external control and high ASF participate in "loose" organizations. The results of a multiple correlation analysis established that internal-external control and ASF were not significant factors while illicit drug use in general and marijuana use in particular were significant factors affecting participation in "loose" organizations. Overall, the direction of the Beta weights for these independent variables and participation in "loose" organizations supported this hypothesis.

Another part of the fourth hypothesis associates drug users who have external control and high ASF with participation in social activism. After examining the multiple correlation coefficients for Miles for Millions, etc. and other demonstrations, it was evident that drug use, I-E control and ASF have little importance when considering participation in social activism. The direction of the Beta weights for Miles for Millions, etc. and other demonstrations were contradictory to the fourth hypothesis. It was suggested elsewhere that these findings might reflect the problem of generality in the I-E scale and/or the inadequacy of the questions used to indicate social activism.

By ranking the Beta weights it was determined that illicit drug use is the most important factor affecting social participation.

Before drawing general conclusions from these results it will be more useful to compare the drug and demographic findings in this study with other related research.

CHAPTER V

COMPARABILITY OF THE DRUG AND DEMOGRAPHIC FINDINGS IN THE CALGARY SURVEY WITH SIMILAR FINDINGS IN OTHER STUDIES

In this Chapter the first aim is to compare the drug findings of the Calgary survey with the drug findings of other studies. Another aim of this Chapter is to discuss the demographic characteristics of Calgary youth in relation to the drug use behavior of these youth. Whenever possible, this information in the Calgary survey is compared with data in other studies.

Currently the Calgary survey can be compared to Lloyd Johnston's American survey (1973). In the Calgary survey, 37 per cent of 708 youth are considered high school students while Johnston chose a sample of 1,798 high school students. The American survey is longitudinal as well as nation-wide while the Canadian study is static and city-wide.

Several other problems are encountered when comparing these two studies. For example, each study utilizes different criteria for patterns of drug use. Consequently, it is necessary to combine some frequencies of drug use in

the American study so that they can be compared to those frequencies of drug use in the Calgary study. Another example is the difference in the kinds of drugs being examined in each survey. Johnston includes questions about cigarette smoking, hallucinogens, amphetamines and barbiturates, and heroin while the Calgary study includes questions about opiates, tranquilizers and glue sniffing. Both studies, however, do examine marijuana and alcohol usage.

Now the Calgary survey and the American survey are compared in terms of the proportion of high school students using marijuana and alcohol. Johnston found that 21 per cent of the high school students smoked marijuana in 1969 and 34 per cent smoked it in 1970. In Calgary, 32 per cent of the high school students (and 35 per cent of the total youth population) smoked marijuana. Eighty-two per cent of the American high school students consumed alcohol in 1969 and 88 per cent of them consumed alcohol in 1970. Seventy-nine per cent of the high school students in Calgary (and 88 per cent of the total youth population) consumed alcohol in 1971. A similar proportion of American high school students and Calgary high school students smoke marijuana. However, there is a somewhat greater proportion of alcohol consumption among the American high school students than among the Canadian students.

The drug questions in the Calgary survey were constructed through consultation with Reginald Smart. Because the drug questions are identical for the Calgary survey and Smart's studies, the drug findings from these studies can be compared directly.

Before comparing the drug findings in the studies the following information should be considered. For the most part, Smart's studies consist of samples of high school students while the Calgary survey consists of a sample of youth aged 15-24 years. Smart has conducted surveys (1969) of students who reside on farms, in towns, in cities or other locations. The Calgary survey is concerned only with youth who reside in the city.

In 1969, Smart conducted a study in Lincoln and Welland Counties to investigate drug use among high school students and their parents. He found that 12 per cent of the high school students smoked marijuana in the past six months. In the Calgary survey, however, 22 per cent of the high school students (and 26 per cent of the total youth population) had smoked marijuana in the previous six months. These reported percentages of marijuana usage may not only be the result of a change in usage patterns from 1969 to 1971, but may also be the result of different samples and geographic locations.

For the purpose of convenient comparison, the pat-

terns of marijuana and alcohol use in Smart's study are combined to concur with the patterns in the Calgary survey. In Smart's study, 88 per cent of the students were non marijuana users, 8 per cent were occasional marijuana users and 4 per cent were regular marijuana users. According to the Calgary data, 78 per cent of the students were non marijuana users, 13 per cent were occasional marijuana users and 9 per cent were regular marijuana users. In addition, Smart found that 20 per cent of the students were non alcohol users, 43 per cent were occasional alcohol users and 37 per cent were regular alcohol users. On the other hand, 21 per cent of the Calgary students used no alcohol, 49 per cent used alcohol occasionally and 30 per cent used alcohol regularly in the previous six months. Because Smart's studies and the Calgary study have the same questions on marijuana and alcohol use, the results would seem to be directly comparable. However, these percentages for patterns of drug use may be a function not only of time but a combination of time, methodology and geography.

In Smart's studies and the Calgary study, the questions that indicated what proportion of students used drugs other than marijuana and alcohol were the same. In 1969, Smart discovered that 8 per cent of the students used glue or solvents, 10 per cent used tranquilizers and 4 per cent used opiates in the past six months. In Calgary, 5 per

cent of the students used glue or solvents, 6 per cent used tranquilizers and 4 per cent used opiates in the past six months. From these percentages, it is evident that glue, tranquilizer and opiate usage is fairly low among high school students.

In 1971, Smart et al reviewed the extent of marijuana use in Canada. These marijuana findings were reported for carefully designed, large samples. Because the Calgary survey reports marijuana findings for a stratified random sample, it can be compared with other Canadian studies. Seven per cent of Toronto high school students smoked marijuana in 1968 and 18 per cent smoked it in 1970. In Halifax, 7 per cent of high school students smoked marijuana during 1969 and 17 per cent smoked it in 1970. Eight per cent of Montreal students smoked it during the same year. In 1970 12 per cent of the students from Niagara Counties, 20 per cent of them from British Columbia and 18 per cent of them from Ottawa smoked marijuana. In Calgary 22 per cent of the high school students smoked marijuana during 1971. According to these data, marijuana usage is shown to be somewhat higher for Calgary students than for students from other parts of Canada. However, these percentages may be a function of time, methodology, geography and culture.

The following discussion presents the relationships

between the various demographic characteristics and the drug use behavior of Calgary youth. In addition, the former findings are compared to demographic and drug information in other studies. Where it is possible, both a chi square test of significance and a Pearson's r will be performed.

Sex and Drug Use

Males use illicit drugs, marijuana, and alcohol more frequently than females do. (Appendix III, Tables 1, 2, 3).

The Pearson correlations for sex and illicit drug use ($r = -.13$; $N = 693$), marijuana use ($r = -.15$; $N = 694$) and alcohol use ($r = -.16$; $N = 690$) are all significant ($p < .001$). Since these correlations are below .20 in magnitude, they have little predictive value. The direction of these correlations, however, concur with the results from the cross tabulations.

Goode (1970: 32-3) discovered that males use marijuana more often than females do. In addition, Johnston (1972: 4) and Suchman (1972: 127) found that males use more licit and illicit drugs than females do. The Calgary survey reported similar findings as it was shown earlier.

Age and Drug Use

When cross-tabulation was utilized to relate age

and drug use, age is dichotomized as follows: 15-19 years and 20-24 years. Youth between the ages of 20 and 24 years were found to consume more alcohol than youth between the ages of 15 and 19 years (Appendix III, Table 3).

A Pearson correlation was executed for age and drug use. The variable, age, was free to range from 15 to 24 years in one point intervals. The coefficients for age and illicit drug use ($r = .00$; $n = 693$), marijuana use ($r = -.01$; $N = 694$) and alcohol use ($r = .27$; $N = 690$) are not all significant. The latter coefficient, however, was significant at .001 level. It revealed that the older youth are, the greater their use of alcohol. This finding concurs with the evidence from the preceeding cross-tabulations.

Goode (1970: 31) discovered that the average age of marijuana users is 22 years. In addition, he found that 20 per cent of individuals smoked marijuana in their teens, 20 per cent smoked it in their twenties and 8 per cent smoked it in their thirties. A U.S.A. health report from the Department of Health, Education and Welfare (1971: 35) indicated that 12 per cent of individuals aged 21 to 29 years are marijuana users. In the Calgary survey, youth range in age from 15 years to 24 years. There is some evidence showing that Calgary youth aged 20 to 24 years consume more alcohol than youth aged 15 to 19 years.

However, there is no significant relationship between age and illicit drug use or age and marijuana use.

Marital Status and Drug Use

Single and widowed, separated or divorced youth use illicit drugs more than married youth. (Appendix III, Table 1). Single youth smoke more marijuana than youth of other marital status (Appendix III, Table 2).

Because marital status is a nominal variable, a Pearson correlation could not be executed for marital status and drug use.

A health report (1971: 41) prepared by the United States Department of Health, Education and Welfare revealed that single males smoked marijuana three times as much as single females, married males or married females. Schofield (1971: 32) discovered that there was a tendency to stop smoking marijuana when individuals were married. Schick et al (1970: 44) studied the Haight-Ashbury subculture and discovered that 79.9 per cent of the single hippies used 'hard' or 'soft' drugs. The Calgary survey concurs with the previous studies that single individuals utilize illicit drugs more than married individuals. Widowed, separated or divorced youth in Calgary tend to use illicit drugs just as much as single youth. However, the sample size in this case is extremely low (13) so this finding must be viewed

with caution.

Socio-Economic Status and Drug Use

Fathers' occupations were ranked using the Blishen (1967) scale. In this study, a high SES will include occupations with scores ranging from 60 through 76 and a low SES will include occupations with scores of 25 through 29 (Appendix III, Tables 1, 2, 3).

When a Pearson correlation was executed for SES and drug use, SES ranged from 25 to 76. The correlation coefficients for SES and illicit drug use ($r = .11$; $N = 675$) or marijuana use ($r = .11$; $N = 676$) are significant ($p < .005$) while the coefficient for SES and alcohol use ($r = .04$; $N = 672$) is not significant. As SES increases illicit drug use or marijuana use increases. These correlation coefficients are low in degree and, therefore, have little predictive value.

