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SOCIO-DEMOGRAPHIC, ATTITUDINAL AND BEHAVIOURAL DETERMINANTS OF RISK FOR SEXUALLY TRANSMITTED DISEASES IN SIXTEEN-YEAR-OLD HIGH SCHOOL STUDENTS

by

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ABSTRACT

Females aged 15–19 years, for the first time since national reporting began in 1940, recorded the highest rates of gonorrhea in 1988. This trend continued in 1989 and 1990. Chlamydia, three to five times more prevalent then gonorrhea, records its highest incident rate in females aged 15–19 years of age. If these two infections are not treated, they ascend to the upper genital tract causing pelvic inflammatory disease (PID). PID may cause chronic pelvic pain, tubal infertility, and ectopic pregnancy. Sexually active 15–19 year old females have approximately a one in eight risk of developing PID compared to a one in eighty risk in 20–24 year old women.

Traditionally, control measures for bacterial infections have emphasized secondary control measures of timely diagnosis, appropriate treatment and contact tracing; however, with the emergence of bacterial STD which are resistant to antibiotic treatment, the increasing incidence of viral infections which are incurable, such as herpes, genital warts, and HIV, the emphasis must shift to primary prevention. Strategies for primary prevention should emphasize behaviours which reduce the likelihood of exposure to STD (abstinence or monogamy) and, once exposed, reduce the likelihood of acquiring infection (condom use). It is, therefore, important to determine the factors which influence these behaviours in order to develop appropriate prevention and intervention strategies. More importantly, it is imperative to identify the determinants of behaviour in the adolescent population.

Two models of risk for sexual behaviour were developed using stepwise discriminant analysis. The first model assessed the predictive strength of demographic, knowledge, attitudinal, and behavioural variables in determining which adolescents 'ever had sexual intercourse' compared to adolescents who 'never had sexual intercourse'. The second model assessed the same variables to determine which adolescents were more likely to have had an increased number of partners. The study population was the grade

11 data set from the Canada Youth and AIDS study. The analysis was conducted separately for males and females because strong gender differentials have been documented in sexual behaviour.

For males, the model of risk for 'ever had sexual intercourse' yielded nine variables which accounted for 27.6% of the discriminatory power of the model. The nine determinants in order of entry to the model were: alcohol use, cigarette use, cannabis use, positive attitude towards casual sex, high self-esteem/self-image, average mark last term less than 60%, weekly church attendance, poor relationship with parents, and do not know mother's birthplace. The model correctly classified 72% of the respondents. For the model 'number of partners', one additional variable entered the model: live with 'other/mom only/dad only'. The ten variables in the model explained 40% of the discriminatory power of the model. The model correctly classified 54% of the respondents. Alcohol use accounted for the greatest proportion of discriminatory power in both models explaining 16% for 'ever had sexual intercourse' and 19% for 'number of partners'.

For females, the model of risk for 'ever had sexual intercourse' yielded fourteen variables which accounted for 27.5% of the discriminatory power of the model. The fourteen determinants in order of entry to the model were: cigarette use, positive attitude towards casual sex, cannabis use, alcohol use, subjects in high school were preparing the student for work, urban/rural, live with 'other/mom only/dad only', finish education at high school, do not know mother's birthplace, father's occupation was unemployed, poor relationship with parents, average mark last term less than 60%, low knowledge score, and low sexual worry. The model correctly classified 72% of the respondents. Two variables, the knowledge score and sexual worry, which entered the model for 'ever had sexual intercourse' did not enter the model for 'number of partners'. These two variables were replaced by the poor mental health/depression variable. The model of risk for 'number of partners' accounted for 38% of the discriminatory power of the model; the model correctly classified 58% of the students.

Cigarette use accounted for the largest proportion of the discriminatory power in both models explaining 12% for 'ever had sexual intercourse' and 15% for 'number of partners'.

These findings underscore the fact that risk-taking behaviours play an significant role in the lives of adolescents. The healthcare provider should recognize that the existence of one behaviour may be a marker for other established behaviours or it may be the marker for the onset of another behaviour. Alcohol use is the most indicative of sexual behaviour in the male adolescent; for the adolescent female, cigarette smoking is the most likely marker for sexual behaviour.

The introduction of the oral contraceptive in the 1960s eliminated the risk of pregnancy for the female; this, in turn, resulted in a narrowing of the gender differential in the proportion of males and females engaging in sexual intercourse. Oral contraceptives also increase cervical ectopy which increases the probability of infection with gonnorrhea or chlamydia. The use of oral contraceptives, the inconsistent use of condoms, the adolescent's mindset that nothing bad will ever happen, the adolescent's inability to plan for future consequences, has resulted in a cohort of females aged 15-19 years with the highest rates of gonnorrhea and chlamydia.

Although the proportion of males and females who have ever had sexual intercourse is almost equal, the attitudes on dating and sexual behaviour have remained traditional and non-egalitarian. Answers to questionnaire items which grouped together to form the construct 'attitude towards casual sex' in the factor analysis emphasized sexual pleasure and sex with more than one partner for males whereas the questionnaire items for females emphasized the need for love with sex and the need for commitment.

Predictive models of health, notably the Health Belief Model, The Theory of Reasoned Action and the Social Learning Theory, have been developed within specific theoretical frameworks and have shown promise in delineating the determinants of behaviour. Predictor variables from the knowledge section and the attitude section were derived over a four-stage process involving a panel of experts and exploratory factor analysis. Subjective norm (parents) from the theory of Reasoned Action, perceived vulnerability from the Health Belief Model, and Knowledge as a Perceived Barrier from the Health Belief Model were significant determinants for females for the model 'ever had sexual intercourse'. The Subjective norm (parents) entered each model for both males and females. These constructs are discussed in terms of their applicability to the Information, Motivation and Behavioural Skills Intervention Model recently developed by Fisher and Fisher.

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1. INTRODUCTION

Sexually transmitted diseases (STD) are infections spread by direct contact from person to person during sexual behaviour or from mother to child during pregnancy or birth. Most pathogens which are sexually transmitted have the human genital tract as their only reservoir and barely survive or die outside of the human body. More than fifty STD are currently recognized: gonorrhea, syphilis, Chlamydia trachomatis infections, genital herpesvirus, human papillomavirus, hepatitis B virus, cytomegalovirus, chancroid, enteric infections, ectoparasitic diseases, and the human immunodeficiency virus.[1] The major sequelae of infection with a sexually transmitted disease arise almost entirely in women. An infection which is undiagnosed and untreated may ascend from the lower genital tract to the upper genital tract causing pelvic inflammatory disease (PID) and severe, irreversible sequelae of ectopic pregnancy, infertility and chronic pelvic pain. In Canada, the annual cost of PID and its sequelae have been estimated at $140,000,000.[2]

STD viral infections, such as those caused by human immunodeficiency virus (HIV), human papillomavirus (HPV), and herpes simplex virus (HSV), present a special challenge. These infections are life-long, incurable and may have severe and fatal consequences, such as cancer and premature death. As well, the increasing number of gonococcal strains resistant to penicillin (PPNG), the traditional drug of choice, has challenged the clinical complacency of physicians in the treatment of gonorrhea. British Columbia experienced an increase in the proportion of PPNG well above the hyperendemic rate of 3.0% during the first six months of 1990.[3]

Traditionally, a distinction has been made between sexually transmitted diseases which are caused by bacteria and those which are caused by viruses. Because bacterial diseases are curable with antibiotic treatment and viral diseases are not, control measures have differed: strategies for bacterial STD emphasize secondary control measures of early diagnosis and treatment, and strategies for viral STD emphasize primary prevention by reducing the likelihood of exposure. The traditional distinction between the bacterial and

viral STD is becoming blurred especially in developing countries where the absence of diagnostics for gonorrhea and chlamydia make control measures for these diseases comparable to those for the incurable viral STD. Furthermore, the social, economic and political factors of poverty, social disintegration, prostitution and the phenomenon of sex in exchange for drugs are fuelling an epidemic of STD as found, for example, among urban inner city minority populations in the United States.[4]

The emphasis on primary prevention has important implications for the provision of healthcare programs for adolescents. Sexually transmitted diseases are transmitted and acquired through sexual behaviour. Such behaviour may be modified to reduce or eliminate the likelihood of becoming infected. Development of prevention and targeted intervention strategies for sexual health promotion will benefit from the behavioural, and attitudinal determinants of sexual behaviour. Knowledge, in itself, is not sufficient; it is however, important within the context of its influence on attitude. Attitudes and the inter-relationship of sexual behaviour with other behaviours, such as drug and alcohol use, may alter the adolescent's perception of the risks of engaging in sexual activity.

Fisher and Fisher[5] argued that, given the persistence of AIDS risk behaviour, it is critical to develop effective methods for encouraging AIDS risk behaviour change. They recently reviewed the literature on AIDS risk reduction interventions and concluded that research in this area had several empirical and conceptual shortcomings: (1) the risk reduction intervention is based on informal conceptualizations and does not use sophisticated behavioural science models to delineate determinants of risk behaviour; (2) the risk reduction intervention does not identify the needs of the target group it is intended to affect; (3) the intervention tends to focus on the provision of knowledge; it does not attempt to motivate behavioural change nor to teach behavioural skills that are necessary to initiate change.

Recently, predictive models of health, utilizing regression analysis techniques, have been developed within specific theoretical frameworks and have shown promise in delineating the determinants of behaviour. Accordingly, the objectives of this thesis are:

1. to develop a model of risk for 'ever had sexual intercourse' using the grade 11 dataset from the Canada Youth and AIDS Study. Discriminant analysis will evaluate the predictive strength of demographic, knowledge, attitudinal, and behavioural variables.

2. to develop a model of risk for 'number of partners' using the grade 11 dataset from the Canada Youth and AIDS Study. Discriminant analysis will assess the predictive strength of demographic, knowledge, attitudinal, and behavioural variables.

3. to derive the predictor variables for the models in such a way so as to establish a theoretical framework for analyses and interpretation. The choice of attitudinal variables will be developed over a three-stage process involving a panel of experts and factor analysis.

4. to formulate recommendations based on the results of the analyses for the development of prevention strategies for the control of sexually transmitted diseases among adolescents.

2. SEXUALLY TRANSMITTED DISEASES

2.1. Surveillance Data on Sexually Transmitted Diseases

Data on the number of cases of sexually transmitted diseases in Canada and the United States is limited; not all STD are reportable to provincial and federal authorities, and those that are reportable are incompletely reported. In general, completeness of reporting by public clinics is greater than that of private practitioners. Public STD clinics report more cases of diagnosed infections with gonorrhoea and syphilis than private practitioners.[6] Older men and women are diagnosed and treated more frequently by private practitioners than physicians who practice in STD clinics. Hence, the most complete data comes from a sample population (young people who attend STD clinics) which is not representative of the general population.[6,7]

Canada has collected data on the number of incident cases of gonorrhoea and syphilis since 1940.[8] The incidence of gonorrhoea reached a peak in 1946 and declined until the early 1960s after which it increased with the introduction of oral contraception. This increase in rates of infection peaked in 1981 at 231 cases per 100,000 population, descending to 72.9 cases per 100,000 population in 1989. The factors which precipitated the increase in the rates of gonorrhoea in 1960s and the 1970s were not sufficient to increase the rates of syphilis. Other sexually transmitted diseases, such as chlamydia, genital warts and genital herpes, likely increased concomitantly with the increase in gonorrhoea but surveillance data has not been routinely available. Because chlamydia was not notifiable in all provinces and territories, nor nationally notifiable prior to 1990, its true incidence and prevalence remains unknown. Furthermore, these factors coupled with inadequate screening of high-risk populations and inappropriate use of antigen detection methods has contributed to a lack of understanding of the epidemiology of the infection.[9]

2.2. Mathematical Models of Transmission Dynamics

STD have unique epidemiological characteristics that should be considered in the development of a conceptual model:[10] (1) only sexually active persons within a community who could be infected need to be considered; (2) the carrier or asymptomatic state is important because a person may be infectious without knowing it and unwittingly transmit the infection; (3) many infections induce little or no immunity; therefore, a person who has been treated and cured is susceptible to infection again; and, (4) transmission depends on the degree of heterogeneity in sexual activity prevailing in the population. The concept of core-group[11] and the formulation of a simple mathematical model of transmission dynamics[12] have provided insight into the epidemiology of STD.

2.2.1. Transmission Model

In order to successfully establish and sustain a STD pathogen in human populations, it must infect a person who transmits it to a susceptible person who, in turn, must transmit it to another susceptible person. This is known as the reproductive rate (R_0). It is defined as the number of secondary infections an infected person produces in the early stages of an epidemic when every person is susceptible to infection.[11,12,13] When a disease is endemic in a population (ie. when it is always present), the disease is in equilibrium when the number of cases remains constant (R_0 at equilibrium = 1). When R_0 is greater than one, the prevalence of infection increases, and if R_0 is less than one, the prevalence decreases. When R_0 continues to be less than one, the infection disappears from the population. In other words, at endemic equilibrium, an infected person has two types of contacts: the person from whom he acquired the infection, and the person to whom he transmits the infection. The reproductive rate, R_0, is determined by three factors: ß, the average probability of transmitting infection from an infected person to a susceptible person; *c*, the average rate at which new partners are acquired; and D, the average duration of infectiousness. The model is expressed mathematically as: $R_0 = ßcD$

When the parameters ß and *c* are stable characteristics, such as would occur in the absence of intervention programs, the principal determinant of STD spread in a population is the rate at which new sexual partners are acquired, *c*.[13] Most people have an STD infection eliminated through antibiotic treatment before they acquire a new sexual partner. Therefore, a person who has a higher than average number of new partners is the most effective transmitter of STD infection. Each STD requires a critical threshold of sex partner change rate in order to persist in the population.[13] For example, values of c have been estimated at four for chlamydia and 15 for chancroid.

2.2.2. The Concept of Core-Group

When rates of sex-partner change per unit time are plotted from a random sample of the total population, the distribution is skewed to the left with a long tail of persons who have a high number of new partners. The population in the tail is called a core-group or high-frequency transmitters because the rate of partner-change is high enough to sustain the STD pathogen. The concept of core-group was originally defined as a subset within the general population in which the prevalence of disease was greater than 20%. At the present time, core-group membership is defined as having repeated episodes of gonorrhea.[14] Its applicability to other STD remains unclear.

The size of the core-group may fluctuate as a function of several factors which include the degree of transience of people in the group, the ease of transmission of STD pathogens, changes in health-seeking behaviour and availability of care. The size of the core group may be relatively small in relationship to the total population; for example[15], the size of the core group for gonorrhoea in Manitoba is estimated to be 1250 individuals relative to a total at-risk population of 300,000 aged 15-39 years.

In the United States, epidemiological studies have characterized markers for core-group membership as young age, inner-city residence, ethnic minority, low socioeconomic status, illicit drug use and prostitution.[16]

2.3. Sexually Transmitted Diseases in Adolescents

Historically, the reported incidence of gonorrhoea has been higher in men than in women and highest in 20-24-year-old males; however, in 1988 females aged 15-19 years, for the first time ever, recorded the highest rate of gonorrhoea. This trend continued in 1989 and 1990 with females reporting the highest rate of infection with 337.6 cases (per 100,000 population) and 244.6 cases, respectively, followed by males aged 20-24 with rates of 324.1 and 236.5, respectively.[17]

Chlamydia trachomatis is estimated to be 3-5 times more common than gonorrhoea and is a major cause of reproductive health problems in women.[18] In 1989-1990, the incidence rates were highest in females aged 15-19 years (1578.6/100,000) followed by females aged 20-24 years (1525.8/100,000). Seroprevalence studies in sexually active adolescent and young women in Canada have indicated infection rates of 5% to 20%.[19,20,21]

Two viral infections, genital herpes and genital warts, have followed a similar trend as the bacterial STD although surveillance data on these infections are not available because these STD are not nationally notifiable. Both infections are similar in that asymptomatic or subclinical infection is more prevalent than clinically evident infection. Genital warts are caused by the human papillomavirus (HPV) which has been implicated as the causal agent of cervical dysplasia and cervical cancer. During the 1980s, the development of tests for the detection of antibodies to herpes simplex type 2 and the use of polymerase chain reaction (PCR) to detect type-specific HPV DNA led to epidemiologic studies which added to the understanding of the distribution and determinants of these infections. One study which determined the prevalence of HSV-2 infections in serum samples collected during the second U.S. National Health and Nutrition Examination Survey (HANES II) found that, by their late teens, 4% of whites and 17% of blacks have been infected with herpes virus type 2.[22] Among sexually active women, the prevalence of cervical HPV DNA and/or antigen has been highest for adolescent girls and women in their early 20s; the prevalence of cervical HPV DNA or antigen was 13.7% for STD clinic patients and 9.3% for university students aged 16-19 years and 11.4% and 14.5% for women aged 20-24 years, respectively.[23]

Infection with the human immunodeficiency virus (HIV) may becoming increasingly important among adolescents. Current HIV/AIDS surveillance data indicate that approximately 19% of AIDS cases fall within the age category, 20-29 years of age.[24]

Many of these cases were likely infected as teenagers because the time period between infection with HIV and diagnosis of AIDS can be 10–13 years. In addition, several seroprevalence surveys[25,26,27] have strengthened the cause for concern. For example, 0.5% of a sample of teenagers attending STD clinics demonstrated antibodies to HIV.

2.4. STD Sequelae in Adolescents

Untreated, inappropriately or inadequately treated gonococcal and chlamydial infections may lead to pelvic inflammatory disease (PID). Acute PID, in turn, may lead to chronic pelvic pain, tubal infertility and ectopic pregnancy. Approximately 50% of pelvic inflammatory disease (PID) in women under the age of 25 years is attributed to chlamydial infection. In Canada, there were 18,667 hospital admissions for PID during the fiscal year 1984/85.[2] In the United States, almost 300,000 women are hospitalized for PID annually and women make more than 2.5 million outpatient visits for PID. The teenage group has the highest annual incidence among sexually active women. Sexually active 15–19 year-old women have approximately a one in eight risk of developing PID compared to a one in 80 risk for 24-year-old females.[28]

2.5. STD Management in Adolescents

STD management in adolescents may be frustrated by several factors: the high frequency of asymptomatic states (especially in females), failure to seek medical treatment, lack of compliance with treatment regimens, inability to anticipate infertility as a sequela of untreated infection and, the use of self-prescribed antibiotics borrowed from friends.[29,30] Although an adolescent may seek medical attention, the health care provider may not consider the possibility of sexual behaviour and as a result, the possibility of an STD-related illness may not be considered in the differential diagnosis.[29,30]

2.6. Population at Risk

The population at risk for sexually transmitted diseases has traditionally been defined in terms of age and sex. This concept has been subsequently refined such that the population at risk is restricted to persons in the population who 'ever had sexual intercourse'.[31] Current sexual activity rather than sexual experience is likely the more accurate measure of exposure to the risk of STD.[32] However, although survey results indicate that adolescents are sexually experienced, they are not sexually active compared to single adults. Many adolescents who have reported sexual intercourse at least once are reporting sexual experience and may not be sexually active. For example, sexual activity among white female adolescents aged 15–17 ranged from 25% who indicated sexual intercourse in the three months prior to being interviewed to 7.6% reporting intercourse at least once a week.[31] Overall, teenagers report the least consistent sexual activity and the highest level of abstention (38% for whites) following sexual experience.[33]

3. RISK FACTORS AND RISK MARKERS FOR SEXUALLY TRANSMITTED DISEASES

True risk factors are those which directly influence the probability of exposure to an infected partner, the probability of acquiring infection following exposure, and the probability of developing sequelae if infected and untreated. True risk factors for STD may be classified into two groups: sexual behaviour and health care behaviour. Sexual behavioural risk factors encompass a wide range of behaviours most of which relate to the probability of exposure: a large number of sexual partners, high rates of acquiring new sexual partners within specific time periods, high rates of partner change, contact with casual partners, sex preference, and specific sexual practices. Health care behavioural risk factors which affect the duration of infectiousness include late seeking of diagnosis and treatment, nonreferral of partners, and noncompliance with treatment. Effective treatment is successful in preventing transmission and the development of sequelae in

STD which cause symptomatic infection. Screening and partner-notification are effective strategies for asymptomatic STD because infected persons do not know they are infected.

3.1. Health Care and Sexual Behaviours

Consistent use of condoms with spermicide during sexual intercourse is a health care behaviour which decreases the probability by a factor of three or four of acquiring an STD once exposed.[34,35] A latex condom provides a barrier against gonorrhea, syphilis, chlamydia, hepatitis B and HIV infection; a condom may not be effective against herpes or genital wart infections unless the condom covers open sores. However, the use of condoms by adolescents is erratic. Among the college/university sample (N = 5514) of the Canada Youth and AIDS study (mean age 19.7 years), 24.8% of the males and 15.6% of the females always used a condom. Secondary analysis of this data showed a complex inter-relationship between STD, condom use, oral contraceptive use and number of partners for females.[36] The probability of using a condom decreased as the number of partners, oral contraceptive use and previous history of STD increased. A study among 16-year-old high school students in Alberta found that 59% frequently or always used condoms during sexual intercourse.[37] The U.S. Youth Risk Behavior Survey found that 40% of female and 49.4% of male high school students used a condom during their last sexual intercourse.[38]

Number of partners is a true risk factor for STD where the probability of exposure to an STD increases with the number of partners. Number of partners is usually defined as the number of new partners within a specified period of time. Having a new sex partner within the past one month has been associated with an increased risk for chlamydia infection.[39] The number of sexual partners within one, three or twelve months is a risk factor for the acquisition of gonorrhea,[40] and chlamydia.[41] The number of partners in a lifetime has been associated with the risk of cervical cancer.[42]

The relationship between number of sexual partners and the risk of acquiring STD is complicated by three factors: the degree of infectiousness of the partner, the partner's sexual behaviour, and the 'non-linear' increase in risk with increased number of partners.[7] As discussed in the section on the concept of core group, the risk is 'non-linear' because the marginal increase in STD risk suddenly increases exponentially as the number of sexual partners reaches certain threshold levels.

Anal intercourse is a risk factor for acquisition of STD because the anal lining is more susceptible to tears than the vaginal lining which allows ready access of the STD pathogen to blood. A female who engages in anal intercourse is twice as likely to acquire an STD compared with a female who engages in vaginal intercourse.[43]

3.2. Young Age

Puberty is a risk factor which influences the incidence of STD in young people and is largely related to changes in the cell structures of the cervix. The endocervix is lined with columnar epithelium; the exocervix and the vagina are lined with stratified squamous epithelium. Until several years after menarche, the squamocolumnar junction (the transformation zone) is located on the exposed vaginal surface of the cervix. With age, the transition zone gradually recedes into the endocervical canal transforming the thin columnar cells to thick squamous cells. The exposure of the columnar epithelium on the vaginal surface is know as cervical ectopy. Ectopy increases the likelihood of infection with gonococcal and chlamydial pathogens by exposing more columnar cells which are no longer protected by cervical mucus. Oral contraceptives have been associated with an increased risk of chlamydia infection because their use promotes ectopy.[44] In addition, young age allows greater penetrability of the cervical mucus plug which, in turn, facilitates the ascent of pathogens from the lower genital to the upper genital tract.

3.3. Personality and Emotional Risk Factors

Some researchers[45] argue that personality factors related to STD may be useful in defining populations at risk but such factors are not important in designing behavioural intervention strategies because personality traits are relatively stable and are not susceptible to change.

Emotional risk factors, such as suicide ideation, depression and self-esteem, are risk factors for sexual behaviour. One study[46] found that girls in grades 7-9 who reported having had sexual experience had lower self-esteem scores then girls who were virgins. On the other hand, the self-esteem of sexually experienced and sexually inexperienced boys did not differ; the self-esteem of inexperienced boys and girls did not differ. If early sexual activity precedes changes in self-esteem, these findings would be consistent with perpetuation of the double standard that rewards sexual permissiveness for boys but not for girls. Another study found that sexually experienced boys were not at greater emotional risk; however, significant associations were found between sexually experienced girls and feeling tense, upset, lonely, having difficulty sleeping, and suicidal behaviours. Suicidal behaviour had the highest odds ratio of 5.4 followed by feeling tense (3.1), trouble sleeping (2.2), feeling lonely (2.1) and feeling upset (1.8).

3.4. Alcohol, Drug and Cigarette Use

Associations between sexual behaviour and other risk-taking behaviours are less intuitively obvious and have not been documented as well as other patterns of risk-taking.[47]

Earlier studies[48] have argued that problem behaviour is important only as a construct and that the concept of a problem behaviour syndrome[49] is not relevant because risk-taking behaviours of alcohol and marijuana use, and sexual intercourse occur in isolation for most adolescents. However, recent studies indicate that risk-taking behaviours are linked. A study[50] of junior high school students found that 45% of boys

and 27% of girls had experience with both drugs and sexual intercourse. With increasing age, the proportions of adolescents reporting no risk activities decreased while the proportions of adolescents reporting both sexual intercourse and alcohol and marijuana use increased. By age 15, 63% of boys and 50% of girls reported several activities. The likelihood of sexually active girls engaging in alcohol or drug use was 15 times the likelihood of virgins. The comparable risk for boys was 8.

Another study[51] among a group of grade nine urban high school students found that alcohol and drug use were the only significant predictors of sexual risk behaviour. In contrast, perceptions that peers were not engaging in preventive behaviours and strong peer affiliation were significantly associated with drug and alcohol use. The study concluded that peer influence may play an important role in the adolescent's decision to use alcohol and drugs; and, alcohol and drug use may have a greater effect than peer influence at the time of sexual debut.

Orr, Langefeld, Katz et al[52] analyzed factors associated with condom use among sexually active female adolescents. Using multiple logistic regression techniques they found significant relationships between condom use at last intercourse and each of the specific reasons for condom use and behavioural risk of marijuana use, alcohol use, and being suspended from school.

Females who begin intercourse at an early age are more likely to smoke cigarettes than females who begin intercourse later.[53] Moreover, gender differences are significant with more females than males reporting smoking and more males than females reporting drinking.[54]

3.5. Demographic and Social Risk Markers

Demographic characteristics are population-defined and may include socioeconomic status, education, ethnicity, race, neighbourhood, urbanization, geographic region and religion. In both developing and developed countries, the incidence of sexually transmitted diseases are highest in the inner city, among the poor and among ethnic minorities.[55] There are comparable demographic, sociological, political and economic risk markers which predispose to high levels of STD incidence:

1. Both populations have a high proportion of young, sexually active adolescents and young adults.

2. Both populations are undergoing rapid demographic change. In developing countries, demographic changes have occurred through urbanization and population movement. Similarly, inner-city populations are characterized by high proportions of transients and high mobility.

3. Both populations are undergoing economic change. In developing countries, the agricultural-based economy is shifting to a manufacturing-based economy. The sale of drugs, especially crack cocaine, has infused large sums of money into the inner-city communities of developed countries.

4. Both populations are politically unstable. In developing countries, political instability is exemplified by military coups, civil wars and border disputes. In developed countries, gang wars and drug-related murders in the inner-city are testimony to the day-to-day violence and power struggles.

4. ADOLESCENCE

Adolescence is the period of biological, cognitive and psychosocial development that begins with the onset of puberty and ends when the person assumes an adult role in society. Mortality rates have been increasing in adolescence: 75% of deaths in this age group are attributable to accidents, suicide, and homicide.[56] These deaths share a common thread: risk-taking behaviour. The underlying premise in adolescent risk-taking behaviour is that the adolescent does not have the cognitive ability and the life experiences to understand the consequences of such behaviour and make judgments based on these considerations.[57]

Adolescents tend to be egocentric. They believe that they are invulnerable and that nothing bad will ever happen to them. The concept of the 'imaginary audience' exemplifies the adolescents' belief that the world is listening to and watching them. The adolescent's sense of denial dictates that they will never come in contact with anyone infected with an STD; accordingly, sexual activity tends to be spontaneous rather than planned.

Friends are important to the adolescent: the adolescent is more likely to be friends with those whose values, beliefs, attitudes, and behaviours are similar to those he learned and observed within his own family.[58,59,60] Peers thus reinforce behaviours learned from parents and other adult role models. Peers may exert an influence independent of parents in three situations: the adolescent's family does not have a clearly expressed set of values; parental behaviour is inconsistent with their expressed values; and parents' values are so strictly enforced that they inhibit normal questioning of values that accompanies development of autonomy.[58] The proximity of a sexually active best friend was the single best predictor of becoming sexually active within the next year.[61]

5. ADOLESCENT SEXUAL BEHAVIOUR

5.1. Trends in Adolescent Sexual Behaviour

Two trends have occurred in adolescent sexual behaviour over the last two decades: the proportion of adolescents who have ever had sexual intercourse has increased; and, the number of partners has increased. The most marked changes have occurred in female adolescents. The onset of sexual intercourse at an early age results in an increased interval of exposure to a number of different sex partners which, in turn, is associated with an increased risk of STD. In addition, the average age at menarche has been decreasing in North America. The mean age of menarche in the United States is 12.6 years which represents a decrease of four years since the late 1800s.[62] This has resulted in a lengthening in the interval of sexual maturity in adolescence.

Trends in adolescent sexual behaviour have been well documented in the United States through a series of surveys of samples of adolescent women, most notably by two researchers at John Hopkins University, Zelnik and Kantner[63]; the National Survey of Family Growth[64] conducted by CDC's National Center for Health Statistics; and, the Youth Risk Behavior Survey[65], a component of CDC's Youth Risk Behavior Surveillance System. Data from these surveys has shown an increase in the prevalence of premarital sexual intercourse over time. The proportion of adolescent females who reported having had sexual intercourse has increased steadily from 28.6% in 1970 to 51.5% in 1988. The largest relative increase occurred among the females who were 15 years old; the proportion who reported having had sexual intercourse increased from 4.6% in 1970 to 25.6% in 1988. In 1990, approximately 54% of students in grades 9 to 12 reported ever having had sexual intercourse; 34% reported having had sexual intercourse during the three months preceding the survey. Males were more likely than females to ever have had sexual intercourse (60.8% and 48%, respectively) and to have had sexual intercourse during the preceding three months (42.5% and 36.4%, respectively).

Factors correlated with age of onset of sexual intercourse include low education of mother, weak religious affiliation, age at menarche and family instability at age 14.[66] Women who have sex at younger ages differ from women who experience sexual intercourse later.[57] These women emphasize the importance of sexual pleasure, are more experimental in their sexual behaviour and are more likely to tell their parents about their sexual behaviour.

Survey data have also indicated an increase in the number of sexual partners: in 1971, 60.9% of females reported having had only one sexual partner; this proportion decreased in 1976 to 54.3%. In 1988, women aged 15–24 years who had been sexually active for the same length of time (<24 months) were compared with regard to the number of partners: 45% of 15–17–year–olds reported having had two or more partners, compared with 40% of 18–19–year–olds and 26% of those >20 years of age.

National surveys on sexual behaviour have not been conducted in Canada prior to the Canada Youth and AIDS Study which was carried out in 1988. Surveys, such as the Canada Health Survey, have addressed the traditional health issues of physical activity, smoking, drinking and nutrition. However, the national Health Promotion Survey conducted in 1990 by Health and Welfare Canada did ask questions on sexual behaviour and sexually transmitted diseases.[67]

5.2. Trends in Attitudes About Sex and Dating Behaviour

The trend in increased sexual activity has not been accompanied by changes in attitudes about sex nor in adolescent dating behaviour. The female is still expected to control the sexual relationship (serve as the 'gatekeeper') and to set limits on sexual activity.[68] Attitudes and expectations that adolescents bring into dating relationships are fully formed by age 14, are traditional, nonegalitarian and stereotypical.[57] When asked to describe attributes of a desirable date, females are more likely to emphasize personality and sensitivity whereas the males describe physical appearance as an important attribute.

5.3. Prostitution

Prostitution is one of several behaviours that often begin in early adolescence. The female (or male) adolescent may seek refuge on the streets to escape from family violence of physical, emotional, and sexual abuse. In this case, prostitution is an adaptive behaviour to secure food, shelter, protection or companionship.[58]

5.4. Sex in Exchange for Drugs

Sex in exchange for drugs is a relatively new phenomenon in the United States. In Philadelphia, from 1985-1989, the use of crack cocaine and the exchange of drugs for sex were identified as substantial contributors to the syphilis epidemic.[69]

The exchange of sex for money or drugs by female adolescents likely reflects behaviour that is distinct from traditional prostitution.[70] In this setting, the number of sexual partners reported by patients is low (the median number of sexual partners in the previous 30 days was 3). Sexual activity may be occasional or intermittent, practised only when money or drugs are needed, rather than as a principal means of support, and may not be perceived as prostitution.

6. PREDICTIVE MODELS OF HEALTH

Historically, research on the behavioural aspects of STD (both sexual behaviour and healthcare behaviour) have tended to emphasize sociodemographic and knowledge variables. Sociodemographic variables are risk markers for STD; they do not explain behaviour nor provide a theoretical foundation on which to base intervention and prevention strategies. Knowledge, on the other hand, may be both necessary and sufficient for prevention when risk-reduction behaviour requires a relatively simple behavioral script (eg., avoiding sexual contact as opposed to acquiring, discussing and using condoms) and that knowledge may exert its strongest influence on behaviour change which occurs early in an epidemic in contrast to sustaining the behaviour over time.[8] Recently, predictive models of health have been developed and have shown promise in explaining the antecedents or determinants of behaviour.

The following models will be discussed in terms of their contribution to understanding sexual behaviour: The Health Belief Model, The Theory of Reasoned Action, The Theory of Planned Behaviour, The Subjective Culture Model, Protection Motivation Theory, and Social Learning theory. The first five models represent expectancy-value theory while the last is an example of social learning theory. Expectancy-value theory is a chain-of-events model where the evaluation of the consequences of the behaviour is the starting-point and the behaviour is viewed as the end-point. The Social Learning Theory emphasizes the construct of self-efficacy as a

major determinant in predicting behaviour. Both theories, however, focus on the perspective of the person and, accordingly, emphasize subjective cognitive processes. The development of a model can be divided into two phases: the 'elicitation' phase or 'pilot' phase during which the perceptions of the target population are empirically derived, and the 'hypothesis-testing' phase during which each person is asked to formulate his own perceptions about the content issue or concern. Further, mixed models which combine constructs from several models have been developed.

6.1. Health Belief Model

In the 1950s the focus of public health research was on explaining the 'widespread failure of people to accept disease preventives or screening tests for the early detection of asymptomatic disease'.[71,72] The Health Belief Model (HBM) was developed in the early 1950s by a group of social psychologists employed in the United States Public Health Service to explain preventive health behaviours defined, in the classic papers by Kasl and Cobb,[73,74] 'as any activity undertaken by a person who believes himself to be healthy for the purpose of preventing disease or detecting disease in an asymptomatic stage'. HBM was subsequently applied to both illness [75] and sick-role behaviours.[76] The model identifies five constructs that affect adoption of a preventive health behaviour:

1. perception of vulnerability or susceptibility to disease (perceived vulnerability);
2. perception of the severity of disease (perceived severity);
3. belief in the efficacy of the recommended health action (perceived benefits);
4. evaluation of the costs of adopting the behaviour (perceived barriers);
5. presence of a stimulus or cue to action;

Janz and Becker[77] summarized results from 46 studies of the Health Belief Model, critically reviewing the 29 studies published during 1974–1984, and providing a tabular summary of the findings from the studies undertaken before 1974. They concluded that the results of these studies have provided sufficient empirical evidence to support the four HBM factors as major determinants of health-related behaviour. A 'significance ratio' was constructed for each factor by dividing the number of positive and statistically significant results by the total number of studies which reported a level of significance for the factor. For studies restricted to PHB and undertaken during 1974–1984, the significance ratios were highest for perceived barriers (100%), followed by perceived susceptibility (83%), and perceived benefits (82%). Perceived severity had the lowest significance ratio at 36%.

The Health Belief Model has been applied to sexual behaviours of reported likelihood of undertaking asymptomatic check-ups for VD[78], condom use[79], birth control use[80], participation in a screening test for cervical cancer[81], and risk reduction behaviour for AIDS.[82] The amount of variance explained by the studies ranged from 5% to 52%. The two constructs, perceived benefits and perceived barriers, emerged as the most powerful independent predictors of sexual behaviour. Three studies expanded the HBM to include other constructs such as locus of control in order to improve its predictive power. Most of the studies did not encounter any second-order effects but a high degree of multicollinearity among the constructs was noted in one study.[79]

6.2. The Theory of Reasoned Action

The Theory of Reasoned Action (TRA) was developed by Fishbein and associates.[83,84] It was introduced in 1967, and has, since then, been refined, developed, and tested. In general terms, the theory is based on the assumption that people make rational decisions by systematically using information available to them. The name of the conceptual model, 'theory of reasoned action', arises from the premise that

people consider the implications of their actions before they decide to engage or not engage in a given behaviour. The theory contends that a person's intention to perform (or not perform) a behaviour (BI) is the immediate determinant of the behaviour (B). It does not assume perfect correspondence between BI and B but assumes that persons will usually act in accord with their intentions.

TRA hypothesizes that a person's intention to perform a behaviour is a function of two constructs: the person's attitude to performing the behaviour (Aact) and subjective norm (SN). Aact refers to the person's evaluation or judgement of performing the behaviour (good or bad). SN refers to the person's perceptions of the social pressures put onto him to perform or not perform the behaviour in question. The theory assumes that the two constructs need not be equally important in predicting BI.

Personality constructs and demographic variables such as age, sex, social class and race are not an integral part of the theory but are considered to be external variables. Hence, the model is said to be sufficient in that the effect of external variables on BI is mediated through the determinants of the model. TRA is designed to explain and predict all volitional behaviour; it is not restricted to a specific behavioural domain.

The Theory of Reasoned Action has been applied to sexual decision-making including decisions about abortion,[85] childbearing,[86] contraception,[87,88,89,90,91,92] and STD.[93] The amount of variance explained by the model has ranged from 3% to 70%, with three studies accounting for 53-57% of the variance. Aact has emerged as the major determinant (as determined by the magnitude of the standardized regression coefficients) of the sexual decision-making behaviour. The model has not demonstrated sufficiency: second-order effects have emerged as significant predictors as well as variables which are considered to be modifying variables by definition.

6.3. The Theory of Planned Behaviour

Ajzen and his associates[94,95,96] revised the Theory of Reasoned Action and generated an expanded model known as the Theory of Planned Behavior. Ajzen et al. hypothesized a strong association between BI and B depended on three prerequisites: (1). the level of specificity or generality between BI and B;(2). stability of BI over time; (3). the extent to which B is under volitional control. Accordingly, a third construct, perceived behavioural control, was added to the original TRA model. Perceived behavioural control is defined as a 'person's belief as to how easy or difficult performance of the behaviour is likely to be'.[99] Beliefs about resources and opportunities may be viewed as underlying perceived behavioural control just as beliefs underlie Aact and SN. A person's beliefs about behavioural control may stem from prior experience with the behaviour, from experiences of other people, and second-hand information.

The Theory of Planned Behaviour has not been researched extensively; accordingly, it is difficult to assess the independent contribution of perceived behavioural control in predicting behaviour.

6.4. Subjective Culture Model

Triandis and associates[97,98,99] developed the Subjective Culture Model (SCM) for predicting behaviour. The SCM comprises of three constructs: habit, intention and, facilitating or aversive conditions. Habit is defined as the number of times the behaviour has been performed over the lifetime; facilitating or aversive conditions refer to a person's ability to carry out the behaviour, level of motivation, and knowledge of the person on how to carry out the behaviour. The subjective culture model is similar to the Theory of Reasoned Action (TRA); however, the difference between the two is the relative importance of habit (H) in predicting behaviour. TRA maintains that social behaviours are under personal control; SCM, on the other hand, asserts that the level of personal control decreases as the level of habit in performing the behaviour increases. Habit and

facilitating conditions are in the model of predicting behaviour whereas TRA posits behavioural intention as the sole predictor of behaviour. Triandis argues that behavioural intention decreases as the importance of habit increases. Furthermore, for well-established, often performed behaviour, habit is an important predictor of behaviour.

One study[100] assessed the impact of habit and behavioural intention in predicting classroom teacher behaviour. Another study[101] compared the efficiency of the Theory of Reasoned Action and the Subjective Culture Model in predicting behavioural intention to participate regularly in physical activities. In this case, the authors concluded that the Subjective Culture Model was as efficient as TRA in predicting behaviour and that it demonstrated the importance of habit in predicting behaviour.

The Subjective Culture Model has not been researched extensively and is not regarded as a model of predicting health behaviour. With such limited research evidence, it is difficult to assess the independent contribution of 'habit' in predicting behaviour.

