Adolescent attitudes towards and engagement in at-risk behaviour in two Christian high schools

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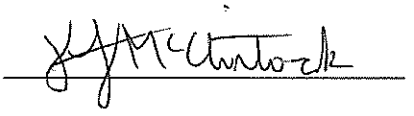
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Signed: 

Dated: 3 November, 2003

Dedication

Dedicated to my Mum and Dad – Thank you for your uncompromising faith in my potential, for gently pushing me when I needed it, and for providing a safe haven in which to test my wings. The long wait is finally over.

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I would like to thank and acknowledge the following people for their guidance and help during the course of my study:

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To the teachers who assisted and facilitated the distribution of the questionnaire; Only God knows how far-reaching the fruits of your labours will be, but until that great day keep making a difference in the lives of our most precious resource.

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ABSTRACT

Adolescence is a time of great physical and psychological change. During this phase of life individuals are particularly susceptible to pressures to take risks and experiment. However, many adolescents who experiment with certain chemical substances can become habitual users, leading to serious health problems later in life. Adolescents are also under pressure to conform to society's ideals in terms of appearance, and some try to achieve these ideals by developing disordered eating habits. This study investigates adolescent engagement in alcohol use, cigarette smoking, steroid use, and patterns of diet among students in two Christian schools.

A questionnaire was constructed and handed out to students from the two Christian schools. The data were then collected and analysed. It was found that the number of students who had experimented with alcohol at schools from the denomination under study had increased dramatically in the past ten years. It was also found that the incidence of experimentation with smoking was almost as high as for the general population of adolescents. Steroid use was lower than for American counterparts, and the incidence of diet was lower than was to be expected from the literature.

However, it can be seen that adolescents attending Christian schools are not immune from the pressures adolescents face to engage in risk behaviour, and that although students attending these schools seem more resilient to the pressures, they are still at levels high enough for concern and future research needs to be conducted to more fully investigate the problem.

CHAPTER 1

THE NATURE AND SCOPE OF THE STUDY

Introduction

Adolescence is a time of enormous change, involving physical and psychological maturing. Individuals at this stage of development are seeking to develop an identity of their own, and to form their own set of values, beliefs and acceptable behaviours. Many adolescents engage in behaviours detrimental to their health, and the pervasiveness of risk-behaviours among adolescence is cause for concern.

Statement of the Problem

Adolescents engage in harmful behaviours, and many of these behaviours that are started during adolescence are continued into adulthood, with negative health consequences. Adolescent rates of hazardous use of alcohol and smoking have been found to be higher than for the general population (Australian Institute of Health and Welfare, 1998). Adolescents are more likely to engage in disordered eating practices, with the literature focussing on issues related to female body image (Prouty & Protinsky & Canady, 2002). However, males are not immune from disordered eating and other appearance related behaviours, with studies showing males tend to engage in higher rates of steroid use than do females (DuRant, Rickert, Ashworth, Newman & Slavens, 1993).

Although discussion relating to certain risk-behaviours is currently in the news there is still a lack of research detailing the behaviours, especially from a context concerning individuals in Christian schools. While there is some research from the Christian sector, there needs to be more undertaken, as there are very few recent studies.

The Aims of the Study

The present study aimed to ascertain how prevalent specific at-risk behaviours were in certain Christian schools. The risk behaviours considered were alcohol use, cigarette smoking, steroid use and disordered eating. This objective was accomplished by collecting data by means of a questionnaire from Australian secondary school students who were enrolled in certain Christian schools. The questionnaire sought information of a demographic nature, so that a profile of respondents could be obtained. There were also questions of an attitudinal nature, set against a four-point Likert scale. The study also sought to determine if there were clusters of respondents whose attitudes more favourably inclined them to engage in at-risk behaviours. These attitudes could then be quantified, and the nature of adolescent engagement in risk behaviours more fully understood. Chapter two will provide a more detailed look at the aims of the study, specifically the research questions.

Significance of the Study

The study is important because it should provide insights into adolescent engagement in risk behaviours. A healthy and balanced population of adolescents is vital to a society's future, and any study that can help understand what makes adolescents engage in harmful behaviours is both timely and important. The study is also significant because it helps add to the knowledge base about adolescents enrolled in Christian schools, as there is not a great deal of existing research regarding this population, and much of what does exist is no longer recent.