Smart, Fejer, and Alexander (1970: 15) found that drugs were used mostly by upper middle class students. McGrath and Scarpitti (1970: 11-12) found that opiate users are lower class, LSD users are middle and upper class, marijuana users cut across all social classes. An official marijuana report (1972) from a United States Commission on Marijuana and Drug Abuse showed that all socio-economic levels and occupations used marijuana. Brenner et al.,

(1970: 89) found marijuana use cut across class lines while a health report (1971: 41) prepared by the United States Department of Health, Education and Welfare found marijuana use cut across both class and color lines. Goode (1970: 35-39) discovered marijuana users have a higher personal income, have educated parents, have fathers with prestigious occupations, have parents of higher SES, and have been raised with middle class values. In the Calgary survey, the results indicate that youth with high SES are the most likely to have used illicit drugs. In addition, there is a tendency for high SES youth to use marijuana and alcohol more frequently than other youth.

Parents' Marital Status and Drug Use

Youth with separated or divorced parents more often use illicit drugs, marijuana or alcohol than do youth whose parents are married (Appendix III, Tables 4, 5, 6).

The Pearson correlations for parents separated or divorced and illicit drug use ($r = -.16$; $N = 692$; $p < .001$), marijuana use ($r = -.14$; $N = 692$; $p < .001$) or alcohol use ($r = -.10$; $N = 688$; $p < .01$) are significant. Although these correlations concur with the findings from the cross-tabulation, they are too low to have much predictive value.

Louria (1968: 19,21) stated that drug use is definitely related to family deterioration. The results in the

Calgary survey support this statement.

Where Youth Grew Up and Drug Use

Cross-tabulation reveals that no significant association exists between where youth grow up and drug use (Appendix III, Tables 4, 5, 6). However, there is a tendency for youth who grew up in cities to use illicit drugs or marijuana more frequently than other youth and for youth who grew up in towns to consume alcohol more frequently than other youth.

Where youth grew up is an ordinal variable and, therefore, cannot be correlated with drug use.

An official U.S. report on Marijuana and Drug Abuse (1972) as well as Goode (1970: 34) confirmed that marijuana smokers are more numerous in urban areas than rural areas. Smart (1969) found that students from Lincoln and Welland Counties who grew up in cities use more alcohol and marijuana than students who grew up in other locations. Although there are no significant findings linking where Calgary youth grew up and drug use tabular trends run parallel to many of these findings.

Presently Attending School and Drug Use

As attendance at school decreases, the frequency of alcohol use increases (Appendix III, Table 9).

The Pearson correlation coefficients for presently

attending school and illicit drug use ($r = -.00$; $N = 687$), marijuana use ($r = .01$; $N = 694$) or alcohol use ($r = .18$; $N = 690$; $p < .01$) were calculated. Although only the latter coefficient is significant, its predictive value is limited.

The Addiction Research Foundation (1969: 14) reported that the more education a student gains, the more likely he uses drugs. According to the Calgary study, school attendance is not linked with increasing drug use.

Where Attending School and Drug Use

Youth who attend college more frequently use marijuana compared to other youth (Appendix III, Table 8). Youth who attended S.A.I.T. (Southern Alberta Institute of Technology) and other schools consume alcohol more frequently than other youth (Appendix III, Table 9).

Where youth attend school cannot be correlated with drug use because the former is a nominal variable.

Goode (1970: 40) showed that college students more likely smoke marijuana than non college students. The Calgary data agree with Goode's observations.

Grades and Drug Use

The tabular trends for self reported grades and drug use are: (a) as grades increase, illicit drug use

decreases (Appendix III, Table 7); (b) as grades increase, the frequency of marijuana use decreases (Appendix III, Table 8) (c) as grades increase, the frequency of alcohol use is curvilinear (Appendix III, Table 9).

The correlations for grades and illicit drug use ($r = -.08$; $N = 692$, $p < .05$), marijuana use ($r = -.05$; $N = 693$), or alcohol use ($r = -.05$; $N = 689$) reveal that as grades decrease, drug use increases slightly. Whitehead (1971: 365) found 'brains' use drugs less than students with low grades. Smart, Fejer, White (1970: 32), the Addiction Research Foundation (1969: 5) and Suchman (1972: 128) presented similar evidence. On the other hand, Blum and Associates (1970: 77) discovered that drug use was not a good predictor of grades at school. In the Calgary survey, no significant evidence links grades and drug use. However, there is a tendency for youth with bottom or below average grades to use drugs more frequently than youth with higher grades.

Mothers' Drug Use and Youth's Drug Use

As mothers' use of tranquilizers, stimulants or barbiturates increases, youth's illicit drug use or marijuana use increases (Appendix III, Tables 10 and 11). As mothers' use of tranquilizers, stimulants or barbiturates increases, youth's alcohol use is curvilinear (Appendix III,

Table 12).

A Pearson correlation was calculated for mothers' drug use and youth's illicit drug use ($r = .12$; $N=530$), marijuana use ($r = .08$; $N = 529$) or alcohol use ($r = .09$; $N = 527$; $p < .05$). The limited strength of these correlations reduces predictability.

Smart (1969) found that the more heavily mothers use drugs, the more likely their children use illicit drugs. Similarly, in the Calgary survey as mothers' drug use increases, youth's drug use increases.

Fathers' Drug Use and Youth's Drug Use

As fathers use of tranquilizers, stimulants or barbiturates increases, youth's marijuana use increases (Appendix III, Table 11). There is a tendency for youth's illicit drug use or alcohol use to increase as fathers' drug use increases (Appendix III, Tables 10 and 12).

None of the Pearson correlations for fathers' drug use and youth's illicit drug use ($r = .05$; $N=521$), marijuana use ($r = .97$; $N=521$) or alcohol use ($r = .02$; $N = 516$) are significant.

The Addiction Research Foundation (1969: 66) showed that Toronto students used drugs more frequently when their parents used drugs. Whitehead (1971: 9-10) indicated that

reduced parental drug use reduced adolescent drug use. In the Calgary survey, as fathers' drug use increases, youth's marijuana use increases.

Siblings' Drug Use and Youth's Drug Use

As siblings' use of glue and/or marijuana increases, youth's illicit drug use, marijuana use or alcohol use increases (Appendix III, Tables 10, 11, 12).

When a correlation analysis was executed for siblings' drug use and youth's drug use, two categories emerged: siblings who never used drugs and siblings who used glue and/or marijuana. The correlations for siblings' drug use and youth's illicit drug use ($r = .16$; $N = 449$; $p < .001$), marijuana use ($r = .10$; $N = 450$; $p < .05$) or alcohol use ($r = .10$; $N = 447$; $p < .05$) are all significant but low.

The Addiction Research Foundation (1969: 67) and Smart, Fejer, Alexander (1970: 25) discovered that drug using students have brothers or sisters who use drugs. For example, Smart (1969) found 51 per cent of the students who use marijuana have brothers and sisters who use drugs. In the Calgary survey, 55 per cent of the youth who use marijuana have brothers and sisters who use drugs. Parallel to other studies, as siblings' drug use increases, youth's drug use increases in Calgary.

Religious Denomination and Drug Use

Some of the denominations cannot be analysed in relation to drug use because they have very small samples (e.g., Jewish). Five categories, however, do have adequate samples: no denomination, Anglican, Catholic, United and Fundamentalist. The Fundamentalist category includes Baptists, Latter Day Saints, Pentecostal, and Salvation Army.

Youth of no religious denomination most frequently are illicit drug users, marijuana users or alcohol users (Appendix III, Tables 13, 14, 15).

Because religious denomination is a nominal variable it cannot be correlated with drug use.

Smart, Fejer, White (1970: 22), the Addiction Research Foundation (1969: 5) and Westhues et al (1972: 139) found that non religious and Jewish students use drugs more often than youth of other denominations. In the Calgary survey, youth of no denomination use drugs more frequently than youth belonging to denominations.

Many youth inherit their religious denomination from their parents at the time of birth. Therefore, it is important to determine whether religion is a significant factor in youth's lives. In the following discussion, the

perceived influence of religion will be related to drug use.

Influence of Religion Now and Drug Use

Youth who say religion is no influence on them now are the most frequent illicit drug users, marijuana users or alcohol users (Appendix III, Tables 13, 14, 15).

The Pearson correlations for influence of religion now and illicit drug use ($r = .24$; $N = 693$), marijuana use ($r = -.15$; $N = 694$) or alcohol use ($r = -.23$; $N = 690$) are all significant ($p < .001$). The first and third coefficients have greater predictive value than the second. As religion has a decreasing influence on youth's lives, youth use illicit drugs or alcohol more frequently.

Attitudes Towards Legalization of Marijuana and Drug Use

As attitudes toward legalization of marijuana become more favorable, youth more frequently use illicit drugs, marijuana or alcohol (Appendix III, Table 16).

The correlations for attitudes towards legalizing marijuana and illicit drug use ($r = .59$; $N = 690$), marijuana use ($r = .48$; $N = 691$) or alcohol use ($r = .27$; $N = 687$) are all significant ($p < .001$). As attitudes towards legalizing marijuana become favorable, youth's

illicit drug use, marijuana use or alcohol use increases.

Johnston (1972: 5) stated that legalization would not affect drug use if legalization was not promoted. Whitaker (1969: 203) maintained that drug laws produce an addict subculture rather than eradicate marijuana usage. Grinspoon (1971: 184) believed that drug laws did not arrest drug use. In the Calgary survey, youth who favor legalization of marijuana most frequently are illicit drug users, marijuana users or alcohol users.

In addition to presenting the drug and demographic information, it is useful to report how extensive the drug use is among Calgary youth. Thirty-five per cent of the youth have used illicit drugs, 2 per cent have sniffed glue, 25 per cent have smoked marijuana, 5 per cent have used tranquilizers, 88 per cent have consumed alcohol and 3 per cent have used opiates. Because most of these drugs (except marijuana and alcohol) have been used very little, it is of little value to report them.

Since alcohol and marijuana are the drugs used most frequently among Calgary youth, it would be useful to analyze the relationship between them. As alcohol use increases, marijuana use increases (Appendix III, Table 17). The Pearson correlation for both drugs ($r = .29$; $N = 682$) is significant ($p < .001$). The cross-tabs and correlations yield similar findings.

Summary

The drug and demographic findings in the Calgary study are compared with other studies. The percentages reported from these studies are variable because of temporal, cultural, geographic and methodological factors which influence the results.