6.5. Protection Motivation Theory

Protection Motivation Theory (PMT) was conceptualized by Rogers[102] to expand and clarify the effect of fear appeals which attempt to influence behaviour through the threat of danger. The initial model explained behaviour in terms of three constructs:

1. perceived noxiousness of the health threat (severity of the threat);
2. perception of the likelihood of the threat happening (probability of occurrence);
3. perception of the efficacy of a coping response (response efficacy).

The theory was subsequently revised[103,104] to include Bandura's construct of self-efficacy because the addition of self-efficacy would provide 'the means for reconceptualizing PMT in more general terms'. The two constructs, probability of

occurrence and response efficacy, could be redefined as outcome expectancies within Bandura's framework which, in turn, would extend PMT's applicability from a model of fear appeals to a model of fear-attitude-behaviour relations. As a result, PMT is no longer viewed as a model of the effects of fear but as a model of health decision-making.[105]

The revised model hypothesizes that protection motivation is heightened when (i) the perceived threat to health is severe (severity of threat); (ii) the person feels that the threat to health is highly likely to occur (perceived probability); (iii) the person perceives that the adaptive behaviour will be effective in averting the health threat (response efficacy); (iv) the person perceives that he can successfully carry out the adaptive behaviour (self-efficacy); (v) the rewards associated with the maladaptive behaviour are small; (vi) the costs associated with the adaptive behaviour are small (response costs).

PMT has been applied to the development of a pamphlet to promote safer sex practices,[106] to increase behavioural intent to use condoms,[107] to predict sexual behaviour in adolescents,[108] and to increase protection from STD.[109] Two integrated PMT with other constructs.

Research on PMT is minimal and any research which has been done has not focused on developing and refining it as a predictive model of health behaviour nor has it assessed the independent contributions of each of the constructs.[110] Furthermore, much of the research has utilized experimental factorial designs where the constructs have been directly manipulated by the researcher. The constructs have never been operationally defined as statements on a questionnaire.

6.6. Social Learning Theory

Social Learning Theory, discussed within the context of predictive models of health behaviour, refers to the theory of Albert Bandura.[111,112,113] He rejected the accepted ideas of behavioural psychology which argued that human behaviour was determined by

external stimuli, environmental cues and reinforcement. In other words, a person learns a behaviour by performing the response and then being reinforced in relation to it. In rejecting this assertion, Bandura argued that a response to a given stimulus does not depend on the reward or punishment that will be forthcoming but on the person's expectations of the consequences of his action. Bandura hypothesized that much human behaviour is learned by observing the behaviour of other persons; and, reinforcement increases the likelihood that the person will perform the behaviour he learned through observation. Learning from response consequences is a cognitive process whereby the consequences of behaviour teach the person what he/she must do to gain beneficial outcomes and avoid non-beneficial ones.

The construct of self-efficacy is the focus of Bandura's Social Learning theory. Self-efficacy refers to self-referent thoughts that Bandura[112] describes as 'judgments about how well one can organize and execute courses of action required to deal with prospective situations that contain many ambiguous, unpredictable, and often stressful elements'. His paradigm distinguishes between efficacy expectations and outcome expectations. An efficacy expectation is the conviction that the person can successfully carry out the behaviour required to produce the outcomes. An outcome expectancy is defined as person's estimate that a given behaviour will lead to certain outcomes. The two expectations can be differentiated in the sense that a person can believe a particular course of action will produce certain outcomes (high outcome expectancy) and yet feel doubtful about his/her capabilities to perform the necessary behaviour (low self-efficacy).

The teenage pregnancy epidemic has been discussed within the framework of the social learning model arguing that the model might facilitate a better understanding of teens' use and nonuse of contraception and frequency of intercourse.[114] In terms of self-efficacy, adolescents usually exhibit high self-efficacy from their sense of invulnerability from harm as well as from actual experience of aversive outcomes. They argue that reports of sexual activity are often exaggerated and imply a low sense of risk, and

unprotected intercourse does not consistently result in negative outcomes, such as pregnancy and sexually transmitted disease. Accordingly, high self-efficacy results from the belief of invulnerability and from vicarious and personal experiences, which, in turn, reinforces the low risk of engaging in unprotected intercourse.

Three studies[115,116,117] have examined the impact of self-efficacy on sexual health behaviour. One study[115] which integrated two constructs, self-efficacy and learned helplessness, found that women's perceptions of their skill and competence at using contraception, and their estimates of control over pregnancy prevention were positively correlated with more effective contraceptive behaviour. Another study confirmed that self-efficacy was statistically correlated with contraceptive use in young women who attended a family planning clinic.[116]

Two review articles[118,119] have summarized research on self-efficacy and health behaviours of smoking-cessation relapse, pain management, eating disorders, cardiac rehabilitation, adherence to medical regimens, smoking, weight control, contraceptive use, alcohol abuse, and exercise. These articles concluded that self-efficacy was a consistent and successful predictor of behaviour. However, there are shortcomings of the research: (1). most studies did not address outcome expectations in conjunction with efficacy expectations although Bandura's paradigm includes both constructs; (2). the operational measures of the construct varied across various studies; (3). the interaction between self-efficacy and other psycho-social constructs, such as anxiety and locus of control, should be investigated further because self-efficacy emerged as a unique predictor in some studies and in other studies, secondary effects emerged with self-efficacy interacting with locus of control and anxiety constructs.

6.7. Mixed Models

Shafer and Boyer[51] sought to determine the psychosocial and behavioural factors associated with the risk of sexually transmitted diseases among urban high school students using components of the Health Belief Model, Social Learning Theory and principles of adolescent risk-taking. They found that alcohol and drug use emerged as the best predictors of sexual risk behaviour, accounting for 20% of the variance. Conversely, several predictor variables accounted for 32% of the variance in alcohol and drug use: perceived preventive peer norms, peer affiliation, STD and AIDS anxiety, perceived risk, and social support.

The AIDS Risk Reduction Model (ARRM)[120] integrates constructs of the Health Belief Model, efficacy theory, emotional influences, and interpersonal processes: knowledge of the risks associated with various sexual practices, perceptions of susceptibility to contracting HIV, perceived costs and benefits associated with reducing high risk behaviours, self-efficacy beliefs, emotional states, and social factors which include social support, reference group norms, and help-seeking process. The authors argue that ARRM could be extended to adolescent populations by incorporating developmental factors such as egocentrism, and age at sexual debut.

7. SECONDARY ANALYSIS

7.1. Definition

Secondary data analysis is the use of an existing database for research purposes other than those for which the original data was used: it may involve exploring different relationships among the variables or exploring the same variables with different statistical methods. The analysis may use only a sample of the dataset. Secondary analysis offers the advantages of time and cost by eliminating the data collection phase. It does, however, have its limitations. The researcher has no control over the data collected and is a prisoner of the sample collected and the variables available. Secondary data should

be evaluated the same way as primary data: answers should be available concerning the purpose of the original study, who collected the data, the scope of the data collected, the sampling methods used, the methods of analysis, and whether the data can answer new questions.[121,122,123] The Canada Youth and AIDS dataset with individual data was used for the secondary analysis in this thesis.

8. CANADA YOUTH AND AIDS STUDY (CYAS)

8.1. Background

A national discussion in the summer of 1987 with representatives from Canadian universities, the Federal Centre for AIDS, the National Health Research and Development Fund (NHRDP) and the Canadian Public Health Association led to a study to determine how young people in Canada were responding to the AIDS epidemic. The Social Program Evaluation Group, Faculty of Education, Queen's University, agreed to undertake the study. Subsequently, The Expert Interdisciplinary Advisory Committee on Sexually Transmitted Diseases in Children and Youths negotiated with the research team to include sexually transmitted diseases as an issue to be looked at along with AIDS. The research was funded through a grant from NHRDP. A summary of the findings was published in the report *Canada Youth and AIDS Study.*[124] In addition, *The Canada Youth and AIDS Study: Technical Report*[125] was published for researchers and others who were interested in more tabular data and greater detail about the research design and analysis.

8.2. Rationale and Objectives

The CYAS study was undertaken because of the following beliefs: 'the universal anxiety created by AIDS, the belief in education as the primary means by which to control or reduce the spread of HIV infection, the perceived vulnerability of youth for future HIV infection, and the lack of data concerning the Canadian adolescents' knowledge, attitudes, and behaviours with respect to AIDS'. The study was intended to 'simulate the

development of sexual behaviours and attitudes in Canadian adolescents from puberty to age 19'. Grades 7 and 9 were selected because many girls begin puberty at age 12 which corresponds to grade 7 and many boys begin puberty two years later at age 14 which corresponds to grade 9. Grade 11 was selected to maintain the two-year interval for cross-sectional analyses and to explore the early stages of sexual development among people within the secondary school system.

In addition, a sample of college/university students, high school dropouts and street youth were surveyed by the CYAS.

8.3. Sample Size

The target in each province was 925 students per grade level except in Newfoundland (850) and Prince Edward Island (750). An attempt was made to survey the total population of students in Grade 7, 9, and 11 in the Yukon and the Northwest Territories (Schools which had less than five students per grade level were not surveyed). Details of the sample size calculations are provided in Appendix B of the Canada Youth and AIDS Technical Report. The target sample size was obtained for seven provinces at the Grade 7 level, seven at the Grade 9 level, and five at Grade 11. The total number of respondents for Grade 11 was 9,860.

8.4. Sampling Procedures

The sampling procedures used for Grades 7, 9, and 11 were those used in the Canada Health Attitudes and Behaviours Survey conducted in 1985.[126] The sample for Grades 7, 9, and 11 had to meet two criteria: first, the ten provinces and two territories had to be sampled in such a way that separate reports for each province/territory could be prepared with an adequate level of confidence. Second, the findings had to be representative in order to provide a national perspective. Accordingly, the data were weighted in proportion to the number of young people in the targeted age group in each

province and territory. A two-stage cluster sampling technique was used. The first sampling stage was the school jurisdiction and the second sampling frame was the school class. The questionnaires were designed to be administered by teachers in school classes. Classes in private schools, armed forces schools, special education and remedial classes, and very small schools where the grade enrolment did not reach twenty students were excluded from the sample (except in the territories). The school jurisdictions were selected systematically by type (separate/public;Catholic/Protestant), and size; classes were selected randomly within each stratum. The Catholic/Protestant distinction was removed from the Northwest Territories because no Catholic board was sampled.

8.5. Type of Community

Communities where schools were located were post-classified by population and/or proximity and relationship to urban areas. Seven community classifications were developed:

1. Small Town/Rural: population <10,000;
2. Town: population 10,000 - 20,000;
3. Small City: population 20,001 - 100,000;
4. Medium City: population 100,001 - 500,000;
5. Medium City Suburb: suburb to a medium city;
6. Large City: population > 500,000;
7. Large City Suburb: suburb to a large city.

There were two provinces containing boards in the community classification where no boards were sampled: Quebec had no sampled boards in the 'Large City' category and Saskatchewan had no sampled boards in the 'Town' category. In these cases, the 'null' categories were reclassified with categories which had been sampled. In Quebec, the 'Large City' and 'Large City Suburb' categories were merged; in Saskatchewan, the 'Town' and 'Small Town/Rural' categories were merged.

8.6. Survey Instrument

The survey instrument (See Appendix A) was an anonymous self-administered questionnaire which consisted of 146 questions divided into five parts. Part A asked 12 questions on the background of the student. Part B asked three questions on sources of information about sex, birth control, AIDS and other STD. Part C asked about risk behaviours: the use of alcohol, cannabis, chewing tobacco, cigarettes, and other non-medical substances and, sexual experiences, including frequency of sexual intercourse and the number of partners. Part D consisted of 28 questions on the knowledge of the transmission, acquisition, and prevention of AIDS and other sexually transmitted diseases. Students were asked to indicate whether each statement was correct by checking either 'yes', 'no', or 'don't know'. Part E consisted of 93 questions on 'Views' where students were asked to indicate whether they agreed or disagreed with each statement using a five-point Likert scale (Strongly Agree; Agree; Undecided; Disagree; Strongly Disagree).

8.6.1. Development of Knowledge items

During the pilot phase, the researchers found that some of the knowledge items did not discriminate effectively between students who scored high and those who scored low on the complete survey. Some of the knowledge items were so easy that more than 80% of the respondents indicated the correct response. These items, however, were not discarded and an internal consistency measure (Cronbach's alpha) of 0.65 or greater was accepted.

8.6.2. Development of Scales and Groups of Items

Four scales, self-esteem, mental health, relationship with parents, and relationship with peers, were developed from previous surveys. Two scales, 'attitude toward homosexuality' and 'attitude toward people with HIV infection or AIDS' were developed specifically for CYAS. Scales were refined using factor analysis with principal components

analysis with varimax rotation. A Cronbach alpha value of 0.65 to indicate item homogeneity was accepted. The Views Section also had seven groups of items: communication about AIDS, sexual permissiveness, sexually transmitted diseases, communication about sex or condom use, locus of control, body image and miscellaneous.

9. RESEARCH OBJECTIVES

The data published in the Canada Youth and AIDS Report is descriptive. It does provide sufficient information to indicate that a large proportion of Canadian youth are sexually active and are at increased risk of acquiring sexually transmitted diseases. Condom use 'always' was reported by 9% of school dropouts, and by 14% of college/university students. A previous history of sexually transmitted disease was reported by 20% of the street youth, 10% of school dropouts, and 10% of college/university students. Accordingly, there is an urgent need to develop and target appropriate intervention strategies that would effectively promote STD/AIDs preventive behaviour such as greater frequency of condom use, a reduction in number of partners, and a change in attitude toward casual sex. The CYAS dataset offers several advantages: (1) it is a national sample representative of Canadian young people; (2) it is the largest sample size in North America; (3) it has valid answers; (4) it has a large pool of questionnaire items; and, (5) it contains several constructs, including knowledge, self-esteem, relationship with peers, relationship with parents, and homophobia.

From a review of the literature and the data available from CYAS for secondary analysis, it was concluded that:

1. Predictive models of risk show promise in explaining the determinants of risk for sexual behaviour and determinants of risk for sexually transmitted diseases. No one model, however, explains 100% of the variability in the dependent variable under investigation. Accordingly, a unique model of risk comprised of constructs or predictor variables from several models should be developed.

2. A predictive model of behaviour is most useful in explaining the determinants of behaviour if it can be interpreted within a theoretical framework.

3. Factor analysis is a useful tool in the explication of constructs; its use is limited, however, in providing the theoretical underpinnings of the factors. Accordingly, factor analysis alone is not sufficient.

4. The dataset of Canada Youth and AIDS provides a sufficient number of variables to enable the development of a predictive model of behaviour.

5. Grade 11 is an appropriate target group for intervention strategies because approximately 50% are sexually experienced and their perception of risk is determined by cognitive and emotional factors which are unique to adolescence.

The development of a predictive model of behaviour should begin with the careful determination of behaviours that need intervention and appropriate target groups.[26] The predictive power of a model is greatly improved if the behaviour is unique or at the very least a homogeneous set of behaviours. Each behaviour should be modeled separately. Caution should be exercised, however, in generalizing the behavioural determinants identified in the adolescent heterosexual population to gay men or young people who work as prostitutes. Montgomery, Joseph, Becker et al[84] concluded 'that future research will profitably draw from a variety of preexisting theories and an appreciation of what is encountered in any given community... What is applicable to the situation of gay men in Chicago in the mid 1980s may be very dissimilar from those factors powerfully influencing the behavior of inner-city intravenous drug users and their sexual partners in the 1990s'.

10. METHOD

10.1. Data Clean-up

10.1.1. Original Dataset

The data set was provided on magnetic tape by the Social Program Evaluation Group (SPEG), Queen's University, Kingston, Ontario, and comprised 9,617 records (4,482 males, 5,115 females, 20 missing gender). Each record consisted of 183 numeric variables with each variable corresponding to a question on the questionnaire. The number of records retained after data clean-up is presented in Table 1.

10.1.2. Evaluation of Outliers

A frequency distribution of the number of respondents by grade indicated that approximately 10% of the respondents were in grades other than grade 11. The researchers at Queen's University indicated that the numbers reflected students who at the time of completing the CYAS questionnaire were taking a grade 11 subject. Accordingly, the records of students who had indicated that they were in grades other than grade 11 were removed from the data set.

The age distribution of respondents in grade 11 ranged from 13-23 years for males and 14-21 years for females. However, the data set used in the present analysis was restricted to the age range of 15-19 years since students outside of this age range were considered to be outliers representing very different populations. The 13- and 14-year-olds were considered 'young-for-grade' with their normative grade being grade eight or grade nine. Their peer group would likely attend elementary school or grade 9, the first year of high school, and these students should not be as psychosocially mature as students in grade 11 and subsequently, their parents might be more protective of them because they are 'young-for-grade'. This parental influence may counter the pressure to conform to the normative social and sexual behaviour of the 16- and 17-year-olds in grade 11. Similarly, the 20-year olds should represent a normative population which

would have graduated from high school and would be either working or attending a post-secondary institution. These 20-old students in grade 11 likely constituted students who had dropped out of high school at an earlier age and had now returned. They likely had already attained adult status in the community, either through employment or teenage parenthood and, consequently would be more likely to have been sexually and socially experienced than their counterparts in grade 11. Although 18- and 19-year-olds were 'old-for-grade' they were considered to represent the same population as the 16- and 17-year-olds. They most likely had never left high school or home and were subject to similar peer and parental influences.

10.1.3. Consistency of Responses

Consistency of responses was evaluated by two cross tabulations, one on sexual behaviour and the other on alcohol use. The first cross tabluation looked at the discrepancy of responses to two questions on sexual behaviour: 'How often have you had sexual intercourse?', and 'With approximately how many persons have you had sexual intercourse?'. These questions were chosen because they were quantitative in nature, relatively straight forward to interpret and could be easily answered in contrast to items in the Views section which were more qualitative and required more subjective judgement. Respondents who indicated that they had sexual intercourse 'once' and had three or more partners were dropped from the analysis (Some leniency was allowed in this case because respondents who indicated sexual intercourse 'once' and had two partners were not dropped). The second cross tabulation looked at the answers to two questions on alcohol use: 'How often do you use alcohol?' and, 'How much alcohol do you usually drink at one time?' Respondents who indicated that they 'never' drank alcohol and who drank one or more drinks at one time were dropped; also, respondents who indicated they drank 'none' (alcohol at one time) and who drank 'everyday', '2-3 times a week', 'once a week', or 'once a month' were dropped. They were dropped on the assumption that inconsistent

responses on these cross tabulations indicated a greater likelihood of inconsistent responses to any or all questions on the questionnaire.

10.1.4. Evaluation of Missing Values

In general, missing data amounted to no more than 1-2% of the total for any given questionnaire item. However, the missing number of items did increase towards the end of the questionnaire. At that point, missing data accounted for approximately 4% of the total for males and 2% for the females.

The number of missing values was cause for concern: did the number represent a group of respondents who did not complete several questions or were the missing values randomly distributed across all students? An analysis of the number of respondents by number of missing values indicated that 88.8% females and 82.6% males had 5 or less missing values; 97% females and 95% males had 20 or less missing values. Thus, it appeared that missing values were randomly distributed across the students, and consequently no records were removed because of a high proportion of missing values.

Table 1. Data Clean-Up: Number of Records Retained for Analysis

	NUMBER OF RECORDS REMOVED		NUMBER OF RECORDS RETAINED	
	MALE	FEMALE	MALE	FEMALE
RESTRICTION TO GRADE 11	462	471	4020	4644
AGE RESTRICTED TO 15-19 YEARS	45	27	3975	4617
INCONSISTENT RESPONSES	45	31	3930	4586
MISSING VALUES	0	0	3930	4586
TOTAL NUMBER OF RECORDS REMOVED	552	529		
TOTAL NUMBER OF RECORDS RETAINED	3930	4586		
TOTAL NUMBER IN ORIGINAL DATASET	4482	5115		

10.2. Choosing the Dependent and Independent Variables

10.2.1. Introduction

One challenge encountered in carrying out a secondary analysis of data is the reconciliation of the objectives of the primary analysis with the objectives of the secondary analysis. Because the CYAS questionnaire was not formulated within the context of a single, explicit theoretical model, the challenge becomes one of how to choose the independent and dependent variables to develop the models of risk. Each item on the CYAS could be an independent or dependent variable; such an approach, however, would be haphazard and not conceptually meaningful. Accordingly, the choice of independent and dependent variables was governed by the following two objectives of the analysis:

1. *to reduce the number of independent variables so as to develop a parsimonious model of risk;*

2. *to frame the secondary analysis and development of the models of risk for 'ever had sexual intercourse' and 'number of partners' within a coherent theoretical perspective, to provide for a conceptually meaningful secondary analysis and interpretation;*

10.2.2. Choosing the Dependent Variables

The dependent variable for the model of risk for 'ever had sexual intercourse' was derived from responses to the question, 'How often have you had sexual intercourse?' This variable was dichotomized into 'ever had sexual intercourse' and 'never had sexual intercourse' because the response categories of 'once', 'a few times', and 'often' are meaningless unless they are clarified in terms of either number of partners or time frame. The intensity or frequency of sexual intercourse is not a risk factor for acquisition of STD if a person has sexual intercourse 'often' with one partner as would be the case, for example, in a long-term mutually monogamous marriage. Intensity of intercourse becomes a risk factor if it increases the likelihood of exposure to a person infected with

an STD: the person has sexual intercourse 'often' with many different partners. The high proportion of adolescents with one partner indicates that they have frequent intercourse with one, or, at most, two partners (See Tables 2 and 3). Furthermore, freqency of intercourse as a risk factor for STD is defined as sexual activity within a specified time period, such as the proportion of women who had sexual intercourse in the past three months or the proportion of women who had intercourse in the past month.[31] Sexual activity should not be equated with sexual experience. An adolescent who has indicated s/he had had sexual intercourse 'at least once' may not have had sexual intercourse within the past month, past three months or the past year. In fact, adolescents are the least sexually active and less consistently so than older persons.[31,32] The criterion variable, therefore, taps behavioural experience rather than level of current sexual activity.

Table 2. Frequency of Response to the Question 'How often have you had sexual intercourse?'

FREQUENCY OF INTERCOURSE	MALE		FEMALE	
	FREQUENCY	PERCENT	FREQUENCY	PERCENT
NEVER	1962	51.2	2392	53.1
ONCE	327	8.5	295	6.6
A FEW TIMES	934	24.4	891	19.8
OFTEN	606	15.8	924	20.5

The dependent variable for the model of risk for 'number of partners' was derived from the question: 'With approximately how many persons have you had sexual intercourse?' A test of normalcy of the response distribution indicated a skewness to the right for both males and females but the skewness was more marked for females. Accordingly, the variable was categorized separately for males and females (Tables 3A and 3B).

Table 3A. Categorization of Dependent Variable, Female

CATEGORY NAME	NUMBER OF PARTNERS	NUMBER OF FEMALES	PROPORTION
'VIRGIN'	0	2392	53.1%
'MONOGAMOUS'	1 PARTNER	965	21.4%
'MODERATE'	2-5 PARTNERS	876	19.4%
'MANY'	>5 PARTNERS	275	6.1%

Table 3B. Categorization of Dependent Variable, Male

CATEGORY NAME	NUMBER OF PARTNERS	NUMBER OF MALES	PROPORTION
'VIRGIN'	0 PARTNERS	1962	51.2%
'MONOGAMOUS'	1 PARTNER	579	15.1%
'MODERATE'	2-3 PARTNERS	547	14.3%
'MANY'	4-9 PARTNERS	472	12.3%
'MOST'	>=10 PARTNERS	275	7.2%

10.2.3. Choosing the Independent Variables

Independent variables were chosen from each of the five parts of the CYAS questionnaire except Part B: Sources of Information. Individual questionnaire items from Part A: Background and Part C: Behaviour were used as independent variables. In Part D: Knowledge and Part E: Views which had a large number of questions, summative scales, comprised of several individual items, were developed as independent variables.

10.2.3.1. Socio-demographic Variables

Twelve socio-demographic variables were used as independent variables and were derived from the following questions:

1.	What was your average mark last term?
2.	What are the subjects you are taking this year preparing you for?
3.	When do expect to finish your education?
4.	How frequently have you gone to church or another religious institution (e.g.synagogue) within the past twelve months?
5.	With whom do you live?
6. & 7.	Where were your parents born? (mother, father)
8. & 9.	What is the highest level of education completed by your parents? (mother, father)
10. & 11.	What is the occupation of your parent(s)? (mother, father)

A twelfth variable, 'city size', was developed by SPEG and was based on the place of residence of the respondent.

10.2.3.2. Behaviours

Four variables on alcohol, cigarette and cannabis use were used as independent variables and were derived from the following questions in Section C: Behaviours.

1. How often do you use alcohol?
2. How much alcohol do you usually drink at one time?
3. How often do you use cannabis?
4. How many cigarettes do you usually smoke in a day?

The question on frequency of use of chewing tobacco was not used as a variable because use was extremely low (93.9% of males and 98.9% of females 'never' used chewing tobacco).

10.2.3.3. Development of Knowledge Score

The difficulty of a knowledge item or the frequency of endorsement of an item refers to the proportion of respondents who gave the correct response (p).[127,128] (This p should not be confused with the 'p-value' which denotes the level of significance of a statistical test). For example, a p value of 0.90 on the item 'There are blood tests that show if a person has been infected with the AIDS virus' indicates that 90% of the respondents answered the question correctly. P values are important for two reasons.[128] Firstly, they influence the shape and standard deviation of the distribution of total test scores. A p value of 0.5 provides maximum dispersion of respondents and a symmetrical distribution; accordingly, the greater the distance the p value is from 0.5 in either direction the more the distribution will be skewed and the standard deviation will be small. Secondly, p values affect reliability. It two items have extreme p values, the greater the distance between them; this, in turn, lowers the correlation. According to Cronbach's α, the more highly items correlate with each other, the higher the reliability. In practical terms, items which have a very high (0.80) or very low (0.20) endorsement rate are usually considered to add little information to the scale and such items are discarded.[127]

The twenty-eight knowledge items were assessed with regard to their frequency of endorsement (See Table 4) and items which were below the cutpoint of 0.2 and above the cutpoint of 0.8 were excluded from further analysis. For males, 12 items were excluded; 10 were above the cutpoint, and two were below the cutpoint. For females, 11 excluded items were above and three were below the cutpoints. The remaining items (14 items for females, 16 items for males) were used to calculate the knowledge score as the number of correct responses (Table 4, underlined items).

Respondents were asked to indicate whether the 28 knowledge items were correct by using the key: 1=Yes, 2=No, and 3=Don't Know. These items were subsequently recoded by SPEG to correct for differences in direction across items: 1=Correct, 2=Incorrect, and 3=Don't Know. At the univariate level, an unpaired two-tailed t-test assessed the significance of the difference in mean number of correct responses between the two groups, 'ever had sexual intercourse' and 'never had sexual intercourse'. One-way analysis of variance assessed the significance of the differences in means for the model 'number of partners. Chi-square statistics assessed the association between the individual knowledge items and the two dependent variables. At the multivariate level, the aggregate knowledge scale was used as the independent variable in each model.

Table 4. Frequency of Endorsement of Knowledge Items: Percentage of Respondents Who Answered Each Item Correctly With Items Retained for Analysis Underlined

Item #	Item	Male	Female
Q.26.	The AIDS virus is now called the human immunodeficiency virus (HIV).	34.7*	31.2
Q.27.	The AIDS virus weakens the immune system by destroying red blood cells.	25.6	18.9
Q.28.	Men and women are equally likely to have serious problems if they catch a sexually transmitted disease.	12.3	15.4
Q.29.	AIDS can be cured if treated early.	83.3	85.9
Q.30.	All homosexual (gay) men carry the AIDS virus.	85.8	88.7
Q.31.	If a person has had a sexually transmitted disease, he or she cannot catch it again.	72.5	76.2
Q.32.	There are blood tests that show if a person has been infected with the AIDS virus.	92.8	91.4
Q.33.	AIDS is the leading cause of death among Canadians under age 25.	58.3	49.6
Q.34.	A person can have the AIDS virus for seven or more years without having symptoms of illness.	65.1	67.2
Q.35.	Sexually transmitted diseases can make both females and males unable to have children.	50.0	51.6
Q.36.	A person can get genital herpes from oral sex.	34.2	29.2
Q.37.	A person can be infected by the AIDS virus for up to six months before its presence can be detected.	57.9	61.6
Q.38.	Vaseline is a good lubricant to use with a condom.	38.8	37.9
Q.39.	A person who is having sex with different partners should be checked at least once a year for sexually transmitted diseases.	84.9	89.6
Q.40.	The AIDS virus can be spread from a female to her unborn child during pregnancy.	78.5	85.6
Q.41.	When a person shares drugs or needles, he or she is at risk of catching the AIDS virus.	96.1	97.5
Q.42.	Taking birth control pills will protect a female from sexually transmitted diseases such as gonorrhea and syphilis.	84.0	86.1
Q.43.	Condoms used with a spermicidal foam or gel give effective protection from the AIDS virus.	56.4	51.2
Q.44.	Sexually transmitted diseases can be caught from toilet seats.	62.9	57.9
Q.45.	The AIDS virus may be spread from a female to a male during sexual intercourse.	94.3	93.2
Q.46.	You can tell if a person has a sexually transmitted disease by his looks.	84.3	90.1
Q.47.	The AIDS virus can be spread through hugging.	95.6	97.9
Q.48.	A person can catch some sexually transmitted diseases through genital contact even though the penis does not enter the vagina.	55.2	53.9
Q.49.	AZT (azidothymidine) is a cure for AIDS.	65.0	58.7
Q.50.	Although chlamydia is the most common sexually transmitted disease, it does not lead to serious complications.	18.9	19.6
Q.51.	Having many sexual partners increases a person's risk of being infected with the AIDS virus.	96.2	97.4
Q.52.	Homosexual males and homosexual females are equally at risk of catching the AIDS virus.	29.9	24.5
Q.53.	Many people who have sexually transmitted diseases will not have symptoms of illness.	38.5	36.0

* items retained for further analysis are underlined

10.2.3.4. Development of Independent Variables from the Views Section

The views section consisted of 93 items. Students were asked to indicate whether they agreed or disagreed with each statement using a five-point Likert scale (Strongly agree=1, Agree=2, Undecided=3, Disagree=4, Strongly disagree=5). Scores were reversed for negative items. Independent variables from this section were developed and refined over the following steps:

1. the discriminatory power of each item was determined using Ferguson's δ; any item where δ was less than 0.84 was eliminated; (See Section 10.2.3.4.1)
2. items were factor analyzed;
3. the degree of homogeneity of the items comprising each factor was assessed by Cronbach's coefficient alpha.
4. each factor score was derived as the weighted sum of the values of the items comprising the factor; the weight of each item was equal to its variance.

10.2.3.4.1. Discriminatory Power

When developing a scale, in order to discriminate among respondents, the scores on the 5-point scale should be spread along the continuum, with an equal number of respondents at each level.[127,128] The discriminatory power of each item was calculated by Ferguson's δ[127] defined as

$$\delta = \frac{(k+1)(N^2 - \Sigma f_i^2)}{kN^2}$$

where k is the number of items, N is the number of respondents and f_i is the number of respondents who have attained score i. A δ value of zero indicates that all respondents answered the item in the same way, and a δ value of +1 indicates that the respondents answered the item in several ways. For example, the statement 'I believe in getting

sexual pleasure where I find it' had a discriminatory score of 0.94 for males which indicated relatively equal distribution of responses across the 5-point scale (Strongly Agree=9.0%, Agree=18.3%, Undecided=24.0%, Disagree=30.4%, Strongly Disagree=18.2%). Conversely, the statement 'I need to gain weight' had a discriminatory index of 0.70 for females which indicated that responses were unevenly distributed across the scale continuum (Strongly agree=3.4%, Agree=5.2%, Undecided=4.1%, Disagree=30.8%, Strongly disagree=56.5%).

The discriminatory index is analogous to the *p* value and is important because it affects reliability and the shape and standard deviation of the distribution of total test scores. The distribution of responses across the 5-point scale approximates a normal distribution when the discriminatory index is 0.84. The distribution of responses skews markedly from normal when discriminatory indices are below 0.84. Accordingly, a cutpoint of 0.84 was established and items with a discriminatory index below this cutpoint were excluded from further analysis. The ninety-three items in the Views Section were assessed for their discriminatory power. The results are presented in Table 5. For males, 26 items were below the cutpoint. For females, 33 items were below the cutpoint of 0.84. The remaining items (67 for males and 60 items for females) were retained for factor analysis.

Table 5. Discriminatory Power of Items in the Views Section

Item #	Item	Male	Female
Q.54.	I need to know a lot more about AIDS.	.75	.70
Q.55.	I can keep myself from getting AIDS.	.74	.76
Q.56.	My parent(s) understand me.	.89[1]	.90
Q.57.	I have confidence in myself.	.73	.75
Q.58.	Unmarried people should not have sex.	.85	.87
Q.59.	I need to lose weight.	.88	.93
Q.60.	Even when my parents are strict, I feel they are being so for my own good.	.86	.86
Q.61.	If I thought I had AIDS, I would be too embarrassed to see my family doctor.	.94	.94
Q.62.	I often am sorry for the things I do.	.89	.89
Q.63.	Homosexuality is acceptable today.	.86	.93
Q.64.	I would stop a friend from driving if he or she had had too much alcohol to drink.	.65	.49
Q.65.	Most people can be trusted to tell the truth about their past sexual experiences.	.89	.89
Q.66.	I often have a hard time saying no.	.91	.88
Q.67.	I do not have much in common with people of my age.	.78	.79
Q.68.	I would be embarrassed to buy condoms.	.92	.93
Q.69.	I worry about the threat of nuclear war.	.94	.92
Q.70.	I feel pressure from my friends to drink alcohol.	.83	.78
Q.71.	My parents(s) trust me.	.83	.84
Q.72.	I could not be friend of someone who has AIDS.	.87	.85
Q.73.	No one cares much about what happens to me.	.79	.77
Q.74.	I trust what television, radio, and newspapers say about AIDS.	.84	.84
Q.75.	Many parents do not know enough about AIDS.	.85	.84
Q.76.	It is alright for two people to have sex before marriage if they are in love.	.82	.85
Q.77.	I often get frustrated.	.87	.84
Q.78.	I would tell my sexual partner if I thought I had the AIDS virus.	.79	.72
Q.79.	People who have the AIDS virus should be allowed to be teachers.	.93	.89
Q.80.	I have a lot of friends.	.72	.71
Q.81.	Before having sex, I would talk with my partner about his or her past sexual experiences.	.92	.89
Q.82.	My friends encourage me to do things I know are wrong.	.86	.78
Q.83.	I worry that someone of my own sex will make a sexual advance toward me.	.92	.86
Q.84.	The government keeps young people from getting needed information about AIDS.	.91	.89
Q.85.	Sex without love is not satisfying.	.95	.91
Q.86.	I have trouble making decisions.	.83	.83
Q.87.	I often feel left out of things.	.86	.86
Q.88.	I need to gain weight.	.91	.70
Q.89.	I have a lot of arguments with my parent(s).	.87	.87
Q.90.	I talk about sex with my close friend(s).	.81	.78
Q.91.	My friends often ask me for help and advice.	.85	.72
Q.92.	Homosexuals (gays) should be allowed to be teachers.	.93	.93
Q.93.	Homosexuality is wrong.	.93	.95
Q.94.	AIDS is not as serious a problem as television, radio, and newspapers suggest.	.76	.65
Q.95.	There will always be someone telling me what to do.	.92	.91
Q.96.	The future looks good to me.	.83	.83
Q.97	What my parent(s) think of me is important.	.76	.72
Q.98.	I am worried about catching AIDS.	.92	.92
Q.99.	If I have a problem, I usually keep it to myself.	.87	.86
Q.100.	I ask my parents(s) for advice on serious matters.	.91	.92

(1) Items retained for factor analysis are underlined

cont'd cont'd

Table 5. cont'd

Item#	Item	Male	Female
Q.101.	If you carry a condom,people will think you are willing to have sex.	.85[1]	.89
Q.102.	People who have the AIDS virus should be allowed to work in a hospital.	.84	.88
Q.103.	I feel pressure from my friends to use marijuana.	.72	.56
Q.104.	I believe in getting sexual pleasure where I find it.	.94	.82
Q.105.	I like myself.	.73	.71
Q.106.	I often cannot sleep worrying about things.	.91	.90
Q.107.	I have a happy home life.	.81	.83
Q.108.	I sometimes have thoughts about committing suicide.	.86	.90
Q.109.	The fear of getting AIDS is preventing me from having sex.	.85	.86
Q.110.	I discuss my problems with my friends.	.87	.77
Q.111.	I trust what the government says about AIDS.	.86	.82
Q.112.	My friends and I often talk about AIDS.	.87	.85
Q.113.	I would change how I look if I could.	.94	.92
Q.114	I often feel lonely.	.87	.87
Q.115	Life is just one worry after another.	.90	.89
Q.116.	People who have the AIDS virus should be allowed to attend regular school classes.	.92	.86
Q.117.	I wish my complexion (facial skin) were better.	.91	.89
Q.118.	There are times when I would like to leave home.	.91	.89
Q.119	I am embarrassed when I am with someone of the opposite sex.	.82	.79
Q.120.	I would talk to my sexual partner about using a condom for our protection.	.82	.78
Q.121.	I feel pressure from my friends to be sexually active.	.87	.75
Q.122.	People who have the AIDS virus should be allowed to immigrate to Canada.	.88	.89
Q.123.	I would feel comfortable talking with a homosexual (gay) person.	.91	.93
Q.124.	The messages I get from television, radio, and newspapers about AIDS confuse me.	.89	.89
Q.125.	I often wish I were someone else.	.92	.92
Q.126.	People who have the AIDS virus should be quarantined (separated from other people).	.94	.87
Q.127.	Physical appearance is important for popularity.	.87	.90
Q.128.	People who have AIDS are getting what they deserve.	.89	.82
Q.129.	I would raise my children differently from the way I was raised.	.95	.95
Q.130.	People who have the AIDS virus should be allowed to serve the public (e.g, waiter, chef, hair stylist).	.92	.89
Q.131.	For the rest of my life I intend to have sex with only one partner.	.93	.92
Q.132.	What happens to my health depends mainly on me.	.75	.75
Q.133.	If I thought I had a sexually transmitted disease, I would be embarrassed to go to a doctor or nurse.	.93	.91
Q.134.	I feel uncomfortable when someone of the same sex touches me.	.96	.92
Q.135.	I consider myself to be a good athlete.	.85	.90
Q.136.	I often feel depressed.	.88	.88
Q.137.	A condom interferes with sexual pleasure.	.91	.85
Q.138.	My parent(s) expect too much of me.	.90	.88
Q.139.	My chance of catching a sexually transmitted disease is low.	.91	.90
Q.140.	People of the opposite sex seem to like me.	.74	.70
Q.141.	Some people will be infected by the AIDS virus no matter how they try to avoid it.	.90	.87
Q.142.	What my friends think of me is very important.	.79	.76
Q.143.	If my friends thought they had a sexually transmitted disease, I would encourage them to go to a doctor or nurse.	.73	.58
Q.144.	People who have the AIDS virus should be required to let others know they have it.	.88	.91
Q.145.	I am too shy to make a lot of friends.	.86	.83
Q.146.	I am a happy person.	.79	.78

(1) Items retained for factor analysis are underlined

10.2.3.4.2. Factor Analysis

Factor analysis was developed in 1904 by Charles Spearman who advanced the hypothesis that all tests of intelligence could be regarded as measures of a general intelligence factor, or 'G', common to all measures, and a unique factor associated with each specific test of intelligence. Since then, factor analysis has been used as an analytic tool to reduce the number of variables in a given data set (variable reduction), to explore patterns of relationships among variables (exploratory factor analysis), and to test hypothesis concerning patterns of relationships among variables (confirmatory factor analysis).

Factor analysis has three objectives: parsimony, approximate independence, and conceptual meaningfulness.[129] Parsimony is achieved by expressing the information described by the number of original variables in the data set in terms of a smaller number of factors. Statistical independence may be achieved by deriving factors in such a way that they do not correlate with any other factor. The meaning of each factor becomes more interpretable after rotation (conceptually meaningful).

Factor analysis has three underlying assumptions: the variables should be measured at the interval scale, responses should be equally distributed across the 5-point rating scale, and the ratio of respondents to variables (subject-to-variable ratio) should be at least 5:1. Strictly speaking, the 5-point rating scale is an ordinal scale of measurement, and as such, would violate the first assumption; however, it can be argued that, from a pragmatic point of view, data from this rating scale can be analyzed as if they were interval without introducing severe bias.[127]

Exploratory factor analysis is classified into two groups: common factor analysis and component analysis. Each approach determines the amount of variance in each variable which is shared with other variables in the data set. The common factor model partitions the variance in each variable into a common and a unique component. The unique component, in turn, comprises variance due to random fluctuation (error variance) and variance due to bias. The model assumes that error variance is unreliable in the sense that it is specific to a given sample at a given point in time for a given variable. Alternatively, common variance is reliable because it remains stable from sample to sample. Component analysis does not differentiate between common and unique variance. Rather, it transforms the set of observed variables into a new set of variables which is a linear combination of the observed variables. The common factor method requires the estimation of communalities which represent the amount of variance shared (common variance) by each variable; on the other hand, component analysis replaces the communalities with 1s.

The basic problem of common factor analysis is the determination of the unique variance[130] which is difficult because there is no explicit definition of what is considered to be the unique part of a variable. Consequently, there are an infinite number of unique solutions for determining the factors. Thus, the model of common factor analysis is said to be indeterminate. Component analysis is a determinate model: factor variables as linear functions of the original variables are uniquely expressed and, as a result, factor scores can be computed directly rather than estimated in the case of common factor analysis.

Many researchers use component analysis as an approximation to common factor analysis because it avoids the problem of estimating communalities and the results are comparable to results obtained with the common factor method.[130,131] Mulaik[130] argues that component analysis is useful in its own right when the 'objective of the analysis is not to account for correlations among the variables but rather to summarize the major part of

information contained in them in a smaller number of variables'. If predictor variables are derived from components analysis and used in multivariate analysis fewer degrees of freedom are lost than when the full set of variables is used. Weiss[131] argues that component analysis may result in factors which represent correlated error variance; such factors cannot be replicated and would lead researchers to draw unwarranted conclusions about the structure of their variables.

Principal components analysis is the most frequently used method of component analysis. It is often expressed as the default option of several computer statistical packages, including SAS. It is governed by the premise of explaining as much of the total variation in data as possible with as few factors as possible. Thus, the first factor or the first principal component is the weighted linear combination of the variables that accounts for the most variation in the data.

Factor analysis was performed using SAS statistical software package for personal computers. Principal component analysis was chosen because factor scores could be computed directly and used in the multivariate analysis. As well, the objective of parsimony could be achieved because component analysis explains as much of the variation in data with as few factors as possible. Orthogonal varimax rotation was chosen because it offered two advantages: the factors resulting from orthogonal rotation would be statistically uncorrelated and, the amount of total variation accounted for by the factors would be unaffected by the rotation.[129,132]

At the univariate level, unpaired two-tailed t-tests assessed the significance of the difference in mean scores for each construct for the model 'ever had sexual intercourse' and analyses of variance assessed the significance of differences in mean scores for each construct for the model 'number of partners'. The results of the factor analysis are presented in Chapter 11.

10.2.3.4.3. Measures of Internal Consistency

Internal consistency, or homogeneity, of the scale 'suggests how far each questionnaire item contributes to the overall theme being measured'.[133] Internal consistency may be evaluated by two methods: item-total correlation and split-half correlation. Item-total correlation is the size of the relationship between the individual item and the total number of items in the scale (minus the item). Split-half reliability is determined by dividing the scale into two groups, usually divided by 'odd' and 'even ' numbers, and correlating the two groups. Split-half correlation does not identify the item(s) which contribute to low reliability, and there are several ways in which the scale can be divided into two groups. Two methods, the Kuder-Richardson formula 20 (for dichotomous variables) and Cronbach's coefficient α have overcome some of the problems in the split-half coefficient by giving an average of all the possible split-half reliabilities of the scale.[127] Cronbach's α was used to assess the internal consistency of each factor. Cronbach's α is a useful measure of homogeneity when the scale has more than two response alternatives.

10.2.4. Framing Analysis and Interpretation Within a Theoretical Framework

The purpose of formulating a theory or conceptual approach was not to test the hypothesis of whether the observed data fit the model because the questionnaire was not developed within an explicit theory. Rather, the purpose was to provide a method by which a theory can be applied to observations to enable an interpretation within a conceptual perspective. To that end, the analysis was data-driven; the constructs derived from the factor analysis were used as independent variables in the models of risk. Quite independently, a group of experts was invited to propose a theoretical framework for grouping the items.

The theoretical framework was developed over three stages:

i. identification of constructs from existing theoretical models of health behaviour that appear in the literature;

ii. assigning questionnaire items to the constructs identified in Stage i by a group of experts;

iii. matching the results of the experts with the results of the factor analysis; and, interpreting the results of the multivariate analysis within the theoretical framework from which the construct was derived.

10.2.4.1. Identification of Constructs from the Literature

Six models were reviewed in Chapter Six with regard to their ability to predict health behaviour in general, their ability to predict sexual behaviour, the sufficiency of the models, the frequency of citation, and the operationalization of constructs. None of the models of prediction explained 100% of the variability in the dependent variables. A model is said to be sufficient if the variance is explained by only the variables specified; however, two-way and three-way interactions, which had not been specified beforehand emerged as significant determinants in some of the models. Many of the constructs were similar in definition and context; some models were adaptations or extensions of other models.

Often constructs from one model can be redefined as constructs in other models (See Table 6). The constructs of the Health Belief Model could be viewed as aspects of constructs in several other models. In this case, the four constructs of the HBM could be redefined as Aact in the Theory of Reasoned Action; the two constructs, perceived severity and perceived susceptibility, could be redefined as severity of threat and probability of occurrence of the Protection Motivation Model and as outcome expectancies of Social Learning Theory. Further, the constructs, response efficacy and probability of occurrence, from the Protection Motivation Model could be redefined as outcome expectancies within Bandura's Social Learning Theory.

Table 6. Redefinition of Constructs: Overlap Between Models

<table>
<tr><th>Health Belief Model</th><th>Theory of Reasoned Action</th><th>Theory of Planned Behaviour</th><th>Subjective Culture Model</th><th>Protection Motivation Model</th><th>Social Learning Theory</th></tr>
<tr><td>Perceived Susceptibility</td><td rowspan="3">Aact: Attitude Towards the Act</td><td rowspan="3">Aact: Attitude Towards the Act</td><td rowspan="3">Aact: Attitude Towards the Act</td><td>Severity of Threat</td><td rowspan="7">Outcome Expectancies</td></tr>
<tr><td>Perceived Severity</td><td>Probability of Occurrence</td></tr>
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10.2.4.2. Role of Experts

In developing measures of health (both psychological and physical aspects) content validity is often established by asking a group of experts to give their opinion on the relevance, clarity or scope of coverage of the items on a measurement instrument. The use of experts provides two advantages: experts represent the most current thinking in the field, and they represent a consensus of several points of view such that one perspective does not dominate.[127] In this case, constructs were identified from predictive health models in the literature and a group of experts was asked to assign questionnaire items from the knowledge and views sections to one of the constructs.

Five judges with expertise in health psychology and research experience in developing and testing health behaviour models were chosen to participate in this phase of the present research (See Appendix B). Expertise in health psychology was considered relevant to understanding the content of the items as well as to understanding how to operationalize a construct. Persons who had expertise in sexually transmitted diseases (content) were considered as judges but were ultimately considered not to have the requisite knowledge in health models, construct development and operationalization.

Each expert received the assignment by mail. The package included a covering letter which briefly described the research undertaking, instructions on how to complete the task and a response sheet (See Appendix B). The expert was asked to complete the task on the response form provided and return it in an enclosed self-addressed stamped envelope.

Each expert was asked to match each questionnaire item with at most two constructs. The first choice, labelled as 'Best Fit', was to be the construct which best, in the expert's opinion, expressed the intent of the item. The expert could also match the item with a second construct; however, in this case, the second construct, labelled 'Possible Fit', could fit the item but not as well as the first choice of construct. The expert was asked to check the 'No Fit' category if s/he considered that the item could not match any construct. In cases where the expert judged that the item did not have a 'Best Fit' but would consider it as a 'Possible Fit', the expert would mark only the 'Possible Fit' category. Each construct was labelled and defined in accordance with the model from which it was derived.

Seven constructs were presented to the experts: 'perceived susceptibility', 'perceived vulnerability', 'perceived benefit' and 'perceived barriers' and 'knowledge' as a perceived barrier from the Health Belief Model; 'normative beliefs' (parents) and 'normative

beliefs' (friends) from the Theory of Reasoned Action; and 'self-efficacy' from Social Learning Theory. A further construct, locus of control, was also presented to the experts to determine if the items assigned to the construct by the experts were similar to the items assigned to the construct by SPEG.

Questionnaire items were assigned to a construct according to the following decision rules: the first choice, 'Best Fit', was assigned a weight of two and the second choice, 'Possible Fit', was assigned a weight of one. 'No Fit' was assigned a weight of 1.5. For each questionnaire item, total scores were obtained for each construct by summing the assigned weights. The questionnaire item was assigned to the construct with the highest score.

'No Fit' was assigned an intermediate weight between 'Best Fit' and 'Possible Fit'. The choice of 'No Fit' could be considered to be a 'Best Fit' when the judge decides that the questionnaire item does not fit any construct. An item would be assigned to 'No Fit' if the choices of 'Possible Fit' were spread across several items indicating some degree of uncertainty by the judges as to which construct the item should be assigned. In the three cases where the scores were tied, the item was assigned to a construct according to our assessment of the judge's expertise. The results of the assignment of individual questionnaire items by the experts to the constructs derived from predictive models of health are summarized in Chapter 12.4.

10.2.4.3. Matching Results of the Experts with the Results of the Factor Analysis

The constructs derived from the group of experts were not used as independent variables in the multivariate analyses. Rather, the label of a construct whose definition had been taken from established theoretical models in the literature was assigned to a factor derived from the factor analysis. Individual items from the factors which were derived from factor analysis (factors) were matched one-on-one to the individual items

of the constructs derived from the group of experts (theoretical constructs). A 50% match of the individual items from a factor to the individual items in a theoretical construct was considered sufficient to assign its construct label to the factor.

10.3. Univariate Analysis

Univariate and multivariate analyses were done separately for males and females in order to control for the effects of gender differences. Recent evidence indicates that risk factors for engaging in sexual intercourse[134] and risk factors for sexually transmitted diseases may be different for men and women.[68,135]

Chi-square test statistics for categorical variables and unpaired two-tailed t-tests for continuous variables were used to assess the degree of association between the predictor and dependent variables. Second- and third-order interactions were identified and evaluated using analysis of variance and partial correlation coefficients. Odds ratios with Cornfield 95% confidence intervals were calculated for demographic categorical variables to assess the probability of behaviour given a demographic characteristic. A P-value of less than 0.05 was considered significant.

10.4. Multivariate Analysis

The independent variables for the multivariate analysis were the demographic variables (12 variables), risk behaviours of alcohol, drug and cigarette use (4 variables), the knowledge scale (one variable) and the constructs derived from the factor analysis of the Views Section (5 variables). Only demographic variables which were not significant ($p<0.05$) at the univariate level were excluded in the multivariate analysis because the main variables of interest may become significant after controlling for the effects of the other variables at the multivariate level.

10.4.1. Discriminant Analysis

For the model 'number of partners', discriminant analysis was considered to be more appropriate than several alternative analytic techniques. Discriminant analysis requires multivariate normality of the independent variables whereas multiple linear regression analysis assumes normality of the dependent variable. Discriminant analysis met this assumption because normality of the independent variables in the knowledge and views sections had been ensured by removing individual knowledge items according to *p* values and individual views items according to discriminatory indices. Although the dependent variable, 'number of partners' was a continuous variable it was not normally distributed. In fact, it was positively skewed with a high proportion of adolescents with one partner. The variable was subsequently categorized into four groups for females and five groups for males; however, loss of information from collapsing a continuous variable is mitigated by retaining more than two ranked categories for the variable.[136] Furthermore, the need to calculate stable incidence rates across comparable populations necessitated the aggregation of subjects with similar levels of exposure into categories. The discriminant analysis equation is similar to a multiple regression equation except the discriminant function analysis predicts membership in a group rather than predicts a specific value of the dependent variable.

For the model 'ever had sexual intercourse', discriminant analysis was considered to be more appropriate than logistic regression analysis because discriminant analysis met the assumption of multivariate normality of the independent variables. Further, logistic regression has been used most successfully to describe the probability of developing some disease over a specified period of time as a function of certain risk factors. Discriminant analysis, on the other hand, has been successful in providing insight into how adequately a set of variables differentiate between groups of people. The model of risk for 'ever had sexual intercourse' seeks to identify a set of variables which differentiate

adolescents who have 'never had sexual intercourse' from those who have 'ever had sexual intercourse'.

Discriminant analysis can have two purposes. It may be used to develop an allocation rule where a discriminant function is developed, based on the observed values of the population analyzed, to predict the group into which a new person would fall. Alternatively, and as in this case, discriminant analysis may be used to gain insight into how groups differ: on which variables the groups differ, and which variables are the most important in accounting for the difference between groups. Multiple discriminant analysis attempts to find a set of linear combinations of the variables whose values are as close as possible within groups and as far as possible between groups. In other words, the analysis selects variables that show the most marked contrast in the pattern of responses between the groups.

Stepwise discriminant analysis was used to develop each model of risk. The level of significance for 'F-to-enter' was 0.05 and for 'F-to-remove' was 0.10. Stepwise selection was chosen in order to assess the importance of each variable in discriminating between the groups. Wilk's lambda test provided the estimate of the significance of each model. The closer the value of lambda is to zero the greater its significance. The significance of lambda was tested with a chi-square statistic.

Following the analysis phase, the results were used to classify cases. An assignment rule, or statistical decision rule, was needed to evaluate the ability of the model to classify cases. By default, the software programme for discriminant analysis assumed equal probabilities for group membership ('equal priors'). The default option, however, can be overridden by specifying the proportion of cases actually falling into each group, or by specifying prior probabilities for samples with known group membership ('user-specified priors'). For each model, the 'priors' default option was overridden by specifying the proportion of cases actually falling into each category because group membership at the population level is unknown.

11. RESULTS

11.1. Sexual Behaviour

The data on sexual behaviours were derived from answers to the questions in PART C: Behaviours of the CYAS questionnaire. The number and proportion(%) of male and female students who answered each question on sexual behaviour is presented in Table 7.

11.1.1. Sexual Experience

Approximately 97% of the students indicated they had hugged at least once; 83% of the males and 87% of the females indicated they had deep kissed at least once; 83% indicated they had petted above the waist; 75% indicated they had petted below the waist; and, approximately 50% had had sexual intercourse at least once (Table 7, 20A-D).

11.1.2. Worrisome Outcomes of Having Sexual Intercourse

Both males (52%) and females (67%) indicated they were most worried about pregnancy as an outcome of having sex although a greater proportion of females than males indicated such a worry. Males (38%) indicated 'other STD' as their second worry as an outcome of having sex; females, on the other hand, indicated AIDS as their second worry (46%) (Table 7, 23A-B).

11.1.3. Reasons For Not Having Intercourse

Both males and females indicated identical reasons why people their own age do not have sexual intercourse: (1). not ready yet (32%,41%); (2). fear of pregnancy (26%,28%); and, (3). have not met the right person (21%,23%) (Table 7, 24A-C).

11.1.4. Number of Partners

Overall, males reported more partners than females: the average number of reported partners was 5.73 for males and 3.18 for females. Approximately 31% of the males and 46% of the females indicated that they had had only one partner; 45% of the males and 42% of the females had 2–5 partners; 14% of the males and 8% of the females had 6–10 partners; approximately 10% of the males and 4% of the females had more than 10 partners.

11.1.5. Sources of Information

Students were asked about their two main sources of information about sex, birth control, AIDS, and other STD. Females indicated their main sources of information on sex and birth control were their mothers and friends; males, on the other hand, indicated friends and television as their source of information on sex, and teachers and friends as their source of information on birth control. Females and males indicated television, newspapers and magazines as their main sources of information on AIDS; for information on STD, the students indicated teachers and pamphlets.

11.1.6. Preferred Sources of Information

Students were asked from whom or from where they would prefer to learn about sex, birth control, AIDS, and other STD. For information on sex, females first and second preferred choice was their mothers; males indicated they would prefer to get their information on sex from personal experience and their fathers. Females indicated they would prefer to receive information on birth control from their mothers and doctors; males would prefer teachers and doctors. The students indicated television, doctors and teachers as their preferred source of information on AIDS; and for information on other STD, their preferences were teachers, doctors, and televsion.

Table 7. Sexual Behaviour of Grade 11 Students, Male and Female

	BEHAVIOUR	MALE		FEMALE	
		%	N	%	N
20.A.	**HUGGING**				
	NEVER	03.8	147	03.1	142
	ONCE	01.6	61	01.3	61
	A FEW TIMES	25.3	981	16.5	747
	OFTEN	69.4	2694	79.1	3587
20.B.	**DEEP KISSING**				
	NEVER	17.4	676	13.3	605
	ONCE	05.6	219	04.1	187
	A FEW TIMES	29.0	1128	25.5	1158
	OFTEN	47.9	1860	57.0	2589
20.C.	**PETTING ABOVE THE WAIST**				
	NEVER	17.9	693	18.0	817
	ONCE	06.6	255	06.4	292
	A FEW TIMES	37.6	1460	34.5	1563
	OFTEN	37.9	1471	41.1	1863
20.D.	**PETTING BELOW THE WAIST**				
	NEVER	24.8	962	25.5	1156
	ONCE	07.6	295	08.2	371
	A FEW TIMES	36.0	1398	33.6	1524
	OFTEN	31.5	1223	32.7	1482
20.E.	**SLEEPING TOGETHER (WITHOUT SEXUAL INTERCOURSE)**				
	NEVER	50.8	1966	45.3	2054
	ONCE	13.4	520	14.8	674
	A FEW TIMES	26.4	1023	27.0	1227
	OFTEN	09.4	364	12.9	584
20.D.	**SEXUAL INTERCOURSE**				
	NEVER	51.2	1962	53.1	2392
	ONCE	08.5	327	06.6	295
	A FEW TIMES	24.4	934	19.8	891
	OFTEN	15.8	606	20.5	924
23.A.	**WHICH POSSIBLE OUTCOMES OF HAVING SEX WORRIES YOU THE MOST: FIRST WORRY**				
	PREGNANCY	52.0	1906	66.6	2907
	AIDS	44.3	1624	31.7	1382
	OTHER STD	03.6	133	01.8	77

Table 7 Cont'd

		%	N	%	N
23.B.	**WHICH POSSIBLE OUTCOMES OF HAVING SEX WORRIES YOU THE MOST: SECOND WORRY**				
	PREGNANCY	27.6	946	22.6	908
	AIDS	34.3	1176	46.3	1857
	OTHER STD	38.1	1304	31.1	1250
24.A.	**REASON WHY PEOPLE OF YOUR AGE DO NOT HAVE INTERCOURSE: FIRST REASON**				
	NOT READY YET	32.1	1251	41.3	1880
	RELIGIOUS BELIEF	04.9	190	03.9	178
	FEAR PREGNANCY	23.9	931	23.4	1065
	FEAR AIDS	12.2	476	07.6	346
	FEAR OTHER STD	01.2	48	00.5	25
	PARENTS DISAPPROVE	02.4	95	02.0	89
	FRIENDS DISAPPROVE	00.6	25	00.3	14
	STAY A VIRGIN	03.4	134	05.3	242
	NOT RIGHT PERSON	16.8	653	15.2	691
	OTHER	02.4	92	00.4	20
24.B.	**REASONS WHY PEOPLE YOUR AGE DO NOT HAVE INTERCOURSE: SECOND REASON**				
	NOT READY YET	14.6	567	17.3	785
	RELIGIOUS BELIEF	05.0	193	03.7	168
	FEAR PREGNANCY	26.3	1021	28.1	1276
	FEAR AIDS	17.2	668	13.3	606
	FEAR OTHER STD	07.3	284	03.4	155
	PARENTS DISAPPROVE	06.2	241	05.3	241
	FRIENDS DISAPPROVE	01.4	55	01.1	50
	STAY A VIRGIN	05.8	227	07.4	335
	NOT RIGHT PERSON	14.3	554	19.6	889
	OTHER	01.8	71	00.9	40
24.C.	**REASONS WHY PEOPLE YOUR AGE DO NOT HAVE INTERCOURSE: THIRD REASON**				
	NOT READY YET	14.0	542	14.0	632
	RELIGIOUS BELIEF	04.1	160	02.7	124
	FEAR PREGNANCY	15.1	583	20.4	921
	FEAR AIDS	13.6	525	12.9	581
	FEAR OTHER STD	11.3	436	06.9	311
	PARENTS DISAPPROVE	07.4	286	07.9	357
	FRIENDS DISAPPROVE	02.0	76	01.6	74
	STAY A VIRGIN	08.3	322	08.6	389
	NOT RIGHT PERSON	20.9	806	23.4	1057
	OTHER	03.2	125	01.7	75

11.2. Demographic Variables

Part A of the questionnaire consisted of questions on the background of the student. The proportion (%) and number (N) of students who indicated each response category is presented in Table 8. The univariate analysis describes the strength and direction of association between each of the demographic variables and the two dependent variables, 'ever had sexual intercourse', and 'number of partners'. Results of the univariate analysis are presented in Table 9.

11.2.1. Summary Profile

The following is a profile of the grade 11 students (male and female) in Canada who were surveyed by the Canada Youth and AIDS Study. The average age of the grade 11 male was 16.5 years and the average age of the females was slightly lower at 16.4 years. Approximately 80% of the students lived in a two-parent family; over 80% of mothers and fathers were born in Canada; 27% of the mothers had a high school education; 27% of the fathers had some high school; 30% of the mothers were homemakers and 28% of the fathers had clerical jobs; and, approximately 29% attended church every week. In terms of academic performance, 37% of the males indicated their average mark last term was 60-69% whereas 39% of the females indicated a higher average mark last term of 70-79%; 72% of the males and 80% of the females indicated that the subjects they were studying in school were preparing them for university/college/cgep; 45% of the males and 53% of the females indicated that they would finish their education when they graduated from university.

11.2.2. Mother's Birthplace

Mother's birthplace was significantly associated with sexual intercourse at least once for males and females (χ^2=10.27, p<.0.001; χ^2=48.10, p<.0.001) and number of partners (χ^2=4.21, p<.040; χ^2=31.87,p<.0.001). Students whose mother was not born in

Canada were less likely to be sexually experienced and more likely to have fewer partners. For example, 33% of females and 42% of males whose mother was not born in Canada had had sexual intercourse at least once compared with 49% of females and 50% of males whose mother was born in Canada. On the other hand, students who indicated that they did not know the birthplace of their mother were more likely to have had sexual intercourse at least once and have a greater number of partners (only 10 females and 14 males indicated that they did not know the birthplace of their mother). For example, 21% of males who did not know the birthplace of their mother had had 10 or more partners compared with 7% of males whose mothers were born in Canada.

Table 8. Demographic Characteristics of Grade 11 Students Surveyed By CYAS: Proportion and Number of Respondents, Male and Female

CHARACTERISTIC	MALE		FEMALE	
NUMBER OF STUDENTS	3930		4586	
GRADE	11		11	
MEAN AGE	16.5 SD+0.71		16.4 SD+0.62	
MOTHER'S BIRTHPLACE	%	N	N	%
CANADIAN BORN	84.3	3295	86.8	3964
NOT CANADIAN BORN	15.4	601	13.0	595
DON'T KNOW	00.4	14	00.2	10
MISSING VALUES	00.5	20	00.4	17
FATHER'S BIRTHPLACE				
CANADIAN BORN	82.3	3200	84.4	3838
NOT CANADIAN BORN	17.1	666	14.8	672
DON'T KNOW	00.5	20	00.9	40
MISSING VALUES	01.1	44	00.8	36
MOTHER'S EDUCATION				
GRADE SCHOOL	07.0	272	08.1	372
SOME HIGH SCHOOL	24.4	954	29.0	1326
HIGH SCHOOL	29.7	1158	25.6	1168
COLLEGE/CGEP	11.2	439	12.4	565
UNIVERSITY	17.2	670	15.4	701
OTHER/DON'TKNOW	10.5	411	09.5	434
MISSING VALUES	00.7	26	00.4	20
FATHER'S EDUCATION				
GRADE SCHOOL	10.2	399	10.7	486
SOME HIGH SCHOOL	27.1	1056	29.4	1337
HIGH SCHOOL	21.0	817	19.4	881
COLLEGE/CGEP	10.2	397	09.5	431
UNIVERSITY	19.9	776	19.3	877
OTHER/DON'T KNOW	11.6	451	11.8	537
MISSING VALUES	00.9	34	00.8	37
MOTHER'S OCCUPATION				
PROFESSIONAL	20.3	785	18.4	834
BUSINESS	08.5	331	07.9	358
FACTORY WORKER/WAITRESS	18.7	72	18.1	820
CLERICAL	02.6	102	02.6	117
SALES	09.1	353	10.2	462
HOMEMAKER	29.7	1152	31.0	1406
UNEMPLOYED	04.1	160	03.2	146
OTHER	06.9	266	08.6	392
MISSING VALUES	01.2	55	01.1	51

TABLE 8 CON'T

CHARACTERSITIC	MALE		FEMALE	
FATHER'S OCCUPATION	%	N	%	N
PROFESSIONAL	16.7	64	14.9	669
BUSINESS	21.1	815	19.5	879
FACTORY,FARMWORKER	04.7	181	04.0	179
CLERICAL	27.5	1062	28.4	1276
SALES	17.9	690	17.2	775
HOMEMAKER	00.3	10	00.2	10
UNEMPLOYED	02.0	78	02.5	111
OTHER	09.8	378	13.3	598
MISSING VALUES	01.9	73	01.9	89
LIVING ARRANGEMENTS				
MUM & DAD	79.9	3122	76.8	3501
MUM ONLY/DAD ONLY	10.5	410	11.6	530
OTHER	09.6	374	11.6	530
MISSING VALUES	00.6	24	00.5	25
AVERAGE MARK LAST TERM				
<60	10.2	393	05.3	241
60-69	36.7	1419	30.4	1370
70-79	32.8	1268	38.9	1754
80+	20.4	788	25.3	1141
MISSING VALUES	01.6	62	01.7	80
SUBJECTS PREPARING THE STUDENT FOR?				
UNIVERSITY/COLLEGE/CGEP	72.2	2807	79.5	3628
WORK/OTHER/DON'T KNOW	27.8	1082	20.5	936
MISSING VALUES	01.0	41	00.5	22
WHEN DOES THE STUDENT EXPECT TO FINISH HIS EDUCATION?				
BEFORE GRAD HIGH SCHOOL	00.8	33	00.4	17
WHEN GRAD HIGH SCHOOL	11.6	454	07.7	353
WHEN GRAD COLLEGE	22.9	896	22.2	1015
WHEN GRAD UNIVERSITY	44.8	1751	53.0	2421
OTHER/DON'T KNOW	19.8	772	16.7	764
MISSING VALUES	00.6	24	00.4	16
CHURCH ATTENDANCE				
NEVER	23.2	908	21.7	995
SPECIAL OCCASIONS	17.9	700	26.3	1205
NOW AND THEN	29.2	1144	22.9	1049
EVERY WEEK	29.8	1166	29.0	1329
MISSING VALUES	00.3	12	00.2	8
GEOGRAPHIC SETTING				
LARGE CITY/SUBURB	11.3	440	10.8	490
MEDIUM CITY/SUBURB	11.7	458	11.1	505
SMALL CITY/TOWN	35.6	1391	34.2	1558
SMALL TOWN/RURAL	41.4	1614	43.9	2001
MISSING VALUES	00.7	27	00.7	32

Table 9. Univariate Analysis of Demographic Characteristics Associated With 'Ever Had Sexual Intercourse' and 'Number of Partners'

	MALE			FEMALE		
CHARACTERISTIC	χ^2	P-VALUE		χ^2	P-VALUE	
MOTHER'S BIRTHPLACE						
SEXUAL EXPERIENCE	10.25	<0.001		50.19	<0.001	
NUMBER OF PARTNERS	04.21	<0.040		31.69	<0.001	
FATHER'S BIRTHPLACE						
SEXUAL EXPERIENCE	05.76	<0.016		26.56	<0.001	
NUMBER OF PARTNERS	02.76	<0.097	NS'	18.74	<0.001	
MOTHER'S EDUCATION						
SEXUAL EXPERIENCE	01.09	<0.296	NS	01.41	<0.234	NS
NUMBER OF PARTNERS	00.047	<0.828	NS	00.42	<0.516	NS
FATHER'S EDUCATION						
SEXUAL EXPERIENCE	00.116	<0.733	NS	00.79	<0.373	NS
NUMBER OF PARTNERS	01.917	<0.157	NS	00.18	<0.674	NS
MOTHER'S OCCUPATION						
SEXUAL EXPERIENCE	19.16	<0.184	NS	00.35	<0.556	NS
NUMBER OF PARTNERS	01.15	<0.284	NS	00.60	<0.437	NS
FATHER'S OCCUPATION						
SEXUAL EXPERIENCE	00.74	<0.389	NS	21.96	<0.001	
NUMBER OF PARTNERS	01.84	<0.175	NS	18.10	<0.001	
LIVING ARRANGEMENTS						
SEXUAL EXPERIENCE	26.38	<0.001		99.62	<0.001	
NUMBER OF PARTNERS	49.38	<0.001		118.48	<0.001	
FINISH EDUCATION?						
SEXUAL EXPERIENCE	18.23	<0.001		51.17	<0.001	
NUMBER OF PARTNERS	13.71	<0.001		48.95	<0.001	
AVERAGE MARK						
SEXUAL EXPERIENCE	107.56	<0.001		133.45	<0.001	
NUMBER OF PARTNERS	91.86	<0.001		160.64	<0.001	
SUBJECTS PREPARING FOR?						
SEXUAL EXPERIENCE	39.90	<0.001		88.68	<0.001	
NUMBER OF PARTNERS	46.87	<0.001		106.14	<0.001	
CHURCH ATTENDANCE						
SEXUAL EXPERIENCE	108.03	<0.001		111.09	<0.001	
NUMBER OF PARTNERS	97.46	<0.001		114.85	<0.001	
GEOGRAPHIC REGION						
SEXUAL EXPERIENCE	1.94	<0.16	NS	17.65	<0.001	
NUMBER OF PARTNERS	1.49	<0.22	NS	10.23	<0.001	

(1) NS: Not Significant ($p<0.05$)

11.2.3. Father's Birthplace

A student whose father was not born in Canada was less likely to have had sexual intercourse at least once (χ^2=5.76, p<0.016; χ^2=26.56, p<0.001) and more likely to have fewer partners (χ^2=18.74, p<0.000, females only) than a student whose father was born in Canada. Approximately 37% of females and 43% of males whose father was not born in Canada had had sexual intercourse at least once compared with 50% of females and males whose fathers were born in Canada. On the other hand, students who did not know the birthplace of their father were more likely to have had sexual intercourse at least once and have had an increased number of partners. For example, approximately 17% of females who did not know the birthplace of their fathers had five or more partners compared with 6% of females whose fathers were born in Canada.

11.2.4. Mother's Education

The associations between mother's education and sexual experience and mother's education and number of partners were not statistically significant for either males or females. There was, however, some indication of trend with the proportion of students who had had sexual intercourse at least once and a greater number of partners increasing as the level of mother's education decreased. Sixty per cent of females and 54% of males whose mother had a university education had never had sexual intercourse compared with 46% of females and 48% of males whose mother had a grade school education. Eleven per cent of males whose mother had grade school education had had more than 10 partners compared to 5% of males whose mothers had a university education; 9% of females whose mother had some high school education had had five or more partners compared to 5% whose mother had a university education.

11.2.5. Father's Education

The association between father's education, sexual intercourse at least once and number of partners was not statistically significant. There was some indication of trend, however: 53% of females and 56% of males whose father had grade school education had had sexual intercourse at least once compared with 39% and 44% whose father had a university education. Seven per cent of females whose father had grade school education had more than five partners compared with 4% whose father had a university education. Likewise, 10% of males whose father had a grade school education had more than 10 partners compared with 5% whose father had a university education.

11.2.6. Mother's Occupation

The associations between mother's occupation, sexual intercourse at least once, and number of partners were not statistically significant for either females or males; however, there was some indication of trend for females. A female whose mother's occupation was classified as 'unemployed', 'sales' or 'business' was more likely to have had sexual intercourse at least once and have more partners compared to a female whose mother was a 'homemaker'. For example, 28% of females whose was unemployed had had five or more partners compared with 17% of females whose mother was classified as a professional.

11.2.7. Father's Occupation

For females, there was a statistically significant association between father's occupation and sexual experience (χ^2=21.96, p<0.001); and number of partners (χ^2=18.10, p<0.001). Females whose father's occupation was classified as 'unemployed' or 'sales' were more likely to have had sexual intercourse at least once and to have more partners: 59% of females whose father's occupation was 'unemployed' and 52% of females whose father's occupation was classified as 'sales' were sexually experienced compared with

44% and 35% of females whose father's occupation was classified as 'business' or 'professional', respectively. A similar trend was observed for males: 61% of males whose father's occupation was classified as 'unemployed' had had sexual intercourse at least once compared to 45% whose father's occupation was classified as 'professional'; 13% whose father's occupation was classified as 'unemployed' had 10 or more partners compared to 5% whose father was classified as 'professional'.

11.2.8. Living Arrangements

Students who indicated their living arrangement as 'other' or 'mom only/dad only' were more likely to be sexually experienced (χ^2= 26.38, p<0.001; χ^2=99.62, p<0.001) and have a greater number of partners (χ^2= 49.38, p<0.001; χ^2=118.48, p<0.001) compared with their counterparts who lived with both parents. For example, 64% of females who lived with 'other' and 56% who lived with one parent had had sexual intercourse at least once compared to 43% of females who lived with both parents. Sixty per cent (60%) of males who lived with 'other' had had sexual intercourse at least once compared with 47% who lived with both parents; and, 12% who lived with 'other' had had 10 or more partners compared with 6% who lived with both parents.

11.2.9. When Finish Your Education

Students who expressed lower academic aspirations were more likely to have had sexual intercourse at least once (χ^2=18.23, p<0.001; χ^2=51.17, p<0.001) and a greater number of partners (χ^2=13.71, p<0.001;χ^2=48.95, p<0.001). For example, 64% of females and 60% of males who intended to finish their education at high school were sexually experienced compared with 38% and 43% who intended to finish their education at university. Approximately 12% of females who intended to finish their education before graduating from high school had had five or more partners compared to 4% of females

who intended to graduate from university; and, 12% of males who intended to finish their education before graduating from high school had had 10 or more partners compared with 5% who intended to graduate from university.

11.2.10. Average Mark Last Term

A lower average mark last term was significantly associated with an increase in the proportion of males and females who had had sexual intercourse at least once (χ^2=107.56, p<0.001; χ^2=133.45, p<0.001); and, a greater number of partners (χ^2=91.86, p<0.001; χ^2=160.64, p<0.001). For example, approximately 58% of females and 64% of males whose average grade was less than 60% had had sexual experience at least once compared with 33% of females and 35% of males whose average grade was more than 80%.

11.2.11. What Are Subjects Preparing You For?

Students who were taking subjects which were preparing them to 'work/other/don't know' were more likely to have had sexual intercourse at least once (χ^2=39.90, p<0.001; χ^2=88.68, p<0.001) and to have a greater number of partners (χ^2=46.87, p<0.001; χ^2=106.14, p<0.001) compared to students who were taking courses in preparation for university. Approximately 61% of females and 57% of males who were taking subjects in grade 11 that were preparing them for 'work/other/don't know' had had sexual intercourse at least once compared to 43% of females and 45% of males who were taking subjects that were preparing them for university. Likewise, 10% of females whose subjects were preparing them for 'work' had had 5 or more partners compared with 5% who taking subjects that were preparing them for university; and, 10% of males whose subjects were preparing them for 'work' had had 10 or more partners compared with 6% who were taking courses preparing them for university.

11.2.12. Church Attendance

For females, church attendance was significantly and inversely associated with sexual experience (χ^2=111.10, p<0.001) and number of partners (χ^2=114.85, p<0.001): 53% of females who never attended church and 55% of females who attended church 'on special occasions' had had sexual intercourse at least once compared with 33.5% who attended church 'every week'. Accordingly, church attendance was protective for females. The reverse trend was statistically significant for males (χ^2=108.03, p<0.001, sexual experience; χ^2=97.46, p<0.001, number of partners): 56% of males who attended church every week and 54% who attended church 'now and then' indicated they had had sexual intercourse at least once compared with 33% of males who never attended church. Approximately 9% of males who attended church every week had had 10 or more partners compared with 4% of males who never went to church.

11.2.13. Geographic Region

A female student who lived in 'a small town/rural' was more likely to be sexually experienced than her counterpart who lived in a large city/suburb (χ^2=17.65, p<0.001); in addition, the student who lived in the 'small town/rural' was more likely to have more sexual partners (χ^2=10.23, p<0.001). For example, 49% of females who lived in a 'small town/rural had had sexual intercourse at least once compared with 38% who lived in a 'large city/surburb'; and, 20% of females who lived in a small town had had 2-5 partners compared with 14% of females who lived in a large city or large suburb. Although no significant associations were observed for males, the trends were in the same direction: 49% of males who lived in a small town or rural area had had sexual intercourse at least once compared to 45% of males who lived in a large city or city suburb; and, 7% of males who lived in a small town or rural area had had 10 or more partners compared with 5.8% of males who lived in a large city or large suburb.

11.3. Demographic Variables: Odds Ratios

Odds Ratios were calculated for each category of the demographic variable and are summarized in Appendix C. Here, each r-by-c table comprised a series of 2-by-2 tables. In each 2-by-2 table, one category of the demographic variable was chosen as the 'Reference' and this was defined as the 'No Exposure' group. The other categories of the variable were defined one at a time as the 'Exposure' group. For the dependent variable 'ever had sexual intercourse', the outcome measures were defined as 'Disease': ever had sexual intercourse and 'No Disease': never had sexual intercourse. For the dependent variable 'number of partners (males), the outcome measures were 'Disease': > 10 partners; and 'No Disease': 0 partners, 1 partner, 2-3 partners, and 4-9 partners. For females, the outcome measures were 'Disease': >5 partners; and 'No Disease': 0 partners, 1 partner, and 2-5 partners.

11.3.1. Mother's Birthplace

A male or female who did not know where his/her mother was born was more likely to have had sexual intercourse at least once compared to his/her counterpart whose mother was born in Canada. For example, a male who did not know the birthplace of his mother was 7 times (95% CI: 1.78 - 25.35) more likely to have had 10 or more partners compared to a male whose mother was born in Canada.

11.3.2. Father's Birthplace

A male or female who did not know where his/her father was born was more likely to have had sexual intercourse at least once and have a greater number of partners. For example, a male who did not know the birthplace of his father was 3 times (95% CI: 0.54-15.72) more likely to have had 10 or more partners than a male whose father was born in Canada.

11.3.3 Mother's Education

For females, the risk of having had intercourse at least once increased as the level of the mother's education decreased. For example, a female whose mother had some high school education was 2.06 times (95% CI: 1.36–3.12) more likely to have had more than five partners. The probability of risk for 'ever had sexual intercourse' by level of mother's education was not as clear cut for males. A male whose mother had grade school education was 2.40 times (95% CI: 1.37–4.21) more likely to have had more than ten partners compared to a male whose mother had a university education.

11.3.4. Father's Education

The likelihood of a student having had sexual intercourse at least once and an increased number of partners increased as the level of father's education decreased. For example, a male whose father had a grade school education was 1.33 times (95% CI: 1.03–1.71) more likely to have had sexual intercourse at least once and, 2.35 times (95% CI: 1.42–3.88) more likely to have had 10 or more partners than a male whose father was university educated.

11.3.5. Mother's Occupation

For males, significant odds ratios were observed for 'business' and 'sales'. For example, a male whose mother's occupation was 'business' was 1.73 times (95% CI: 1.06–2.83) more likely to have had 10 or more partners compared to a male whose mother was a homemaker. For females, significant odds ratios were observed for 'unemployed', 'business' and 'sales' for sexual intercourse at least once. For example, a female whose mother was 'unemployed' was 1.84 times (95% CI:1.28–2.64) more likely to have had sexual intercourse at least once compared to a female whose mother was a homemaker. None of the odds ratios were significant for number of partners for females.