The statistically significant associations between the demographic characteristics of Calgary youth and drug use are summarized as follows:

- a) Males use illicit drugs, marijuana and alcohol more frequently than females do.
- b) Youth aged 20-24 years use alcohol more frequently than youth aged 15-19 years.
- c) Youth with high SES tend to use illicit drugs, marijuana and alcohol more than other youth.
- d) Youth whose parents are separated or divorced more often use illicit drugs, marijuana and alcohol than youth with married parents.
- e) When youth do not attend school presently they are more likely than other youth to use alcohol.
- f) As mothers' drug use increases, youth's drug use tends to increase.
- g) As siblings' drug use increases, youth's drug use tends to increase.

h) As the influence of religion decreases for youth, their use of illicit drugs and alcohol increases.

i) Youth with favorable attitudes toward legalizing marijuana most frequently use illicit drugs, marijuana and alcohol.

Finally, it was found that youth more often use marijuana and alcohol than glue, tranquilizers and opiates.

CHAPTER VI

CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

Throughout the study, the focus was on alcohol use, illicit drug use in general and marijuana use in particular. The reason for this emphasis was due to the fact that alcohol was used most frequently, followed by illicit drug use of which marijuana use was the most common.

In previous research internal-external control has been utilized a great deal. Internal youth are defined as those youth who maintain that men control the reinforcements they receive by means of their own skills. External youth believe that men have little or no control over desired outcomes. In this study, internal youth were shown not to require drug use for positive reinforcement. External youth were found to believe drugs are valuable sources for obtaining positive reinforcement. Although a linear relationship between I-E control and drug use was found to be statistically significant, it was not very powerful. The theories of Straits and Sechrest (1963) and Johnston (1972) concurred with the linear relationship between I-E control and drug use. On the other hand, the theories of Goss and Morosko (1970), Blum and Associates (1970) and Berzins et al

(1973) which propose a curvilinear relationship between I-E control and drug use were not supported.

Powerlessness, one dimension of alienation, has been referred to as external control in the literature. Since external youth have been found to use drugs for positive reinforcement, powerlessness may be considered to influence drug use behavior. This finding is supported by the theory that alienation among young people is one reason for increased drug use (Schofield, 1971; Carey, 1968 and 1970).

A major finding in this study was that the I-E scale did not discriminate adequately between the drug users and the non drug users. Because the I-E scale has been widely used and is considered a rather reliable and valid measure of the general sense of control of events, this finding is of particular importance. One explanation for this outcome might be that the social-psychological characteristics of drug users and non drug users were similar. Another reason might be that the I-E scale as a measure of the general sense of control covers so many areas of life (friendship, political process, success in school, racial attitudes, leadership) and therefore, has limited utility for distinguishing the social-psychological characteristics of respondents in drug research. This position is supported by Sadava's recent drug study in Quebec (1973: 380) using the I-E scale.

"Tight" organizations have been defined as formal groups that possess order, permanence, solidarity, rigid norms, discipline and conformity and that are regularly organized for some social purpose (Pelto, 1968), "Loose" organizations have been defined as any informal groups that are individualistic, expressive, atomistic, flexible in norms and tolerant of deviancy and that are only arbitrarily organized for some social purpose. Social activism has been referred to as the public display of behavior by any group for the purpose of a social issue. In this study, I-E control, ASF, illicit drug use and alcohol use were tested for their relationships with participation in "tight" organizations, "loose" organizations and social activism.

The multiple correlations and Beta weights for the independent variables and participation in "tight" organizations were too low in magnitude to be statistically significant. Similar findings were reported for the independent variables and social activism. According to the multiple correlations and Beta weights, illicit drug use in general and marijuana use in particular were strongly associated with participation in "loose" organizations. The theories of Smart, Fejer, White (1970), Blum and Associates (1970), Goode (1970), Keniston (1970) and Suchman (1972) support the belief in society that drug users

participate in unconventional behavior ("loose" organizations) while non drug users participate in conventional behavior ("tight" organizations).

Other factors such as sex and age would probably have had greater influence upon participation in "tight" organizations. On the other hand, attendance at rock festivals was the only indicator of participation in "loose" organizations and, therefore, should include other categories in the future. Social activism referred to walkathons, Miles for Millions marches, other demonstrations etc. Only a small percentage (13 per cent) of the total youth population participated in "other demonstrations". A content analysis of the types of demonstrations indicated they were for the most part measures of conventional rather than militant behavior.

Internal-external control, Awareness of Social Factors and drug use explain very little about social participation. Neither I-E control nor ASF, used alone or together are significant factors in predicting participation as measured in this study. Other independent variables (not considered here) would obviously be more important for studying social participation. Of the variables related to social participation, drug use was the most important, followed by ASF and I-E control.

What might be noted is that Calgary youth reported

rather conservative social behavior, but that the incidence of illicit drug use is comparable to other major studies in Eastern Canada and the United States where social activism is normally considered more common behavior. In conclusion, then, drug users in Calgary not only do not manifest particular social-psychological attitudes, but their social behavior is not radically different from non drug users on the measures used.

The definition of a drug is being revised constantly over time. In future research, therefore, drugs might be defined by respondents in an open-ended question. Today's youth may include tea, coffee, cigarette smoking, household spices, vanilla consumption, banana peel smoking, aspirin abuse, shoe polish sniffing and the use of unique commercialized chemicals under drug use. An ever expanding drug market may introduce some drugs to youth which are unknown to researchers.

Extensive pretests are necessary to establish who constitutes a regular, occasional or non drug user for every kind of drug being studied. For example, a regular marijuana user might be defined differently from a regular opiate user. Although Smart's studies and the Calgary study utilized the same questions about drug use, neither study

established who the occasional and regular drug users were for each drug being examined. Consequently, there was little or no attempt to distinguish among non, occasional and regular drug users. Future research is needed to study the "process" by which an individual progresses from a non drug user to an occasional drug user to a regular drug user. This kind of research has already been initiated by Sadava (1973: 371-384).

Many drug studies have been conducted in Eastern Canada but only a limited number have been conducted in Western Canada. It is hoped that future reserach would attempt to co-ordinate drug studies in both regions of Canada so that their findings can be compared. Another suggestion would be to conduct a single drug study utilizing samples from both Western and Eastern Canada.

Most of the drug studies have been based upon student rather than non-student samples. There is a need for future drug studies to utilize samples which include more extensive age and occupational groupings than students and youth.

In conclusion, it is hoped that more non student, drug studies that are longitudinal in nature be carried out in Canada.

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APPENDIX I

THE QUESTIONNAIRE

INTERVIEWER: TRANSFER SAMPLE NUMBER

1. Sex (interviewer check)
 - 1 ___ Male
 - 2 ___ Female
2. Were you born in Canada?
 - 1 ___ Yes (skip to 5)
 - 2 ___ No
3. IF NO in what country were you born?
2C _____ 00 ___ DNA
4. If NO how old were you when you came to Canada?
 - 1 ___ Under 6
 - 2 ___ Between 6-10
 - 3 ___ Between 11-14
 - 4 ___ 15 and over
 - 0 ___ DNA
5. IF YES, in what part of Canada were you born?
 - 00 ___ DNA
 - 01 ___ Atlantic
 - 02 ___ Quebec
 - 03 ___ Ontario
 - 04 ___ Manitoba
 - 05 ___ Sask.
 - 06 ___ Alberta
 - 07 ___ B.C.
 - 08 ___ N.W.T., Yukon

6. How old were you on your last birthday? (Before Feb. 1, 1971).
15, 16, 17, 18, 19, 20,
21, 22, 23, 24
7. What is your marital situation?
 - 1 ___ Single (never married)
 - 2 ___ Married
 - 3 ___ Widowed
 - 4 ___ Divorced
 - 5 ___ Separated
8. Where did you grow up for the most part before you were 15 years of age? That is, in what city, suburb, town, village or municipality? (If outside of city or town limit, specify name of suburban municipality and not that of city or town).
2C _____
9. Where did you live 5 years ago, in Feb., 1966?
3C _____
If the same locality is given for question 8 and 9, then ask if same dwelling.
___ Same dwelling as above (q. 8)
10. How many different residences have you lived in since 1960 (for one month or more; do not include vacation stops).
 - 1 ___ One
 - 2 ___ Two
 - 3 ___ Three
 - 4 ___ Four
 - 5 ___ Five or six
 - 6 ___ Seven or more

Col. 33

11. How old were you when you came to Calgary? (If moved to Calgary more than once in life, give age at last arrival).

1 ___ Under 6 (includes born here)

2 ___ 6-10

3 ___ 11-14

4 ___ 15 or later

12. In what country was your father born?

2C _____

13. In what country was your mother born?

2C _____

14. To what ethnic or cultural group did your father's father belong?

01 ___ American 09 ___ Netherlands

02 ___ English 10 ___ Norwegian

03 ___ French 11 ___ Polish

04 ___ German 12 ___ Scottish

05 ___ Irish 13 ___ Ukrainian

06 ___ Italian 14 ___ Mixed

07 ___ Jewish 15 ___ Canadian

08 ___ Native Indian 16 ___ Other (specify)

98 ___ DK

15. To what ethnic or cultural group did your mother's father belong?

01 ___ American 09 ___ Netherlands

02 ___ English 10 ___ Norwegian

03 ___ French 11 ___ Polish

04 ___ German 12 ___ Scottish

05 ___ Irish 13 ___ Ukrainian

06 ___ Italian 14 ___ Mixed

07 ___ Jewish 15 ___ Canadian

08 ___ Native Indian 16 ___ Other (Specify)

98 ___ DK

16. Are your parents both living?

1 ___ Yes (skip to 19)

2 ___ No

17. IF NO, if your father has died how old were you when he died?

0 ___ DNA

18. IF NO, if your mother has died how old were you when she died?

0 ___ DNA

Col. 45

19. Were your parents ever separated or divorced?

1 ___ Yes

2 ___ No

20. What is the highest grade in school completed by your father?

01 ___ Elementary (6 or less)

02 ___ Junior High (7 to 9)

03 ___ Some High School (10 or 11)

04 ___ High School graduate

05 ___ Technical training (trade, commercial, etc., after high school)

06 ___ Some University

07 ___ University undergrad degree

08 ___ University graduate degree

98 ___ DK

21. In his education, did your father ever attend church affiliated or separate schools?

1 ___ No

2 ___ Yes, less than half the time

3 ___ Yes, half the time

4 ___ Yes, more than half the time

5 ___ Yes, all

8 ___ DK

22. What is the highest grade in school completed by your mother?

01 ___ Elementary (6 or less)

02 ___ Junior High (7 to 9)

03 ___ Some High School (10 or 11)

04 ___ High School graduate

05 ___ Technical training (nursing, commercial, etc., after High School)

06 ___ Some University

07 ___ University undergrad degree

08 ___ University grad degree

98 ___ DK

23. In her education, did your mother ever attend church affiliated or separate schools?

1 ___ No

2 ___ Yes, less than half the time

3 ___ Yes, half the time

4 ___ Yes, more than half the time

5 ___ Yes, all

8 ___ DK

24. What is your father's occupation? That is, what does he do in his job? (Cf. Interviewer's Manual) (If your father is not working now what did he do during most of his lifetime).