11.3.6. Father's Occupation

Significant odds ratios were observed for males whose fathers' occupation was classified as 'unemployed'. A male whose father was 'unemployed' was 3.49 times (95% CI: 1.45–8.26) more likely to have had 10 or more partners compared to a male whose father's occupation was classified as 'professional'. For females, significant odds ratios were observed for 'unemployed', 'sales', and 'clerical'. For example, a female whose father's occupation was classified as 'unemployed' was 3.94 times (95% CI:1.76–8.71) more likely to have had more than five partners.

11.3.7. Living Arrangements

A male who lived with 'other' was 1.69 times (95% CI: 1.35–2.12) more likely to have had sexual intercourse at least once and 2.62 times (95% CI: 1.11–2.52) more likely to have had 10 or more partners compared to a male who lived with both parents. The corresponding odds ratios for females were 2.37 (95% CI: 1.95–2.88) and 2.94 (95% CI: 2.05–4.21).

11.3.8. Average Mark Last Term

The probability of having had sexual intercourse at least once and of having a greater number of partners increased as the average mark last term decreased for both males and females. A male whose average mark last term was less than 60% was approximately 3 times (95% CI: 1.90–5.21) more likely to have had 10 or more partners compared to a male whose average mark last term was over 80%. Likewise, a female whose average mark last term was less than 60% was 5.51 times (95% CI: 3.19–9.51) more likely to have had more than five partners.

11.3.9. What are the Subjects Preparing You For?

The probability of having had sexual intercourse at least once and of having an increased number of partners was greater among males and females who indicated that the subjects they were taking in high school were not preparing them for university. A male who indicated the subjects that he was taking in grade 11 were preparing him for 'work/other' was 2 times (95% CI: 1.55-2.69) more likely to have had more than 10 partners compared to a male who indicated the subjects he was taking were preparing him for university. The corresponding odds ratios for females were 2.02 (95% CI: 1.74-2.35) and 2.74 (95% CI: 2.06-3.64).

11.3.10. When Finish Your Education

The probability of having had sexual intercourse at least once and an increased number of partners increased as the level of educational aspiration decreased. For example, a male who indicated that he intended to leave school before he had graduated from high school was approximately 4 times (95% CI: 0.86-13.10) more likely to have had 10 or more partners than a male who intended to go to university. The corresponding odds ratio for females were 12.19 (95% CI: 2.67-77.28) and 16.25 (95% CI: 1.16-225.23). These parameter estimates are unstable because of small cell numbers: only two women who never had sexual intercourse indicated they would finish their education before graduating from high school.

11.3.11. Church Attendance

The likelihood of females having had sexual intercourse at least once and an increased number of partners was significantly greater in females who did not attend church. For example, females who never attended church were approximately 4 times (95% CI: 2.56-5.84) more likely to have more than 5 partners in comparison with a female who attended church every week.

11.3.12. Geographic Region

A female who lived in a 'small town/rural' was 1.61 times (95% CI: 1.31-1.91) more likely to have had sexual intercourse at least once compared to her counterpart who lived in a 'large city/suburb. A female who lived in a 'medium city' was 1.79 times (95% CI: 1.03-3.13) more likely to have had more than five partners. None of the odds ratios were significant for males.

11.4. Alcohol, Cigarette and Drug Use

The associations between the two dependent variables and alcohol, cigarette, and cannabis use are presented in Table 10. Odds ratios were calculated and are presented in Appendix D.

Table 10. Univariate Association of Alcohol, Cigarette and Cannabis Use with 'Ever Had Sexual Intercourse' and 'Number of Partners'

	EVER HAD SEXUAL INTERCOURSE				NUMBER OF PARTNERS			
BEHAVIOUR	MALE		FEMALE		MALE		FEMALE	
	χ^2	P-VALUE	χ^2	P-VALUE	χ^2	P-VALUE	χ^2	P-VALUE
ALCOHOL USE	627.13	<0.001	454.38	<0.001	728.02	<0.001	570.67	<0.001
ALCOHOL/ONE TIME	627.20	<0.001	447.82	<0.001	609.23	<0.001	530.48	<0.001
CIGARETTE USE	393.21	<0.001	565.31	<0.001	549.32	<0.001	707.72	<0.001
CANNABIS USE	410.15	<0.001	357.50	<0.001	633.25	<0.001	622.70	<0.001

11.4.1. Alcohol Use

Overall, an equal proportion of males and females drank alcohol (87%M, 86%F) with the majority indicating that they drank at least once a month; females, however, were more likely to drink on special occasions (32%F, 24%M). Males, on the other hand, were more likely to drirık daily (1.1%M,0.10%F) or at least once a week (25%M,16%F).

The frequency of alcohol use was positively associated with sexual intercourse at least once and number of partners for both males and females. Approximately 93% of males who drank daily and 75% of males who drank weekly had had sexual intercourse at least once compared with 15% of males who never drank; and, 56% of males who drank daily and 16% of males who drank weekly had had 10 or more partners compared with 1% of males who never drank. Approximately 77% of females who drank weekly had had sexual intercourse at least once compared with 20% of females who never drank.

11.4.2. Amount of Alcohol on One Occasion

Although an equal proportion of males and females indicated they never drank (14%), males tended to drink more alcohol at one time than females: 44% of the males drank more than five drinks on one occasion compared with 24% of the females. Females, on the other hand, indicated moderate alcohol consumption at one time: 30% and 31% indicated they drank '1-2 drinks' and '3-4 drinks' compared with 19% and 22% of males, respectively.

The number of drinks consumed on one occasion was significantly associated with sexual experience and with an increased number of partners for both males and females: 68% of males and females who drank more than five drinks on one occasion had had sexual intercourse at least once compared with 15% of males and 20% of females who never drank. Approximately 13% of males who drank more than 5 drinks on one occasion had had 10 or more partners compared with 0.88% of males who never drank; 15% of females who drank more than five drinks on one occasion had had more than five partners compared with 1.5% of females who never drank.

11.4.3. Cigarette Use

Overall, the proportion of females who smoked cigarettes was slightly higher (27%) than the proportion of males who smoked cigarettes (21%). Students who smoked cigarettes daily were more likely to have had sexual intercourse at least once and have a greater number of partners than their counterparts who did not smoke. Approximately 76% of females and 80% of males who smoked daily had had sexual intercourse at least once compared with 36% of females and 40% of males who did not smoke; and, 14% of females who smoked daily had had more than five partners compared with 3% of females who did not smoke. Approximately, 18.5% of males who smoked daily had had 10 or more partners compared with 4% of males who did not smoke.

11.4.4. Cannabis Use

Approximately 24% of males and 18% of females indicated they had ever used cannabis. The greatest proportion of students who smoked cannabis, however, used it only on special occasions (9%M, 8.7%F). Males were more likely to use cannabis every day and at least once a week than were females (2%M, 0.45%F; 5%M, 2.8%F).

Cannabis use was positively associated with sexual experience and a greater number of partners for both males and females: 95% of females and 93% of males who used cannabis daily had had sexual intercourse at least once compared with 39% of females and males who never used cannabis; 86% of females and 91% of males who used cannabis at least weekly were sexually experienced. Approximately 50% of females who used cannabis daily and 31% who used it weekly had had five or more partners compared with 3% of females who never used cannabis. Likewise, 42.5% of males who used cannabis daily and 24% who used it weekly had had 10 or more partners compared with 4% of males who never used cannabis.

Table 11. Alcohol, Cigarette, Cannabis Use, and Chewing Tobacco Use, Grade 11 Students, Male and Female

	MALE		FEMALE	
ALCOHOL USE	%	N	%	N
DAILY	01.1	41	00.1	6
WEEKLY	24.8	966	15.6	713
MONTHLY	36.7	1432	39.2	1785
SPECIAL OCCASIONS	23.7	925	32.0	1456
NEVER	13.7	533	13.1	596
MISSING VALUES	00.8	33	00.7	30
ALCOHOL USE AT ONE TIME				
>5 DRINKS	43.7	1658	23.7	1077
3-4 DRINKS	22.3	849	31.4	1429
1-2 DRINKS	19.1	723	30.1	1368
NONE	14.8	565	14.8	673
MISSING VALUES	01.6	62	00.9	39
CIGARETTE USE				
SMOKE DAILY	21.2	825	27.4	1248
DO NOT SMOKE	78.8	3071	72.6	3305
MISSING VALUES	00.9	34	00.7	33
CANNABIS USE				
EVERY DAY	02.1	80	00.4	20
WEEKLY	05.1	198	02.8	127
MONTHLY	07.5	292	06.4	291
SPECIAL OCCASIONS	09.2	357	08.7	394
NEVER	76.2	2961	81.7*	3719
MISSING VALUES	01.1	42	00.8	35
CHEWING TOBACCO				
EVERYDAY	01.2	45	00.4	18
WEEKLY	00.7	27	00.2	8
MONTHLY	01.1	43	00.1	4
SPECIAL OCCASIONS	03.1	121	00.4	20
NEVER	93.9	3640	98.9	4491
MISSING VALUES	01.4	54	01.0	45

11.5. Alcohol, Cigarette, and Cannabis Use: Odds Ratios

11.5.1. Alcohol Use

The probability of a male of female student having had sexual intercourse at least once increased significantly by the frequency of alcohol use. For example, a male who drank every day was 70 times more likely to have had sexual intercourse at least once compared to a male who never drank (95% CI:21.28–360.48). A female who drank every day was 20 times more likely to be sexually experienced compared with her counterpart who never drank (95% CI:2.17–935.19; caution should be exercised in interpreting the parameter estimates because of small numbers).

11.5.2. Amount of Alcohol on One Occasion

A male who drank more than 5 drinks on one occasion was 12 times more likely to have had sexual intercourse at least once compared to his counterpart who did not drink (95% CI: 9.16–15.36). A male who drank more than five drinks on one occasion was 39 times more likely to have had 10 or more partners compared with a male who did not drink. Likewise, a female who drank more than five drinks on one occasion was 24 times more likely to have had more than five partners compared to a female who did not drink.

11.5.3. Cigarette Use

An adolescent (either male or female) who smoked cigarettes was 6 times more likely to have had sexual intercourse at least once compared with his/her counterpart who did not smoke (95% CI:4.77–6.98). A male who smoked was more than 13 times more likely to have had 10 or more partners than his non-smoking counterpart (95% CI:9.93–18.01). Similarly, a female who smoked was 13 times more likely to have had 5 or more partners than her non-smoking counterpart (95% CI:9.58–16.73)

11.5.4. Cannabis Use

A male who smoked cannabis daily was 19 times more likely to have had sexual intercourse at least once compared to a student who did not smoke cannabis (95% C.I:8.36-54.06). A male who smoked cannabis daily was 90 times more likely to have had 10 or more partners (95% CI:35.83-264.0) than a male who did not smoke. Likewise, a female who smoked cannabis daily was 200 times more likely to have more than 5 partners compared to her non-smoking counterpart (95% CI:26.41-8241.01). Caution should be exercised in interpreting the parameter estimates because of small cell sizes.

11.6. Knowledge Section

Neither for males nor females was there a significant difference in the mean number of correct answers between students who 'never had sexual intercourse and students who 'ever had sexual intercourse' (t-test results are presented in Tables 12A and 12B). Analysis of variance showed no significant differences in mean number of correct answers between the groups for the model 'number of partners' (See Tables 13A and 13B). Nonetheless, general trends could be discerned from chi-square analysis of individual items (See Tables 14A and 14B). Males and females who were not sexually experienced and who had fewer partners were more likely to answer individual knowledge items correctly than males and females who were sexually experienced and who had an increased number of partners.

For example, 56% of females who were not sexually experienced correctly answered the statement 'Sexually transmitted diseases can be caught from toilet seats' compared with 44% of females who were sexually experienced. The direction of the association was reversed for three items. Approximately 60% of females who had never had sexual intercourse did not know the correct answer to the statement 'Condoms used with a spermicidal foam or gel gave effective protection from the AIDS virus' nor to the

statement 'Vaseline is a good lubricant to use with a condom'. Only 32% of females with one partner knew that a person could get genital herpes from oral sex compared with 40% of females who had more than five partners.

60% of males who were not sexually experienced correctly answered the statement 'The AIDS virus weakens the immune system by destroying red blood cells' compared with 40% of males who were had 'ever had sexual intercourse'. Likewise, 64% of males with one partner knew that sexually transmitted diseases cannot be caught from toilet seats compared with 53% of males who had 10 or more partners.

Table 12A. Results of T-Test, Relationship Between 'Ever had Sexual Intercourse' and Mean Number of Correct Answers, Knowledge Scale, Male

GROUP	NUMBER OF RESPONDENTS	NUMBER OF INDIVIDUAL ITEMS IN SCALE	MEAN NUMBER OF CORRECT ANSWERS	STANDARD DEVIATION
'EVER HAD SEXUAL INTERCOURSE'	1867	16	8.13	3.01
'NEVER HAD SEXUAL INTERCOURSE'	1962	16	8.30	2.97

F=1.02, DF = (1866,1961) Prob>F = 0.61 Not Significant

Table 12B. Results of T-Test, Relationship Between 'Ever Had Sexual Intercourse' and Mean Number of Correct Answers, Knowledge Scale, Female

GROUP	NUMBER OF RESPONDENTS	NUMBER OF INDIVIDUAL ITEMS IN SCALE	MEAN NUMBER OF CORRECT RESPONSES	STANDARD DEVIATION
'EVER HAD SEXUAL INTERCOURSE'	2110	14	6.91	2.70
'NEVER HAD SEXUAL INTERCOURSE'	2392	14	6.81	2.66

F=1.03 DF = (2109,2391) Prob>F = 0.42 Not Significant

Table 13A. Results of Analysis of Variance, Relationship Between 'Number of Partners' and Mean Number of Correct Answers, Knowledge Scale, Male

GROUP	NUMBER OF RESPONDENTS	NUMBER OF INDIVIDUAL ITEMS IN SCALE	MEAN NUMBER OF CORRECT RESPONSES	STANDARD DEVIATION
0 PARTNER	1962	16	8.30	2.97
1 PARTNER	579	16	8.20	3.15
2-3 PARTNERS	547	16	8.02	2.94
4-9 PARTNERS	472	16	8.23	2.99
>=10 PARTNERS	275	16	7.99	2.86

F=1.39 DF=4 Prob>F=0.24 Anova SS=49.58 Mean Square=12.40 Not Significant

Table 13B. Results of Analysis of Variance, Relationship Between 'Number of Partners' and Mean Number of Correct Answers, Knowledge Scale, Female

GROUP	NUMBER OF RESPONDENTS	NUMBER OF INDIVIDUAL ITEMS IN SCALE	MEAN NUMBER OF CORRECT ANSWERS	STANDARD DEVIATION
0 PARTNER	2392	14	6.81	2.66
1 PARTNER	965	14	6.87	2.69
2-5 PARTNERS	876	14	6.93	2.73
>5 PARTNERS	275	14	6.96	2.67

F=0.63 DF=3 Prob>F=0.6 Anova SS=13.48 Mean Square=4.49 Not Significant

Table 14A. Association between Individual Items on the Knowledge Scale, 'Ever Had Sexual Intercourse' and Number of Partners, Male

MALE		'EVER HAD SEXUAL INTERCOURSE'		# OF PARTNERS	
ITEM #	ITEM	χ^2	P-VALUE	χ^2	P-VALUE
Q.26.	The AIDS virus is now called the human immunodeficiency virus (HIV).	1.56	<0.21 NS[1]	0.81	<0.37 NS
Q.27.	The AIDS virus weakens the immune system by destroying red blood cells.	41.71	<0.00	39.01	<0.00
Q.31.	If a person has a sexually transmitted disease, he or she cannot catch it again.	0.63	<0.43 NS	1.12	<0.29 NS
Q.33.	AIDS is the leading cause of death among Canadians under age 25.	6.58	<0.01	13.53	<0.00
Q.34.	A person can have the AIDS virus for seven or more years without having symptoms of illness.	1.74	<0.19 NS	7.00	<0.01
Q.35	Sexually transmitted diseases can make both females and males unable to have children.	0.60	<0.44 NS	2.16	<0.14 NS
Q.36.	A person can get genital herpes from oral sex.	3.34	<0.07 NS	1.84	<0.18 NS
Q.37.	A person can be infected by the AIDS virus for up to six months before its presence can be detected.	1.22	<0.27 NS	1.11	<0.29 NS
Q.38.	Vaseline is a good lubricant to use with a condom.	0.04	<0.84 NS	3.88	<0.05
Q.40.	The AIDS virus can spread from a female to her unborn child during pregnancy.	4.09	<0.05	2.89	<0.09 NS
Q.43.	Condoms used with a spermicidal foam or gel give effective protection from the AIDS virus.	1.87	<0.17 NS	2.63	<0.11 NS
Q.44.	Sexually transmitted diseases can be caught from toilet seats.	23.08	<0.00	49.23	<0.00
Q.48.	A person can catch some sexually transmitted diseases through genital contact even though the penis does not enter the vagina.	1.94	<0.16 NS	1.06	<0.30 NS
Q.49.	AZT (azidothymidine) is a cure for AIDS.	0.61	<0.44 NS	2.90	<0.09 NS
Q.52.	Homosexual males and homosexual females are equally at risk of catching the AIDS virus.	1.29	<0.26 NS	0.00	<0.95 NS
Q.53.	Many people who have sexually transmitted diseases will not have symptoms of illness.	10.53	<0.00	6.46	<0.01

(1) NS: Not Significant at $p<0.05$

Table 14B. Association between Individual Items on the Knowledge Scale, 'Ever Had Sexual Intercourse' and Number of Partners, Female

FEMALE		'EVER HAD SEXUAL INTERCOURSE'		# OF PARTNERS	
ITEM #	ITEM	χ^2	P-VALUE	χ^2	P-VALUE
Q.26.	The AIDS virus is now called the human immunodeficiency virus (HIV).	1.04	<0.31 NS[1]	0.26	<0.61 NS
Q.31.	If a person has had a sexually transmitted disease, he or she cannot catch it again.	3.46	<0.06 NS	2.15	<0.14 NS
Q.33.	AIDS is the leading cause of death among Canadians under age 25.	6.42	<0.01	2.49	<0.11 NS
Q.34.	A person can have the AIDS virus for seven or more years without having symptoms of disease.	3.36	<0.07 NS	1.48	<0.22 NS
Q.35.	Sexually transmitted diseases can make both females and males unable to have children.	0.05	<0.82 NS	0.14	<0.71 NS
Q.36.	A person can get genital herpes from oral sex.	19.86	<0.00	24.31	<0.00
Q.37.	A person can be infected by the AIDS virus for up to six months before its presence can be detected.	5.38	<0.02	3.94	<0.05
Q.38.	Vaseline is a good lubricant to use with a condom.	34.85	<0.00	7.66	<0.01
Q.43.	Condoms used with a spermical foam or gel give effective protection from the AIDS virus.	13.99	<0.00	7.85	<0.01
Q.44.	Sexually transmitted diseases can be caught from toilet seats.	32.59	<0.00	23.37	<0.00
Q.48.	A person can catch some sexually transmitted diseases through genital contact even though the penis does not enter the vagina.	0.62	<0.43 NS	0.15	<0.70 NS
Q.49.	AZT is a cure for AIDS.	5.80	<0.01	3.09	<0.08 NS
Q.52.	Homosexual males and homosexual females are equally at risk of catching the AIDS virus.	4.60	<0.03	3.69	<0.06 NS
Q.53.	Many people who have sexually transmitted diseases will not have symptoms of illness.	1.71	<0.91 NS	1.52	<0.22 NS

(1) NS: Not Significant at $p<0.05$

11.7. Views Section

11.7.1. Factor Analysis

Principal component factor analysis yielded five factors for the males and explained 47% of the variance (See Table 15A). It yielded five factors for the females and explained 49% of the variance (See Table 15B). The results were stable for common factor analysis. The results are presented in Table 16 together with a label assigned to each factor based on the items contained in the factor. The factor loading matrices (after varimax rotation) and the matrices for the standardized scoring coefficients are presented in Appendix E. Cronbach's α was calculated to measure the internal consistency of each factor (See Tables 17A and 17B).

Table 15A. Variance of Each Factor, Male

MALE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
VARIANCE	3.85	3.11	3.0	2.15	2.0
PROPORTION OF TOTAL VARIANCE	0.13	0.10	0.10	0.07	0.07

Table 15B. Variance of Each Factor, Female

FEMALE	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5
VARIANCE	4.15	4.00	3.86	1.81	1.75
PROPORTION OF TOTAL VARIANCE	0.13	0.12	0.12	0.06	0.06

Table 16. Results of Factor Analysis: Views Section

FACTOR 1 - MALE: ATTITUDES ABOUT PEOPLE WITH HIV/AIDS AND ABOUT HOMOSEXUALS

ITEM #	I T E M	FACTOR LOADING
Q.116.	People who have the AIDS virus should be allowed to attend regular school classes.	0.80
Q.79.	People who have the AIDS virus should be allowed to be teachers.	0.77
Q.130.	People who have the AIDS virus should be allowed to serve the public.	0.73
Q.92.	Homosexuals (gays) should be allowed to be teachers.	0.69
Q.126.	People who have the AIDS virus should be quarantined.	0.66
Q.72.	I could not be a friend with someone with AIDS.	0.63
Q.102.	People who have the AIDS virus should be allowed to work in a hospital.	0.63
Q.122.	People with the AIDS virus should be allowed to immigrate to Canada.	0.58

FACTOR 2 - MALE: RELATIONSHIP WITH PARENTS

ITEM #	I T E M	FACTOR LOADING
Q.56.	My parent(s) understand me.	0.71
Q.89.	I have a lot of arguments with my parents.	0.65
Q.60.	Even when my parents are strict, I feel they are being so for my own good.	0.63
Q.118.	There are times when I would like to leave home.	0.61
Q.129.	I would raise my children differently from the way I was raised.	0.59
Q.100.	I ask my parents for advice on serious matters.	0.58
Q.138.	My parents expect too much of me.	0.55

FACTOR 3 - MALE: MENTAL HEALTH/FEELINGS OF DEPRESSION/ISOLATION

ITEM #	I T E M	FACTOR LOADING
Q.77.	I often get frustrated.	0.65
Q.136.	I often feel depressed.	0.64
Q.115.	Life is just one worry after another.	0.60
Q.106.	I often cannot sleep worrying about things.	0.59
Q.62.	I often am sorry for the things I do.	0.54
Q.114.	I often feel lonely.	0.49
Q.108.	I sometimes have thoughts about committing suicide.	0.45
Q.87.	I often feel left out of things.	0.44

FACTOR 4 - MALE: SELF-IMAGE/SELF-ESTEEM

ITEM #	I T E M	FACTOR LOADING
Q.113.	I would change how I look if I could.	0.75
Q.117.	I wish my complexion were better.	0.67
Q.125.	I often wish I were someone else.	0.59
Q.114.	I often feel lonely.	0.53
Q.87.	I often feel left out of things.	0.47

FACTOR 5 - MALE: ATTITUDE TOWARDS CASUAL SEX

ITEM #	I T E M	FACTOR LOADING
Q.131.	For the rest of my life I intend to have sex with only one partner.	0.76
Q.58.	Unmarried people should not have sex.	0.72
Q.104.	I believe in getting sexual pleasure where I find it.	0.63
Q.85.	Sex without love is not satisfying.	0.61

FACTOR 1 - FEMALE: ATTITUDES ABOUT PEOPLE WITH HIV/AIDS AND ABOUT HOMOSEXUALS

ITEM #	I T E M	FACTOR LOADING
Q.79.	People who have the AIDS virus should be allowed to be teachers.	0.77
Q.116.	People who have the AIDS virus should be allowed to attend regular school classes.	0.77
Q.130.	People who have the AIDS virus should be allowed to serve the public.	0.74
Q.126.	People who have the AIDS virus should be quarantined.	0.72
Q.92	Homosexuals gays) should be allowed to be teachers.	0.68
Q.72.	I could not be a friend of someone with AIDS.	0.65
Q.92.	People who have the AIDS virus should be allowed to work in a hospital.	0.62
Q.102.	I would feel comfortable talking with a homosexual (gay) person.	0.56
Q.122.	People who have AIDS should be allowed to immigrate to Canada.	0.55

FACTOR 2 - FEMALE: RELATIONSHIP WITH PARENTS

ITEM #	I T E M	FACTOR LOADING
Q.56.	My parent(s) understand me.	0.80
Q.71.	My parent(s) trust me.	0.76
Q.129.	I would raise my children differently from the way I was raised.	0.70
Q.100.	I ask my parents for advice on serious matters.	0.67
Q.89.	I have a lot of arguments with my parents.	0.64
Q.60.	Even when my parents are strict, I feel they are being so for their own good.	0.62
Q.138.	My parents expect too much of me.	0.60
Q.118.	There are times when I would like to leave home.	0.59

FACTOR 3 - FEMALE: MENTAL HEALTH - FEELINGS OF DEPRESSION/ISOLATION

ITEM #	I T E M	FACTOR LOADING
Q.136.	I often feel depressed.	0.77
Q.114.	I often feel lonely.	0.76
Q.87.	I often feel left out of things.	0.67
Q.125.	I often wish I were someone else.	0.64
Q.115.	Life is just one worry after another.	0.61
Q.77.	I often get frustrated.	0.60
Q.106.	I often cannot sleep worrying about things.	0.56
Q.108.	I sometimes have thoughts about committing suicide.	0.54
Q.62.	I often am sorry for the things I do.	0.46

FACTOR 4 - FEMALE: ATTITUDE TOWARDS CASUAL SEX

ITEM #	I T E M	FACTOR LOADING
Q.58.	Unmarried people should not have sex.	0.88
Q.76.	It is alright for two people to have sex if they are in love.	0.88

FACTOR 5 - FEMALE: PERCEIVED WORRY

ITEM #	I T E M	FACTOR LOADING
Q.98.	I am worried about catching AIDS.	0.77
Q.69.	I worry about the threat of nuclear war.	0.61
Q.109.	The fear of getting AIDS is preventing me from having sex.	0.60
Q.83.	I worry that someone of my own sex will make a sexual advance toward me.	0.53

Table 17A. Internal Consistency of Each Factor Measured by Cronbach's Alpha, Male

FACTOR		CRONBACH'S ALPHA
FACTOR ONE:	Attitudes About People with HIV/AIDS and Towards Homosexuals	0.84
FACTOR TWO:	Relationship with Parents	0.76
FACTOR THREE:	Mental Health/Feelings of Depression/Isolation	0.78
FACTOR FOUR:	Self-Image/Self-Esteem	0.75
FACTOR FIVE:	Attitude Towards Casual Sex	0.64

Table 17B. Internal Consistency of Each Factor Measured by Cronbach's Alpha, Female

FACTOR		CRONBACH'S ALPHA
FACTOR ONE:	Attitudes About People with HIV/AIDS and Towards Homosexuals	0.85
FACTOR TWO:	Relationship with Parents	0.85
FACTOR THREE:	Mental Health/Feelings of Depression/Isolation	0.82
FACTOR FOUR:	Attitude Towards Casual Sex	0.81
FACTOR FIVE:	Perceived Worry	0.54

11.7.1.1. Univariate Analysis: Factors

T-tests showed a significant relationship between 'Attitude Towards Casual Sex' (Factor 5) and 'ever had sexual intercourse' for males (Table 18A). For females, significant associations were observed for 'Relationship with Parents' (Factor 2), 'Attitude Towards Casual Sex' (Factor 4), and 'Sense of Worry' (Factor 5) and 'ever had sexual intercourse' (Table 18B).

For males, one-way analysis of variance (Table 19A) showed significant associations between number of partners and 'Attitude About People with HIV/AIDS and Towards Homosexuals' (Factor 1), 'Relationship with Parents' (Factor 2), 'Self-Image/Self-Esteem' (Factor 4), and 'Attitude Towards Casual Sex' (Factor 5). For females, significant associations (Table 19B) were observed between number of partners and 'Relationship Towards Parents' (Factor 2), 'Mental Health/Depression/Isolation' (Factor 3) and 'Attitude Towards Casual Sex' (Factor 4).

11.7.1.1.1. Factor 1 - Males: Attitudes About People with HIV/AIDS and Towards Homosexuals

Factor 1 comprised eight items related to attitudes about people with HIV/AIDS and about homosexuals. Overall, males who were not sexually experienced and those who had fewer partners were more likely to express a positive attitude toward people with AIDS. For example, 61% of males who had never had sexual intercourse strongly agreed with the statement 'People with the AIDS virus should be allowed to immigrate to Canada' compared with 39% of males who were sexually experienced. Conversely, 17% of males with one partner disagreed with the statement ' People with the AIDS virus should be quarantined' compared with 8% of males who had ten or more partners.

Table 18A. Results of T-Tests, Evaluation of Relationship Between Mean Score on Each Factor and 'Ever Had Sexual Intercourse', Male

FACTOR	F-VALUE	DF	PROB>F	SIGNIFICANCE
#1.ATTITUDE TOWARDS HOMOSEXUALS	1.01	1818,1712	0.83	NS
#2.RELATIONSHIP WITH PARENTS	1.08	1818,1712	0.09	NS
#3.MENTAL HEALTH	1.01	1818,1712	0.89	NS
#4.SELF-IMAGE/SELF-ESTEEM	1.00	1818,1712	0.92	NS
#5.ATTITUDE TOWARDS CASUAL SEX	1.22	1818,1712	0.00	SIGNIFICANT

Table 18B. Results of T-Tests, Evaluation of Relationship Between Mean Score on Each Factor and 'Ever Had Sexual Intercourse', Female

FACTOR	F-VALUE	DF	PROB>F	SIGNIFICANCE
#1.ATTITUDE TOWARDS HOMOSEXUALS	1.05	2029,2295	0.22	NS
#2.RELATIONSHIP WITH PARENTS	1.25	2029,2295	0.00	SIGNIFICANT
#3.MENTAL HEALTH	1.03	2029,2295	0.51	NS
#4.ATTITUDE TOWARDS CASUAL SEX	1.88	2029,2295	0.00	SIGNIFICANT
#5.PERCEIVED WORRY	1.23	2029,2295	0.00	SIGNIFICANT

Table 19A. Results of Analysis of Variance, Evaluation of Relationship Between Mean Score on Each Factor and 'Number of Partners', Male

FACTOR	F-VALUE	DF	PROB>F	ANOVA SS
#1.ATTITUDE TOWARDS HOMOSEXUALS	5.19	4	0.00	20.59
#2.RELATIONSHIP WITH PARENTS	24.08	4	0.00	93.97
#3.MENTAL HEALTH	1.48	4	0.21	5.92
#4.SELF-IMAGE/SELF-ESTEEM	26.83	4	0.00	104.02
#5.ATTITUDE TOWARDS CASUAL SEX	96.41	4	0.00	348.69

Table 19B. Results of Analysis of Variance, Evaluation of Relationship Between Mean Score on Each Factor and 'Number of Partners', Female

FACTOR	F-VALUE	DF	PROB>F	ANOVA SS
#1.ATTITUDE TOWARDS HOMOSEXUALS	1.93	3	0.12	5.81
#2.RELATIONSHIP WITH PARENTS	30.95	3	0.00	91.06
#3.MENTAL HEALTH	5.85	3	0.00	17.47
#4.ATTITUDE TOWARDS CASUAL SEX	196.52	3	0.00	519.46
#5.PERCEIVED WORRY	0.49	3	0.69	1.48

11.7.1.1.2. Factor 2 - Males: Relationship with Parents

Factor 2 comprised seven items which expressed the student's attitude towards his parents. In general, males who were less likely to agree with statements which expressed a positive relationship with their parents were more likely to have had sexual intercourse at least once and an increased number of partners. For example, 62% of males who had had sexual intercourse at least once strongly agreed with the statement 'I would like to leave home' compared with 38% of males who had never had sexual intercourse. Likewise, 8.5 % of males who had had 10 or more partners agreed with the statement 'My parents understand me' compared with 14% of males who had had one partner.

11.7.1.1.3. Factor 3 - Male: Mental Health/Feelings of Depression and Isolation

Factor 3 comprised eight items which measured several aspects of mental health. Generally, males who were not sexually experienced and who had fewer partners were more likely to express poor mental health. For example, 61% of males who had never had sexual intercourse strongly agreed with the statement 'I often feel left out of things' compared with 39% of males who were sexually experienced; 64% of males who were not sexually experienced strongly agreed with the statement 'I often feel lonely' compared with 36% of males who were sexually experienced. Conversely, 61% of males who were sexually experienced strongly agreed with the statement 'I sometimes have thoughts about committing suicide' compared with 40% of males who were not sexually experienced. Four items, 'I often feel depressed', 'Life is just one worry after another', 'I often get frustrated', and 'I am often sorry for the things I do' showed no differences in responses between the groups.

11.7.1.1.4. Factor 4 - Male: Self-Image/Self-Esteem

Factor 4 comprised five items which measured self-image/self-esteem. 'I would change how I look if I could', and 'I wish my complexion were better' were significantly associated with sexual experience and number of partners. Generally, males who expressed a good self-image and high self-esteem were more likely to have had sexual intercourse at least once and an increased number of partners. For example, 57% of males who had never had sexual intercourse strongly agreed with the statement 'I would change how I look' compared with 43% of males who had had sexual intercourse at least once. Likewise, 56% of males who had never had sexual intercourse strongly agreed with the statement 'I wish my complexion were better' compared with 44% of males who had had sexual intercourse at least once.

11.7.1.1.5. Factor 5 - Male: Attitude Towards Casual Sex

Factor 5 comprised four items which measured attitude towards casual sex. All items were significantly associated with sexual intercourse and number of partners. For example, 85% of males who had never had sexual intercourse strongly agreed with the statement 'Unmarried people should not have sex' compared with 15% of males who had had sexual intercourse at least once. On the other hand, 68% of males who were sexually experienced strongly agreed with the statement 'I believe in getting sexual pleasure where I find it' compared with 32% who had never had sexual intercourse; likewise, 23% of males who had had 10 or more partners strongly agreed with the statement compared with 12% of males who had had one partner.

11.7.1.1.6. Factor 1 – Females: Attitudes About People with HIV/AIDS and Towards Homosexuals

Factor 1 comprised nine items which referred to attitudes about people with AIDS and about homosexuals. Generally, females who had never had intercourse and those who had fewer partners were more likely to express a positive attitude to people with AIDS. For example, 54% of females who had never had sexual intercourse strongly agreed with the statement 'People with the AIDS virus should be allowed to serve the public' compared with 47% of females who were sexually experienced. Conversely, 20% of females who had one partner were more likely to strongly disagree with the statement ' People who have the AIDS virus should be quarantined' compared with 6% of females who had five or more partners.

11.7.1.1.7. Factor 2– Females: Relationship with Parents

Factor 2 comprised eight statements which expressed the students' opinions about her parents. Generally, females who were sexually experienced and who had an increased number of partners were less likely to agree with statements which expressed a positive attitude towards parents. For example, 56% of females who had had sexual intercourse at least once strongly agreed with the statement 'My parents expect too much of me' compared with 44% of females who were not sexually experienced. As well, 27% of females who had one partner strongly agreed with the statement 'My parents trust me' compared with 17% of females who had more than five partners.

11.7.1.1.8. Factor 3 – Female: Mental Health/Feelings of Depression and Isolation

Factor 3 comprised nine items which measured several aspects of mental health such as depression, feeling lonely, and thoughts about committing suicide. Generally, females who expressed feelings of depression and suicide were more likely to have had sexual intercourse at least once and to have an increased number of partners.

For example, 55% of females who had never had sexual intercourse disagreed with statement 'I often feel depressed' compared with 45% of females who were sexually experienced. Similarly, 59% of females who were sexually experienced strongly agreed with the statement which expressed thoughts about committing suicide compared with 42% who were not sexually experienced. The association was reversed, however, for two items: 57% of females who had never had sexual intercourse at least once strongly agreed with the statement 'I often feel left out of things' compared with 43% of females who were sexually experienced. A similar differential was manifest for the statement 'I often feel lonely'.

11.7.1.1.9. Factor 4 – Female: Attitude Towards Casual Sex

Factor 4 comprised two items which measured attitude towards casual sex. Generally, females who expressed a positive attitude to casual sex were more likely to have had sexual intercourse at least once and an increased number of partners. For example, 63% of females who had had sexual intercourse at least once strongly agreed with the statement 'It is alright for two people to have sex if they are in love' compared with 37% who had never had intercourse. Conversely, 88% of females who had never had intercourse strongly agreed with the statement ' Unmarried people should not have sex' compared with 12% who had sexual intercourse at least once. Further, 28% of females with one partner strongly agreed with the above statement compared with 9.5% who had had more than five partners.

11.7.1.1.10. Factor 5 – Female: Perceived Worry

Factor 5 comprised four items which appeared to measure a sense of anxiety. Two items, 'I am worried about catching AIDS' and 'The fear of getting AIDS is preventing me from having sex' were significantly associated with sexual experience and number of partners. For example, 73% of females who had never had sexual intercourse agreed

with the statement 'The fear of getting AIDS is preventing me from having sex' compared with 27% who had had sexual intercourse at least once. Similarly, 20% of females with one partner strongly agreed with the statement compared with 7.6% of females with five or more partners.

11.7.1.2. Group of Experts

Three experts completed the task of assigning each questionnaire item to a construct (See Appendix F). Each questionnaire item, in turn, was assigned to a construct according to the scoring schema discussed in the Methods Section. The items assigned to each construct are summarized below; the assignment is compared to the results of the factor analysis discussed previously.

11.7.1.2.1. Construct A: Perceived Vulnerability

The scoring schema assigned four items to Construct A, Perceived Vulnerability. Two out of four items in 'Worried Attitude' (Factor 5, Females) matched this construct.

ITEMS ASSIGNED TO CONSTRUCT A: PERCEIVED VULNERABILITY

CONSTRUCT A: PERCEIVED VULNERABILITY			
ITEM #	I T E M	FACTOR ON WHICH ITEM LOADED AND FACTOR LOADING	
98.	I am worried about catching AIDS.	5 (Female)	0.77
109.	The fear of getting AIDS is preventing me from having sex.	5 (Female)	0.61
131.	For the rest of my life I intend to have sex with only one partner.		
139.	My chance of catching a sexually transmitted disease is low.		

11.7.1.2.2. Construct B: Perceived Seriousness

The scoring schema assigned six items to Construct B, Perceived Seriousness; five of the items were statements about 'people with AIDS or the AIDS virus'. Five out of nine items (56%) from the factor 'Attitude Towards People with AIDS' (Factor 1, males and females) matched this construct.

ITEMS ASSIGNED TO CONSTRUCT B: PERCEIVED SERIOUSNESS

CONSTRUCT B: PERCEIVED SERIOUSNESS			
ITEM #	**ITEM**	**FACTOR ON WHICH ITEM LOADED AND FACTOR LOADING**	
94.	AIDS is not as serious a problem as television, radio, and newspapers suggest.		
102.	People who have the AIDS virus should be allowed to work in a hospital.	1 (Male) 1 (Female)	0.63 0.62
116.	People who have the AIDS virus should be allowed to attend regular school classes.	1 (Male) 1 (Female)	0.80 0.77
122.	People who have the AIDS virus should be allowed to immigrate to Canada.	1 (Male) 1 (Female)	0.58 0.55
126.	People who have the AIDS virus should be quarantined (separated from the public).	1 (Male) 1 (Female)	0.66 0.72
130.	People who have the AIDS virus should be allowed to serve the public (e.g., waiter, chef, hair stylist).	1 (Male) 1 (Female)	0.73 0.74

11.7.1.2.3. Construct C: Perceived Benefits

No questionnaire items were assigned to this construct.

11.7.1.2.4. Construct D: Perceived Barriers

The scoring schema assigned three items to Construct D, Perceived Barriers. One out of nine items from the construct 'Attitude towards People with AIDS/HIV' matched this construct.

ITEMS ASSIGNED TO CONSTRUCT D: PERCEIVED BARRIERS

CONSTRUCT D: PERCEIVED BARRIERS		
ITEM #	**ITEM**	**ITEM ON WHICH FACTOR LOADED AND FACTOR LOADING**
72.	I could not be a friend of someone with AIDS.	1 (Male) 0.63 1 (Female) 0.65
101.	If you carry a condom, people will think you are willing to have sex.	
137.	A condom interferes with sexual pleasure.	

11.7.1.2.5. Construct E: Subjective Norm (Friends)

The scoring schema assigned ten items to Construct E, Subjective Norm (Friends). None of these items emerged in the factor analysis.