6C _____

Col. 58

Now I would like to ask you how many brothers and sisters you have. Please count all those born alive, but no longer living, as well as those alive now. Also, include stepbrothers and sisters and children adopted by your parents.

25. How many sisters did you have?

_____ or _____ None

26. How many of these sisters were older than you (born earlier)?

_____ or _____ None _____ DNA

27. How many brothers did you have?

_____ or _____ None

28. How many of these brothers were older than you (born earlier)?

_____ or _____ None _____ DNA

_____ }
 _____ } For office use
 _____ }

29. Are you living at home with your family?

- 1 ___ Yes, with both parents }
 2 ___ Yes, with mother only } - Skip
 3 ___ Yes, with father only } to 31
 4 ___ No

30. IF NO, how old were you when you left home?

00 ___ DNA

01 ___ 14 or under

_____ Exact age

31. How many children have you ever had? (live born) (Ask of men and women)

1 ___ One

2 ___ Two

3 ___ Three or more

4 ___ None

The following questions concern school and work.

32. Are you presently attending school?

1 ___ Yes, full time

2 ___ Yes, part time in evening

3 ___ Yes, part time in day

4 ___ No (skip to 35)

Col. 69-70

33. IF YOU ARE PRESENTLY ATTENDING SCHOOL, would you please tell me where?

00	DNA (not attending)	)	Go
		)	to
01	Public Junior High	)	36
)	
02	Separate Junior High)	
)	
03	Public Senior High	)	Go
		)	to
04	Separate Senior High	)	34
)	
05	SAIT)	
		)	Go
06	Mount Royal College)	
)	
07	U. of Calgary, Undergrad	)	to
)	
08	U. of Calgary, grad)	
)	
09	Night School	)	35
)	
10	Other)	

34. IF YOU ARE IN HIGH SCHOOL THIS YEAR what pattern are you in

0	DNA	)	Go
)	
1	Matriculation	)	to
)	
2	Non-matriculation	)	36

35. IF YOU HAVE BEEN IN HIGH SCHOOL IN THE PAST what pattern were you in?

0 DNA
1 Matriculation
2 Non-matriculation

36. Grading differs from school to school. From Junior High School up, what has been your general standing in your grades?

1 With the top group
2 Above average
3 Average
4 Below average
5 With the bottom group
0 DNA
8 DK

37. What is the highest grade of school completed? (If presently in school do not count this year.)

01 Six or less
02 7 to 9 years
03 10 years
04 11 years
05 12 years
06 13 years
07 14 or more years

38. IF YOU ARE STILL IN SCHOOL, how far do you plan to go in school?

- 00 DNA
- 01 Leave school before completing high school
- 02 Finish high school and then find work
- 03 Go into Tech vocational training after high school
- 04 Enter junior college after high school
- 05 Enter university after high school
- 06 Finish undergrad degree and then go to work
- 07 Go to graduate school
- 08 Other:

Now I am going to ask what type of school you have attended at each level of education.

39. First, Elementary School.

- 1 Public or secular school
- 2 Church affiliated or Separate school
- 3 Catholic public school
- 4 Mixed

40. Now, Junior and Senior High School.

- 1 Public or secular school
- 2 Church affiliated or Separate
- 3 Catholic public school
- 4 Mixed
- 0 DNA

41. Are you currently working?

- 1 Yes: full time
- 2 Yes: part time
- 3 No, looking for work
- 4 No, not looking (skip to 44)

42. IF YOU ARE WORKING, EVEN PART TIME what is your occupation? That is, what do you do in your job?

6C

 DNA

43. Would you please tell me which of these categories best represents your annual income (before deductions)? (Hand Respondent income card)

- 00 DNA
- 01 Under \$500.00 (1)
- 02 \$500.00 - \$999.00 (2)
- 03 \$1,000 - \$1,499 (3)
- 04 \$1,500 - \$1,999 (4)
- 05 \$2,000 - \$2,999 (5)
- 06 \$3,000 - \$3,999 (6)
- 07 \$4,000 - \$4,999 (7)
- 08 \$5,000 - \$5,999 (8)
- 09 \$6,000 - \$7,999 (9)
- 10 \$8,000 - \$9,999 (10)
- 11 \$10,000 or over (11)
- 99 No response

(Question continued)

Col. 15-16

43. (continued)

If an annual figure cannot be given ask for a monthly, weekly or bi-weekly figure, and note the answer on the line allotted.

_____ Monthly
 _____ Bi-monthly
 _____ Bi-weekly
 _____ Weekly
 _____ Hourly
 _____ Don't know
 _____ No response
 _____ DNA

44. IF YOU ARE MARRIED, would you please tell me which of the categories best represents your family income?

00 _____ DNA
 01 _____ Under \$2,000 (1)
 02 _____ \$2,000 - \$3,999 (2)
 03 _____ \$4,000 - \$5,999 (3)
 04 _____ \$6,000 - \$7,999 (4)
 05 _____ \$8,000 - \$9,999 (5)
 06 _____ \$10,000 - \$14,999 (6)
 07 _____ \$15,000 or more (7)
 99 _____ No response

If an annual income cannot be given, ask for a monthly, weekly or bi-weekly figure and note the answer on the allotted line.

_____ Monthly
 _____ Bi-monthly
 _____ Bi-weekly
 _____ Weekly
 _____ Don't know
 _____ No response
 _____ DNA

45. IF YOU ARE MARRIED what is your wife's/husband's occupation. That is, what does he/she do in his/her job?

6C _____
 _____ DNA

46. IF YOU ARE NOT WORKING AND YOU ARE NOT MARRIED, how much money do you have to spend a week? (i.e. from savings, allowance, etc). Do not include board and room.

0 _____ DNA
 1 _____ 50¢ or less
 2 _____ 51¢ to \$2.00
 3 _____ \$2.01 to \$5.00
 4 _____ \$5.01 to \$10.00
 5 _____ Over \$10.00 a week

47. Do you own your own car? (If you are married, do you have a family car?).

1 _____ Yes 2 _____ No

Deck 2 Col 27

SECTION B

SAMPLE NUMBER

INSTRUCTIONS

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief; obviously there are no right or wrong answers.

Please answer the items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. Circle the a or b which you choose as the statement more true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices. While there is some overlapping, each item is important for itself.

Circle the a or b which you choose as the statement more true.

48. a. Many of the unhappy things in people's lives are partly due to bad luck.
b. People's misfortunes result from the mistakes they make.
49. a. In the long run people get the respect they deserve in this world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
50. a. Without the right breaks one cannot be an effective leader.
b. Capable people who fail to become leaders have not taken advantage of their opportunities.
51. a. No matter how hard you try some people just don't like you.
b. People who can't get others to like them don't understand how to get along with others.
52. a. In the case of a well prepared student there is rarely if ever such a thing as an unfair test.
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
53. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b. Getting a good job depends mainly on being in the right place at the right time.

Col 33

54. a. The average citizen can have an influence in government decisions.
b. This world is run by the few people in power, and there is not much the little guy can do about it.
55. a. When I make plans, I am almost certain that I can make them work.
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
56. a. Racial discrimination is here to stay.
b. People may be prejudiced but it's possible for Canadian society to completely rid itself of open discrimination.
57. a. In my case getting what I want has little or nothing to do with luck.
b. Many times we might just as well decide what to do by flipping a coin.
58. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
59. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b. By taking an active part in political and social affairs the people can control world events.
60. a. Many Indians who don't do well in life have good training, but the opportunities just always go to whites.
b. Indians may not have the same opportunities as whites, but many Indians haven't prepared themselves enough to make use of the opportunities that come their way.
61. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
b. There really is no such thing as "luck".
62. a. It is hard to know whether or not a person really likes you.
b. How many friends you have depends upon how nice a person you are.
63. a. With enough effort we can wipe out political corruption.
b. It is difficult for people to have much control over the things politicians do in office.
64. a. Many times I feel that I have little influence over the things that happen to me.
b. It is impossible for me to believe that chance or luck plays an important role in my life.
65. a. What happens to me is my own doing.
b. Sometimes I feel that I don't have enough control over the direction my life is taking.

Col 45

We would like to know something about the organizations, clubs and teams you belong to. In the blank in front of each type of organization write the NUMBER of organizations like this to which you belong.

66. ___ Youth groups (The Y, Boys' Club, Guides, Scouts, etc.)
67. ___ School organizations, teams, clubs (Sports, debating, cheerleading, fraternities, newspaper, etc.)
68. ___ Sports teams (all sports teams except those associated with school)
69. ___ Volunteer groups (Candy Strippers, etc.)
70. ___ Religious groups (CGIT, CYO, etc.)
71. ___ Political groups (Young Liberals, etc.)
72. ___ Labour Unions
73. ___ Other types of organizations not listed (please specify)
- _____

74. ___ I do not belong to any organizations.

☐ In the following questions
indicate your answer with a check (✓)

75. About how many times a month do you attend a meeting or other activity connected with organizations?

- 07 ___ None 04 ___ Four
- 01 ___ One 05 ___ Five
- 02 ___ Two 06 ___ Six or more
- 03 ___ Three

76. In either of the past two years did you take part in the March for Man (Miles for Millions), or in other walkathons or similar activities aimed at raising money for charities?

- 1 ___ Yes
- 2 ___ No

77. Last summer did you attend the Prince's Island Rock Festival, Festival Express, or any other rock festival?

- 4 ___ I did not attend any
- 1 ___ I attended one
- 2 ___ I attended two
- 3 ___ I attended three or more

78. Other than Miles for Millions have you taken part in any demonstrations in the past two years?

- 1 ___ No
- 2 ___ Yes. If yes, would you please specify what the cause was and the form the demonstration took.
- _____

Col 60

The following are questions
pertaining to the use of drugs.

79. Do you favor the legalization of marihuana?

- 1 ___ Yes, definitely
- 2 ___ Yes, I think so
- 3 ___ I really don't know
- 4 ___ I don't think so
- 5 ___ Definitely not

80. Drugs include marihuana, glue, barbiturates, opiates, stimulants (pep pills), tranquilizers, LSD and other hallucinogens. Check the category that applies to you.

- 1 ___ I have used drugs - I am still using them.
- 2 ___ I have used drugs - I might use them again.
- 3 ___ I have used drugs - I am not using them again.
- 4 ___ I have not used drugs - I might like to try them. } skip to
- 5 ___ I have not used drugs - I am not going to use them. } q. 85

81. In the past six months (since September) I have used marihuana:

- 1 ___ Not at all
- 2 ___ One or two times
- 3 ___ Three or four times
- 4 ___ Five or six times
- 5 ___ Seven or more times

82. In the past six months (since September) I have sniffed glue or other solvents (i.e., nail polish remover, paint thinner, gasoline, etc.):

- 1 ___ Not at all
- 2 ___ One or two times
- 3 ___ Three or four times
- 4 ___ Five or six times
- 5 ___ Seven or more times

83. In the past six months (since September) I have used tranquilizers:

- 1 ___ Not at all
- 2 ___ One or two times
- 3 ___ Three or four times
- 4 ___ Five or six times
- 5 ___ Seven or more times

84. In the past six months (since September) I have used opiates (heroin, morphine, opium)

- 1 ___ Not at all
- 2 ___ One or two times
- 3 ___ Three or four times
- 4 ___ Five or six times
- 5 ___ Seven or more times

85. Have any of your brothers or sisters taken marihuana or sniffed glue?
- 0 ___ I have no brothers or sisters
- 1 ___ They've used marihuana only
- 2 ___ They've used glue only
- 3 ___ They've used both marihuana and glue
- 4 ___ They've never used marihuana or glue
- 8 ___ I don't know
86. Does your mother use tranquilizers, stimulants or barbiturates?
- 0 ___ I have no mother
- 1 ___ Never
- 2 ___ Less than once a month
- 3 ___ Every week but not every day
- 4 ___ Nearly every day
- 8 ___ I don't know

87. Does your father use tranquilizers, stimulants or barbiturates?
- 0 ___ I have no father
- 1 ___ Never
- 2 ___ Less than once a month
- 3 ___ Every week but not every day
- 4 ___ Nearly every day
- 8 ___ I don't know
88. In the past six months (since September) I have used alcohol (wine, beer, whiskey, gin, etc.):
- 1 ___ Not at all
- 2 ___ Less than once per month
- 3 ___ About twice per month
- 4 ___ About three times per month
- 5 ___ About four or more times per month

Here are some more statements on certain public issues. Would you first think whether you agree or disagree with them, and then decide how strong your feeling is. Be sure to answer every question. Obviously, there is no right or wrong answer.

CIRCLE YOUR ANSWER

SA = Strongly Agree

A = Agree

U = Uncertain

D = Disagree

SD = Strongly Disagree

(1) (2) (3) (4) (5)

89. Poor people have no one to blame but themselves.

SA A U D SD

90. I have a lot of respect for the local police.

SA A U D SD

Col 72

	(1)	(2)	(3)	(4)	(5)
91. If you try hard enough you can usually get what you want.	SA	A	U	D	SD
92. It's all right to get around the law if you can get away with it.	SA	A	U	D	SD
93. Most public officials (people in public office) are not really interested in the problems of the average man.	SA	A	U	D	SD
94. Suckers deserve to be taken advantage of.	SA	A	U	D	SD

Deck 3 Col 8

95. Most teachers are dedicated and concerned about their students.	SA	A	U	D	SD
96. Most people on welfare could take care of themselves if they really wanted to.	SA	A	U	D	SD
97. People too easily blame "the system" without really trying to succeed.	SA	A	U	D	SD
98. Being unemployed is mostly society's fault rather than the individual's fault.	SA	A	U	D	SD
99. To get ahead you have to do some things that are not right.	SA	A	U	D	SD
100. The best way to improve world conditions is for each man to take care of his own corner of the world.	SA	A	U	D	SD

Col 14

The final statements in this section are a little more detailed. Once again would you please answer them according to the categories supplied by putting a check in the appropriate box.

Fully Agree	Partly Agree	Un- Certain	Partly Dis- Agree	Fully Dis- Agree
(1)	(2)	(3)	(4)	(5)

101. Suffering, injustice and finally death are common to all men. But things are not all bad. These realities can be given meaning by what we believe.					
102. In the face of the almost continuous conflict and violence in life, I don't think men will ever learn to live in respect and peace with one another.					
103. Religious beliefs and practices, whatever they may be, seem to me a waste of time and resources.					
104. Somehow I cannot get very interested in talk about "the meaning of life."					
105. Despite the often troubled conditions of human life, I believe that there is order and pattern to existence that is worth searching for.					

106. How sure are you that you have found the answers to the meaning and purpose of life?

1 ___ I am quite certain and for the most part I grew up knowing these things.

2 ___ I am quite certain although at one time I was pretty uncertain.

3 ___ I am uncertain whether or not I have found them.

4 ___ I am quite sure I have not found them.

5 ___ I don't really believe there are answers to these questions.

6 ___ I have never thought about it seriously.

Col 20

THIS SECTION of the questionnaire deals with religion and related topics.

107. Do you think that you need some form of religious orientation or belief in order to achieve a fully mature outlook on life?

1 ___ Definitely yes

2 ___ Yes

3 ___ Not sure

4 ___ No

5 ___ Definitely not

108. How strong was the religious climate in your home when you were growing up?

1 ___ Very strong

2 ___ Quite strong

3 ___ Some

4 ___ Slight

5 ___ None

109. How strong an influence was religion in your attitudes and behavior when you were growing up?

1 ___ Very strong

2 ___ Quite strong

3 ___ Some

4 ___ Slight

5 ___ None

110. To what degree would you say religion now has an influence on your life?

1 ___ Very strong

2 ___ Quite strong

3 ___ Some

4 ___ Slight

5 ___ None

111. If your answers to the last two questions were not the same, would you please indicate at approximately what age you think the change took place? _____

112. Do you think that you can develop a well-rounded religious life apart from an organized church?

1 ___ Definitely yes

2 ___ Yes

3 ___ Not sure

4 ___ No

5 ___ Definitely not

113. If you were in need of advice about a difficult personal problem, would you think of consulting a clergyman?

1 ___ I would rarely think of consulting him on a personal problem.

2 ___ He might or might not be one of the persons with whom I'd consult

3 ___ He would be one of the first persons with whom I'd consult.

Here are some questions on religious beliefs.

Please CIRCLE your answers.

DT = Definitely True

PT = Probably True; you tend to believe it

U = Uncertain

PNT = Probably Not True

DNT = Definitely Not True

- | | (1) | (2) | (3) | (4) | (5) |
|--|-----|-----|-----|-----|-----|
| 114. Do you believe there is a God? | DT | PT | U | PNT | DNT |
| 115. Do you think God is like a Heavenly Father who watches over you? | DT | PT | U | PNT | DNT |
| 116. Do you believe that God answers people's prayers? | DT | PT | U | PNT | DNT |
| 117. Do you believe in life after death? | DT | PT | U | PNT | DNT |
| 118. Do you believe that, when they are able, God expects people to worship Him in their churches <u>every</u> week? | DT | PT | U | PNT | DNT |
| 119. Do you believe that Jesus was God's only Son sent into the world to save sinful man? | DT | PT | U | PNT | DNT |
| 120. Do you believe that the Devil actually exists? | DT | PT | U | PNT | DNT |
| 121. Miracles actually happened just as the Bible says they did. | DT | PT | U | PNT | DNT |
| 122. Looking over this last series of questions (114-121) do you think any of these beliefs are important, and even central values in your life? | | | | | |
| 1 ___Yes, all of them are central beliefs in my life. | | | | | |
| 2 ___No, none of them are central beliefs in my life. | | | | | |
| 3 ___Some of them are central beliefs in my life. | | | | | |
| 123. <u>If you answered that "some of them are central"</u> would you please go back of the list (114-121) and simply put a <u>check mark</u> in front of those you consider central to your life. | | | | | |

Col 44

Here is a series of statements on attitudes toward religious topics. Do you agree, disagree, etc., with each one of them?

SA = Strongly AgreeA = AgreeU = UncertainD = DisagreeSD = Strongly Disagree

(1) (2) (3) (4) (5)

- | | | | | | |
|--|----|---|---|---|----|
| 124. The work of the churches could be done just as well by schools and social agencies. | SA | A | U | D | SD |
| 125. Miracles, even if they did not happen exactly as they are reported, are true in the sense that they speak about God's love and action in the world. | SA | A | U | D | SD |
| 126. Among all the great men in history Jesus Christ gives man the best insight into God. | SA | A | U | D | SD |
| 127. Christian faith requires that one belong to an organized church. | SA | A | U | D | SD |
| 128. If enough men were brought to Christ, social ills would take care of themselves. | SA | A | U | D | SD |
| 129. The idea of eternal reward or punishment has no influence on my life. | SA | A | U | D | SD |
| 130. It is not as important to worry about life after death as about what one can do in this life. | SA | A | U | D | SD |
| 131. The separation of life and things into the religious and the non-religious is a false division. | SA | A | U | D | SD |

Col 52

The following questions deal with the relationship between religion and morality. Would you please answer them according to the same categories as above, Strongly Agree, Agree, Uncertain, Disagree, and Strongly Disagree. This is the last of the attitude questions.

- | | (1) | (2) | (3) | (4) | (5) |
|--|-----|-----|-----|-----|-----|
| 132. Religion, even in its best sense, is opposed to true moral living because it leads people to do things for selfish rewards. | SA | A | U | D | SD |
| 133. Religion is important only in terms of its ability to help us love and serve our fellow man. | SA | A | U | D | SD |
| 134. Belief in God and living a moral life are the same thing. | SA | A | U | D | SD |
| 135. The churches should keep out of social and political matters. | SA | A | U | D | SD |
| 136. Faith is one of the bases of moral living. | SA | A | U | D | SD |
| 137. Which one of the five statements above best expresses your feeling about the relationship between religion and moral living? _____ | | | | | |
| None of these. My opinion of the relationship between religion and morality is as follows: _____ | | | | | |
| _____ | | | | | |
| 138. Some people have doubts about their religious beliefs. Would you please check the one statement that comes closest to your attitude on this matter. | | | | | |
| 1 ____ I don't really have doubts about faith. | | | | | |
| 2 ____ My doubts about faith are really a sign that I am not as good a religious person as I should be. | | | | | |
| 3 ____ While I do have doubts about my faith, I think this is normal in the life of even a committed religious person. | | | | | |
| 4 ____ I have no religious beliefs. | | | | | |

We would like to ask you about religious experiences and prayer. Listed below are a number of specific types of religious experience which people have reported having. Since you were 12 have you ever had any of these experiences, and how sure are you that you have had them?