ITEMS ASSIGNED TO CONSTRUCT E: SUBJECTIVE NORM (FRIENDS)

CONSTRUCT E: SUBJECTIVE NORM (FRIENDS)	
ITEM #	**ITEM**
70.	I feel pressure from my friends to drink alcohol.
80.	I have a lot of friends.
82.	My friends encourage me to do things I know are wrong.
90.	I talk about sex with my close friend(s).
91.	My friends often ask me for help and advice.
103.	I feel pressure from my friends to use marijuana.
110.	I discuss my problems with my friends.
112.	My friends and I often talk about AIDS.
121.	I feel pressure from my friends to be sexually active.
142.	What my friends think of me is very important.

11.7.1.2.6. Construct F: Subjective Norm (Parents)

The scoring schema assigned ten items to Construct F, Subjective Norm (Parents). Six out of eight items (75%) in 'Attitude Towards Parents' (Factor 2, males and females) were identified as belonging to this construct.

ITEMS ASSIGNED TO CONSTRUCT F: SUBJECTIVE NORM (PARENTS)

CONSTRUCT F: SUBJECTIVE NORM (PARENTS)			
ITEM #	**ITEM**	**FACTOR ON WHICH ITEM LOADED AND FACTOR LOADING**	
56.	My parents understand me.	2 (Male) 2 (Female)	0.71 0.80
60.	Even when my parent(s) are strict, I feel they are being so for own good.	2 (Male) 2 (Female)	0.63 0.62
71.	My parent(s) trust me.	2 (Female	0.76
73.	No one cares much what happens to me.		
75.	My parents do <u>not</u> know enough about AIDS.		
89.	I have a lot of arguments with my parent(s).	2 (Male) 2 (Female)	0.66 0.64
97.	What my parents think of me is important.		
100.	I ask my parent(s) for advice on serious matters.	2 (Male) 2 (Female)	0.58 0.67
107.	I have a happy home life.		
138.	My parent(s) expect too much of me.	2 (Male) 2 (Female)	0.55 0.60

11.7.1.2.7. Construct G: Self-Efficacy

The scoring schema assigned thirteen items to Construct G, Self-efficacy. Construct G did not correspond with any of the factors. The items were taken from several scales on the original CYAS questionnaire: self-esteem, mental health, relationship with peers, and 'communicating about sex and condom use'.

ITEMS ASSIGNED TO CONSTRUCT G: SELF-EFFICACY

CONSTRUCT G: SELF-EFFICACY	
ITEM #	**ITEM**
57.	I have confidence in myself.
61.	If I thought I had AIDS, I would be too embarrassed to see my family doctor.
66.	I often have a hard time saying no.
68.	I would be embarrassed to buy condoms.
77.	I often get frustrated.
78.	I would tell my sexual partner if I thought I had the AIDS virus.
81.	Before having sex, I would talk with my partner about his or her past sexual experiences.
86.	I have trouble making decisions.
96.	The future looks good to me.
119.	I am embarrassed when I am with someone of the opposite sex.
120.	I would talk to my sexual partner about using a condom for our protection.
133.	If I thought I had a sexually transmitted disease, I would be embarrassed to go to a doctor or a nurse.
43.	If my friends thought they had a sexually transmitted disease, I would encourage them to go to a doctor or a nurse.

11.7.1.2.8. Construct H: Locus of Control

The scoring schema assigned five items to Construct H, Locus of Control. None of the items emerged in the factor analysis. Four items comprised the locus of control scale on the original CYAS questionnaire and three of these items were assigned by the panel of experts to Construct H (75% match).

ITEMS ASSIGNED TO CONSTRUCT H: LOCUS OF CONTROL

CONSTRUCT H: LOCUS OF CONTROL	
ITEM #	**ITEM**
55.	I can keep myself from getting AIDS.
84.	The government keeps young people from getting needed information about AIDS.
95.	There will always be someone telling me what to do.
132.	What happens to my health depends mainly on me.
141.	Some people will be infected by the AIDS virus no matter what they do.

11.7.1.2.9. Construct I: Knowledge

Each item in the knowledge section was assigned to Construct I.

11.7.1.2.10. Summary

There was at least 50% agreement between the results of the factor analysis and the assignment of items to constructs by the group of experts on four constructs: Construct A, Construct B, Construct F, and Construct I. The factor, 'Attitude Towards People with AIDS', was assigned the construct label 'perceived seriousness' from the Health Belief Model. The factor, 'Attitude Towards Parents', was assigned the construct label 'subjective norm (parents)' from the Theory of Reasoned Action. The factor, 'Worried Attitude', was assigned the construct label 'perceived vulnerability' from the Health Belief Model. The knowledge scale was assigned the construct label 'perceived barrier' from the Health Belief Model.

11.8. Multivariate Analysis: Model of Risk for 'Ever Had Sexual Intercourse'

The results of the stepwise discriminant analyses are presented in Table 20A for males, and in Table 20B for females. Assessment of the goodness-of-fit for the model is presented in Appendix G.

For males, nine variables were identified as significant determinants of 'ever had sexual intercourse' accounting for 27.6% of the discriminatory power of the model. No variables met the criteria for removal from the model. Alcohol use entered at the first step and accounted for almost 16% of the discriminatory power of the model. The other risk-taking behaviours, cannabis use and cigarette use, entered at the second and third steps, respectively, increasing the proportion of discriminatory power to 22.3%. The three-risk taking behaviours, alcohol, cigarette and cannabis use, emerged as the most significant determinants which would best discriminate between male students who have 'ever had

sexual intercourse' and those who have never had intercourse. The model correctly classified 71.4% of the respondents (See Tables 21A).

For females, 14 variables were significant determinants of 'ever had sexual intercourse' accounting for 27.6% of the discriminatory power of the model. Cigarette use emerged as the most significant determinant accounting for 12.3% of the discriminatory power of the model. Factor 4, 'attitude toward casual sex', entered at step two increasing the discriminatory power by 8.8%. The other risk-taking behaviours, cannabis use and alcohol use, entered at steps three and four, respectively, increasing the discriminatory power of the model 24%. The model correctly classified 72.3% of the respondents (See Table 21B).

11.9. Multivariate Analysis: Model of Risk for 'Number of Partners'

For males, 10 variables entered the model accounting for 40.2% of the discriminatory power of the model (See Table 22A). The three risk-taking variables, alcohol, cannabis and cigarette use, entered at steps one, two and three, respectively, accounting for 32.48% of the discriminatory power of the model. Factor 5, 'attitude toward casual sex', and Factor 4, 'self-esteem', entered the model at step four and step five, respectively, increasing the discriminatory power to about 37%. The model correctly classified 54% of the respondents (See Table 23A).

For females, 13 variables entered the model accounting for 38% of the discriminatory power of the model (See Table 22B). Cigarette use entered at step one accounting for about 15.4% of the discriminatory power. Factor 4, 'attitude toward casual sex', cannabis use and alcohol use entered at steps two, three and four, respectively, increasing the discriminatory power of the model to 33.6%. The model correctly classified 58% of the females (See Table 23B).

Table 20A. Results of Stepwise Discriminant Analysis for Model 'Ever Had Sexual Intercourse', Male

STEP	VARIABLE ENTERED*	PARTIAL R^2	MODEL R^2	F STATISTIC	PROB F
1	ALCOHOL USE	0.1588	0.1588	613.552	<0.0001
2	CIGARETTE USE	0.0463	0.2051	157.631	<0.0001
3	CANNABIS USE	0.0179	0.2230	59.147	<0.0001
4	FACTOR 5: ATTITUDE CASUAL SEX	0.0151	0.2381	49.787	<0.0001
5	FACTOR 4: SELF-IMAGE/SELF-ESTEEM	0.0157	0.2538	51.893	<0.0001
6	AVERAGE MARK	0.0093	0.2631	30.368	<0.0001
7	CHURCH ATTENDANCE	0.0051	0.2682	16.555	<0.0001
8	FACTOR 2: RELATIONSHIP WITH PARENTS	0.0043	0.2725	13.981	<0.0001
9	MOTHER'S BIRTHPLACE	0.0039	0.2764	12.665	<0.0001

Table 20B. Results of Stepwise Discriminant Analysis For Model 'Ever Had Sexual Intercourse', Female

STEP	VARIABLE ENTERED*	PARTIAL R^2	MODEL R^2	F STATISTIC	PROB F
1	CIGARETTE USE	0.1233	0.1233	565.025	<0.0001
2	FACTOR 4: ATTITUDE CASUAL SEX	0.0880	0.2113	387.731	<0.0001
3	CANNABIS USE	0.0175	0.2288	71.516	<0.0001
4	ALCOHOL USE	0.0104	0.2392	42.067	<0.0001
5	SUBJECTS	0.0097	0.2489	39.161	<0.0001
6	URBAN/RURAL	0.0068	0.2557	27.528	<0.0001
7	LIVE WITH	0.0056	0.2613	22.452	<0.0001
8	FINISH EDUCATION	0.0043	0.2656	17.137	<0.0001
9	MOTHER'S BIRTHPLACE	0.0024	0.2680	9.795	<0.0018
10	FATHER'S OCCUPATION	0.0023	0.2703	9.142	<0.0025
11	FACTOR 2: RELATIONSHIP WITH PARENTS	0.0021	0.2724	8.568	<0.0034
12	AVERAGE MARK	0.0012	0.2736	4.682	<0.0305
13	KNOWLEDGE SCORE	0.0012	0.2748	4.647	<0.0312
14	FACTOR 5: SEXUAL WORRY	0.0010	0.2758	3.853	<0.0497

Table 21A. Classification Performance of Model 'Ever Had Sexual Intercourse', Observed Versus Predicted Outcome, Male

		PREDICTED		
		EVER HAD SEXUAL INTERCOURSE	NEVER SEXUAL INTERCOURSE	TOTAL
OBSERVED	EVER HAD SEXUAL INTERCOURSE	994	557	1551
	NEVER SEXUAL INTERCOURSE	374	1326	1700
	TOTAL	1368	1883	3251

CORRECTLY CLASSIFIED = 994 + 1326/3251 = 71.4%
SENSITIVITY = 994/1551 = 64.1%
SPECIFICITY = 1326/1700 = 78.0%
FALSE POSITIVE RATE = 374/1368 = 27.3%
FALSE NEGATIVE RATE = 557/1883 = 29.6%

Table 21B. Classification Performance Of Model 'Ever Had Sexual Intercourse', Observed Versus Predicted Outcome, Female

		PREDICTED		
		EVER HAD SEXUAL INTERCOURSE	NEVER SEXUAL INTERCOURSE	TOTAL
OBSERVED	EVER HAD SEXUAL INTERCOURSE	1209	655	1864
	NEVER SEXUAL INTERCOURSE	460	1697	2157
	TOTAL	1669	2352	4021

CORRECTLY CLASSIFIED = 1209 + 1697/4021 = 72.3%
SENSITIVITY = 1209/1864 = 64.9%
SPECIFICITY = 1697/2157 = 78.7%
FALSE POSITIVE RATE = 460/1669 = 27.6%
FALSE NEGATIVE RATE = 655/2352 = 27.8%

Table 22A. Results of Stepwise Discriminant Analysis For Model 'Number of Partners', Male

STEP	VARIABLE ENTERED*	PARTIAL R^2	MODEL R^2	F STATISTIC	PROB F
1	ALCOHOL USE	0.1907	0.1907	191.416	<0.0001
2	CANNABIS USE	0.0867	0.2774	77.125	<0.0001
3	CIGARETTE USE	0.0474	0.3248	40.398	<0.0001
4	FACTOR 5: ATTITUDE CASUAL SEX	0.0303	0.3551	25.365	<0.0001
5	FACTOR 4: SELF-IMAGE/SELF-ESTEEM	0.0166	0.3717	13.672	<0.0001
6	AVERAGE MARK	0.0095	0.3812	7.806	<0.0001
7	CHURCH ATTENDANCE	0.0060	0.3872	4.909	<0.0001
8	LIVE WITH	0.0053	0.3925	4.331	<0.0001
9	MOTHER'S BIRTHPLACE	0.0047	0.3972	3.815	<0.0001
10	FACTOR 2: RELATIONSHIP WITH PARENTS	0.0048	0.4020	3.895	<0.0001

Table 22B. Results of Stepwise Discriminant Analysis for Model 'Number of Partners', Female

STEP	VARIABLE ENTERED*	PARTIAL R^2	MODEL R^2	F STATISTIC	PROB F
1	CIGARETTE USE	0.1536	0.1536	243.093	<0.0001
2	FACTOR 4: ATTITUDE CASUAL SEX	0.0889	0.2425	130.772	<0.0001
3	CANNABIS USE	0.0770	0.3195	111.659	<0.0001
4	ALCOHOL USE	0.0165	0.3360	22.469	<0.0001
5	SUBJECTS	0.0115	0.3475	15.540	<0.0001
6	LIVE WITH	0.0083	0.3558	11.267	<0.0001
7	URBAN/RURAL	0.0075	0.3633	10.059	<0.0001
8	FINISH EDUCATION	0.0044	0.3677	5.8897	<0.0001
9	MOTHER'S BIRTHPLACE	0.0028	0.3705	3.732	<0.0001
10	FACTOR 3: MENTAL HEALTH/DEPRESSION	0.0027	0.3732	3.562	<0.0001
11	AVERAGE MARK	0.0025	0.3757	3.391	<0.0001
12	FACTOR 2: RELATIONSHIP WITH PARENTS	0.0021	0.3778	2.756	<0.0001
13	FATHER'S OCCUPATION	0.0020	0.3798	2.646	<0.0001

Table 23A. Classification Performance of Model 'Number of Partners', Observed Versus Predicted Outcome, Male

		PREDICTED OUTCOME					
OBSERVED		2-3 PARTNERS	4-9 PARTNERS	>= 10 PARTNERS	1 PARTNER	0 PARTNER	TOTAL
	MISSING	7	3	4	2	31	39
	2-3 PARTNERS	30	60	43	18	343	494
	4-9 PARTNERS	21	86	74	9	210	400
	>=10 PARTNERS	11	54	80	6	77	228
	1 PARTNER	16	42	37	20	423	538
	0 PARTNER	13	47	24	22	1666	1772
	TOTAL	98	292	262	77	2750	3479

PERCENT CORRECTLY CLASSIFIED: 54.1%

SENSITIVITY:
2-3 PARTNERS: 30/494 = 6%
4-9 PARTNERS: 86/400 = 21.5%
>= 10 PARTNERS: 80/228 = 35.1%
1 PARTNER: 20/538 = 3.7%
0 PARTNERS: 1666/538 = 94.0%

SPECIFICITY:
2-3 PARTNERS: 68/98 = 69.4%
4-9 PARTNERS: 206/292 = 70.5%
>=10 PARTNERS = 69.5%
1 PARTNER: 57/77 = 74.0%
0 PARTNERS: 1084/2750 = 39.4%

Table 23B. Classification Performance of Model 'Number of Partners', Observed Versus Predicted Outcome, Female

		PREDICTED OUTCOME				
OBSERVED		2-5 PARTNERS	>5 PARTNERS	1 PARTNER	0 PARTNER	TOTAL
	MISSING	5	2	2	25	34
	2-5 PARTNERS	254	94	70	371	789
	>5 PARTNERS	70	81	14	78	243
	1 PARTNER	155	43	71	596	865
	0 PARTNER	131	32	54	1958	2175
	TOTAL	615	252	211	3028	4106

PERCENT CORRECTLY CLASSIFIED: 57.6%

SENSITIVITY:
2-5 PARTNERS: 254/789 = 32.2%
> 5 PARTNERS: 81/243 = 33.3%
1 PARTNER: 71/865 = 8.2%
0 PARTNERS: 1958/2175 = 90.0%

SPECIFICITY:
2-5 PARTNERS: 361/615 = 58.7%
> 5 PARTNERS: 171/252 = 67.9%
1 PARTNER: 140/211 = 66.4%
0 PARTNERS: 1070/3028 = 35.3%

For males, the model for 'ever had sexual intercourse' and 'number of partners' were almost identical with respect to the number of variables which entered the model as well as the order of entry. Only one additional variable, 'with whom do you live?', entered the model for numbers of partners. The nine variables in the sexual intercourse model explained approximately 28% of the discriminatory power of the model; the ten variables in the model for number of partners accounted for 40% of the discriminatory power.

For females, two variables, knowledge score and factor 5, entered only the model for 'ever had sexual intercourse'. One variable, the mental health construct, entered only the model for 'number of partners'. The variables in the model 'ever had sexual intercourse' accounted for approximately 28% of the discriminatory power of the model; the variables in the model 'number of partners' explained 40% of the discriminatory power of the model.

12. DISCUSSION

12.1. Determinants of Risk: Alcohol, Cigarette and Cannabis Use

Alcohol use, cigarette use and cannabis use emerged as the first three determinants of risky sexual behaviour in both males and females. These findings emphasize the inter-relationship among risk-taking behaviour, and their significance in adolescence. A gender differential also exists. For males, alcohol use emerged as the major determinant in both models; for females, cigarette use emerged as the major determinant in both models. This gender differential has been recognized previously in descriptive and univariate analysis but not within the context of multivariate analysis.[53,54] Alcohol use as the major determinant in males is likely a function of two factors. Firstly, alcohol may act as a 'situational modifier' in which inhibitions are lessened and the male becomes more aggressive in his sexual behaviour. Secondly, beer and alcohol manufacturers have targeted young males; beer commercials on television often show good-looking athletic males partying with attractive young women. In addition, the companies advertise and provide financial support to sporting events. Accordingly, the male who drinks alcohol may see himself as athletic and attractive to women.

Cigarettes as the major determinant of sexual behaviour in females is likely attributable to two factors. Cigarette manufacturers have targeted young women in their advertising campaigns. These advertisements emphasize the modern female who smokes as independent, worldly, and sophisticated. Secondly, the female who smokes may actually perceive herself as more independent and, therefore, more likely exert this independence through other risky behaviour such as sexual activity. In this case, her perceptions of independence are reinforced by the cigarette advertisers. This strong association between cigarette smoking and sexual behaviour has serious health implications. One shortcoming of the CYAS survey was the lack of information on condom and contraceptive use in the grade 11 population. Although one study indicated that over 70% of teenage adolescents who attended contraceptive clinics used the oral

contraceptive as their prescribed method of birth control,[53] it is difficult to extrapolate the extent of oral contraceptive use among the population of grade 11 females. Females who smoke and use oral contraceptives have an increased risk of death from circulatory disease; this increased risk has been observed in females as young as 15 years of age.[53]

In addition, the inter-relationship of the risk-taking behaviours in adolescent males and females may reflect adolescents who are deviant and who indulge in extremes of the risk-taking behaviours (such as drinking alcohol daily and having multiple partners) or adolescents who are low-performing and have little motivation or aspiration; accordingly, the costs incurred by such behaviours are of little or no consequence to the adolescent.

12.2. Determinants of Risk: Demographic Variables

The demographic variables which emerged as significant determinants of risk could be categorized into two groups: academic achievement and aspirations, and family life. For females, three variables related to academic achievement emerged as significant predictors of risky sexual behaviour: 'What are the subjects you are taking this year preparing you for?', 'When do you expect to finish your education?', and 'What was your average mark last term?'. The relationship was inverse such that the lower the academic achievement and aspiration the more likely the female was to be sexually experienced to have an increased number of partners. For example, female adolescents who were taking subjects which were preparing them for work, who expected to finish their education before completing high school, and whose average mark last term was less than 60%, were more likely to ever had sexual intercourse and to have an increased number of partners. For males, however, only one variable, 'average mark less than 60%' emerged as a significant determinant.

Two variables related to family life emerged as significant determinants of risk: 'with whom do you live' and 'mother's birthplace'. A male who did not know the birthplace of his mother was more likely to ever had sexual intercourse compared to a male whose

mother was born in Canada. For the model 'number of partners's, a male who did not know the birthplace of his mother and who lived with some one other than his mother or father was more likely to have an increased number of partners. For females, these two variables were significant determinants of 'ever had sexual intercourse' and 'an increased number of partners'. These findings further support the already-established relationship between family/social and economic instability[137,138] and an increased likelihood of adolescent risktaking behaviour. Saucier and Ambert[138] explored the relationship between parental marital status and adolescent risk-taking behaviours of smoking, intemperate drinking, and fastening of car seatbelts; they found that adolescents who came from intact families were less likely to engage in risk-taking behaviour. They proffered several explanations for their findings. Firstly, they argued that adolescents from 'broken' homes have lower self-esteem and consequently, these adolescents engage prematurely in behaviour considered adult and 'cool' by their peers in an attempt to raise their self-esteem. Secondly, they argued that adolescents from dissolved families have a parent who is more self-preoccupied and therefore, supervises their children less; therefore, the adolescent is more independent but also deprived of guidance and appropriate role-modelling. Although their research focused on risk-taking behaviour other than sexual behaviour, the findings from this study may be interpreted in a similar light. The two variables related to family instability/dysfunction likely are makers for psychological problems which have arisen as a result of the adolescents's exposure to emotional stress.

The emergence of the variable ' don't know mother's birthplace' may underscore the role of the mother in providing nurturance, emotional support and direct socialization for the child/adolescent. On the other hand, a student whose mother was not born in Canada was less likely to be sexually active and more likely to have fewer partners. This finding likely reflects enforcement of traditional 'old-world' family, cultural and religious values. The family may be protective and closely aligned with its ethnic and religious

group allowing the adolescent son or daughter little behavioural leeway outside of its cohesively-knit family and cultural group. This protective effect is more pronounced for females than for the males.

Geographic location emerged as a significant determinant for females for each model: adolescent females who lived in rural areas were more likely to have had sexual intercourse at least once and to have more partners than adolescents who live in urban areas. This finding is in keeping with current research[139] and is likely influenced by several factors. Immigrants are less likely to live in rural areas (having a mother or father not born in Canada is protective, especially for females); females who live in a rural area are exposed, at an earlier age, to life-death-reproduction cycle in farm animals and, sexual behaviour poses no mystery to them. On the other hand, this finding may reflect the poorer socio-economic status of many rural communities in Canada where there may be high unemployment or low income from marginal farming.

Males who attended church every week were more likely to have had sexual intercourse at least once and an increased number of partners. Most churches teach that sex outside of marriage is not acceptable. However, society condones male sexual permissiveness which, in turn, is reinforced through male-targeted advertisements on beer drinking, athletics and sex. As a result, the adolescent male is torn between the two and the likely consequence of such a dilemma is that the male doesn't plan ahead for or anticipate sexual activity. For females, on the other hand, the church reinforces community standards which are less accepting of female sexual permissiveness.

12.3. Determinants of Risk: Constructs

'Self-esteem/self-image' emerged as a significant determinant in males. In this case, the male adolescent with high self-esteem is more likely to be sexually active and have more partners than his counterpart with moderate or low self-esteem. The correlation between high self-image/self-esteem and sexual permissiveness has been

documented in earlier research by MacCorquodale and DeLamater[140] where both perceived social desirability and body image factors, build and face, were consistently and strikingly related to sexual attitudes and behaviour. They postulated that the importance of athletics and social competition for females (dating competition) within the high school milieu may cause the male to be concerned with his self and body image. The fact that this construct did not emerge as a construct in the analysis for females supports MacCorquadale and DeLamater's conclusion that the difference between males and females may reflect differences in social context. They argued that if females are more interpersonally oriented and affiliative, then a female's self-image would be dependent on her relationship to others and cannot reflect an independent sense of self. It would follow that the construct of self-esteem, in the female adolescent, would be better measured by items on her relationships with other people which may, in turn, explain why the construct of self-esteem/self-image did not emerge in the factor analysis.

'Mental health/depression' emerged as a significant determinant in females for the model for number of partners but not for the 'sexual intercourse at least once' model. This finding, is in keeping with the results of a study in a group of American adolescents (mean age 14 years) by Orr, Beiter and Ingersoll[50] where a nonvirginal female was 6.3 times more likely to report having attempted suicide, 5.4 times more likely to consider hurting herself, 3.1 times more likely to be feeling tense, and 2.1 times more likely to feel lonely than a female who had never had sexual intercourse. The fact that this mental health scale emerged as significant determinant only in females and only in the model for number of partners would appear to be consistent with their conclusions about the perpetuation of the double standard which rewards males but not females for sexual permissiveness. The fact that this determinant did not emerge in the model for 'sexual intercourse at least once' may indicate some level of sexual activity in females is

normatively acceptable but that community norms still do not sanction a large number of partners in females. In other words, societal norms have changed but not to the extent that a female has been granted the full sexual privilege of the male. Accordingly, females who have poor mental health are more likely to deviate from the normative number of partners a female should have than females who have good mental health/positive self-image.

'Attitude towards casual sex' emerged as the second determinant in females for both models accounting for approximately 9% of the variance in each dependent variable. For males, this factor emerged as the fifth determinant in both models, and accounted for 1.5% and 3% in the 'sexual intercourse ever' model and the number of partners model, respectively. Attitude towards casual sex appears to play a more important role in female sexual behaviour than in male sexual behaviour. This finding likely reflects differences in societal approval of casual sexual intercourse by males and females. As well, this finding emphasizes the role of the female as the 'gatekeeper' of the sexual relationship. As the 'sexual gatekeeper', the attitude of the female toward casual sexual behaviour will determine the sexual experience.

The results of the factor analysis further substantiate differences in attitude towards casual sex by males and females. Although the construct emerged for both males and females in the factor analysis, the questionnaire items which comprised each construct differed. For females, the construct comprised two items: 'Unmarried people should not have sex' and 'It is alright for two people to have sex if they are in love'. In this case, the adolescent females are stating normative behaviour: it is alright for unmarried people to have sex if they are in love. For males, the construct comprised four items which emphasized, in general, sexual pleasure and more than one lifetime partner. Males also express the need for love and commitment in a sexual relationship but they will participate in sexual intercourse without it. Females, on the other hand, express a need for love and commitment and are less likely to participate in sexual intercourse without it.

For females, 'perceived vulnerability' emerged as a significant determinant for 'the sexual intercourse ever' model but not for the model 'number of partners'. This finding is in keeping with an earlier study[82] which evaluated the influence of rational factors, derived from the Health Belief Model, and irrational factors, such as homophobia, on risk reduction behaviour. The model hypothesized that perceived vulnerability, sexual behaviour history, and homophobia would influence worry about catching an STD which, in turn, would motivate the person to engage in risk reduction behaviour. The model also hypothesized gender differences because the risks of sexual activity would be more salient to women than men because of the risk of pregnancy, and uncertainty associated with the continuing debate over the efficiency of HIV transmission between males and females. In the present case, the construct of 'perceived vulnerability' which emerged in the factor analysis comprised four questionnaire items which appeared to represent feelings of worry about contracting AIDS ('I am worried about catching AIDS', and 'The fear of AIDS is preventing me from having sex.'). Here, females who were not worried about contracting AIDS were more likely to have had sexual intercourse at least once. Apparently, worry about contracting AIDS is more salient to females because the construct did not emerge for males in the factor analysis and such a worry may be an effective deterrent to initiating sexual intercourse. Once sexual intercourse has been initiated, however, perceived vulnerability is no longer an important consideration. Homophobia emerged as a factor for both males and females but did not emerge as a significant determinant for either model.

Knowledge emerged as a significant determinant for females for the model 'sexual intercourse at least once' but not for the model 'number of partners'. Females who had a lower knowledge score were more likely to have had sexual intercourse at least once. This lower score is likely another measure of academic aspiration or achievement where the association is such that the lower the academic measure the greater the likelihood of sexual activity. If knowledge is defined as a perceived barrier within the Health Belief

Model, then the association is as expected: the level of knowledge is not sufficient to enable the adolescent to translate it into appropriate risk reduction behaviour, such as not having sexual intercourse. In other words, the degree of knowledge was not enough to cause the female to worry about the consequences of engaging in sexual intercourse.

12.4. Theoretical Framework

The construct 'attitude towards casual sex' is a determinant in the Theory of Reasoned Action. It was not presented to the panel of experts because it was argued that this construct could be redefined as four constructs in the Health Belief Model; however, the construct emerged as a factor in the exploratory factor analysis in both models and for both males and females. This result would indicate that the construct 'attitude towards casual sex' cannot be redefined in terms of the Health Belief Model constructs but rather that it stands as an independent unique construct as defined within the Theory of Reasoned Action. This finding is in keeping with the results of the Theory applied to sexual decision-making where 'attitude towards the Act' emerged as the major determinant. The construct, Subjective Norm (parents) from the Theory of Reasoned Action, emerged as a significant determinant in each model. Although this construct was identified by the panel of experts it did not emerge as a factor in the exploratory factor analysis and accordingly was not entered as a variable in the models.

'Perceived Vulnerability' from the Health Belief Model and Knowledge defined as 'Perceived Barrier' emerged as significant determinants in the model for 'Sexual Intercourse at Least Once' for females. Females who were most worried about contracting AIDS were less likely to have had sexual intercourse at least once; females who were most knowledgeable about transmission and prevention of AIDS/STD were less likely to have sexual intercourse at least once. These constructs likely serve as effective deterrents in a female's decision not to engage in sexual intercourse; however, once the female is sexually experienced, these constructs do not affect the number of partners.

These findings are in keeping with the results of empiric studies on the Health Belief Model where 'perceived barriers' and 'perceived vulnerability' emerged as the strongest determinants of undertaking health behaviour.

In summary, two constructs, both from the Theory of Reasoned Action emerged as significant determinants for males. For females, four constructs, two from the Theory of Reasoned Action and two from the Health Belief Model, emerged as significant determinants.

These findings appear to substantiate an STD/AIDS risk reduction intervention recently proposed by Fisher and Fisher.[141] Their conceptualization of STD/AIDS risk reduction change holds that there are three fundamental determinants of STD/AIDS risk reduction: STD/AIDS risk reduction information, motivation, and behavioural skills. The model, referred to as the IMB model, hypothesizes that knowledge about means of transmission, and methods of preventing infection is a prerequisite to risk-reduction behaviour. Motivation to change risk behaviour is the second determinant and influences whether the adolescent acts on his/her knowledge of STD/HIV transmission and prevention. Behavioural skills for performing risk-reduction behaviour are a third determinant and influence whether a highly motivated and knowledgable adolescent will be able to change his/her behaviour.

According to their model, knowledge is a necessary but not a sufficient condition for risk-reduction. The information should not be behaviourally irrelevant but should be specific to STD/AIDS transmission and prevention. Gaps in knowledge should be identified through elicitation research using either open or close ended questionnaires or focus groups. Once these knowledge deficits have been identified, interventions can be tailored to teach the relevant information which allows the adolescent to assess his/her personal risk and to ascertain the best method of risk reduction. The second determinant, motivation, is necessary to enable the adolescent to act on his/her assessment of personal STD/AIDS risk. The motivation construct uses The Theory of Reasoned Action

to provide a conceptualization that may be applied to understanding and changing STD/AIDS prevention motivation within target groups. The IMB model assumes that STD/AIDS risk-reduction information and motivation work through STD/AIDS-risk-reduction behavioural skills to bring about STD/AIDS preventive behaviour. A set of 'universal' behavioural skills that are assumed to be necessary for the practice of STD/AIDS prevention include: self-acceptance of sexuality, acquisition of behaviourally relevant information, negotiating STD/AIDS preventive behaviour with a partner, engaging in public behaviours such as buying condoms in a drugstore, and the ability to consistently practice STD/AIDS prevention.

The findings of the present study may be interpreted within the context of the IMB model. Adolescent females who had higher knowledge scores were less likely to have had sexual intercourse at least once indicating that they had received sufficient information about STD/AIDS transmission that they had decided not to engage in sexual intercourse. The motivation is influenced by two constructs from the Theory of Reasoned Action, 'attitude towards casual sex' and 'subjective norm (parents)'. The female who expressed a negative attitude towards casual sex and who had a positive relationship with their parents was less likely to have had sexual intercourse at least once.

For males, knowledge does not appear to be a salient determinant in deciding whether to engage in sexual intercourse perhaps because the male perceives that he does not suffer the consequences of intercourse (pregnancy) nor is he the 'gatekeeper' of the sexual experience. However, within the IMB model, his decision is influenced by 'attitude towards casual sex' and relationship with parents.

12.5. Bias

12.5.1. Sampling Bias

Three possible sources of bias from the original survey were introduced in the study that could have some bearing on the interpretation of the results. These were 1). refusal to participate in the survey, by individual students and by school boards; 2). non-representative sampling; and 3). under representative sampling. School boards which refused to participate fell into two categories: demographics and religion. More school boards in large metropolitan areas refused to participate than did school boards in smaller centres but comparisons of responses in two provinces based on size of jurisdiction yielded non-significant results. In three provinces a disproportionate number of Roman Catholic school boards refused to participate but no significant differences were found between responses from public and separate schools. Because of these findings, the data were not adjusted by weight to reflect the difference in proportions of the school boards which had participated in the survey.

Approximately 23% of the students from the classes that requested parental consent did not participate. The non-participants may be accounted for by students who were absent from school when the consent forms were handed out (absenteeism); students who received the consent form but who forgot to give it to their parents or who lost it on the way home (negligence); and, parents who received the consent form and refused to allow their children to participate. Analyses of parental refusals was conducted during pilot testing and no systematic bias by religion or social class was found.

Some provinces with smaller populations resulted in oversampling and some provinces with larger populations were undersampled (the proportion of respondents sampled was less than proportion required based on population distribution). The differences were not sufficiently large to require any statistical adjustment to the data.

12.5.2. Response Bias

Items which tap behaviours sanctioned by the community (socially sanctioned), such as sexual behaviour, tend to either elicit responses which are perceived to be socially desirable or the person does not answer the item. The tendency to respond in this way is referred to as 'faking good.' This type of response bias may be more pronounced among young respondents who have not accepted their sexuality. This tendency depends on several factors: gender, ethnic background, the specific question and the setting (face-to-face interview versus anonymous questionnaire).

12.5.3. Acquiescence Bias

Acquiescence bias is the tendency of respondents to give positive answers, such as 'yes', 'often', or 'true'. This bias was reduced at the design stage of the questionnaire by having the responses of a number of items ranked in the positive direction and a number in the opposite direction.

12.6. Criterion Validity

Criterion validity concerns the effectiveness of a questionnaire in measuring what it purports to measure. Criterion validity is usually established by comparison with an external standard which is a direct and independent measure of what the questionnaire was designed to measure. Sexual behaviour is not recorded as a vital event such as a birth, death, marriage or divorce. Corroborating evidence, however, can be obtained by comparing the results from other surveys. Studies of grade 11 students in a national survey of youth, 'Project Teen Canada 1992',[142] a survey in an urban[143] and rural region[144] of Alberta, surveys in Ontario[145] and Quebec[146], and ad hoc studies in the United States[147,148,149] are consistent with the results on sexual behaviour from the CYAS. The fact that the proportion of students who had had sexual intercourse was approximately the same as the other surveys leads credence to the lack of sampling bias.

The questionnaire was anonymous and self-administered; accordingly, the students would have no reason to lie, and should they lie, males would likely overestimate their sexual behaviour whereas the females would likely underestimate their sexual activity.

Furthermore, socio-demographic results of the CYAS are comparable with those of The Health Promotion Survey (HPS) conducted in 1990.

12.7. Dependent Variable

Guttman scaling was considered in developing the measure of sexual behaviour. The Guttman method asks respondents to endorse items which are applicable to them. In this study respondents were asked to indicate how often they had experienced the following sexual experiences: a) hugging; b) deep kissing; c) petting above the waist; d) petting below the waist; e) sleeping together (without sexual intercourse); f) sexual intercourse; g) other (please specify). A Guttman scale would assign each respondent a score derived from the behaviours endorsed. A respondent with a score of six would imply that he has engaged not only in sexual intercourse but also in all behaviours preceding. Guttman scaling is best suited to behaviours which are developmentally mastered where endorsement of one behaviour guarantees endorsement of lower-ranked behaviour.

The Guttman scale would likely be useful in assessing the development of sexual behaviour across the grades (7, 9, 11, College/University) surveyed by the Canada Youth and AIDS study. The use of the Guttman scale for grade eleven students' sexual behaviour is too restrictive an age group for appropriate developmental assessment. Furthermore, developmental assessment of sexual behaviour is outside the scope of this thesis.

12.8. Independent Variable: Development of Knowledge Scale

The knowledge scale was developed using an approach whereby items were selected according to their degree of difficulty. Other researchers, however, may have considered the criterion-referenced approach more appropriate for developing the knowledge scale where items are chosen because they correlate highly with a criterion. A criterion refers to a principle or standard by which something is judged. In this case, the criterion would be one of the dependent variables, either 'ever had sexual intercourse' or 'number of partners'. A hazard with the criterion-referenced approach is that individual items may correlate highly with the criterion and yet do not correlate highly with one another. This reasoning follows from the logic of multiple regression: the multiple correlation coefficient is largest when the independent variables do not correlate with each other. The resulting scale is heterogeneous in content, making it difficult to interpret conceptually.[128] This implies that the scale would lack content validity (content validity relates to the extent to which the measurement incorporates the domain of the phenomenon under study). Instead, therefore, the scale should be developed to be homogeneous in content; in other words, the scale must have high internal consistency. In order to achieve high internal consistency, each item must correlate highly with each other item in the scale. Conversely, a scale in which items are selected by the criterion-referenced approach would be heterogeneous and hence, would have low internal consistency. Nunnally[128] argues that it is far better to predict a criterion with a battery of scales, each of which is homogeneous in content. Because items with a skewed response distribution are less likely to intercorrelate highly than items with an even split between correct and incorrect responses, we chose to reject skewed items in an attempt to create a scale with high inter-item correlations.

13. CONCLUSIONS AND RECOMMENDATIONS

1. Approximately equal proportions (50%) of grade 11 males and females have had sexual intercourse at least once. Traditionally, there has been a strong gender differential with more adolescent males then females having had sexual intercourse at least once. Such a convergence, however, has resulted in a serious negative outcome, especially for the females.

Pregnancy is the adolescent's major fear; a sexually active adolescent will likely choose a contraceptive method which eliminates that fear. The scenario becomes such that as the number of partners increases, the use of condoms decreases, and the use of oral contraceptives increases.

The healthcare provider should take the window of opportunity to address the use of condoms and spermicides in preventing STD when the adolescent female presents to discuss contraception. The healthcare provider must emphasize the concomitant use of barrier methods while prescribing an oral contraceptive. Furthermore, the healthcare provider should be knowledgable of community services available to the adolescent and should refer the adolescent to the appropriate person or organization if required. The adolescent may feel more comfortable attending an adolescent or teen clinic instead of visiting her family physician.

The Food and Drug Administration of the United States Department of Health and Human Services has added new information for the consumer to birth control products.[150] Labels on birth control pills, contraceptive implants, injectable contraceptives, intrauterine devices, and natural skin condoms will advise the user that these products prevent pregnancy but do not protect against STD including AIDS/HIV. The manufacturers will also add this information to the patient and physician leaflets provided with the item. The FDA is considering similar labelling for spermicides, cervical caps, diaphragms, and contraceptive sponges.

One manufacturer of oral contraceptives provides a condom with its starter pack. This should provide the pharmacist with an opportunity to discuss the role of condoms with the adolescent when she has her prescription filled.

2. Attitudes and expectations of adolescents on dating and sexual behaviour have remained traditional and non-egalitarian. The male attitude towards casual sex has not changed nor has the existence of the double standard which condones male sexual permissiveness.

Elimination of the double standard requires normative change at the societal level. Community institutions, such as schools and churches, as well as the family unit should play important roles in implementing changes in the societal attitude towards casual sex.

3. A certain level of sexual behaviour should be considered normative behaviour.

Normative sexual behaviour for a sixteen-year-old adolescent female constitutes sexual intercourse with one or two partners concomitant with love for or a strong sense of commitment to her partner. A sixteen-year-old male, on the other hand, has intercourse either with or without love/sense of commitment to his partner and is likely to have had, on average, five partners.

4. Defining when it is appropriate to initiate such activities as sexual intercourse, and alcohol use is fluid and may differ by gender, social class and race or ethnicity.

The inter-relationship between adolescent sexual activity, alcohol and drug use has traditionally been discussed within the theoretical framework of problem or deviant behaviours. These behaviours are considered deviant because they represent adult behaviours which are occurring too early with respect to social norms. Most adolescents who drink and smoke occasionally are working their way to independent adult status

where experimentation in some risk-taking behaviour is normative behaviour. Obviously, the definition of deviant behaviour should take into account changing social norms.

Sexual behaviour in the middle adolescent should not be considered deviant or indicative of the problem behaviour unless there is evidence to indicate otherwise. There is likely a small group of adolescents who have multiple partners. Such behaviour may be considered deviant if it occurs, for example, in conjunction with daily alcohol use or other acts of delinquency, such as violent behaviour.