	(1) Yes, I'm sure I have	(2) Yes, I think I have	(3) No, I have not
139. A feeling that you were somehow in the presence of God.			
140. A sense of being saved in Christ.			
141. A sense of being miraculously helped by God.			
142. A feeling of being afraid of God.			
143. A feeling of being punished by God for something you had done.			
144. A sense of warm and close union with God.			
145. A sense of having been enlightened by God.			
146. A feeling that God has asked you to do something for him.			
147. Other experiences you have considered to be religious but which you would not express in the above categories.			

148. How important in your life do you consider these religious experiences to be?

0 ___ I have not had any religious experiences

1 ___ None were ever really important to me

2 ___ One or some were quite important at the time but they are not now.

3 ___ One or some are still important experiences in my life.

149. If you answered "one or some are still important", would you please go back over the list (139-147) and simply put a check mark in front of those you consider still important experiences in your life.

150. If you have the time, would you care to comment on any of your experiences referred to in question 147.

Deck 4 Col 8

151. How often do you pray privately?

- 1 ___ I never pray at all
(go to question 153)
- 2 ___ I pray only at church services (go to question 153)
- 3 ___ I pray once in a while, but not at regular intervals
- 4 ___ I pray regularly several times a week
- 5 ___ I pray regularly once a day or more

152. How important is private prayer in your life?

- 1 ___ Extremely important
- 2 ___ Fairly important
- 3 ___ Not too important
- 4 ___ Not important

This is the last part of the questionnaire. It concerns your relationship to church life.

153. Have you been baptized?

- 1 ___ Yes
- 2 ___ No
- 8 ___ Don't know

154. Were you married in a church or synagogue?

- 0 ___ I am not married
- 1 ___ Yes
- 2 ___ No

155. Are you a member of a particular religious group?

- 01 ___ No, I am not a member of any religious group (Skip to question 159)
- 02 ___ Anglican 08 ___ Presbyterian
- 03 ___ Baptist 09 ___ Roman Catholic
- 04 ___ Jewish 10 ___ Salvation Army
- 05 ___ Latter Day Saints
- 06 ___ Lutherans 11 ___ Ukrainian Catholic
- 07 ___ Pentecostal 12 ___ United Church
- Other (Specify) _____

156. How important would you say your church or synagogue membership is to you?

- 1 ___ Extremely important
- 2 ___ Quite important
- 3 ___ Fairly important
- 4 ___ Not too important
- 5 ___ Fairly unimportant

Col 15

157. Thinking of your 5 closest friends, how many share your denominational affiliation (e.g. Jewish, United Church, etc.)?

- 6 ___None 3 ___Three
 1 ___One 4 ___Four
 2 ___Two 5 ___Five

158. Have you ever been a member of a denomination or religion other than your present one?

- 1 ___No 2 ___Yes

159. Do you consider yourself attached to a particular local congregation?

- 1 ___Yes
 2 ___No (Skip to question 162)

160. IF YOU CONSIDER YOURSELF ATTACHED to a congregation, how important would you say your congregation is for you?

- 1 ___Extremely important
 2 ___Quite important
 3 ___Fairly important
 4 ___Not too important
 5 ___Fairly unimportant

161. Thinking of your five closest friends how many are members of your local congregation or synagogue?

- 6 ___None 3 ___Three
 1 ___One 4 ___Four
 2 ___Two 5 ___Five

IF YOU ARE NOT A MEMBER OF A PARTICULAR RELIGIOUS GROUP PLEASE ANSWER THESE QUESTIONS

If you are a member, please go to question 164

162. If you are not a member of a particular religious group, do you have a religious preference? That is, do you consider yourself part of a particular religious heritage, even if you are not a formal member of the group?

- | | |
|--|---|
| 01 ___No, I have no religious preference | 08 ___Presbyterian |
| 02 ___Anglican | 09 ___Roman Catholic |
| 03 ___Baptist | 10 ___Salvation Army |
| 04 ___Jewish | 11 ___Ukrainian Catholic |
| 05 ___Latter Day Saints | 12 ___United Church |
| 06 ___Lutheran | 13 ___Eastern (Hinduism, Buddhism, etc.) |
| 07 ___Pentecostal | 14 ___I consider myself Christian but not attached to a church group. |

Other _____

Col 22-23

163. If you are not a member of a particular group, were you ever a member?

01 ___ No, I never was a member

08 ___ Presbyterian

02 ___ Anglican

09 ___ Roman Catholic

03 ___ Baptist

10 ___ Salvation Army

04 ___ Jewish

11 ___ Ukrainian Catholic

05 ___ Latter day Saints

12 ___ United Church

06 ___ Lutheran

Other (please specify)

07 ___ Pentecostal

ALL RESPONDENTS PLEASE ANSWER THE FOLLOWING QUESTIONS

164. What was the religion of your father when you were 10 years of age?
(If your father was not alive when you were 10, or not living at home,
indicate his religion prior to that time)

_____ Religion. Please answer by marking the number from the right
category found in the previous question, number 163,
for example, 02 = Anglican, etc.

Other _____

01 ___ None

98 ___ Don't know

165. What was the religion of your mother when you were 10 years of age?
(If your mother was not alive when you were 10, or not living at home,
indicate her religion prior to that time.)

_____ Religion. Please use categories shown in question 163.

Other _____

01 ___ None

98 ___ Don't know

166. What was the religion of your spouse when he (she) was 16 years of age?

00 ___ I am not married

01 ___ None

98 ___ Don't know

___ Religion. Please use the categories shown in question 163

Other _____

167. What is the religion of your spouse now?

00 ___ I am not married

01 ___ None

___ Religion. Please use categories shown in question 163

Other _____

168. How often do you attend church or synagogue religious services?

1 ___ Never or hardly ever (skip to 172)

2 ___ About every three months

3 ___ About once a month

4 ___ About twice a month

5 ___ Almost every week

6 ___ More than once a week

169. Do you attend religious services above all because of pressure from parents, a spouse or others?

1 ___ Yes

2 ___ No

3 ___ Partly

170. Which of the following statements describes your most frequent attitude toward the religious services you attend?

1 ___ I am annoyed at the service

2 ___ I am kind of "just there" and don't pay too much attention to what's going on.

3 ___ I find it meaningful

171. Have you taken communion in the past year?

0 ___ This practice does not exist in the religion or denomination to which I belong

1 ___ No

2 ___ Yes, once or twice

3 ___ Yes, three or four times

4 ___ Yes, about every month

5 ___ Yes, more than once a month

6 ___ Yes, almost every week

172. On the average, during the past 6 months would you say that you talked about religious beliefs with friends?

1 ___ Never

2 ___ 2 or 3 times

3 ___ About once a month

4 ___ About 3 times a month

5 ___ Once a week or more

Col 37

173. Within the past year have you attended any classes, lectures or discussions on a religious subject?

☐ No, I have not

Yes, I have attended the following: (check as many as necessary)

173. ☐ Religion classes in Separate school

174. ☐ Sunday School

175. ☐ Youth groups (CGIT, etc.)

176. ☐ University religious discussion groups

177. ☐ Pre-marriage religious instruction

178. ☐ Other types (Specify)

179. During the past year have you read any magazine or newspaper articles which dealt with questions of religious belief or worship?

4 ☐ None

1 ☐ 1 or 2

2 ☐ 3 to 12

3 ☐ More than a dozen

180. Everyone's ideas change from time to time. Would you say that the church (clergymen, official documents, religion classes, etc.) has played any part in changing any of your opinions within the past two or three years?

1 ☐ Yes, the church has changed my opinions a great deal.

2 ☐ Yes, the church has changed my opinions somewhat.

3 ☐ I don't know whether or not the church has changed my opinions.

4 ☐ I don't think the church has changed my opinions on anything.

THANK YOU FOR YOUR CO-OPERATION

Any comments? _____

APPENDIX II

ANALYSIS OF VARIANCE TESTS FOR MULTIPLE CORRELATIONS AND STANDARDIZED BETA WEIGHTS FOR THE INDEPENDENT VARIABLES AND PARTICIPATION

TABLE 1

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Illicit Drug Use, I-E, ASF) on Participation
in "Tight" Organizations for Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	15.94	3	5.31
Residual	<u>3051.52</u>	<u>661</u>	4.62
Total	3067.46	664	

F = 1.15
N.S.

TABLE 2

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Marijuana Use, I-E, ASF) on Participation in
"Tight" Organizations for Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	12.39	3	4.13
Residual	<u>3055.07</u>	<u>661</u>	4.62
Total	3067.46	664	

F = .89
N.S.

TABLE 3

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Alcohol Use, I-E, ASF) on Participation in
"Tight" Organizations for Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	32.09	3	10.70
Residual	<u>3035.37</u>	<u>661</u>	4.59
Total	3067.46	664	

F = 2.33
N.S.

TABLE 4

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Illicit Drug Use, I-E, ASF) on Participation
in "Loose" Organizations of Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	96.22	3	32.07
Residual	<u>341.24</u>	<u>674</u>	.51
Total	437.46	677	

F = 63.34
p < .01

TABLE 5

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Marijuana Use, I-E, ASF) on Participation in
"Loose" Organizations for Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	9.11	3	30.37
Residual	<u>346.35</u>	<u>674</u>	.51
Total	437.46	677	

F = 59.10

p < .01

TABLE 6

Analysis of Variance Test for a Significance of
Multiple Correlation of Independent Variables
(Alcohol Use, I-E, ASF) on Participation in
"Loose" Organizations for Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	21.46	3	7.15
Residual	<u>416.00</u>	<u>674</u>	.62
Total	437.46	677	

F = 11.59

p < .01

TABLE 7

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Illicit Drug Use, I-E, ASF) on Participation
in Social Activism via Miles for Millions,
etc. for Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	1.24	3	.41
Residual	<u>166.99</u>	<u>674</u>	.25
Total	168.23	677	

F = 1.67

N.S.