Adolescents should be given the opportunity to discuss freely and openly, without fear of judgement, any questions or concerns they may have about adolescent sexuality, sexually transmitted diseases, or contraception. At the same time, the healthcare provider should be sensitive to the adolescent's ethnic, cultural and religious environment in discussing sexuality and contraception.

5. Cigarette use is the best marker for sexual behaviour in adolescent females; alcohol use is the best indicator for sexual behaviour in males.

The healthcare provider or teacher should consider the possibility that the adolescent is sexually active and that this behaviour may likely occur in conjunction with other risk-taking behaviour, such as alcohol and cannabis use, and cigarette smoking. The healthcare provider should recognize that the existence of one behaviour may be the marker for other established behaviours or that it may be the marker for the onset of another behaviour.

Intervention strategies should consider the inter-relationship between the risk-taking behaviours. For example, condom advertisements should be shown during televised sporting events.

6. The academic determinants of risk should provide teachers with simple indicators which would enable them to identify which students are more likely to engage in sexual behaviour.

Intervention programs should be targeted for adolescents in high school commercial and technical programs. Elicitation research should identify gaps in knowledge; once these knowledge deficits have been identified, interventions should be tailored to this group to teach the relevant information.

7.Primary prevention should be the focus in curtailing the epidemic of STD in adolescents.

The ultimate goal of primary prevention must be to shift the behavioural change at the individual or personal level to the community or societal level where condom use for every act of sexual intercourse is the norm. In the meantime, behavioural interventions, such as the IMB model developed by Fisher and Fisher, should be targeted at the adolescent population.

8. Behaviours which minimize the risk of STD/HIV infection include sexual abstinence, a reduction in number of partners, mutual monogamy when both partners are known to be STD/HIV free, or consistent condom and spermicide use when the HIV/STD status of either partner is unknown.

Emphasis must be placed on behaviours which appear to be useful to the adolescent population. For example, promotion of mutual monogamy is not an appropriate message for this population because most adolescents do not understand the concept.

9. A simple screening test utilizing the risk-taking variables of alcohol, cigarette and cannabis use and the sociodemographic variables could be developed to determine which adolescents are more likely to be sexually experienced.

For males, the screening test could employ seven questions: 'do you drink alcohol?, 'do you smoke cigarettes?', 'do you use cannabis?', 'what was your average mark last term?', 'do you attend church?', 'do you live with your parents', and 'do you know where your mother was born?'. For females, the screening test could use four additional variables: 'what are the subjects you are taking this term preparing you for?', do you live in the city or a rural area?', 'when do you expect to finish your education?' and, 'what is the occupation of your father'?. The model for 'ever had sexual intercourse' correctly classified approximately 75% of the students. Another analytic technique, such as recursisve partitioning, might increase the specificity of the classification to 100%. This could form the focus of a subsequent study.

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APPENDIX A:
CANADA YOUTH AND AIDS QUESTIONNAIRE

CANADA YOUTH & AIDS SURVEY 1988

GRADE 11

Social Program Evaluation Group
Queen's University at Kingston

Instructions to Students

This questionnaire asks about what you know and how you feel about AIDS and other sexually transmitted diseases (STDs). Also, there are questions about your background and behaviour. The information you give us will be used to improve the quality of education for Canadians about AIDS and other STDs.

There are five parts to this questionnaire. You should be able to complete all parts in 25 to 35 minutes. Please read all instructions carefully and answer each question as honestly as possible.

Please do not sign your name to the questionnaire.

PART A: Background

Please read each question carefully. Answer each question by choosing a number from the **KEY** and writing it in the box(es) beside the question. (For some questions you will write in the space provided.)

1. Are you male or female? ☐

KEY
1 = Male
2 = Female

2. How old are you?

Years ☐☐
Months ☐☐

FOR EXAMPLE
If you are 16 years and 6 months old, you would place [1][6] and [0][6] in the double boxes.

3. What grade are you in? ☐☐

4. What was your average mark last term? ☐☐

FOR EXAMPLE
If your average was about 65, you would place [6][5] in the double box. Or, if you had a "B" average, you would place a [ ][B] in one of the boxes.

5. What are the subjects you are taking this year preparing you for? ☐

KEY
1 = University
2 = Community college/technical institute
3 = Work
4 = Don't know
5 = Other (please specify)
_____

6. When do you expect to finish your education? ☐

KEY
1 = Before I graduate from high school
2 = When I graduate from high school
3 = When I graduate from community college, CEGEP or technical institute
4 = When I graduate from university
5 = Don't know
6 = Other (please specify)
_____

7. How frequently have you gone to church or another religious institution (e.g., synagogue) in the past 12 months? ☐

KEY
1 = Usually every week
2 = Now and then
3 = On special occasions
4 = Never

8. With whom do you live? ☐

KEY
1 = Mother and father
2 = Mother only
3 = Father only
4 = Mother and step-father
5 = Father and step-mother
6 = Guardian(s)
7 = Other (please specify)
_____

9. How many children are in your family? (Include yourself.) ☐☐

10. Where were your parents born?

Mother ☐☐

Father ☐☐

KEY
01 = Canada
02 = Caribbean Country
03 = China or Hong Kong
04 = England, Ireland, Scotland or Wales
05 = France
06 = Germany
07 = Greece
08 = India or Pakistan
09 = Italy
10 = Japan
11 = The Netherlands
12 = Portugal
13 = United States
14 = Vietnam
15 = Other country (please specify)
_____
16 = Don't know

11. What is the highest level of education completed by your parents?

Mother ☐

Father ☐

KEY
1 = Elementary school or less
2 = Some secondary school
3 = Graduated from secondary school
4 = Graduated from community college or CEGEP
5 = Graduated from university
6 = Other (please specify)
_____
7 = Don't know

12. What is the occupation of your parent(s)? (If retired, what were their occupations prior to retirement?)

Mother ☐

Father ☐

KEY

1 = Professional (e.g., accountant, doctor, lawyer, teacher, nurse, military officer)
2 = Business (e.g., owner, executive officer, manager)
3 = Factory or farm worker, miner, labourer, waitress, cook, truck driver
4 = Clerical (e.g., sales clerk, secretary)
5 = Sales (e.g., real estate, insurance)
6 = Skilled worker (e.g., carpenter, electrician, plumber, policeman, chef)
7 = Farmer or fisherman
8 = Homemaker (e.g., housewife)
9 = Unemployed
0 = Other (please specify)

_____

_____

PART B: Sources of Information

KEY		
01 = Television	08 = Mother	14 = Personal experiences
02 = Radio	09 = Father	15 = School (Teachers)
03 = Magazines	10 = Other family member	16 = Church (Synagogue, etc)
04 = Newspapers	11 = Friends	17 = Community Health Clinic
05 = Pamphlets	12 = Nurse	18 = Telephone "Hotline"
06 = Books/Journals	13 = Doctor	19 = Other (please specify) _____
07 = Videos/Movies		

Please use the **KEY** above to answer the following two questions.

13. What have been your <u>two main</u> sources of information about the following? (Use the grey boxes)

14. From where or whom would you <u>prefer</u> to learn about the following? (Use the clear boxes)

a) Sex	1st	☐☐	☐☐
	2nd	☐☐	☐☐
b) Birth control	1st	☐☐	☐☐
	2nd	☐☐	☐☐
c) AIDS	1st	☐☐	☐☐
	2nd	☐☐	☐☐
d) Other sexually transmitted diseases -- STDs (e.g., syphilis, gonorrhea, chlamydia, and herpes)	1st	☐☐	☐☐
	2nd	☐☐	☐☐

15. Over the past two school years, about how many hours of class time have you spent learning about AIDS? Hours ☐☐

PART C: Behaviours

Please read each question carefully. Answer each question by choosing a number from the **KEY** and writing it in the box beside the question. (For some questions you will write in the space provided.)

16. How often do you use the following substances?

KEY
1 = Never
2 = On special occasions
3 = About once a month
4 = 2-3 times a month
5 = Once a week
6 = 2-3 times a week
7 = Every day

a) Alcohol (beer, wine, or liquor) ☐

b) Cannabis (hashish or marijuana) ☐

c) Chewing tobacco ☐

d) Other non-medical substances (e.g., speed, solvents such as glue or gasoline, or cocaine) (please specify) _____ ☐

_____ ☐

17. How much alcohol do you usually drink at one time? ☐

KEY
1 = None
2 = 1-2 drinks
3 = 3-4 drinks
4 = 5 or more drinks

18. How many cigarettes do you usually smoke in a day? ☐

KEY
1 = None
2 = Less than 10
3 = 10-20
4 = More than 20

19. Do you expect to do any of the following in the future?

KEY
1 = Yes
2 = No
3 = Don't know

a) Drink alcohol ☐

b) Use cannabis (hashish or marijuana) ☐

c) Smoke cigarettes ☐

d) Chew tobacco ☐

e) Wear a seat belt most of the time when driving in a car or truck ☐

f) Accept a ride from someone you do not know very well ☐

g) Go in a car with a driver who had been drinking a lot of alcohol ☐

20. How often have you had the following sexual experiences?

KEY
1 = Never
2 = Once
3 = A few times
4 = Often

a) Hugging ☐

b) Deep (open mouth) kissing ☐

c) Petting above the waist ☐

d) Petting below the waist ☐

e) Sleeping together (without sexual intercourse) ☐

f) Sexual intercourse ☐

g) Other (please specify) _____ ☐

21. With approximately how many persons have you had sexual intercourse? ☐☐

22. For what reasons do people of your age <u>first</u> have sexual intercourse?

1st Reason ☐
2nd Reason ☐
3rd Reason ☐

KEY
1 = It is expected by friends
2 = To maintain a relationship
3 = Curiousity
4 = Under the influence of alcohol or other drugs
5 = Get carried away by passion
6 = Loneliness
7 = Love for the person
6 = Physical attraction
7 = Other (please specify)
_____

23. Which of the possible outcomes of having sex, in the KEY below, worries you the most? (If none of these worries you, place a zero [0] in the "1st Worry" box.)

1st Worry ☐
2nd Worry ☐

KEY
1 = Pregnancy
2 = AIDS
3 = Other sexually transmitted diseases (e.g., chlamydia, gonorrhea, herpes)

24. For what reason(s) do people of your age not have sexual intercourse?

1st Reason ☐
2nd Reason ☐
3rd Reason ☐

KEY
1 = Not ready yet
2 = Religious beliefs
3 = Fear of pregnancy
4 = Fear of AIDS
5 = Fear of other sexually transmitted diseases (e.g., chlamydia, gonorrhea, herpes)
6 = Parent's disapproval
7 = Friends' disapproval
8 = Want to be a virgin until marriage
9 = Have not met the right person
0 = Other (please specify)

_____

25. If you contracted AIDS or another STD (sexually transmitted disease such as chlamydia, gonorrhea, herpes), where would you go first for help?

AIDS ☐
Other STD ☐

KEY
1 = Your family doctor
2 = Another doctor
3 = Community health clinic
4 = Minister, priest, rabbi, etc.
5 = Friend(s)
6 = Parent(s)
7 = Hospital (emergency)
8 = Nowhere
9 = Don't know
0 = Other (please specify)

_____

PART D: Knowledge of AIDS and Other Sexually Transmitted Diseases

Please indicate whether the following statements are correct by using this **KEY**.

KEY
1 = Yes
2 = No
3 = Don't Know

26. The AIDS virus is now called the human immunodeficiency virus (HIV). ☐

27. The AIDS virus weakens the immune system by destroying red blood cells. ☐

28. Men and women are <u>equally</u> likely to have serious problems if they catch a sexually transmitted disease. ☐

29. AIDS can be cured if treated early. ☐

30. All homosexual (gay) men carry the AIDS virus. ☐

31. If a person has had a sexually transmitted disease, he or she cannot catch it again. ☐

32. There are blood tests that show if a person has been infected by the AIDS virus. ☐

33. AIDS is the leading cause of death among Canadians under age 25. ☐

34. A person can have the AIDS virus for seven or more years without having symptoms of illness. ☐

35. Sexually transmitted diseases can make both females and males unable to have children. ☐

36. A person can get genital herpes from oral sex. ☐

KEY
1 = Yes
2 = No
3 = Don't Know

37. A person can be infected by the AIDS virus for up to six months before its presence can be detected. ☐

38. Vaseline is a good lubricant to use with a condom. ☐

39. A person who is having sex with different partners should be checked at least once a year for sexually transmitted diseases. ☐

40. The AIDS virus can be spread from a female to her unborn child during pregnancy. ☐

41. When a person shares drug needles, he or she is at risk of catching the AIDS virus. ☐

42. Taking birth control pills will protect a female from sexually transmitted diseases such as gonorrhea and syphilis. ☐

43. Condoms used with a spermicidal foam or gel give effective protection from the AIDS virus. ☐

44. Sexually transmitted diseases can be caught from toilet seats. ☐

45. The AIDS virus may be spread from a female to a male during sexual intercourse. ☐

46. You can tell if a person has a sexually transmitted disease by his or her looks. ☐

47. The AIDS virus can be spread through hugging. ☐

KEY
1 = Yes
2 = No
3 = Don't Know

48. A person can catch some sexually transmitted diseases through genital contact even though the penis does not enter the vagina. ☐

49. AZT (azidothymidine) is a cure for AIDS. ☐

50. Although chlamydia is the most common sexually transmitted disease, it does <u>not</u> lead to serious complications. ☐

51. Having many sexual partners increases a person's risk of being infected with the AIDS virus. ☐

52. Homosexual females and homosexual males are <u>equally</u> at risk of catching the AIDS virus. ☐

53. Many people who have sexually transmitted diseases will <u>not</u> have symptoms of illness. ☐

PART E: Views

Please read each statement carefully. Place a number from the **KEY** in the box to show whether you agree or disagree with the following statements.

KEY
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

54. I need to know a lot more about AIDS. ☐
55. I can keep myself from getting AIDS. ☐
56. My parent(s) understand me. ☐
57. I have confidence in myself. ☐
58. Unmarried people should <u>not</u> have sex. ☐
59. I need to lose weight. ☐
60. Even when my parent(s) are strict, I feel they are being so for my own good. ☐
61. If I though I had AIDS, I would be too embarrassed to see my family doctor. ☐
62. I often am sorry for the things I do. ☐
63. Homosexuality is acceptable today. ☐
64. I would stop a friend from driving if he or she had had too much alcohol to drink. ☐
65. Most people can be trusted to tell the truth about their past sexual experiences. ☐

KEY
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

66. I often have a hard time saying "no". ☐
67. I do not have much in common with people of my age. ☐
68. I would be embarrassed to buy condoms. ☐
69. I worry about the threat of nuclear war. ☐
70. I feel pressure from my friends to drink alcohol. ☐
71. My parent(s) trust me. ☐
72. I could not be a friend of someone who has AIDS. ☐
73. No one cares much about what happens to me. ☐
74. I trust what television, radio, and newspapers say about AIDS. ☐
75. Many parents do not know enough about AIDS. ☐
76. It is alright for two people to have sex before marriage if they are in love. ☐
77. I often get frustrated. ☐
78. I would tell my sexual partner if I thought I had the AIDS virus. ☐
79. People who have the AIDS virus should be allowed to be teachers. ☐
80. I have a lot of friends. ☐

KEY
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

81. Before having sex, I would talk with my partner about his or her past sexual experiences. ☐
82. My friends encourage me to do things I know are wrong. ☐
83. I worry that someone of my own sex will make a sexual advance toward me. ☐
84. The government keeps young people from getting needed information about AIDS. ☐
85. Sex without love is <u>not</u> satisfying. ☐
86. I have trouble making decisions. ☐
87. I often feel left out of things. ☐
88. I need to gain weight. ☐
89. I have a lot of arguments with my parent(s). ☐
90. I talk about sex with my close friend(s). ☐
91. My friends often ask me for help and advice. ☐
92. Homosexuals (gays) should be allowed to be teachers. ☐
93. Homosexuality is wrong. ☐
94. AIDS is <u>not</u> as serious a problem as television, radio, and newspapers suggest. ☐
95. There will always be someone telling me what to do. ☐
96. The future looks good to me. ☐

KEY
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

97. What my parent(s) think of me is important. ☐
98. I am worried about catching AIDS. ☐
99. If I have a problem, I usually keep it to myself. ☐
100. I ask my parent(s) for advice on serious matters. ☐
101. If you carry a condom, people will think you are willing to have sex. ☐
102. People who have the AIDS virus should be allowed to work in a hospital. ☐
103. I feel pressure from my friends to use marijuana. ☐
104. I believe in getting sexual pleasure where I find it. ☐
105. I like myself. ☐
106. I often cannot sleep worrying about things. ☐
107. I have a happy home life. ☐
108. I sometimes have thoughts about committing suicide. ☐
109. The fear of getting AIDS is preventing me from having sex. ☐
110. I discuss my problems with my friends. ☐
111. I trust what the government says about AIDS. ☐
112. My friends and I often talk about AIDS. ☐

KEY
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

113. I would change how I look if I could. ☐
114. I often feel lonely. ☐
115. Life is just one worry after another. ☐
116. People who have the AIDS virus should be allowed to attend regular school classes. ☐
117. I wish my complexion (facial skin) were better. ☐
118. There are times when I would like to leave home. ☐
119. I am embarrassed when I am with someone of the opposite sex. ☐
120. I would talk to my sexual partner about using a condom for our protection. ☐
121. I feel pressure from my friends to be sexually active. ☐
122. People who have the AIDS virus should be allowed to immigrate to Canada. ☐
123. I would feel comfortable talking with a homosexual (gay) person. ☐
124. The messages I get from television, radio, and newspapers about AIDS confuse me. ☐
125. I often wish I were someone else. ☐
126. People who have the AIDS virus should be quarantined (separated from other people). ☐

KEY
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

127. Physical appearance is important for popularity. ☐

128. People who have AIDS are getting what they deserve. ☐

129. I would raise my children differently from the way I was raised. ☐

130. People who have the AIDS virus should be allowed to serve the public (e.g., waiter, chef, hair stylist). ☐

131. For the rest of my life I intend to have sex with only one partner. ☐

132. What happens to my health depends mainly on me. ☐

133. If I thought I had a sexually transmitted disease, I would be embarrassed to go to a doctor or nurse. ☐

134. I feel uncomfortable when someone of the same sex touches me. ☐

135. I consider myself to be a good athlete. ☐

136. I often feel depressed. ☐

137. A condom interferes with sexual pleasure. ☐

138. My parent(s) expect too much of me. ☐

139. My chance of catching a sexually transmitted disease is low. ☐

KEY
1 = Strongly Agree
2 = Agree
3 = Undecided
4 = Disagree
5 = Strongly Disagree

140. People of the opposite sex seem to like me. ☐

141. Some people will be infected by the AIDS virus no matter how they try to avoid it. ☐

142. What my friends think of me is very important. ☐

143. If my friends thought they had a sexually transmitted disease, I would encourage them go to a doctor or nurse. ☐

144. People who have the AIDS virus should be required to let others know that they have it. ☐

145. I am too shy to make a lot of friends. ☐

146. I am a happy person. ☐

Thank you for taking part in this study.

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APPENDIX B: INSTRUCTIONAL SET
GROUP OF EXPERTS

Dear Dr. Fishbein:

I am conducting a master's research thesis concerning the epidemiology of risk behaviour for sexually transmitted diseases (STD) at the University of Ottawa (in Ottawa, Canada). In the context of this research, I am developing a model of risk for sexual behaviour and sexually transmitted diseases. To test this model, I am analyzing data derived from a Canadian national survey of adolescents' knowledge, attitudes, and behaviour concerning AIDS, STD, and sexual activity. I would like to ask for a half hour of your time to assist in the conduct of this research.

For my research, I have chosen nine constructs from predictive models of health behaviour. A summary of each construct is provided on page 1 which follows, and each construct has been given a letter designation (A - I).

I would like you to read the enclosed list of statements which have been taken from the national survey data set which is to be used to test the predictive model. For each statement, I would like you to choose the construct which best describes the statement. In other words, you are to match each statement with a construct.

Each statement may be matched with at least **two constructs:**

- The **first match** is the construct which you feel best describes the statement; please indicate your choice by marking the letter designation for the construct (eg. [A]) in the box labelled **BEST FIT.**

- The **second match** is the construct which may also describe the statement but to a lesser degree than the "best" match; please indicate your choice by marking the letter designation in the box labelled **POSSIBLE FIT.**

- If you think that a statement does not fit the definition of any construct, please check (✓) the box labelled **NO FIT.**

- If you think that a statement does not have a BEST FIT but would consider the statement as a POSSIBLE FIT, please indicate your choice by marking the letter designation in the box labelled **POSSIBLE FIT.**

Please return the completed form in the enclosed pre-addressed envelope by July 15,1992. Thank you for your time and co-operation. I will be contacting you in the near future to provide you with feedback on how your choices related to the choices of four other experts who were asked to undertake the same task as well as the results of a factor analysis on the questionnaire items.

If you have any questions or concerns, please contact me at (613)-957-1342.

Yours sincerely,

Jo-Anne Doherty

DEFINITION OF CONSTRUCTS

A. Perceived Vulnerability: a statement that would appear to describe the adolescent's perception of how likely he/she is of contracting a sexually transmitted disease (including AIDS).

B. Perceived Seriousness: the adolescent's perception of the seriousness of AIDS/STD, including the consequences of contracting the disease, such as pain, disability, death, loss of employment, and loss of friends.

C. Perceived Benefits: the adolescent's perception of a positive consequence (or outcome) of undertaking STD/AIDS preventive behaviour; a positive outcome may, for example, include a diminished likelihood of becoming infected with STD.

D. Perceived Barriers: the adolescent's perception of a negative consequence (or outcome) of undertaking STD/AIDS preventive behaviour; a negative consequence may, for example, include cost, time, inconvenience, side-effects.

E. Subjective Norm: (friends) the adolescent's perception of whether his/her friend(s) would think he should undertake STD/AIDS preventive behaviour.

F. Subjective Norm: (parents) the adolescent's perception of whether his/her parents he should undertake STD/AIDS preventive behaviour.

G. Self-efficacy: the adolescent's subjective judgement that he/she can successfully carry out STD/AIDS preventive behaviour.

H. Locus of Control: the adolescent's expectation that health is controlled by his/her own behaviour.

I. Knowledge: the adolescent's knowledge of the acquisition, transmission and prevention of STD/AIDS.

For purposes of discussion, sexually transmitted diseases include AIDS or HIV infection, gonorrhoea, syphilis, chlamydia, genital herpes, genital warts

STD preventive behaviour includes 1) abstinence; 2) a reduction in number of sexual partners, and; 3) the use of a condom for every act of sexual intercourse

	BEST FIT	POSSIBLE FIT	NO FIT
1. The AIDS virus is now called the human immunodeficiency virus (HIV).	[ ]	[ ]	[ ]
2. The AIDS virus weakens the immune system by destroying red blood cells.	[ ]	[ ]	[ ]
3. Men and women are <u>equally</u> likely to have serious problems if they catch a sexually transmitted disease.	[ ]	[ ]	[ ]
4. AIDS can be cured if treated early.	[ ]	[ ]	[ ]
5. All homosexual (gay) men carry the AIDS virus.	[ ]	[ ]	[ ]
6. If a person has had a sexually transmitted disease, he or she cannot catch it again.	[ ]	[ ]	[ ]
7. There are blood tests that show if a person has been infected by the AIDS virus.	[ ]	[ ]	[ ]
8. AIDS is the leading cause of death among Canadians under age 25.	[ ]	[ ]	[ ]
9. A person can have the AIDS virus for seven or more years without having symptoms of illness.	[ ]	[ ]	[ ]
10. Sexually transmitted diseases can make both females and males unable to have children.	[ ]	[ ]	[ ]
11. A person can get genital herpes from oral sex.	[ ]	[ ]	[ ]
12. A person can be infected by the AIDS virus for up to six months before its presence can be detected.	[ ]	[ ]	[ ]
13. Vaseline is a good lubricant to use with a condom.	[ ]	[ ]	[ ]
14. A person who is having sex with different partners should be checked at least once a year for sexually transmitted diseases.	[ ]	[ ]	[ ]
15. The AIDS virus can be spread from a female to her unborn child during pregnancy.	[ ]	[ ]	[ ]
16. When a person shares drug needles, he or she is at risk of catching the AIDS virus.	[ ]	[ ]	[ ]
17. Taking birth control pills will protect a female from sexually transmitted diseases such as gonorrhea and syphilis.	[ ]	[ ]	[ ]
18. Condoms used with a spermicidal foam or gel give effective protection from the AIDS virus.	[ ]	[ ]	[ ]
19. Sexually transmitted disease can be caught from toilet seats.	[ ]	[ ]	[ ]
20. The AIDS virus may be spread from a female to a male during sexual intercourse.	[ ]	[ ]	[ ]
21. You can tell if a person has a sexually transmitted disease by his or her looks.	[ ]	[ ]	[ ]
22. The AIDS virus can be spread through hugging.	[ ]	[ ]	[ ]
23. A person can catch some sexually transmitted diseases through genital contact even though the penis does not enter the vagina.	[ ]	[ ]	[ ]
24. AZT (aszidothymidine) is a cure for AIDS.	[ ]	[ ]	[ ]
25. Although chlamydia is the most common sexually transmitted disease, it does <u>not</u> lead to serious complications.	[ ]	[ ]	[ ]
26. Having many sexual partners increases a person's risk of being infected with the AIDS virus.	[ ]	[ ]	[ ]
27. Homosexual females and homosexual males are <u>equally</u> at risk of catching the AIDS virus.	[ ]	[ ]	[ ]
28. Many people who have sexually transmitted diseases will <u>not</u> have symptoms of illness.	[ ]	[ ]	[ ]
29. I need to know a lot more about AIDS.	[ ]	[ ]	[ ]
30. I can keep myself from getting AIDS.	[ ]	[ ]	[ ]
31. My parent(s) understand me.	[ ]	[ ]	[ ]
32. I have confidence in myself.	[ ]	[ ]	[ ]
33. Unmarried people should <u>not</u> have sex.	[ ]	[ ]	[ ]
34. I need to lose weight.	[ ]	[ ]	[ ]
35. Even when my parent(s) are strict, I feel they are being so for my own good.	[ ]	[ ]	[ ]

	BEST FIT	POSSIBLE FIT	NO FIT
36. If I thought I had AIDS, I would be too embarrassed to see my family doctor.	[ ]	[ ]	[ ]
37. I often am sorry for the things I do.	[ ]	[ ]	[ ]
38. Homosexuality is acceptable today.	[ ]	[ ]	[ ]
39. I would stop a friend from driving if he or she had had too much alcohol to drink.	[ ]	[ ]	[ ]
40. Most people can be trusted to tell the truth about their past sexual experiences.	[ ]	[ ]	[ ]
41. I often have a hard time saying "no".	[ ]	[ ]	[ ]
42. I do not have much in common with people of my age.	[ ]	[ ]	[ ]
43. I would be embarrassed to buy condoms.	[ ]	[ ]	[ ]
44. I worry about the threat of nuclear war.	[ ]	[ ]	[ ]
45. I feel pressure from my friends to drink alcohol.	[ ]	[ ]	[ ]
46. My parent(s) trust me.	[ ]	[ ]	[ ]
47. I could not be a friend of someone who has AIDS.	[ ]	[ ]	[ ]
48. No one cares much about what happens to me.	[ ]	[ ]	[ ]
49. I trust what television, radio, and newspapers say about AIDS.	[ ]	[ ]	[ ]
50. Many parents do not know enough about AIDS.	[ ]	[ ]	[ ]
51. It is alright for two people to have sex before marriage if they are in love.	[ ]	[ ]	[ ]
52. I often get frustrated.	[ ]	[ ]	[ ]
53. I would tell my sexual partner if I thought I had the AIDS virus.	[ ]	[ ]	[ ]
54. People who have the AIDS virus should be allowed to be teachers.	[ ]	[ ]	[ ]
55. I have a lot of friends.	[ ]	[ ]	[ ]
56. Before having sex, I would talk with my partner about his or her past sexual experiences.	[ ]	[ ]	[ ]
57. My friends encourage me to do things I know are wrong.	[ ]	[ ]	[ ]
58. I worry that someone of my own sex will make a sexual advance toward me.	[ ]	[ ]	[ ]
59. The government keeps young people from getting needed information about AIDS.	[ ]	[ ]	[ ]
60. Sex without love is not satisfying.	[ ]	[ ]	[ ]
61. I have trouble making decisions.	[ ]	[ ]	[ ]
62. I often feel left out of things.	[ ]	[ ]	[ ]
63. I need to gain weight.	[ ]	[ ]	[ ]
64. I have a lot of arguments with my parent(s).	[ ]	[ ]	[ ]
65. I talk about sex with my close friend(s).	[ ]	[ ]	[ ]
66. My friends often ask me for help and advice.	[ ]	[ ]	[ ]
67. Homosexuals (gays) should be allowed to be teachers.	[ ]	[ ]	[ ]
68. Homosexuality is wrong.	[ ]	[ ]	[ ]
69. AIDS is not as serious a problem as television, radio, and newspapers suggest.	[ ]	[ ]	[ ]
70. There will always be someone telling me what to do.	[ ]	[ ]	[ ]
71. The future looks good to me.	[ ]	[ ]	[ ]
72. What my parents think of me is important.	[ ]	[ ]	[ ]
73. I am worried about catching AIDS.	[ ]	[ ]	[ ]
74. If I have a problem, I usually keep it to myself.	[ ]	[ ]	[ ]

	BEST FIT	POSSIBLE FIT	NO FIT
75. I ask my parent(s) for advice on serious matters.	[ ]	[ ]	[ ]
76. If you carry a condom, people will think you are willing to have sex.	[ ]	[ ]	[ ]
77. People who have the AIDS virus should be allowed to work in a hospital.	[ ]	[ ]	[ ]
78. I feel pressure from my friends to use marijuana.	[ ]	[ ]	[ ]
79. I believe in getting sexual pleasure where I find it.	[ ]	[ ]	[ ]
80. I like myself.	[ ]	[ ]	[ ]
81. I often cannot sleep worrying about things.	[ ]	[ ]	[ ]
82. I have a happy home life.	[ ]	[ ]	[ ]
83. I sometimes have thoughts about committing suicide.	[ ]	[ ]	[ ]
84. The fear of getting AIDS is preventing me from having sex.	[ ]	[ ]	[ ]
85. I discuss my problems with my friends.	[ ]	[ ]	[ ]
86. I trust what the government says about AIDS.	[ ]	[ ]	[ ]
87. My friends and I often talk about AIDS.	[ ]	[ ]	[ ]
88. I would change how I look if I could.	[ ]	[ ]	[ ]
89. I often feel lonely.	[ ]	[ ]	[ ]
90. Life is just one worry after another.	[ ]	[ ]	[ ]
91. People who have the AIDS virus should be allowed to attend regular school classes.	[ ]	[ ]	[ ]
92. I wish my complexion (facial skin) were better.	[ ]	[ ]	[ ]
93. There are times when I would like to leave home.	[ ]	[ ]	[ ]
94. I am embarrassed when I am with someone of the opposite sex.	[ ]	[ ]	[ ]
95. I would talk to my sexual partner about using a condom for our protection.	[ ]	[ ]	[ ]
96. I feel pressure from my friends to be sexually active.	[ ]	[ ]	[ ]
97. People who have the AIDS virus should be allowed to immigrate to Canada.	[ ]	[ ]	[ ]
98. I would feel comfortable talking with a homosexual (gay) person.	[ ]	[ ]	[ ]
99. The messages I get from television, radio, and newspapers about AIDS confuse me.	[ ]	[ ]	[ ]
100. I often wish I were someone else.	[ ]	[ ]	[ ]
101. People who have the AIDS virus should be quarantined (separated from other people).	[ ]	[ ]	[ ]
102. Physical appearance is important for popularity.	[ ]	[ ]	[ ]
103. People who have AIDS are getting what they deserve.	[ ]	[ ]	[ ]
104. I would raise my children differently from the way I was raised.	[ ]	[ ]	[ ]
105. People who have the AIDS virus should be allowed to serve the public (e.g., waiter, chef, hair stylist).	[ ]	[ ]	[ ]
106. For the rest of my life I intend to have sex with only one partner.	[ ]	[ ]	[ ]
107. What happens to my health depends mainly on me.	[ ]	[ ]	[ ]
108. If I thought I had a sexually transmitted disease, I would be embarrassed to go to a doctor or nurse.	[ ]	[ ]	[ ]
109. I feel uncomfortable when someone of the same sex touches me.	[ ]	[ ]	[ ]
110. I consider myself to be a good athlete.	[ ]	[ ]	[ ]
111. I often feel depressed.	[ ]	[ ]	[ ]
112. A condom interferes with sexual pleasure.	[ ]	[ ]	[ ]

	BEST FIT	POSSIBLE FIT	NO FIT
113. My parent(s) expect too much of me.	[ ]	[ ]	[ ]
114. My chance of catching a sexually transmitted disease is low.	[ ]	[ ]	[ ]
115. People of the opposite sex seem to like me.	[ ]	[ ]	[ ]
116. Some people will be infected by the AIDS virus no matter how they try to avoid it.	[ ]	[ ]	[ ]
117. What my friends think of me is very important.	[ ]	[ ]	[ ]
118. If my friends thought they had a sexually transmitted disease, I would encourage them to go to a doctor or nurse.	[ ]	[ ]	[ ]
119. People who have the AIDS virus should be required to let others know that they have it.	[ ]	[ ]	[ ]
120. I am too shy to make a lot of friends.	[ ]	[ ]	[ ]
121. I am a happy person.	[ ]	[ ]	[ ]

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APPENDIX C:
ODDS RATIOS: DEMOGRAPHIC VARIABLES

RISK 'SEXUAL INTERCOURSE AT LEAST ONCE' BY BIRTHPLACE OF MOTHER, MALE AND FEMALE

	MALE		FEMALE	
MOTHER'S BIRTHPLACE	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
CANADA BORN	1.00	REFERENCE GROUP		
DON'T KNOW	1.34	0.73 - 4.34	1.04	0.26 - 4.15
NOT CANADA BORN	0.73	0.61 - 0.88	0.52	0.43 - 0.63

RISK OF HAVING HAD >=10 PARTNERS BY BIRTHPLACE OF MOTHER, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNER		4-9 PARTNER	
MOTHER'S BIRTHPLACE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
CANADA	1.00	REFERENCE GROUP						
DON'T KNOW	6.73	1.78 - 25.35	3.21	0.36 - 38.6	5.81	0.48 - 305	2.49	0.28 -30
NOT CANADA	0.66	0.44 - 0.98	1.09	0.68 - 1.7	0.81	0.51 - 1.3	0.77	0.48 - 1.2

RISK OF HAVING HAD >5 PARTNERS BY BIRTHPLACE OF MOTHER, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNERS	
MOTHER'S BIRTHPLACE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
CANADA	1.00	REFERENCE GROUP				
DON'T KNOW	1.61	0.03 - 14.49	3.54	0.05 - 278.38	1.07	0.02 - 13.36
NOT CANADA	0.57	0.37 - 0.87	1.15	0.71 - 1.86	1.05	0.65 - 1.70

RISK OF HAVING 'SEXUAL INTERCOURSE AT LEAST ONCE' BY BIRTHPLACE OF FATHER, MALE AND FEMALE

	MALE		FEMALE	
FATHER'S BIRTHPLACE	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
CANADA BORN	1.00	REFERENCE GROUP		
DON'T KNOW	2.37	0.85 - 6.92	1.05	0.52 - 2.13
NOT BORN CANADA	0.78	0.65 - 0.92	0.62	0.52 - 0.74

RISK OF HAVING HAD >=10 PARTNERS BY BIRTHPLACE OF FATHER, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNER		4-9 PARTNER	
FATHER'S BIRTHPLACE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
CANADA	1.00	REFERENCE GROUP						
DON'T KNOW	3.33	0.54 - 15.72	2.09	0.28 - 15.70	1.13	0.17 - 5.87	1.61	0.21 - 12
NOT CANADA	0.60	0.40 - 0.89	0.92	0.58 - 1.45	0.69	0.44 - 1.08	0.64	0.40 - 1.01

RISK OF HAVING HAD >5 PARTNERS BY FATHER'S BIRTHPLACE, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNERS	
FATHER'S BIRTHPLACE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
CANADA	1.00	REFERENCE GROUP				
DON'T KNOW	2.57	0.83 - 6.78	5.27	1.23 - 25.53	2.73	0.75 - 9.56
NOT CANADA	0.56	0.36 - 0.85	0.86	0.54 - 1.36	0.89	0.56 - 1.42

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY MOTHER'S EDUCATION, MALE AND FEMALE

	MALE		FEMALE	
MOTHER'S EDUCATION	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
UNIVERSITY	1.00	REFERENCE GROUP		
GRADE SCHOOL	1.29	0.96 - 1.73	1.77	1.35 - 2.30
SOME HIGH SCHOOL	1.22	0.99 - 1.50	1.61	1.33 - 1.95
HIGH SCHOOL	1.07	0.88 - 1.31	1.39	1.14 - 1.69
COLLEGE/CGEP	1.38	1.07 - 1.78	1.08	0.86 - 1.37
DON'T KNOW/OTHER	1.04	0.80 - 1.34	1.25	0.97 - 1.61

RISK OF HAVING HAD >=10 PARTNERS BY MOTHER'S EDUCATION, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
MOTHER'S EDUCATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
UNIVERSITY	1.00	REFERENCE GROUP						
GRADE SCHOOL	2.40	1.37 - 4.21	1.70	0.90 - 3.20	2.57	1.29 - 5.16	2.33	1.15 - 4.71
SOME HIGH SCHOOL	1.39	0.88 - 2.19	1.27	0.76 - 2.13	1.01	0.60 - 1.70	1.22	0.71 - 2.09
HIGH SCHOOL	1.37	0.88 - 2.12	1.48	0.90 - 2.43	1.26	0.76 - 2.08	1.22	0.73 - 2.05
COLLEGE/CGEP	1.64	0.95 - 2.81	1.18	0.65 - 2.16	1.24	0.67 - 2.31	1.24	0.66 - 2.34
OTHER/DON'T KNOW	1.64	0.96 - 2.79	2.04	1.09 - 3.82	1.66	0.89 - 3.10	1.45	0.77 - 2.73

RISK OF HAVING HAD >5 PARTNERS BY MOTHER'S EDUCATION, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNER	
MOTHER'S EDUCATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
UNIVERSITY	1.00	REFERENCE GROUP				
GRADE SCHOOL	1.25	0.66 - 2.34	0.68	0.35 - 1.31	0.08	0.34 - 1.35
SOME HIGH SCHOOL	2.06	1.36 - 3.12	1.45	0.93 - 2.28	1.22	0.77 - 1.94
HIGH SCHOOL	1.21	0.77 - 1.90	0.90	0.55 - 1.47	0.79	0.48 - 1.30
COLLEGE/CGEP	0.90	0.51 - 1.58	0.82	0.45 - 1.51	0.79	0.42 - 1.47
OTHER/DON'T KNOW	1.00	0.54 - 1.83	1.02	0.53 - 1.97	0.60	0.31 - 1.16

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY FATHER'S EDUCATION, MALE AND FEMALE

	MALE		FEMALE	
FATHER'S EDUCATION	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
UNIVERSITY	1.00	REFERENCE GROUP		
GRADE SCHOOL	1.33	1.03 - 1.71	1.78	1.41 - 2.25
SOME HIGH SCHOOL	1.25	1.03 - 1.52	1.62	1.36 - 1.94
HIGH SCHOOL	1.24	1.01 - 1.52	1.44	1.19 - 1.75
COLLEGE/CGEP	1.23	0.96 - 1.59	1.26	0.98 - 1.60
DON'T KNOW/OTHER	1.26	0.98 - 1.60	1.34	1.07 - 1.67

RISK OF HAVING HAD >=10 PARTNERS BY FATHER'S EDUCATION, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
FATHER'S EDUCATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
UNIVERSITY	1.00	REFERENCE GROUP						
GRADE SCHOOL	2.35	1.42 - 3.88	1.86	1.04 - 3.33	2.13	1.18 - 3.85	1.86	1.01 - 3.42
SOME HIGH SCHOOL	1.46	0.94 - 2.27	1.24	0.76 - 2.03	1.18	0.72 - 1.94	1.16	0.70 - 1.94
HIGH SCHOOL	1.63	1.04 - 2.56	1.29	0.78 - 2.15	1.42	0.85 - 2.37	1.42	0.83 - 2.242
COLLEGE/CGEP	1.52	0.87 - 2.64	1.42	0.75 - 2.68	1.26	0.67 - 2.37	1.13	0.59 - 2.16
DON'T KNOW/OTHER	2.09	1.27 - 3.43	1.85	1.04 - 3.29	2.22	1.23 - 4.02	1.44	0.80 - 2.60