TABLE 8

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Marijuana Use, I-E, ASF) on Participation in
Social Activism via Miles for Millions, etc.
for Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	.56	3	.18
Residual	<u>167.67</u>	<u>674</u>	.25
Total	168.23	677	

F = .74

N.S.

TABLE 9

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Alcohol use, I-E, ASF) on Participation on
Social Activism via Miles for Millions, etc.
For Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	.83	3	.28
Residual	<u>167.40</u>	<u>674</u>	.25
Total	168.23	677	

F = 1.11
N.S.

TABLE 10

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Illicit Drug Use, I-E, ASF) on Participation
in Social Activism via Other Demonstrations
For Calgary Youth

Source	Sum of Square	Degrees of Freedom	Mean Square
Regression	3.60	3	1.20
Residual	<u>74.45</u>	<u>674</u>	.11
Total	78.05	677	

F = 10.88
p < .01

TABLE 11

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Marijuana Use, I-E, ASF) on Participation in
Social Activism via Other Demonstrations for
Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	4.13	3	1.38
Residual	<u>73.93</u>	<u>674</u>	.11
Total	78.06	677	

F = 12.54

p < .01

TABLE 12

Analysis of Variance Test for Significance of
Multiple Correlation of Independent Variables
(Alcohol Use, I-E, ASF) on Participation in
Social Activism via Other Demonstrations for
Calgary Youth

Source	Sum of Squares	Degrees of Freedom	Mean Square
Regression	1.09	3	.36
Residual	<u>76.97</u>	<u>674</u>	.11
Total	78.06	677	

F = 3.18

p < .05

APPENDIX III

CHI SQUARE TESTS OF RELATIONSHIP BETWEEN DRUG USE
AND SELECTED DEMOGRAPHIC CHARACTERISTICS OF A
SAMPLE OF CALGARY YOUTH

TABLE 1

Sex, Age, Marital Status and Socio-economic
Status by Illicit Drug Use

Illicit Drug Use (Excluding Alcohol)

	<u>No</u>	<u>Might</u>	<u>Yes</u>	<u>Total %</u>	<u>(N)</u>
<u>Sex</u>					
Male	48	13	39	100	(695)
Female	61	10	29	100	(330)
					(695)

$$x^2 = 11.20 \text{ d.f.} = 2 \text{ } p < .01$$

<u>Age</u>					
15-19 years	53	13	34	100	(380)
20-24 years	55	9	36	100	(315)
					(695)

$$x^2 = 3.01 \text{ d.f.} = 2 \text{ } N.S.$$

<u>Marital Status</u>					
Single	49	12	39	100	(542)
Married	71	11	17	100	(140)
Widowed, Separate or Divorced	62	0	38	100	(13)
					(695)

$$x^2 = 27.16 \text{ d.f.} = 4 \text{ } p < .001$$

<u>Socio-economic Status^a</u>					
Low (25-29)	62	6	32	100	(113)
(30-39)	55	13	32	100	(251)
(40-59)	57	11	32	100	(198)
High (60-76)	39	16	45	100	(115)
					(677)

$$x^2 = 15.92 \text{ d.f.} = 6 \text{ } p < .02$$

^aBlishen, B.R. "A Socio-Economic Index for Occupations in Canada" Canadian Review of Sociology and Anthropology, 1967, 4, 41-53.

TABLE 2

Sex, Age, Marital Status and Socio-economic
Status by Frequency of Marijuana Use in the
Past Six Months

Frequency of Marijuana Use

Never None Occasional Regular Total % (N)

<u>Sex</u>						
Male	61	7	16	16	100	(364)
Female	70	12	10	7	100	(332)
						(696)

$$x^2 = 22.22 \text{ d.f.} = 3 \quad p < .001$$

<u>Age</u>						
15-19 years	66	8	14	12	100	(380)
20-24 years	64	11	13	11	100	(316)
						(696)

$$x^2 = 2.16 \text{ d.f.} = 3 \quad \text{N.S.}$$

<u>Marital Status</u>						
Single	61	9	16	14	100	(543)
Married	83	9	5	3	100	(140)
Widowed, Separated or Divorced	62	31	8	0	100	(13)
						(696)

$$x^2 = 38.71 \text{ d.f.} = 6 \quad p < .001$$

<u>Socio-economic Status</u>						
Low (25-29)	68	10	10	13	100	(114)
(30-39)	68	11	13	8	100	(249)
(40-59)	67	9	14	10	100	(200)
High (60-76)	54	9	17	20	100	(115)
						(678)

$$x^2 = 16.33 \text{ d.f.} = 9 \quad \text{N.S.}$$

TABLE 3

Sex, Age, Marital Status, and Socio-economic
Status by Frequency of Alcohol Use in the
Past Six Months

	<u>Frequency of Alcohol Use</u>				
	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total %</u>	<u>(N)</u>
<u>Sex</u>					
Male	9	40	50	100	(365)
Female	15	49	36	100	(327)
					(692)

$$x^2 = 16.83 \text{ d.f.} = 2 \quad p < .001$$

<u>Age</u>					
15-19 years	15	50	35	100	(378)
20-24 years	8	38	54	100	(314)
					(692)

$$x^2 = 25.63 \text{ d.f.} = 2 \quad p < .001$$

Marital Status

Single	13	44	43	100	(541)
Married	8	49	43	100	(139)
Widowed, Separated or Divorced	8	25	67	100	(12)
					(692)

$$x^2 = 5.84 \text{ d.f.} = 4 \text{ N.S.}$$

Socio-economic Status

Low (25-29)	13	46	40	100	(112)
(30-39)	12	41	47	100	(247)
(40-59)	13	49	38	100	(202)
High (60-76)	8	41	51	100	(113)
					(674)

$$x^2 = 7.53 \text{ d.f.} = 6 \text{ N.S.}$$

TABLE 4

Parents Separated or Divorced and Where Youth Grew Up
By Illicit Drug Use

Illicit Drug Use (Excluding Alcohol)

No Might Yes Total % (N)

Parents Separated or
Divorced

Yes	39	10	51	100	(104)
No	56	12	32	100	(590)
					(694)

$$x^2 = 14.63 \quad \text{d.f.} = 2. \quad p < .001$$

Where Youth Grew Up

Farm	62	12	27	100	(26)
Town	59	9	32	100	(135)
Suburb	60	17	23	100	(35)
City	52	12	36	100	(495)
					(691)

$$x^2 = 6.28 \quad \text{d.f.} = 6 \quad \text{N.S.}$$

TABLE 5

Parents Separated or Divorced and Where Youth Grew Up
By Frequency of Marijuana Use in the Past Six Months

Frequency of Marijuana Use

	<u>Never</u>	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total</u>	<u>%</u>	<u>(N)</u>
<u>Parents Separated</u>							
<u>or Divorced</u>							
Yes	48	11	21	20	100	(104)	
No	68	9	12	10	100	(590)	(694)

$$x^2 = 18.20 \quad \text{d.f. } 3 \quad p < .001$$

Where Youth Grew Up

Farm	73	4	15	8	100	(26)	
Town	69	10	13	9	100	(134)	
Suburb	74	9	11	6	100	(35)	
City	63	10	14	13	100	(497)	(692)

$$x^2 = 5.59 \quad \text{d.f. } = 9 \quad \text{N.S.}$$

TABLE 6

Parents Separated or Divorced and Where Youth Grew Up
By Frequency of Alcohol Use in the Past Six Months

Frequency of Alcohol Use

	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total %</u>	<u>(N)</u>
<u>Parents Separated</u>					
<u>or Divorced</u>					
Yes	10	34	56	100	(103)
No	12	46	41	100	(587)
					(690)

$$x^2 = 7.97 \text{ d.f.} = 2 \quad p < .02$$

Where Youth Grew Up

Farm	12	46	42	100	(26)
Town	6	42	53	100	(135)
Suburb	12	48	39	100	(33)
City	14	45	41	100	(494)
					(688)

$$x^2 = 9.10 \text{ d.f.} = 6 \quad \text{N.S.}$$

TABLE 7

Presently Attending School, Where Attending School
and Grades at School by Illicit Drug Use

<u>Illicit Drug Use (Excluding Alcohol Use)</u>					
	<u>No</u>	<u>Might</u>	<u>Yes</u>	<u>Total %</u>	<u>(N)</u>
<u>Presently Attending School</u>					
Yes	52	14	34	100	(377)
No	56	8	35	100	(318)
					(695)

$$\chi^2 = 5.32 \text{ d.f.} = 2 \text{ N.S.}$$

Where Attending School

Public Jr. or Sr. High	51	14	36	100	(200)
Separate Jr. or Sr. High	66	16	19	100	(58)
College ^a	45	13	41	100	(104)
S.A.I.T. ^b and other	50	18	32	100	(34)
					(396)

$$\chi^2 = 9.10 \text{ d.f.} = 6 \text{ N.S.}$$

Grades

Bottom & Below Average	48	7	45	100	(44)
Average	52	13	35	100	(400)
Above Average	54	12	34	100	(185)
Top	70	6	23	100	(61)
					(690)

$$\chi^2 = 10.48 \text{ d.f.} = 6 \text{ N.S.}$$

^aThe "college" category includes University of Calgary & Mount Royal College.

^bSouthern Alberta Institute of Technology is abbreviated.

TABLE 8

Presently Attending School, Where Attending
School and Grades at School by Frequency of
Marijuana Use in the Past Six Months

	<u>Frequency of Marijuana Use</u>						
	<u>Never</u>	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total %</u>	<u>(N)</u>	
<u>Presently At-</u>							
<u>tending School</u>							
Yes	66	9	15	10	100	(377)	
No	65	11	12	13	100	(319)	
							(696)

$$\chi^2 = 3.67 \text{ d.f.} = 3 \text{ N.S.}$$

Where Attending
School

Public Jr. or Sr.						
High	63	11	14	11	100	(202)
Separate Jr. or						
Sr. High	82	5	10	2	100	(57)
College	59	5	22	14	100	(104)
S.A.I.T. &						
Other	70	18	12	0	100	(33)
						(396)

$$\chi^2 = 24.47 \text{ d.f.} = 9 \text{ } p < .01$$

Grades

Bottom & Below						
Average	50	14	20	16	100	(44)
Average	65	10	14	12	100	(404)
Above Average	65	10	14	11	100	(187)
Top	77	5	10	8	100	(61)
						(696)

$$\chi^2 = 8.65 \text{ d.f.} = 9 \text{ N.S.}$$

TABLE 9

Presently Attending School, Where Attending School and Grades At School by Frequency of Alcohol Use In The Past Six Months

	<u>Frequency of Alcohol Use</u>				
	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total%</u>	<u>(N)</u>
<u>Presently Attending School</u>					
Yes	16	46	38	100	(374)
No	7	42	50	100	(318)
					(692)

$$\chi^2 = 17.97 \text{ d.f.} = 2 \quad p < .001$$

Where Attending School

Public Jr. or Sr. High	21	48	30	100	(200)
Separate Jr. or Sr. High	20	49	31	100	(55)
College	7	35	58	100	(103)
S.A.I.T. & Other	3	59	38	100	(34)
					(392)

$$\chi^2 = 31.98 \text{ d.f.} 6 \quad p < .001$$

Grades

Bottom & Below Average	14	48	38	100	(42)
Average	11	42	47	100	(400)
Above Average	11	48	41	100	(187)
Top	18	45	37	100	(60)
					(689)

$$\chi^2 = 6.24 \text{ d.f.} 6 \text{ N.S.}$$

TABLE 10

Parental Drug Use and Sibling Drug Use by
Youths Illicit Drug Use

Youth's Illicit Drug Use (Excluding Alcohol)

<u>Mothers' Drug Use^a</u>	<u>No</u>	<u>Might</u>	<u>Yes</u>	<u>Total %</u>	<u>(N)</u>
None	58	13	30	100	(381)
Occasional	44	9	47	100	(87)
Regular	39	10	51	100	(61)
					(529)

$$x^2 = 17.10 \quad \text{d.f. } 4 \quad p < .01$$

Fathers' Drug
Use^b

None	57	10	32	100	(451)
Occasional	44	17	39	100	(41)
Regular	33	22	44	100	(27)
					(519)

$$x^2 = 9.37 \quad \text{d.f. } = 4 \quad \text{N.S.}$$

Siblings' Drug
Use^c

Never	73(228)	8(26)	19(59)	100	(313)
Do not know	48(104)	15(33)	37(81)	100	(218)
Use Glue or Marijuana or Both Drugs	20(26)	11(14)	69(90)	100	(130)
					(661)

$$x^2 = 122.82 \quad \text{d.f. } = 4 \quad p < .001$$

^a Mothers' drug use includes tranquilizer, stimulant and barbiturate use.

^b Fathers' drug use includes the same drugs as mothers' drug use.

^c Siblings' drug use includes glue and/or marijuana use.

TABLE 11

Parental Drug Use and Sibling Drug Use By
Frequency of Youth's Marijuana Use In the
Past Six Months

Frequency of Youth's Marijuana Use

	<u>Never</u>	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total</u>	<u>% (N)</u>
<u>Mother's Drug</u>						
<u>Use</u>						
None	71	8	12	9	100	(379)
Occasional	54	13	21	14	100	(87)
Regular	49	12	20	20	100	(61)
						(527)

$$x^2 = 19.00 \text{ d.f.} = 6 \text{ } p < .01$$

Father's Drug

<u>Use</u>						
None	68	10	13	9	100	(450)
Occasional	58	7	17	17	100	(41)
Regular	56	4	11	30	100	(27)
						(518)

$$x^2 = 13.64 \text{ d.f.} = 6 \text{ } p < .05$$

Siblings' Drug

<u>Use</u>						
Never	81(254)	7(22)	7(22)	5(17)	100	(315)
Do not know	62(135)	10(23)	16(36)	11(24)	100	(218)
Use Glue or Marijuana or Both						
Drugs	31(40)	14(18)	26(33)	29(38)	100	(129)
						(129)

$$x^2 = 109.70 \text{ d.f.} = 6 \text{ } p < .001$$

TABLE 12

Parental Drug Use and Sibling Drug Use by
Frequency of Youth's Alcohol Use In the
Past Six Months

<u>Frequency of Youth's Alcohol Use</u>					
	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total %</u>	<u>(N)</u>
<u>Mother's Drug</u>					
<u>Use</u>					
None	15	47	38	100	(376)
Occasional	7	36	58	100	(87)
Regular	10	45	45	100	(62)
					(525)

$$x^2 = 12.48 \text{ d.f.} = 4 \quad p < .02$$

<u>Fathers' Drug</u>					
<u>Use</u>					
None	13	45	42	100	(445)
Occasional	12	29	58	100	(41)
Regular	0	44	56	100	(27)
					(513)

$$x^2 = 8.87 \text{ d.f.} = 4 \quad \text{N.S.}$$

<u>Siblings' Drug</u>					
<u>Use</u>					
Never	19(59)	45(141)	35(110)	100	(310)
Do not know	5(11)	47(103)	47(103)	100	(217)
Use Glue or					
Marijuana or					
Both Drugs	8(10)	38(50)	54(71)	100	(131)
					(658)

$$x^2 = 33.75 \text{ d.f.} = 4 \quad p < .001$$

TABLE 13

Religious Denomination and Influence of Religion
Now By Illicit Drug Use

Illicit Drug Use (Excluding Alcohol)

	<u>No</u>	<u>Might</u>	<u>Yes</u>	<u>Total %</u>	<u>(N)</u>
<u>Religious</u>					
<u>Denomination</u>					
No Religious					
Denomination	46	11	42	100	(297)
Anglican	55	19	26	100	(62)
Jewish	0	0	100	100	(3)
Lutheran	81	12	8	100	(26)
Presbyterian	47	13	40	100	(15)
Catholic	58	13	29	100	(123)
United	52	14	33	100	(99)
Fundamentalist	73	0	27	100	(33)
Other	79	4	17	100	(24)
					(682)

$$x^2 = 44.00 \text{ d.f. } 16. \text{ } p < .001$$

Influence of
Religion Now

None	38	17	45	100	(184)
Slight	47	12	41	100	(195)
Some	65	9	26	100	(176)
Quite Strong	68	7	25	100	(96)
Very Strong	80	5	15	100	(41)
					(695)

$$x^2 = 52.25 \text{ d.f. } = 8 \text{ } p < .001$$

TABLE 14

Religious Denomination and Influence of Religion
Now By Frequency of Marijuana Use in the Past
Six Months

Religious Denomination	<u>Frequency of Marijuana Use</u>					(N)
	<u>Never</u>	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total %</u>	
No Denomination	57	10	15	18	100	(297)
Anglican	71	10	8	11	100	(63)
Jewish	0	0	67	33	100	(3)
Lutheran	92	0	8	0	100	(26)
Presbyterian	60	13	13	13	100	(15)
Catholic	72	7	16	5	100	(121)
United	65	11	14	10	100	(100)
Fundamentalist	71	12	18	0	100	(34)
Other	83	8	4	4	100	(24)
						(683)

$$\chi^2 = 49.67 \text{ d.f.} = 24 \text{ } p < .01$$

<u>Influence of Religion Now</u>						
None	55	13	14	18	100	(182)
Slight	58	8	21	12	100	(196)
Some	74	9	11	7	100	(179)
Quite Strong	74	7	6	12	100	(97)
Very Strong	83	10	5	2	100	(42)
						(696)

$$\chi^2 = 42.09 \text{ d.f.} = 12 \text{ } p < .001$$

TABLE 15

Religious Denomination and Influence of Religion
Now By Frequency of Alcohol Use in the Past
Six Months

		<u>Frequency of Alcohol Use</u>			
		<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total % (N)</u>
<u>Religious</u>					
<u>Denomination</u>					
No Denomination	8	42	51	100	(293)
Anglican	18	33	49	100	(63)
Jewish	0	67	33	100	(3)
Lutheran	0	54	46	100	(26)
Presbyterian	9	40	60	100	(15)
Catholic	10	46	45	100	(121)
United	12	53	35	100	(102)
Fundamentalist	30	58	12	100	(33)
Other	50	33	17	100	(24)
					(680)

$$x^2 = 76.62 \text{ d.f.} = 16 \quad p < .001$$

<u>Influence of</u>					
<u>Religion Now</u>					
None	6	42	52	100	(182)
Slight	8	43	47	100	(196)
Some	14	45	41	100	(177)
Quite Strong	20	48	32	100	(96)
Very Strong	32	54	15	100	(41)
					(41)

$$x^2 = 44.01 \text{ d.f.} = 8 \quad p < .001$$

TABLE 16

Attitudes Towards Legalization of Marijuana
By Illicit Drug Use, Frequency of Marijuana
Use In The Past Six Months and Frequency of
Alcohol Use In The Past Six Months

Illicit Drug Use (Excluding Alcohol)

	<u>No</u>	<u>Might</u>	<u>Yes</u>	<u>Total %</u>	<u>(N)</u>
<u>Attitudes Towards</u>					
<u>Legalization</u>					
Definitely No & No	84	5	11	100	(274)
Do not know	62	18	21	100	(125)
Definitely Yes & Yes	22	15	62	100	(293)
					(692)

$$x^2 = 238.76 \text{ d.f.} = 4 \quad p < .001$$

Frequency of Marijuana Use

	<u>Never</u>	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total %</u>	<u>(N)</u>
Definitely No						
& No	88	6	5	1	100	(277)
Do not know	78	10	9	3	100	(126)
Definitely Yes &						
Yes	38	13	24	26	100	(290)
						(693)

$$x^2 = 188.52 \text{ d.f.} = 6 \quad p < .001$$

Frequency of Alcohol Use

	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total %</u>	<u>(N)</u>
Definitely No					
& No	19	49	32	100	(274)
Do not know	14	44	41	100	(126)
Definitely Yes					
& Yes	5	40	55	100	(289)
					(689)

$$x^2 = 41.13 \text{ d.f.} = 4 \quad p < .001$$

TABLE 17

Frequency of Alcohol Use By Frequency of
Marijuana Use in the Past Six Months

<u>Frequency of Marijuana Use For Drug Users</u>					
	<u>None</u>	<u>Occasional</u>	<u>Regular</u>	<u>Total %</u>	<u>(N)</u>
<u>Frequency of</u>					
<u>Alcohol Use</u>					
None	86	0	14	100	(7)
Occasional	30	44	26	100	(84)
Regular	23	38	38	100	(148)
					(239)

$$\chi^2 = 16.46 \text{ d.f.} = 4 \text{ } p \leq .01$$