RISK OF HAVING HAD >5 PARTNERS BY FATHER'S EDUCATION, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNERS	
FATHER'S EDUCATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
UNIVERSITY	1.00	REFERENCE GROUP				
GRADE SCHOOL	2.37	1.41 - 3.96	1.46	0.84 - 2.53	1.31	0.74 - 2.30
SOME HIGH SCHOOL	2.53	1.68 - 3.83	1.89	1.22 - 2.94	1.47	0.94 - 2.31
HIGH SCHOOL	1.46	0.91 - 2.36	1.18	0.71 - 1.97	0.86	0.51 - 1.46
COLLEGE/CGEP	0.90	0.44 - 1.80	0.65	0.31 - 1.35	0.61	0.29 - 1.28
DON'T KNOW/OTHER	1.66	0.98 - 2.82	1.56	0.88 - 2.76	1.06	0.60 - 1.89

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY OCCUPATION OF MOTHER, MALE AND FEMALE

	MALE		FEMALE	
MOTHER'S OCCUPATION	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
HOMEMAKER	1.00	REFERENCE GROUP		
OTHER	1.31	0.99 - 1.73	1.29	1.02 - 1.62
UNEMPLOYED	1.17	0.82 - 1.66	1.84	1.28 - 2.64
SALES	1.35	1.05 - 1.73	1.68	1.35 - 2.09
CLERICAL	1.10	0.72 - 1.69	0.98	0.66 - 1.47
FACTORY WORKER	1.12	0.93 - 1.36	1.28	1.07 - 1.53
BUSINESS	1.64	1.27 - 2.12	1.49	1.17 - 1.90
PROFESSIONAL	1.12	0.93 - 1.35	0.90	0.75 - 1.08

RISK OF HAVING HAD >=10 PARTNERS BY OCCUPATION OF MOTHER, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
MOTHER'S OCCUPATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
HOMEMAKER	1.00	REFERENCE GROUP						
OTHER	1.51	0.88 - 2.56	1.13	0.62 - 2.07	1.15	0.62 - 2.16	1.26	0.65 - 2.45
UNEMPLOYED	1.66	0.88 - 3.08	1.81	0.84 - 3.89	1.15	0.62 - 2.16	1.16	0.54 - 2.47
SALES	1.42	0.87 - 2.32	1.51	0.84 - 2.71	0.85	0.48 - 1.48	0.93	0.52 - 1.66
CLERICAL	0.77	0.23 - 2.00	0.63	0.18 - 1.85	0.73	0.20 - 2.30	0.66	0.18 - 2.13
FACTORY	0.89	0.58 - 1.36	0.79	0.49 - 1.28	0.80	0.49 - 1.31	0.70	0.43 - 1.15
BUSINESS	1.73	1.06 - 2.83	1.40	0.79 - 2.47	0.91	0.52 - 1.58	0.96	0.54 - 1.71
PROFESSIONAL	1.12	0.76 - 1.64	1.06	0.68 - 1.65	0.99	0.63 - 1.56	0.93	0.59 - 1.49

RISK OF HAVING HAD >5 PARTNERS BY MOTHER'S OCCUPATION, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNER	
MOTHER'S OCCUPATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
HOMEMAKER	1.00	REFERENCE GROUP				
OTHER	1.45	0.91 - 2.31	1.30	0.78 - 2.17	1.03	0.61 - 1.73
UNEMPLOYED	1.41	0.63 - 3.06	0.89	0.38 - 2.04	0.61	0.26 - 1.38
SALES	1.49	0.94 - 2.36	0.90	0.55 - 1.46	0.84	0.51 - 1.38
CLERICAL	1.42	0.66 - 2.98	1.69	0.71 - 3.98	1.43	0.59 - 3.40
FACTORY	0.87	0.57 - 1.33	0.69	0.44 - 1.08	0.60	0.38 - 0.94
BUSINESS	1.24	0.73 - 2.08	0.94	0.53 - 1.65	0.69	0.39 - 1.20
PROFESSIONAL	0.87	0.58 - 1.29	1.00	0.65 - 1.54	0.89	0.57 - 1.38

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY OCCUPATION OF FATHER, MALE AND FEMALE

	MALE		FEMALE	
FATHER'S OCCUPATION	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
PROFESSIONAL	1.00	REFERENCE GROUP		
OTHER	1.11	0.85 - 1.45	1.71	1.36 - 2.17
UNEMPLOYED	1.89	1.12 - 3.18	2.60	1.69 - 4.02
HOMEMAKER	1.22	0.28 - 5.34	1.46	0.33 - 6.33
SALES	1.13	0.90 - 1.41	1.98	1.59 - 2.47
CLERICAL	1.19	0.97 - 1.46	1.77	1.45 - 2.16
FACTORY WORKER	1.18	0.83 - 1.66	1.56	1.10 - 2.21
BUSINESS	1.21	0.98 - 1.50	1.46	1.18 - 1.81

RISK OF HAVING HAD >=10 PARTNERS BY OCCUPATION OF FATHER, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
FATHER'S OCCUPATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
PROFESSIONAL	1.00	REFERENCE GROUP						
OTHER	1.22	0.68 - 2.21	1.03	0.53 - 2.01	1.32	0.67 - 2.63	0.96	0.47 - 1.93
UNEMPLOYED	3.49	1.45 - 8.26	3.31	1.09 - 10.2	1.65	0.62 - 4.34	1.59	0.57 - 4.47
HOMEMAKER	2.02	0.04 - 18.8	2.65	0.03 - 2.65	1.32	0.02 - 26.14	1.91	0.02 - 152
SALES	1.56	0.97 - 2.52	1.47	0.85 - 2.55	1.59	0.92 - 2.76	1.20	0.68 - 2.13
CLERICAL	1.52	0.97 - 2.38	1.28	0.78 - 2.13	1.50	0.90 - 2.48	1.19	0.70 - 2.03
FACTORY	1.56	0.76 - 3.16	1.37	0.60 - 3.12	1.61	0.70 - 3.71	1.16	0.49 - 2.73
BUSINESS	1.45	0.90 - 2.33	1.21	(0.71 - 2.06)	1.28	0.75 - 2.19	1.12	0.64 - 1.97

RISK OF HAVING HAD >5 PARTNERS BY OCCUPATION OF FATHER, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNER	
FATHER'S OCCUPATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
PROFESSIONAL	1.00	REFERENCE GROUP				
OTHER	1.32	0.74 - 2.34	0.81	0.43 - 1.50	0.69	0.37 - 1.30
UNEMPLOYED	3.94	1.76 - 8.71	1.75	0.73 - 4.16	1.54	0.64 - 3.68
HOMEMAKER	0	0	0	0	0	0
SALES	2.45	1.50 - 3.99	1.30	0.76 - 2.22	1.26	0.74 - 2.16
CLERICAL	2.00	1.26 - 3.17	1.20	0.73 - 1.99	1.11	0.67 - 1.86
FACTORY	1.40	0.59 - 3.21	0.78	0.31 - 1.89	1.16	0.45 - 2.96
BUSINESS	1.39	0.83 - 2.32	0.96	0.55 - 1.68	0.94	0.54 - 1.66

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY 'WHOM DO YOU LIVE WITH?', MALE AND FEMALE

	MALE		FEMALE	
LIVE WITH	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
MUM & DAD	1.00	REFERENCE GROUP		
OTHER	1.69	1.35 - 2.12	2.37	1.95 - 2.88
MUM ONLY/DAD ONLY	1.34	1.08 - 1.67	1.71	1.41 - 2.07

RISK OF HAVING HAD >= 10 PARTNERS BY 'WITH WHOM DO YOU LIVE?', MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
LIVE WITH	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
MUM & DAD	1.00	REFERENCE GROUP						
OTHER	2.62	1.78 - 3.83	2.31	1.46 - 3.67	1.72	1.10 - 2.68	1.21	0.78 - 1.88
MUM ONLY/ DAD ONLY	1.67	1.11 - 2.52	1.66	1.02 - 2.70	1.17	0.73 - 1.87	1.05	0.65 - 1.69

RISK OF HAVING HAD > 5 PARTNERS BY 'WITH WHOM DO YOU LIVE?', FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNERS	
LIVE WITH	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
MUM & DAD	1.00	REFERENCE GROUP				
OTHER	2.94	2.05 - 4.21	1.71	1.17 - 2.50	0.99	0.68 - 1.43
MUM ONLY/ DAD ONLY	1.69	1.29 - 2.78	1.34	0.89 - 2.02	0.93	0.62 - 1.41

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY AVERAGE MARK, MALE AND FEMALE

	MALE		FEMALE	
AVERAGE MARK LAST TERM	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
80+	1.00	REFERENCE GROUP		
< 60	3.30	2.53 - 4.29	2.79	2.08 - 3.75
60 -69	2.12	1.76 - 2.55	2.54	2.15 - 2.54
70 - 79	1.39	1.15 - 1.68	1.78	1.52 - 2.08

RISK OF HAVING HAD >=10 PARTNERS BY AVERAGE MARK LAST TERM, MALE

	0 PARTNER		1 PARTNER		2-4 PARTNERS		4-9 PARTNERS	
AVERAGE MARK	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
80+	1.00	REFERENCE GROUP						
<60	3.15	1.90 -5.21	1.24	0.69 - 2.21	0.88	0.50 - 1.57	0.74	0.41 - 1.34
60 - 69	2.06	1.40 - 3.04	1.03	0.66 - 1.62	1.04	0.65 - 1.64	0.83	0.51 - 1.34
70 -79	1.28	0.85 - 1.93	0.86	0.53 -1.38	0.77	0.47 - 1.25	0.73	0.44 - 1.21

RISK OF HAVING HAD > 5 PARTNERS BY AVERAGE MARK LAST TERM, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNER	
AVERAGE MARK	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
+80	1.00	REFERENCE GROUP				
<60	5.51	3.19 - 9.51	3.93	1.83 - 6.26	1.52	0.84 - 2.74
60 -69	3.34	2.26 - 4.95	1.73	1.14 - 2.64	1.05	0.69 - 1.63
70 -79	1.77	1.19 - 2.64	1.06	0.69 - 1.63	0.91	0.59 - 1.42

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY 'SUBJECTS PREPARING YOU FOR?', MALE AND FEMALE

	MALE		FEMALE	
PREPARATION FOR?	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
UNIVERSITY/ COLLEGE	1.00	REFERENCE GROUP		
WORK/OTHER	1.58	1.37 - 1.83	2.02	1.74 - 2.35

RISK OF HAVING HAD >= 10 PARTNERS BY 'SUBJECTS PREPARING YOU FOR?', MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
PREP FOR?	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
UNIV'TY	1.00	REFERENCE GROUP						
WORK/ OTHER	2.04	1.55 - 2.69	1.49	1.09 - 2.04	1.34	0.98 - 1.84	1.20	0.87 - 1.66

RISK OF HAVING HAD >5 PARTNERS BY 'SUBJECTS PREPARING YOU FOR?', FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNERS	
PREPARING FOR?	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
UNIVERSITY	1.00	REFERENCE GROUP				
WORK/OTHER	2.74	2.06 - 3.64	1.70	1.25 - 2.31	1.20	0.89 - 1.63

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY 'FINISH YOUR EDUCATION?', MALE AND FEMALE

	MALE		FEMALE	
FINISH YOUR EDUCATION WHEN?	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
GRADUATE UNIVERSITY	1.00	REFERENCE GROUP		
BEFORE GRADUATE HIGH SCHOOL	2.61	1.20 - 5.77	12.19	2.67 - 77.28
GRADUATE HIGH SCHOOL	1.90	1.53 - 2.36	2.86	2.25 - 3.64
GRADUATE COLLEGE/CGEP	1.42	1.20 - 1.68	2.25	1.93 - 2.63
DON'T KNOW/OTHER	1.28	1.07 - 1.53	1.74	1.44 - 2.01

RISK OF HAVING HAD >=10 PARTNERS BY 'FINISH YOUR EDUCATION?', MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
FINISH EDJCATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
UNIVERSITY	1.00	REFERENCE GROUP						
GRADE SCHOOL	3.79	0.86 - 13.10	3.57	0.59 - 24.72	1.13	0.25 - 4.16	1.19	0.24 - 5.16
HIGH SCHOOL	2.14	1.39 - 3.30	1.30	0.80 - 2.12	1.15	0.71 - 1.85	0.97	0.59 - 1.60
COLLEGE	1.78	1.26 - 2.51	1.42	0.96 - 2.10	1.45	0.98 - 2.16	1.00	0.67 - 1.49
DON'T KNOW/OTHER	1.85	1.31 - 2.63	1.62	1.08 - 2.42	1.81	1.20 - 2.74	1.20	0.79 - 1.82

RISK OF HAVING HAD >5 PARTNERS BY 'FINISH YOUR EDUCATION?', FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNER	
FINISH EDUCATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
UNIVERSITY	1.00	REFERENCE GROUP				
GRADE SCHOOL	16.25	1.16 - 225.43	3.33	0.27 - 29.44	0.81	0.08 - 3.89
HIGH SCHOOL	4.77	3.06 - 7.43	2.06	1.29 - 3.28	1.59	1.00 - 2.54
COLLEGE	3.33	2.40 - 4.62	1.66	1.17 - 2.35	1.45	1.02 - 2.06
DON'T KNOW	2.65	1.84 - 3.80	1.88	1.27 - 2.78	1.45	0.98 -2.14

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY FREQUENCY OF CHURCH ATTENDANCE, MALE AND FEMALE

	MALE		FEMALE	
CHURCH ATTENDANCE	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
EVERY WEEK	1.00	REFERENT GROUP		
NEVER	0.38	0.32 - 0.46	2.25	1.89 - 2.68
SPECIAL OCC	0.75	0.62 - 0.92	2.45	2.08 - 2.89
NOW & THEN	0.91	0.76 - 1.07	1.88	1.58 - 2.23

RISK OF HAVING HAD >=10 PARTNERS BY FREQUENCY OF CHURCH ATTENDANCE, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
CHURCH ATTENDANCE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
EVERY WEEK	1.00	REFERENCE GROUP						
NEVER	0.26	0.17 - 0.39	0.59	0.37 - 0.97	0.59	0.36 - 0.96	0.72	0.44 - 1.20
SPECIAL OCC	0.65	0.45 - 0.95	0.79	0.51 - 1.21	0.81	0.52 -1.26	0.96	0.61 - 1.50
NOW & THEN	0.77	0.56 - 1.06	0.80	0.56 - 1.16	0.79	0.54 - 1.14	0.90	0.61 - 1.30

RISK OF HAVING HAD > 5 PARTNERS BY FREQUENCY OF CHURCH ATTENDANCE, FEMALE

	0 PARTNERS		1 PARTNER		2-5 PARTNERS	
CHURCH ATTENDANCE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
EVERY WEEK	1.00	REFERENCE GROUP				
NEVER	3.86	2.56 - 5.84	2.13	1.37 - 3.32	1.59	1.02 - 2.50
SPEC OCC	3.52	2.34 - 5.31	1.68	1.09 - 2.59	1.33	0.86 - 2.08
NOW & THEN	2.86	1.88 - 4.38	1.74	1.11 - 2.74	1.46	0.92 - 2.31

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY GEOGRAPHIC LOCATION, MALE AND FEMALE

	MALE		FEMALE	
LOCATION	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
LARGE CITY/BURB	1.00	REFERENCE GROUP		
MEDIUM CITY/BURB	1.11	0.84 - 1.47	1.47	1.13 - 1.92
SMALL TOWN/RURAL	1.17	0.94 - 1.45	1.61	1.31 - 1.98
SMALL CITY/TOWN	1.17	0.94 - 1.47	1.44	1.16 - 1.79

RISK OF HAVING HAD >=10 PARTNERS BY GEOGRAPHIC LOCATION, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
LOCATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
LARGE CITY/BURB	1.00	REFERENCE GROUP						
MEDIUM CITY/BURB	1.01	0.54 - 1.90	0.79	0.38 - 1.61	0.91	0.44 - 1.87	.99	0.48 - 2.05
SMALL TOWN/RURAL	1.33	0.82 - 2.15	1.09	0.63 - 1.91	1.04	0.60 - 1.81	1.36	0.78 - 2.38
SMALL CITY/TOWN	1.46	0.90 - 2.38	1.01	0.58 - 1.78	1.39	0.80 - 2.44	1.58	0.90 - 2.77

RISK OF HAVING HAD >5 PARTNERS BY GEOGRAPHIC LOCATION, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNERS	
LOCATION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
LARGE CITY/BURB	1.00	REFERENCE GROUP				
MEDIUM CITY	1.79	1.03 - 3.13	1.40	0.76 - 2.60	1.15	0.61 - 2.16
SMALL TOWN/RURAL	1.39	0.87 - 2.22	0.89	0.53 -1.48	0.80	0.48 - 1.35
SMALL CITY/TOWN	1.23	0.76 - 1.99	0.92	0.55 - 1.57	0.74	0.43 - 1.26

APPENDIX D: ODDS RATIOS
ALCOHOL, CIGARETTE, CANNABIS USE

RISK OF 'SEXUAL INTERCOURSE AT LEAST ONCE' BY ALCOHOL USE, MALE AND FEMALE

	MALE		FEMALE	
ALCOHOL USE	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
NEVER	1.00	REFERENCE GROUP		
DAILY	70.30*	21.28 - 360.48*	19.75	2.17 - 935.19
WEEKLY	16.23	12.16 - 21.69	10.96	8.37 - 14.37
MONTHLY	6.51	4.98 - 8.52	4.51	3.59 - 5.67
SPECIAL OCC	2.54	1.91 - 3.38	2.28	1.80 - 2.88

RISK OF HAVING >= 10 PARTNERS BY ALCOHOL USE, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNER		4-9 PARTNERS	
ALCOHOL USE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
NEVER	1.00	REFERENCE GROUP						
DAILY	680.8*	131.4 - 4211*	179.40	18.59 - 7562	14.38	3.59 - 62.27	9.20	1.95 - 47.71
WEEKLY	55.5	22.71 - 175	8.18	3.09 - 8.18	3.93	1.43 - 13.41	1.64	0.52 - 6.05
MONTHLY	10.26	4.15 - 32.74	2.07	0.78 - 6.97	1.62	0.58 - 5.62	1.03	0.32 - 3.88
SPEC OCC	3.00	1.09 - 10.26	1.44	0.48 - 5.20	1.15	0.37 - 4.31	0.84	0.24 - 3.42

RISK OF HAVING >5 PARTNERS BY ALCOHOL USE, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNERS	
ALCOHOL USE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
NEVER	1.00	REFERENCE GROUP				
DAILY	188.00*	15.63 -99270*	30.40	2.50 - 1515	0	
WEEKLY	30.66	15.23 - 63.53	5.69	2.72 - 12.23	1.77	0.81 - 3.96
MONTHLY	5.55	2.78 - 11.41	1.75	0.84 - 3.75	0.78	0.36 - 1.75
SPEC OCC	2.12	1.01 - 4.54	1.02	0.47 - 2.29	0.76	0.33 - 1.80

* Parameter estimate is unstable due to small cell numbers.

RISK OF HAVING HAD 'SEXUAL INTERCOURSE AT LEAST ONCE' BY ALCOHOL USE AT ONE TIME, MALE AND FEMALE

	MALE		FEMALE	
NUMBER OF DRINKS AT ONE TIME	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
0 DRINKS	1.00	REFERENCE GROUP		
> 5 DRINKS	11.86	9.16 - 15.36	8.19	6.47 - 10.36
3-4 DRINKS	5.53	4.21 - 7.28	4.37	3.50 - 5.45
1-2 DRINKS	2.13	1.59 - 2.85	2.27	1.81 - 2.84

RISK OF HAVING HAD >= 10 PARTNERS BY ALCOHOL USE AT ONE TIME, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNER		4-9 PARTNER	
DRINKS/TIME	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
O DRINKS	REFERENCE GROUP							
> 5 DRINKS	39.15	16.28 -123	6.16	2.38 - 20.27	4.19	1.57 - 14.02	1.58	0.51 - 5.81
3-4 DRINKS	8.14	3.14 - 26.76	1.80	0.64 - 6.23	1.50	0.52 - 5.29	1.04	0.31 - 4.05
1-2 DRINKS	2.39	0.79 - 8.60	1.30	0.40 - 4.97	1.30	0.39 - 5.09	0.65	0.17 - 2.80

RISK OF HAVING HAD >5 PARTNERS BY ALCOHOL USE AT ONE TIME, FEMALE

	0 PARTNER		1 PARTNER		2-5 PARTNERS	
DRINKS/OCCASION	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
0 DRINKS	REFERENCE GROUP					
> 5 DRINKS	24.31	12.27 - 49.64	5.64	2.74 - 11.93	1.95	0.91 - 4.28
3-4 DRINKS	5.57	2.75 - 11.60	1.76	0.84 - 3.80	0.84	0.38 - 1.89
1-2 DRINKS	2.28	1.08 - 4.94	1.14	0.52 - 2.55	0.82	0.36 - 1.93

RISK OF'SEXUAL INTERCOURSE AT LEAST ONCE' BY CIGARETTE USE, MALE AND FEMALE

	MALE		FEMALE	
CIGARETTE USE	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
NEVER	1.00	REFERENCE GROUP		
DAILY	5.77	4.77 - 6.98	5.53	4.75 - 6.43

RISK OF HAVING >= 10 PARTNERS BY CIGARETTE USE, MALE

	0 PARTNERS		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
CIGARETTE USE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
NEVER	1.00	REFERENCE GROUP						
DAILY	13.37	9.93 - 18.01	4.29	3.11 - 5.91	3.05	2.23 - 4.18	1.52	1.11 - 2.07

RISK OF HAVING >5 PARTNERS BY CIGARETTE USE, FEMALE

	0 PARTNERS		1 PARTNER		2-5 PARTNERS	
CIGARETTE USE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
NEVER	1.00	REFERENCE GROUP				
DAILY	12.59	9.58 - 16.73	3.82	2.85 - 5.11	1.73	1.30 - 2.32

RISK 'SEXUAL INTERCOURSE AT LEAST ONCE' BY CANNABIS USE, MALE AND FEMALE

	MALE		FEMALE	
CANNABIS USE	ODDS RATIO	CONFIDENCE INTERVAL	ODDS RATIO	CONFIDENCE INTERVAL
NEVER	1.00	REFERENCE GROUP		
DAILY	19.17	8.36 - 54.06	29.14	4.62 - 1211.43
WEEKLY	16.19	9.58 - 27.72	9.74	5.69 - 16.91
MONTHLY	5.88	4.34 - 7.98	8.28	5.92 - 11.62
SPECIAL OCC	3.66	2.86 - 4.68	4.12	1.72 - 1.99

RISK OF HAVING >= 10 PARTNERS BY CANNABIS USE, MALE

	0 PARTNER		1 PARTNER		2-3 PARTNERS		4-9 PARTNERS	
CANNABIS USE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
NEVER	1.00	REFERENCE GROUP						
DAILY	89.35	35.83 - 264.0	26.59	9.96 - 88.48	7.06	3.56 - 14.15	3.76	2.00 -7.13
WEEKLY	43.59	23.44 - 81.88	6.13	3.60 - 10.45	3.85	2.33 - 6.39	1.68	1.06 - 2.67
MONTHLY	11.30	7.14 - 17.87	3.61	2.21 - 5.90	2.27	1.42 - 3.64	1.21	0.76 - 1.90
SPECIAL OCC	5.56	3.57 - 8.63	2.24	1.38 - 3.61	1.36	0.85 - 2.16	1.34	0.82 - 2.19

RISK OF HAVING > 5 PARTNERS BY CANNABIS USE, FEMALE

	0 PARTNERS		1 PARTNER		2-5 PARTNERS	
CANNABIS USE	ODDS RATIO	C.I.	ODDS RATIO	C.I.	ODDS RATIO	C.I.
NEVER	1.00	REFERENCE GROUP				
DAILY	189.83	26.41 - 8241.01	16.67	4.69 - 93.59	9.52	2.89 - 36.00
WEEKLY	43.55	23.08 - 82.91	13.68	7.39 - 25.53	3.71	2.28 - 6.06
MONTHLY	27.42	17.59 -42.81	6.99	4.60 - 10.62	2.67	1.82 - 3.90
SPEC OCC	7.70	5.06 - 11.70	2.90	1.89 - 4.44	1.43	0.95 - 2.16

APPENDIX E:
FACTOR LOADINGS AND FACTOR SCORES

Males

Rotation Method: Varimax

Orthogonal Transformation Matrix

	1	2	3	4	5
1	0.00678	-0.60308	0.63181	0.47858	-0.08961
2	0.98146	0.09150	0.05491	0.05676	0.14876
3	-0.18788	0.55044	0.41793	0.26540	0.64546
4	0.03220	0.56907	0.29041	0.19401	-0.74374
5	-0.01888	0.03316	-0.58206	0.81220	0.00915

Rotated Factor Pattern

	FACTOR 1	FACTOR 2	
PARUNDER	-0.01163	0.71150	MY PARENT(S) UNDERSTAND ME
STRICT	0.03493	0.63105	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	-0.00062	0.14458	I OFTEN AM SORRY FOR THE THINGS I DO
NOFRIEND	0.63369	0.03667	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	0.02272	-0.10035	I OFTEN GET FRUSTRATED
TEACHERS	0.77127	0.02747	PEOPLE WITH AIDS SHOULD TEACH
LEFTOUT	0.01490	-0.14585	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	0.03506	0.65487	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	0.68525	0.04229	GAYS SHOULD BE ALLOWED TO BE TEACHERS
SERMATT	0.03124	0.58322	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.62566	-0.04293	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	0.01965	-0.06637	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.01994	-0.35384	I HAVE THOUGHTS ABOUT SUICIDE
CHANGELK	0.00872	-0.14008	I WOULD CHANGE HOW I LOOK
LONELY	0.03848	-0.16746	I OFTEN FEEL LONELY
LIFEWORY	-0.03608	-0.16575	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.80020	0.01833	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
COMPLEXN	0.01359	-0.06538	I WISH MY COMPLEXION WERE BETTER
LEAVEHE	-0.00315	0.61291	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.58381	-0.00530	ALLOWED TO IMMIGRATE TO CANADA
ELSE	0.02613	-0.19247	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	0.66427	0.06723	SHOULD BE QUARANTINED
RAISECH	-0.01014	0.59322	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	0.73304	-0.04214	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.02837	-0.26147	I OFTEN FEEL DEPRESSED
TOOMUCH	0.04327	0.55095	MY PARENTS EXPECT TOO MUCH OF ME
UNMARSEX	0.00567	0.11489	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
NOLOVE	0.05897	0.03447	SEX WITHOUT LOVE IS NOT SATISFYING
ONEPART	-0.00065	0.10233	I INTEND TO HAVE SEX WITH ONE PARTNER
PLEASURE	0.11563	0.03419	I BELIEVE IN GETTING SEXUAL PLEASURE...

Rotation Method: Varimax

Rotated Factor Pattern

	FACTOR 3	FACTOR 4	
PARUNDER	-0.03138	-0.14349	MY PARENT(S) UNDERSTAND ME
STRICT	0.13068	-0.02897	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	0.53479	0.07050	I OFTEN AM SORRY FOR THE THINGS I DO
NOFRIEND	0.02316	-0.01108	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	0.64612	0.09809	I OFTEN GET FRUSTRATED
TEACHERS	0.01239	0.01575	PEOPLE WITH AIDS SHOULD TEACH
LEFTOUT	0.43959	0.47059	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	-0.26105	0.05794	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	0.01282	0.02432	GAYS SHOULD BE ALLOWED TO BE TEACHERS
SERMATT	0.06995	-0.16942	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.03713	-0.02819	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	0.59262	-0.00536	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.45107	0.15524	I HAVE THOUGHTS ABOUT SUICIDE
CHANGELK	0.17000	0.75190	I WOULD CHANGE HOW I LOOK
LONELY	0.49254	0.52557	I OFTEN FEEL LONELY
LIFEWORY	0.59515	0.21703	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.02893	0.01500	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
COMPLEXN	0.06884	0.66647	I WISH MY COMPLEXION WERE BETTER
LEAVEHE	-0.28622	-0.11097	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.02296	0.02847	ALLOWED TO IMMIGRATE TO CANADA
ELSE	0.39394	0.58944	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	-0.05643	-0.00899	SHOULD BE QUARANTINED
RAISECH	-0.09531	-0.14837	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	0.02695	0.03957	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.64040	0.30913	I OFTEN FEEL DEPRESSED
TOOMUCH	-0.26862	0.01224	MY PARENTS EXPECT TOO MUCH OF ME
UNMARSEX	-0.05075	0.10844	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
NOLOVE	0.13573	-0.08907	SEX WITHOUT LOVE IS NOT SATISFYING
ONEPART	0.07355	0.00488	I INTEND TO HAVE SEX WITH ONE PARTNER
PLEASURE	-0.18724	-0.02409	I BELIEVE IN GETTING SEXUAL PLEASURE...

Rotation Method: Varimax

Rotated Factor Pattern

	FACTOR 5	
PARUNDER	0.04291	MY PARENT(S) UNDERSTAND ME
STRICT	0.18248	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	0.07702	I OFTEN AM SORRY FOR THE THINGS I DO
NOFRIEND	0.03718	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	-0.04255	I OFTEN GET FRUSTRATED
TEACHERS	-0.04853	PEOPLE WITH AIDS SHOULD TEACH
LEFTOUT	0.12527	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	0.01470	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	-0.04603	GAYS SHOULD BE ALLOWED TO BE TEACHERS
SERMATT	0.10015	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.05827	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	-0.01575	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	-0.03423	I HAVE THOUGHTS ABOUT SUICIDE
CHANGELK	-0.05012	I WOULD CHANGE HOW I LOOK
LONELY	0.07176	I OFTEN FEEL LONELY
LIFEWORY	-0.05446	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.02744	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
COMPLEXN	0.00679	I WISH MY COMPLEXION WERE BETTER
LEAVEHE	0.05360	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.07782	ALLOWED TO IMMIGRATE TO CANADA
ELSE	-0.08263	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	0.03721	SHOULD BE QUARANTINED
RAISECH	-0.01353	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	0.05847	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.00714	I OFTEN FEEL DEPRESSED
TOOMUCH	-0.00360	MY PARENTS EXPECT TOO MUCH OF ME
UNMARSEX	0.72047	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
NOLOVE	0.60766	SEX WITHOUT LOVE IS NOT SATISFYING
ONEPART	0.75856	I INTEND TO HAVE SEX WITH ONE PARTNER
PLEASURE	0.63176	I BELIEVE IN GETTING SEXUAL PLEASURE...

Variance explained by each factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
3.845679	3.109652	2.970357	2.148746	1.974591

Rotation Method: Varimax

Final Communality Estimates: Total = 14.049025

PARUNDER	STRICT	SORRYDO	NOFRIEND	FRSTRATE	TEACHERS	LEFTOUT	ARGUEPAR
0.529779	0.450659	0.317807	0.404956	0.439491	0.598373	0.451878	0.501798

GAYTEACH	SERMATT	HOSPITAL	NOSLEEP	SUICIDE	CHANGELK	LONELY	LIFEWORY
0.474225	0.384747	0.398864	0.356266	0.354340	0.616465	0.553496	0.433048

SCHOOL	COMPLEXN	LEAVEHE	IMMIGRAT	ELSE	QUARANT	RAISECH	PUBLIC
0.642470	0.453432	0.472776	0.348256	0.547184	0.450417	0.383291	0.544840

DEPRESSD	TOOMUCH	UNMARSEX	NOLOVE	ONEPART	PLEASURE
0.574899	0.377734	0.546643	0.400277	0.591315	0.449299

Scoring Coefficients Estimated by Regression

Squared Multiple Correlations of the Variables with each Factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
1.000000	1.000000	1.000000	1.000000	1.000000

Rotation Method: Varimax

Standardized Scoring Coefficients

	FACTOR 1	FACTOR 2	
PARUNDER	-0.01045	0.26794	MY PARENT(S) UNDERSTAND ME
STRICT	-0.00405	0.25134	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	-0.00758	0.11895	I OFTEN AM SORRY FOR THE THINGS I DO
NOFRIEND	0.16515	0.00530	I COULD NOT BE A FRIEND OF SOMEONEAIDS
FRSTRATE	0.00426	0.04539	I OFTEN GET FRUSTRATED
TEACHERS	0.20367	0.00942	PEOPLE WITH AIDS SHOULD TEACH
LEFTOUT	-0.00772	0.02563	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	0.00097	0.24146	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	0.18064	0.01717	GAYS SHOULD BE ALLOWED TO BE TEACHERS
SERMATT	0.00064	0.21859	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.16358	-0.02915	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	0.00415	0.04030	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.00617	-0.07478	I HAVE THOUGHTS ABOUT SUICIDE
CHANGELK	-0.00762	0.04255	I WOULD CHANGE HOW I LOOK
LONELY	-0.00075	0.03305	I OFTEN FEEL LONELY
LIFEWORY	-0.01181	0.02685	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.20900	0.00002	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
COMPLEXN	-0.00716	0.04760	I WISH MY COMPLEXION WERE BETTER
LEAVEHE	-0.00687	0.20131	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.15064	-0.01103	ALLOWED TO IMMIGRATE TO CANADA
ELSE	0.00037	0.03282	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	0.17311	0.00864	SHOULD BE QUARANTINED
RAISECH	-0.00656	0.21734	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	0.19094	-0.03051	I SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.00270	-0.00430	I OFTEN FEEL DEPRESSED
TOOMUCH	0.00572	0.19528	MY PARENTS EXPECT TOO MUCH OF ME
UNMARSEX	-0.02354	-0.01544	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
NOLOVE	-0.00258	-0.03726	SEX WITHOUT LOVE IS NOT SATISFYING
ONEPART	-0.02500	-0.02053	I INTEND TO HAVE SEX WITH ONE PARTNER
PLEASURE	0.01181	-0.07007	I BELIEVE IN GETTING SEXUAL PLEASURE...

Rotation Method: Varimax

Standardized Scoring Coefficients

	FACTOR 3	FACTOR 4	
PARUNDER	0.10246	-0.01824	MY PARENT(S) UNDERSTAND ME
STRICT	0.13969	0.00453	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	0.26613	-0.08595	I OFTEN AM SORRY FOR THE THINGS I DO
NOFRIEND	0.01527	-0.02132	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	0.29105	-0.12118	I OFTEN GET FRUSTRATED
TEACHERS	0.00339	-0.00192	PEOPLE WITH AIDS SHOULD TEACH
LEFTOUT	0.07307	0.18417	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	-0.07557	0.17713	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	0.00318	0.00671	GAYS SHOULD BE ALLOWED TO BE TEACHERS
SERMATT	0.14476	-0.07848	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.01754	-0.04511	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	0.29547	-0.17418	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.14743	-0.05381	I HAVE THOUGHTS ABOUT SUICIDE
CHANGELK	-0.13562	0.45461	I WOULD CHANGE HOW I LOOK
LONELY	0.08387	0.20542	I OFTEN FEEL LONELY
LIFEWORY	0.22554	-0.03106	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.00856	-0.00952	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
COMPLEXN	-0.15675	0.43066	I WISH MY COMPLEXION WERE BETTER
LEAVEHE	-0.04743	0.06419	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	-0.00150	0.00182	ALLOWED TO IMMIGRATE TO CANADA
ELSE	0.01804	0.27634	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	-0.02242	0.00467	SHOULD BE QUARANTINED
RAISECH	0.05973	-0.01506	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	-0.03408	0.01731	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.21020	0.00790	I OFTEN FEEL DEPRESSED
TOOMUCH	-0.07795	0.13755	MY PARENTS EXPECT TOO MUCH OF ME
UNMARSEX	-0.06462	0.08933	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
NOLOVE	0.07883	-0.10485	SEX WITHOUT LOVE IS NOT SATISFYING
ONEPART	0.02460	-0.01767	I INTEND TO HAVE SEX WITH ONE PARTNER
PLEASURE	-0.10418	0.02756	I BELIEVE IN GETTING SEXUAL PLEASURE...

Rotation Method: Varimax

Standardized Scoring Coefficients

	FACTOR 5	
PARUNDER	-0.04035	MY PARENT(S) UNDERSTAND ME
STRICT	0.03348	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	0.01029	I OFTEN AM SORRY FOR THE THINGS I DO
NOFRIEND	-0.00358	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	-0.03491	I OFTEN GET FRUSTRATED
TEACHERS	-0.05261	PEOPLE WITH AIDS SHOULD TEACH
LEFTOUT	0.05973	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	-0.04748	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	-0.05018	GAYS SHOULD BE ALLOWED TO BE TEACHERS
SERMATT	-0.00187	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.01517	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	-0.02061	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	-0.00161	I HAVE THOUGHTS ABOUT SUICIDE
CHANGELK	-0.02992	I WOULD CHANGE HOW I LOOK
LONELY	0.03015	I OFTEN FEEL LONELY
LIFEWORY	-0.03352	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	-0.01270	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
COMPLEXN	-0.00247	I WISH MY COMPLEXION WERE BETTER
LEAVEHE	-0.01846	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.02294	ALLOWED TO IMMIGRATE TO CANADA
ELSE	-0.04726	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	-0.00498	SHOULD BE QUARANTINED
RAISECH	-0.05736	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	0.01286	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.00354	I OFTEN FEEL DEPRESSED
TOOMUCH	-0.04685	MY PARENTS EXPECT TOO MUCH OF ME
UNMARSEX	0.37250	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
NOLOVE	0.31559	SEX WITHOUT LOVE IS NOT SATISFYING
ONEPART	0.39189	I INTEND TO HAVE SEX WITH ONE PARTNER
PLEASURE	0.33553	I BELIEVE IN GETTING SEXUAL PLEASURE...

Females
Rotation Method: Varimax

Orthogonal Transformation Matrix

	1	2	3	4	5
1	0.01791	-0.70752	0.69547	-0.08101	0.09414
2	0.99347	0.01453	-0.01882	-0.10669	-0.03255
3	0.04867	0.60559	0.58960	0.29679	0.44179
4	-0.09178	0.19428	0.05143	-0.92838	0.29883
5	0.04355	-0.30777	-0.40706	0.17912	0.84000

Rotated Factor Pattern

	FACTOR 1	FACTOR 2	
PARUNDER	-0.02529	0.80324	MY PARENT(S) UNDERSTAND ME
UNMARSEX	-0.06353	0.14063	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
STRICT	0.03248	0.61780	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	-0.03694	0.06790	I OFTEN AM SORRY FOR THE THINGS I DO
WORRYWAR	0.06487	0.06149	I WORRY ABOUT THE THREAT OF NUCLEAR WAR
NOFRIEND	-0.65115	-0.00945	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	0.03858	-0.07292	I OFTEN GET FRUSTRATED
TEACHERS	0.76552	-0.00532	PEOPLE WITH AIDS SHOULD TEACH
TRUSTPAR	0.00878	0.75606	MY PARENT(S) TRUST ME
INLOVE	0.05337	-0.09139	SEX IS OK IF TWO PEOPLE ARE IN LOVE
HOMOADVA	-0.02321	-0.01069	I WORRY THAT SOMEONE OF MY SAME SEX...
LEFTOUT	0.03119	-0.12432	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	-0.00394	-0.64314	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	0.68376	0.02007	GAYS SHOULD BE ALLOWED TO BE TEACHERS
WORRIED	-0.03523	0.01751	I AM WORRIED ABOUT CATCHING AIDS
SERMATT	0.01631	0.67129	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.62053	-0.01003	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	-0.03449	-0.07359	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.03878	-0.30943	I HAVE THOUGHTS ABOUT SUICIDE
FEARAIDS	-0.05248	0.00037	THE FEAR OF GETTING AIDS STOPS ME...
LONELY	0.04366	-0.13646	I OFTEN FEEL LONELY
LIFEWORY	-0.07251	-0.16456	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.76462	-0.00953	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
LEAVEHE	0.00143	-0.58470	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.54787	-0.00439	ALLOWED TO IMMIGRATE TO CANADA
HOMOTALK	0.56374	0.00540	FEEL COMFORTABLE TALKING WITH GAYS
ELSE	-0.01532	-0.24438	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	-0.72259	-0.04619	SHOULD BE QUARANTINED
RAISECH	0.02806	-0.70077	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	0.73702	-0.01491	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.03124	-0.19364	I OFTEN FEEL DEPRESSED
TOOMUCH	-0.03190	-0.5[illegible]92	MY PARENTS EXPECT TOO MUCH OF ME

Rotation Method: Varimax

Rotated Factor Pattern

	FACTOR 3	FACTOR 4	
PARUNDER	-0.12953	0.01778	MY PARENT(S) UNDERSTAND ME
UNMARSEX	0.00395	0.88147	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
STRICT	-0.00436	0.08397	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	0.45695	0.07469	I OFTEN AM SORRY FOR THE THINGS I DO
WORRYWAR	0.10602	-0.04410	I WORRY ABOUT THE THREAT OFNUCLEAR WAR
NOFRIEND	0.00921	-0.00287	I COULD NOT BE A FRIEND OFSOMEONE AIDS
FRSTRATE	0.60208	-0.07919	I OFTEN GET FRUSTRATED
TEACHERS	0.04202	-0.06689	PEOPLE WITH AIDS SHOULD TEACH
TRUSTPAR	-0.08612	0.00377	MY PARENT(S) TRUST ME
INLOVE	0.00358	-0.87986	SEX IS OK IF TWO PEOPLE ARE IN LOVE
HOMOADVA	0.10474	-0.05195	I WORRY THAT SOMEONE OF MY SAME SEX...
LEFTOUT	0.66588	0.10569	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	0.22526	-0.06058	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	-0.01119	-0.20999	GAYS SHOULD BE ALLOWED TO BE TEACHERS
WORRIED	0.09428	-0.06904	I AM WORRIED ABOUT CATCHING AIDS
SERMATI	-0.08143	0.04684	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.00935	0.00595	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	0.55540	-0.02135	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.54200	-0.05227	I HAVE THOUGHTS ABOUT SUICIDE
FEARAIDS	0.06686	0.33528	THE FEAR OF GETTING AIDS STOPS ME...
LONELY	0.75874	0.06398	I OFTEN FEEL LONELY
LIFEWORY	0.60974	-0.04613	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.00218	0.03998	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
LEAVEHE	0.33144	-0.07189	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.01896	0.08595	ALLOWED TO IMMIGRATE TO CANADA
HOMOTALK	-0.00840	-0.14596	FEEL COMFORTABLE TALKING WITH GAYS
ELSE	0.63484	0.00811	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	0.04449	0.00941	SHOULD BE QUARANTINED
RAISECH	0.12529	-0.00791	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	0.00862	0.07662	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.77184	-0.04450	I OFTEN FEEL DEPRESSED
TOOMUCH	0.21817	-0.00399	MY PARENTS EXPECT TOO MUCH OF ME

Rotation Method: Varimax

Rotated Factor Pattern

	FACTOR 5	
PARUNDER	0.04002	MY PARENT(S) UNDERSTAND ME
UNMARSEX	0.03120	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
STRICT	0.16234	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	0.18987	I OFTEN AM SORRY FOR THE THINGS I DO
WORRYWAR	0.60725	I WORRY ABOUT THE THREAT OF NUCLEAR WAR
NOFRIEND	0.01815	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	0.04538	I OFTEN GET FRUSTRATED
TEACHERS	0.05921	PEOPLE WITH AIDS SHOULD TEACH
TRUSTPAR	-0.03644	MY PARENT(S) TRUST ME
INLOVE	0.05183	SEX IS OK IF TWO PEOPLE ARE IN LOVE
HOMOADVA	0.52554	I WORRY THAT SOMEONE OF MY SAME SEX...
LEFTOUT	-0.04308	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	0.09243	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	0.04128	GAYS SHOULD BE ALLOWED TO BE TEACHERS
WORRIED	0.76783	I AM WORRIED ABOUT CATCHING AIDS
SERMATT	0.10198	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.00257	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	0.13751	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.00604	I HAVE THOUGHTS ABOUT SUICIDE
FEARAIDS	0.59615	THE FEAR OF GETTING AIDS STOPS ME...
LONELY	-0.01789	I OFTEN FEEL LONELY
LIFEWORY	0.15816	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.01563	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
LEAVEHE	0.00246	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	-0.01870	ALLOWED TO IMMIGRATE TO CANADA
HOMOTALK	-0.04459	FEEL COMFORTABLE TALKING WITH GAYS
ELSE	0.08535	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	0.05223	SHOULD BE QUARANTINED
RAISECH	-0.00126	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	-0.01564	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.01426	I OFTEN FEEL DEPRESSED
TOOMUCH	0.09615	MY PARENTS EXPECT TOO MUCH OF ME

Variance explained by each factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
4.164938	3.956958	3.858034	1.810803	1.753866

Rotation Method: Varimax

Final Communality Estimates: Total = 15.544598

PARUNDER	UNMARSEX	STRICT	SORRYDO	WORRYWAR	NOFRIEND	FRSTRATE	TEACHERS
0.664534	0.801799	0.416161	0.256403	0.389923	0.424511	0.377638	0.595792

TRUSTPAR	INLOVE	HOMOADVA	LEFTOUT	ARGUEPAR	GAYTEACH	WORRIED	SERMATT
0.580464	0.788051	0.290516	0.472855	0.476600	0.513861	0.604760	0.470127

HOSPITAL	NOSLEEP	SUICIDE	FEARAIDS	LONELY	LIFEWORY	SCHOOL	LEAVEHE
0.385293	0.334435	0.393783	0.475032	0.600623	0.431265	0.586587	0.456900

IMMIGRAT	HOMOTALK	ELSE	QUARANT	RAISECH	PUBLIC	DEPRESSD	TOOMUCH
0.308275	0.341199	0.470334	0.529064	0.507628	0.549608	0.636389	0.414190

Scoring Coefficients Estimated by Regression

Squared Multiple Correlations of the Variables with each Factor

FACTOR1	FACTOR2	FACTOR3	FACTOR4	FACTOR5
1.000000	1.000000	1.000000	1.000000	1.000000

Rotation Method: Varimax

Standardized Scoring Coefficients

	FACTOR 1	FACTOR 2	
PARUNDE	-0.01031	0.23268	MY PARENT(S) UNDERSTAND ME
UNMARSE	0.01556	-0.01551	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
STRICT	0.00783	0.18002	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	-0.00788	0.06962	I OFTEN AM SORRY FOR THE THINGS I DO
WORRYWA	0.01870	0.00439	I WORRY ABOUT THE THREAT OF NUCLEAR WAR
NOFRIEND	-0.15787	0.00239	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	0.00369	0.06258	I OFTEN GET FRUSTRATED
TEACHERS	0.18361	-0.00025	PEOPLE WITH AIDS SHOULD TEACH
TRUSTPAR	-0.00319	0.22850	MY PARENT(S) TRUST ME
INLOVE	-0.01760	0.02768	SEX IS OK IF TWO PEOPLE ARE IN LOVE
HOMOADV	-0.00317	-0.01307	I WORRY THAT SOMEONE OF MY SAME SEX...
LEFTOUT	0.00771	0.04744	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPA	0.00112	-0.17284	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	0.15860	0.01163	GAYS SHOULD BE ALLOWED TO BETEACHERS
WORRIED	-0.00458	-0.01718	I AM WORRIED ABOUT CATCHING AIDS
SERMATT	0.00209	0.19210	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.15078	-0.00706	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	-0.01079	0.04772	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.00648	-0.02012	I HAVE THOUGHTS ABOUT SUICIDE
FEARAIDS	0.00450	-0.04436	THE FEAR OF GETTING AIDS STOPS ME...
LONELY	0.00897	0.05778	I OFTEN FEEL LONELY
LIFEWORY	-0.02038	0.02734	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.18712	-0.01194	PEOPLE WITH THE AIDS VIRUSATTEND SCHOOL
LEAVEHE	0.00007	-0.13427	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.13573	-0.00766	ALLOWED TO IMMIGRATE TO CANADA
HOMOTAL	0.13109	0.00851	FEEL COMFORTABLE TALKING WITH GAYS
ELSE	-0.00479	0.00537	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	-0.17439	-0.00645	SHOULD BE QUARANTINED
RAISECH	0.01096	-0.20364	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	0.18145	-0.01336	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.00270	0.04722	I OFTEN FEEL DEPRESSED
TOOMUCH	-0.00389	-0.16301	MY PARENTS EXPECT TOO MUCH OF ME

Rotation Method: Varimax

Standardized Scoring Coefficients

	FACTOR 3	FACTOR 4	
PARUNDER	0.06276	-0.04248	MY PARENT(S) UNDERSTAND ME
UNMARSE	-0.00165	0.49252	UNMARRIED PEOPLE SHOULD NOT HAVESEX
STRICT	0.06316	0.00558	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	0.13854	0.02434	I OFTEN AM SORRY FOR THE THINGS I DO
WORRYWAR	-0.02484	-0.03762	I WORRY ABOUT THE THREAT OF WAR
NOFRIEND	0.00386	-0.02491	I COULD NOT BE A FRIEND OFSOMEONE AIDS
FRSTRATE	0.18681	-0.05278	I OFTEN GET FRUSTRATED
TEACHERS	0.00316	-0.01209	PEOPLE WITH AIDS SHOULD TEACH
TRUSTPAR	0.07952	-0.04601	MY PARENT(S) TRUST ME
INLOVE	0.00151	-0.49656	SEX IS OK IF TWO PEOPLE AREI N LOVE
HOMOADVA	-0.02518	-0.03930	I WORRY THAT SOMEONE OF MYSAM SEX...
LEFTOUT	0.20708	0.05610	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	-0.02278	0.00227	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	-0.00540	-0.09729	GAYS SHOULD BE ALLOWED TO BE TEACHERS
WORRIED	-0.05193	-0.05448	I AM WORRIED ABOUT CATCHING AIDS
SERMATT	0.05264	-0.01736	I ASK MY PARENTS FOR ADVICE
HOSPITAL	-0.00259	0.02620	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	0.15987	-0.02248	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	0.13810	-0.01960	I HAVE THOUGHTS ABOUT SUICIDE
FEARAIDS	-0.05256	0.18052	THE FEAR OF GETTING AIDS STOPS ME...
LONELY	0.23430	0.03112	I OFTEN FEEL LONELY
LIFEWORY	0.16387	-0.03338	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	-0.00805	0.05082	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
LEAVEHE	0.03110	-0.00903	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	0.00252	0.06909	ALLOWED TO IMMIGRATE TO CANADA
HOMOTALK	0.00265	-0.06285	FEEL COMFORTABLE TALKING WITH GAYS
ELSE	0.16798	0.00555	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	0.00684	-0.01921	SHOULD BE QUARANTINED
RAISECH	-0.05469	0.04091	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	-0.00370	0.07145	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	0.22956	-0.02832	I OFTEN FEEL DEPRESSED
TOOMUCH	-0.02025	0.03066	MY PARENTS EXPECT TOO MUCH OF ME

Rotation Method: Varimax

Standardized Scoring Coefficients

FACTOR 5

PARUNDER	-0.00378	MY PARENT(S) UNDERSTAND ME
UNMARSEX	-0.00144	UNMARRIED PEOPLE SHOULD NOT HAVE SEX
STRICT	0.06608	MY PARENTS ARE STRICT FOR MY OWN GOOD
SORRYDO	0.05890	I OFTEN AM SORRY FOR THE THINGS I DO
WORRYWAR	0.35657	I WORRY ABOUT THE THREAT OF NUCLEAR WAR
NOFRIEND	0.00448	I COULD NOT BE A FRIEND OF SOMEONE AIDS
FRSTRATE	-0.03559	I OFTEN GET FRUSTRATED
TEACHERS	0.03970	PEOPLE WITH AIDS SHOULD TEACH
TRUSTPAR	-0.05240	MY PARENT(S) TRUST ME
INLOVE	0.04854	SEX IS OK IF TWO PEOPLE ARE IN LOVE
HOMOADVA	0.30994	I WORRY THAT SOMEONE OF MY SAME SEX...
LEFTOUT	-0.09673	I OFTEN FEEL LEFT OUT OF THINGS
ARGUEPAR	0.06557	I HAVE ARGUMENTS WITH MY PARENTS
GAYTEACH	0.03466	GAYS SHOULD BE ALLOWED TO BE TEACHERS
WORRIED	0.45767	I AM WORRIED ABOUT CATCHING AIDS
SERMATT	0.0355	I ASK MY PARENTS FOR ADVICE
HOSPITAL	0.00675	PEOPLE WITH AIDS SHOULD WORK IN HOSPITAL
NOSLEEP	0.02453	I OFTEN CANNOT SLEEP WORRYING...
SUICIDE	-0.04062	I HAVE THOUGHTS ABOUT SUICIDE
FEARAIDS	0.35123	THE FEAR OF GETTING AIDS STOPS ME...
LONELY	-0.09060	I OFTEN FEEL LONELY
LIFEWORY	0.03574	LIFE IS JUST ONE WORRY AFTER ANOTHER
SCHOOL	0.01640	PEOPLE WITH THE AIDS VIRUS ATTEND SCHOOL
LEAVEHE	-0.00434	I WOULD LIKE TO LEAVE HOME
IMMIGRAT	-0.00939	ALLOWED TO IMMIGRATE TO CANADA
HOMOTALK	-0.01929	FEEL COMFORTABLE TALKING WITH GAYS
ELSE	-0.00755	I OFTEN WISH I WERE SOMEONE ELSE
QUARANT	0.02238	SHOULD BE QUARANTINED
RAISECH	0.02239	I WOULD RAISE MY CHILDREN DIFFERENTLY
PUBLIC	-0.00390	SHOULD BE ALLOWED TO SERVE THE PUBLIC
DEPRESSD	-0.06809	I OFTEN FEEL DEPRESSED
TOOMUCH	0.06517	MY PARENTS EXPECT TOO MUCH OF ME

APPENDIX F: RESULTS OF GROUP OF EXPERTS INDIVIDUAL ITEM SCORES

Allocation of Constructs by The Panel of Experts: Views Items

ITEM #	ITEM	CONSTRUCT A	B	C	D	E	F	G	H	I	NF
Q.54.	I need to know a lot more about AIDS.										
	Fishbein									1	1.5
	Fisher								1	2	
	Rye	1									
SCORE		1	0	0	0	0	0	0	1	3	1.5
Q.55.	I can keep myself from getting AIDS.										
	Fishbein										1.5
	Fisher								2		
	Rye		1						2		
SCORE		0	1	0	0	0	0	0	4	0	1.5
Q.56.	My parents understand me.										
	Fishbein										1.5
	Fisher						2				
	Rye						2				
SCORE		0	0	0	0	0	4	0	0	0	1.5
Q57.	I have confidence in myself.										
	Fishbein								1		1.5
	Fisher							2			
	Rye							2			
SCORE		0	0	0	0	0	0	4	1	0	1.5
Q.58.	Unmarried people should not have sex.										
	Fishbein										1.5
	Fisher					1					
	Rye			1	1						
SCORE		0	0	1	1	1	0	0	0	0	1.5

TABLE CONT...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.59.	I need to lose weight.										
	Fishbein										1.5
	Fisher										1.5
	Rye									1	
SCORE		0	0	0	0	0	0	0	0	1	3.0
Q.60.	Even when my parents are strict...										
	Fishbein										1.5
	Fisher						2				
	Rye						1				
SCORE		0	0	0	0	0	3	0	0	0	1.5
Q.61.	If I thought I had AIDS...										
	Fishbein										1.5
	Fisher							2	1		
	Rye				1						
SCORE		0	0	0	1	0	0	2	1	0	1.5
Q.62.	I often am sorry for the things I do.										
	Fishbein										1.5
	Fisher								1		
	Rye							1			
SCORE		0	0	0	0	0	0	1	1	0	1.5
Q.63.	Homosexuality is acceptable today.										
	Fishbein										1.5
	Fisher								1		
	Rye							1			
SCORE		0	0	0	0	0	0	1	1	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.64.	I would stop a friend...										
	Fishbein										1.5
	Fisher							1			
	Rye								1		
SCORE		0	0	0	0	0	0	1	1	0	1.5
Q.65.	Most people can be trusted to tell the truth.										
	Fishbein										1.5
	Fisher							1			
	Rye										1.5
SCORE		0	0	0	0	0	0	1	0	0	3.0
Q.66.	I often have a hard time saying "no".										
	Fishbein										1.5
	Fisher							2			
	Rye							2			
SCORE		0	0	0	0	0	0	4	0	0	1.5
Q.67.	I do <u>not</u> have much in common...										
	Fishbein										1.5
	Fisher					1					
	Rye										1.5
SCORE		0	0	0	0	1	0	0	0	0	3.0
Q.68.	I would be embarrassed to but condoms.										
	Fishbein				2						
	Fisher							2			
	Rye							2	1		
SCORE		0	0	0	2	0	0	4	1	0	0

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.69.	I worry about the threat of nuclear war.										
	Fishbein										1.5
	Fisher										1.5
	Rye								1		
SCORE		0	0	0	0	0	0	0	1	0	3.0
Q.70.	I feel pressure from my friends to drink alcohol.										
	Fishbein										1.5
	Fisher					1					
	Rye					1					
SCORE		0	0	0	0	2	0	0	0	0	1.5
Q.71.	My parent(s) trust me.										
	Fishbein										1.5
	Fisher						1				
	Rye						1				
SCORE		0	0	0	0	0	2	0	0	0	1.5
Q.72.	I could <u>not</u> be a friend of someone with AIDS.										
	Fishbein										1.5
	Fisher				1						
	Rye				1						
SCORE		0	0	0	2	0	0	0	0	0	1.5
Q.73.	No one cares much what happens to me.										
	Fishbein										1.5
	Fisher						1				
	Rye					1	1				
SCORE		0	0	0	0	1	2	0	0	0	1.5
Q.74.	I trust what television, radio...										
	Fishbein										1.5
	Fisher									1	
	Rye									1	
SCORE		0	0	0	0	0	0	0	0	2	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.75.	Many parents do not know enough about AIDS.										
	Fishbein										1.5
	Fisher						2				
	Rye						1				
SCORE		0	0	0	0	0	3	0	0	0	1.5
Q.76.	It is alright for two people...										
	Fishbein										1.5
	Fisher					1					
	Rye										1.5
SCORE		0	0	0	0	1	0	0	0	0	3.0
Q.77.	I often get frustrated.										
	Fishbein										1.5
	Fisher							1			
	Rye							1			
SCORE		0	0	0	0	0	0	2	0	0	1.5
Q.78.	I would tell my sexual partner...										
	Fishbein										1.5
	Fisher							2	1		
	Rye					1	1				
SCORE		0	0	0	0	1	1	2	1	0	1.5
Q.79.	People who have the AIDS virus...										
	Fishbein										1.5
	Fisher		1								
	Rye									1	
SCORE		0	1	0	0	0	0	0	0	1	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.80.	I have a lot of friends.										
	Fishbein										1.5
	Fisher					1					
	Rye					1					
SCORE		0	0	0	0	2	0	0	0	0	1.5
Q.81.	Before having sex, I would talk...										
	Fishbein										1.5
	Fisher							2	1		
	Rye	1	1			1		1			
SCORE		1	1	0	0	1	0	3	1	0	1.5
Q.82.	My friends encourage me...										
	Fishbein										
	Fisher					1					
	Rye					1					
SCORE		0	0	0	0	2	0	0	0	0	0
Q.83.	I worry that someone...										
	Fishbein										1.5
	Fisher	1									1.5
	Rye										1.5
SCORE		1	0	0	0	0	0	0	0	0	4.5
Q.84.	The government keeps young people from...										
	Fishbein										1.5
	Fisher								2		
	Rye									1	
SCORE		0	0	0	0	0	0	0	2	1	1.5
Q.85.	Sex without love is <u>not</u> satisfying.										
	Fishbein										1.5
	Fisher								1		
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.86.	I have trouble making decisions.										
	Fishbein										1.5
	Fisher							2	1		
	Rye							1			
SCORE		0	0	0	0	0	0	3	1	0	1.5
Q.87.	I often feel left out of things.										
	Fishbein										1.5
	Fisher								1		
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	3.0
Q.88.	I need to gain weight.										
	Fishbein										1.5
	Fisher										1.5
	Rye								1		
SCORE		0	0	0	0	0	0	0	1	0	3.0
Q.89.	I have a lot of arguments with my parent(s).										
	Fishbein										1.5
	Fisher						2				
	Rye						1				
SCORE		0	0	0	0	0	3	0	0	0	1.5
Q.90.	I talk about sex with my close friend(s).										
	Fishbein										1.5
	Fisher					2					
	Rye					1					
SCORE		0	0	0	0	3	0	0	0	0	1.5
Q.91.	My friends often ask me for help and advice.										
	Fishbein										1.5
	Fisher					2					
	Rye					1					
SCORE		0	0	0	0	3	0	0	0	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.92.	Homosexuals (gays) should be allowed to be teachers.										
	Fishbein										1.5
	Fisher				1						1.5
	Rye										1.5
SCORE		0	0	0	1	0	0	0	0	0	4.5
Q.93.	Homosexuality is wrong.										
	Fishbein										1.5
	Fisher				1						
	Rye										1.5
SCORE		0	0	0	1	0	0	0	0	0	3.0
Q.94.	AIDS is <u>not</u> as serious a problem...										
	Fishbein										1.5
	Fisher	1	2								
	Rye									1	
SCORE		1	2	0	0	0	0	0	0	0	1.5
Q.95.	There will always be someone telling me what to do.										
	Fishbein										1.5
	Fisher							1	2		
	Rye								1		
SCORE		0	0	0	0	0	0	1	3	0	1.5
Q.96.	The future looks good to me.										
	Fishbein										1.5
	Fisher							2			
	Rye							1			
SCORE		0	0	0	0	0	0	3	0	0	1.5
Q.97.	What my parents think of me is important.										
	Fishbein										1.5
	Fisher						2				
	Rye						1				
SCORE		0	0	0	0	0	3	0	0	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.98.	I am worried about catching AIDS.										
	Fishbein	2									
	Fisher	2	1								
	Rye	1	2								
SCORE		5	3	0	0	0	0	0	0	0	0
Q.99.	If I have a problem, I usually keep it to myself.										
	Fishbein										1.5
	Fisher							1			
	Rye								1		
SCORE		0	0	0	0	0	0	1	1	0	1.5
Q.100.	I ask my parent(s) for advice on serious matters.										
	Fishbein										1.5
	Fisher						2	1			
	Rye						1				
SCORE		0	0	0	0	0	3	1	0	0	1.5
Q.101.	If you carry a condom, people will think...										
	Fishbein			1	1						
	Fisher				2						
	Rye				2						
SCORE		0	0	1	5	0	0	0	0	0	0
Q.102.	People who have the AIDS virus...										
	Fishbein										1.5
	Fisher		2								
	Rye				2						
SCORE		0	2	0	2	0	0	0	0	0	1.5
Q.103.	I feel pressure from my friends to use marijuana.										
	Fishbein										1.5
	Fisher					2			1		
	Rye					1					
SCORE		0	0	0	0	3	0	0	1	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.104.	I believe in getting sexual pleasure where I find it.										
	Fishbein										1.5
	Fisher	1							2		
	Rye										1.5
SCORE		1	0	0	0	0	0	0	2	0	3.0
Q.105.	I like myself.										
	Fishbein										1.5
	Fisher								1		
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	3.0
Q.106.	I often cannot sleep worrying about things.										
	Fishbein										1.5
	Fisher								1		
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	3.0
Q.107.	I have a happy home life.										
	Fishbein										1.5
	Fisher						1				
	Rye						1				
SCORE		0	0	0	0	0	2	0	0	0	1.5
Q.108.	I sometimes have thoughts about committing suicide.										
	Fishbein										1.5
	Fisher								1		
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	3.0
Q.109.	The fear of getting AIDS is preventing me ...										
	Fishbein										1.5
	Fisher	2	1								
	Rye	1	2								
SCORE		3	3	0	0	0	0	0	0	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.110.	I discuss my problems with my friends.										
	Fishbein										1.5
	Fisher					2		1			
	Rye					1					
SCORE		0	0	0	0	3	0	1	0	0	1.5
Q.111.	I trust what the government says about AIDS.										
	Fishbein										1.5
	Fisher								1	2	
	Rye									1	
SCORE		0	0	0	0	0	0	0	1	3	1.5
Q.112.	My friends and I often talk about AIDS.										
	Fishbein										1.5
	Fisher					2		1			
	Rye					2					
SCORE		0	0	0	0	4	0	1	0	0	1.5
Q.113.	I would change how I look if I could.										
	Fishbein										1.5
	Fisher								1		
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	3.0
Q.114.	I often feel lonely.										
	Fishbein										1.5
	Fisher								1		1.5
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	4.5
Q.115.	Life is just one worry after another.										
	Fishbein										1.5
	Fisher								1		1.5
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	4.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.116.	People who have the AIDS virus...										
	Fishbein										1.5
	Fisher		2								
	Rye									1	
SCORE		0	2	0	0	0	0	0	0	1	1.5
Q.117.	I wish my complexion were better.										
	Fishbein										1.5
	Fisher										1.5
	Rye										1.5
SCORE		0	0	0	0	0	0	0	0	0	4.5
Q.118.	There are times when I would like to leave home.										
	Fishbein										1.5
	Fisher								1		1.5
	Rye						1				
SCORE		0	0	0	0	0	1	0	1	0	3.0
Q.119.	I am embarrassed when I am with someone of the opposite sex.										
	Fishbein										1.5
	Fisher							2	1		
	Rye					1					
SCORE		0	0	0	0	1	0	2	1	0	1.5
Q.120.	I would talk to my sexual partner about using a condom...										
	Fishbein										1.5
	Fisher							2	1		
	Rye	2	1								
SCORE		2	1	0	0	0	0	2	1	0	1.5
Q.121.	I feel pressure from my friends to be sexually active.										
	Fishbein										1.5
	Fisher					2		1			
	Rye					2					
SCORE		0	0	0	0	4	0	1	0	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.122.	People who have the AIDS virus should...immigrate.										1.5
	Fishbein										
	Fisher		2							1	
	Rye										
SCORE		0	2	0	0	0	0	0	0	1	1.5
Q.123.	I would feel comfortable talking with a homosexual man.										1.5
	Fishbein										1.5
	Fisher		1								1.5
	Rye										
SCORE		0	1	0	0	0	0	0	0	0	4.5
Q.124.	The messages I get from television...										1.5
	Fishbein									2	
	Fisher	1?								1	
	Rye										
SCORE		1	0	0	0	0	0	0	0	3	1.5
Q.125.	I often wish I were someone else.										1.5
	Fishbein								1		1.5
	Fisher										1.5
	Rye										
SCORE		0	0	0	0	0	0	0	1	0	4.5
Q.126.	People with the AIDS virus...quarantined.										1.5
	Fishbein										
	Fisher		2							1	
	Rye										
SCORE		0	2	0	0	0	0	0	0	1	1.5
Q.127.	Physical appearance is important for popularity.										1.5
	Fishbein										1.5
	Fisher					1					1.5
	Rye										
SCORE		0	0	0	0	1	0	0	0	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.128.	People who have AIDS are getting what they deserve.										1.5
	Fishbein		1								
	Fisher									1	
	Rye										
SCORE		0	1	0	0	0	0	0	0	1	1.5
Q.129.	I would raise my children differently...										1.5
	Fishbein										1.5
	Fisher										1.5
	Rye										
SCORE		0	0	0	0	0	0	0	0	0	4.5
Q.130.	People who have the AIDS virus should be allowed to serve the public.										1.5
	Fishbein		2								
	Fisher									1	
	Rye										
SCORE		0	2	0	0	0	0	0	0	1	1.5
Q.131.	For the rest of my life I intend to have sex with only one partner.										1.5
	Fishbein	2						1			
	Fisher			1							
	Rye										
SCORE		2	0	1	0	0	0	1	0	0	1.5
Q.132.	What happens to my health depends mainly on me.								2		
	Fishbein							1?			
	Fisher	2							2		
	Rye										
SCORE		2	0	0	0	0	0	1	4	0	1.5
Q.133.	If I thought I had a sexually transmitted disease...										1.5
	Fishbein							2	1		
	Fisher				2						
	Rye										
SCORE		0	0	0	2	0	0	2	1	0	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.134.	I feel uncomfortable when someone of the same sex touches me.										1.5
	Fishbein										1.5
	Fisher										1.5
	Rye										
SCORE		0	0	0	0	0	0	0	0	0	4.5
Q.135.	I consider myself to be a good athlete.										1.5
	Fishbein								1		1.5
	Fisher								1		
	Rye										
SCORE		0	0	0	0	0	0	0	2	0	3.0
Q.136.	I often feel depressed.										1.5
	Fishbein								1		1.5
	Fisher										1.5
	Rye										
SCORE		0	0	0	0	0	0	0	1	0	4.5
Q.137.	A condom interferes with sexual pleasure.				2						
	Fishbein				2	1					
	Fisher				2						
	Rye										
SCORE		0	0	0	6	1	0	0	0	0	0
Q.138.	My parent(s) expect too much of me.										1.5
	Fishbein						2		1		
	Fisher						1				
	Rye										
SCORE		0	0	0	0	0	3	0	1	0	1.5
Q.139.	My chance of catching a sexually transmitted disease is low.	2									
	Fishbein	2	1								
	Fisher	2									
	Rye										
SCORE		6	1	0	0	0	0	0	0	0	0

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.140.	People of the opposite sex seem to like me.										
	Fishbein										1.5
	Fisher		2						1		
	Rye										1.5
SCORE		0	2	0	0	0	0	0	1	0	3.0
Q.141.	Some people will be infected by the AIDS virus...										
	Fishbein										1.5
	Fisher							1	2		
	Rye	2								1	
SCORE		2	0	0	0	0	0	1	2	1	1.5
Q.142.	What my friends think of me is very important.										
	Fishbein										1.5
	Fisher					2					
	Rye					1					
SCORE		0	0	0	0	3	0	0	0	0	1.5
Q.143.	If my friends thought they had a sexually transmitted disease...										
	Fishbein										1.5
	Fisher							2	1		
	Rye					1					
SCORE		0	0	0	0	1	0	2	1	0	1.5
Q.144.	People who have the AIDS virus should be required...										
	Fishbein										1.5
	Fisher	1									
	Rye									1	
SCORE		1	0	0	0	0	0	0	0	1	1.5
Q.145.	I am too shy to make a lot of friends.										
	Fishbein										1.5
	Fisher								1		1.5
	Rye										1.5
SCORE		0	0	0	0	0	0	0	1	0	4.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.146.	I am a happy person.										1.5
	Fishbein								1		1.5
	Fisher										1.5
	Rye										
SCORE		0	0	0	0	0	0	0	1	0	4.5

Allocation of Constructs By The Panel of Experts: Knowledge Items

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.26.	The AIDS virus is currently called the human immunodeficiency virus.										1.5
	Fishbein									1	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	3	1.5
Q.27.	The AIDS virus weakens the immune system by destroying the red blood cells.										1.5
	Fishbein									2	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	4	1.5
Q.28.	Men and women are equally likely to have serious problems...										
	Fishbein									2	
	Fisher									2	
	Rye	1								2	
SCORE		1	0	0	0	0	0	0	0	6	0
Q.29.	AIDS can be cured if treated early.										1.5
	Fishbein									1	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	3	1.5
Q.30.	All homosexual men carry the AIDS virus.										
	Fishbein									2	
	Fisher									2	
	Rye	1								2	
SCORE		1	0	0	0	0	0	0	0	6	0
Q.31.	If a person has had a sexually transmitted disease...										
	Fishbein									2	
	Fisher									2	
	Rye		1							2	
SCORE		0	1	0	0	0	0	0	0	6	

TABLE CONT'D... ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.32.	There are blood tests that show if a person...									2	
	Fishbein									2	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	6	0
Q.33.	AIDS the leading cause of death among Canadians under age 25.										1.5
	Fishbein									2	
	Fisher									2	
	Rye	1									
SCORE		1	0	0	0	0	0	0	0	4	1.5
Q.34.	A person can have the AIDS virus for seven or more years...									2	
	Fishbein									2	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	6	0
Q.35.	Sexually transmitted diseases can make females and males...									2	
	Fishbein									2	
	Fisher									2	
	Rye		1								
SCORE		0	1	0	0	0	0	0	0	6	0
Q.36.	A person can get genital herpes from oral sex.									2	
	Fishbein									2	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	6	0
Q.37.	A person can be infected up to six months before...									2	
	Fishbein									2	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	6	0

TABLE CONTD...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.38.	Vaseline is a good lubricant to use with a condom.										1.5
	Fishbein									2	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	4	1.5
Q.39.	A person who is having sex with different partners...										
	Fishbein									2	
	Fisher									2	
	Rye									2	
SCORE		0	0	0	0	0	0	0	0	6	0
Q.40.	The AIDS virus can be spread from a female...										
	Fishbein									2	
	Fisher									2	
	Rye		1							2	
SCORE		0	1	0	0	0	0	0	0	6	0
Q.41.	When a person shares drugs or needles...										
	Fishbein									2	
	Fisher									2	
	Rye	1								2	
SCORE		1	0	0	0	0	0	0	0	6	0
Q.42.	Taking birth control pills will protect...										
	Fishbein									2	
	Fisher									2	
	Rye									2	
SCORE		0	0	0	0	0	0	0	0	6	0
Q.43.	Condoms used with a spermicidal foam or gel...										
	Fishbein									2	
	Fisher									2	
	Rye									2	
SCORE		0	0	0	0	0	0	0	0	6	0

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
Q.44.	Sexually transmitted diseases can be caught from toilet seats.										
	Fishbein									2	
	Fisher									2	
	Rye									2	
SCORE		0	0	0	0	0	0	0	0	6	0
Q.45.	The AIDS virus may be spread from a female to a male...										
	Fishbein									2	
	Fisher									2	
	Rye	1								2	
SCORE		1	0	0	0	0	0	0	0	6	0
Q.46.	You can tell if a person has a sexually transmitted disease by his looks.										
	Fishbein									2	
	Fisher									2	
	Rye							1		2	
SCORE		0	0	0	0	0	0	1	0	6	0
Q.47.	The AIDS virus can be spread through hugging.										
	Fishbein									2	
	Fisher									2	
	Rye									2	
SCORE		0	0	0	0	0	0	0	0	6	0
Q.48.	A person can catch some sexually transmitted diseases through genital contact...										
	Fishbein									2	
	Fisher									2	
	Rye	1								2	
SCORE		1	0	0	0	0	0	0	0	6	0
Q.49.	AZT is a cure for AIDS.										1.5
	Fishbein									2	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	4	1.5

TABLE CONT'D...

ITEM #	ITEM	A	B	C	D	E	F	G	H	I	NF
O.50.	Although chlamydia is the most common sexually transmitted disease...										1.5
	Fishbein									2	
	Fisher		1							2	
	Rye										
SCORE		0	1	0	0	0	0	0	0	4	1.5
O.51.	Having many sexual partners increases a person's risk...									2	
	Fishbein								1	2	
	Fisher	1								2	
	Rye										
SCORE		1	0	0	0	0	0	0	1	6	0
O.52.	Homosexual males and homosexual females...									2	
	Fishbein									2	
	Fisher									2	
	Rye										
SCORE		0	0	0	0	0	0	0	0	6	0
O.53.	Many people who have sexually transmitted diseases will not have symptoms of illness.									2	
	Fishbein								1	2	
	Fisher		1							2	
	Rye										
SCORE		0	1	0	0	0	0	0	1	6	0

APPENDIX G: ASSESSMENT OF GOODNESS OF FIT FOR EACH MODEL

Assessment of Goodness-of-Fit of Discriminant Model 'Ever Had Sexual Intercourse', Male

STEP	VARIABLE ENTERED	WILK'S LAMBDA	PROB LAMBDA	ASCC**	PROB ASCC
1	ALCOHOL USE	0.8411	<0.0001	0.1588	<0.0001
2	CIGARETTE USE	0.8022	<0.0001	0.1988	<0.0001
3	CANNABIS USE	0.7879	<0.0001	0.2121	<0.0001
4	ATTITUDE CASUAL SEX	0.7760	<0.0001	0.2240	<0.0001
5	SELF-ESTEEM	0.7638	<0.0001	0.2362	<0.0001
6	AVERAGE MARK	0.7567	<0.0001	0.2433	<0.0001
7	CHURCH	0.7528	<0.0001	0.2472	<0.0001
8	RELATIONSHIP WITH PARENTS	0.7496	<0.0001	0.2504	<0.0001
9	MOTHER'S BIRTHPLACE	0.7467	<0.0001	0.2533	<0.0001

** ASCC: Average Squared Canonical Correlation

Assessment of Goodness-of-Fit of Discriminant Model 'Ever Had Sexual Intercourse', Female

STEP	VARIABLE ENTERED	WILK'S LAMBDA	PROB LAMBDA	ASCC**	PROB ASCC
1	CIGARETTE USE	0.8767	<0.0001	0.1233	<0.0001
2	FTR 4: ATTITUDE CASUAL SEX	0.7996	<0.0001	0.2004	<0.0001
3	CANNABIS USE	0.7856	<0.0001	0.2144	<0.0001
4	ALCOHOL USE	0.7775	<0.0001	0.2225	<0.0001
5	SUBJECTS	0.7699	<0.0001	0.2301	<0.0001
6	URBAN/RURAL	0.7647	<0.0001	0.2353	<0.0001
7	LIVE WITH	0.76044	<0.0001	0.2396	<0.0001
8	FINISH	0.7572	<0.0001	0.2428	<0.0001
9	MOTHER'S BIRTHPLACE	0.7554	<0.0001	0.2446	<0.0001
10	FATHER'S OCCUPATION	0.7536	<0.0001	0.2464	<0.0001
11	FTR 2: RELATIONSHIP WITH PARENTS	0.7520	<0.0001	0.2480	<0.0001
12	AVERAGE MARK	0.7512	<0.0001	0.2488	<0.0001
13	KNOWLEDGE SCORE	0.7503	<0.0001	0.2497	<0.0001
14	FTR 5: SEXUAL WORRY	0.7496	<0.0001	0.2504	<0.0001

** ASCC: Average Squared Canonical Correlation

Assessment of Goodness-of-Fit of Discriminant Model 'Number of Partners', Male

STEP	VARIABLE ENTERED	WILK'S LAMBDA	PROB LAMBDA	ASCC**	PROB ASCC
1	ALCOHOL USE	0.8093	<0.0001	0.04708	<0.0001
2	CANNABIS USE	0.7391	<0.0001	0.06595	<0.0001
3	CIGARETTE USE	0.7040	<0.0001	0.07491	<0.0001
4	ATTITUDE CASUAL SEX	0.6827	<0.0001	0.08044	<0.0001
5	SELF-ESTEEM	0.6714	<0.0001	0.08355	<0.0001
6	AVERAGE MARK	0.6650	<0.0001	0.8545	<0.0001
7	CHURCH	0.6610	<0.0001	0.08677	<0.0001
8	LIVE WITH	0.6575	<0.0001	0.08788	<0.0001
9	MOTHER'S BIRTHPLACE	0.6544	<0.0001	0.0886	<0.0001
10	RELATIONSHIP WITH PARENTS	0.6513	<0.0001	0.08974	<0.0001

** ASCC: Average Squared Canonical Correlation

Assessment of Goodness-of-Fit of Discriminant Model 'Number of Partners', Female

STEP	VARIABLE ENTERED	WILK'S LAMBDA	PROB LAMBDA	ASCC**	PROB ASCC
1	CIGARETTE USE	0.8464	<0.0001	0.05118	<0.0001
2	ATTITUDE CASUAL SEX	0.7712	<0.0001	0.07700	<.0001
3	CANNABIS USE	0.7118	<0.0001	0.09955	<0.0001
4	ALCOHOL USE	0.7000	<0.0001	0.1037	<0.0001
5	SUBJECTS	0.6920	<0.0001	0.1065	<0.0001
6	LIVE WITH	0.6863	<0.0001	0.1088	<0.0001
7	URBAN/RURAL	0.6811	<0.0	0.1088	<0.0001
8	FINISH EDUCATION	0.6782	<0.0	0.1107	<0.0001
9	MOTHER'S BIRTHPLACE	0.6763	<0.0	0.1118	<0.0001
10	DEPRESSION	0.6745	<0.0	0.1126	<0.0001
11	AVERAGE MARK	0.6728	<0.0	0.1141	<0.0001
12	RELATIONSHIP WITH PARENTS	0.6714	<0.0	0.1140	<0.0001
13	FATHER'S OCCUPATION	0.6701	<0.0	0.1151	<0.0001

** ASCC: Average Squared Canonical Correlation