Limitations of the Study

For the purposes of this study only individuals currently enrolled and attending two Christian schools from the same denomination were considered. This helped keep the research to a manageable size, and also aided comparisons with certain existing studies. As well as limiting the sample population there were only a few specific risk behaviours studied as a study detailing the entire range of adolescent risk behaviours would be beyond the scope of an honours thesis.

The timing of the questionnaire coincided with the HSC Trial Exams, which meant that many of the older respondents were unable to be involved. Thus, there are fewer respondents in the upper age categories.

Assumptions of the Study

It was anticipated that a representative sample would be obtained, even though not everyone in the school was surveyed, and despite the expectation that there would not be a 100% response rate to the questionnaire. It was also assumed that the respondents would answer the questionnaire honestly, and that respondents would interpret the questions in the manner in which the researcher intended.

Definition of Terms

The following is a term used in the study to convey the following meaning:

- At-risk behaviours: Behaviours engaged in by individuals that have potentially negative physical or psychological consequences. In this study it refers to alcohol use, cigarette smoking, anabolic steroid use, and disordered eating.

Summary of Succeeding Chapters

Chapter two considers the literature relevant to adolescent life, alcohol use, cigarette smoking, steroid use, and dieting and eating disorders. It surveys existing research to find trends and statistics on the various risk behaviours to provide a context and comparison for the results of this study. Chapter three describes the research method undertaken to complete the study and also describes the processes involved in analysing the data. Chapter four discusses the results of the data analysis, and provides a description of the respondents, along with the prevalence of the risk behaviours. The chapter also discusses attitudinal factors related to the risk behaviours, as well as noting interesting correlations between the different variables. Chapter five presents conclusions with regards to the findings of the study, comparisons with the literature, and indicates how the results help answer the research questions. Limitations of the

study are discussed, and areas for further study recommended.

CHAPTER 2

REVIEW OF LITERATURE

Introduction

The respondents to this study are young people in the second decade of their lives. It is during this period of life that individuals begin to experiment with life-style choices and for some, these choices can involve behaviour that places potential well-being at risk. This chapter will examine factors related to adolescent use of tobacco, alcohol and steroids, as well as those factors relating to eating disorders among adolescents.

Adolescence

Life and Social Learning

Adolescence is a stage of life that involves enormous physical, emotional and psychological change (Cecil & Stanley, 1997; Ferron, 1997; Pritchard, King & Czajka-Narins, 1997). It is during this stage that many individuals begin to form their own identity and personal values and behaviours and it is also during this time that many individual's begin to experiment with such substances as alcohol, tobacco and anabolic steroids (Rolison & Scherman, 2002). Most long-term adult users of tobacco and alcohol began the practice as adolescents (Melnick & Miller & Sabo & Farrell & Barnes, 2001; Query, Rosenberg & Tisak, 1998; White & Pitts, 1998). It is also at this stage of life that psychological pressure associated with personal image cause some young adolescents to control their food intake (Kim & Kim, 2001).

Experimentation and Risk-taking

Risk taking is an extension of normal adolescent engagement with their world, and can even serve a positive and constructive role in an individual's development (Smith & Rosenthal, 1995). However, not all risks that adolescents undertake are positive, since early experimentation with drugs can be associated with problem usage later in life (Naylor & Gardner & Zaichkowsky, 2001; White & Pitts, 1998). An important point in understanding

adolescent risk taking is that adolescents may perceive risk differently than do adults (Rolison & Scherman, 2002). Many adolescents do not appreciate the full nature of the risks and some believe that they as individuals are less vulnerable to, and have a greater control over the negative effects than their peers (Rolison & Scherman, 2002; Smith & Rosenthal, 1995). With increasing age, some adolescents perceive that the use of alcohol and tobacco can help them project a personal image that enhances their social interaction with others (Rolison & Scherman, 2002). Many actually believe that the social advantage gained by using these substances outweigh both the immediate and delayed health risks involved (Rolison & Scherman, 2002).

Growing Independence and Increasing Peer Acceptance

It is at this stage of development that individuals begin to grow towards independence from the home and the sphere of their parent's influence (Smith & Rosenthal, 1995). Now the deciding factors determining participation in specific activities devolve from parents and pass to social peers (Pritchard et al., 1997). While parents may still have a role in shaping adolescents' risk taking, the influence of parental disapproval diminishes with increasing adolescent age, and at the same time the influence of peer approval strengthens with increasing age (Smith & Rosenthal, 1995).

Formulating Identity and Appearance Concerns

Adolescents face a variety of pressures when attempting to gain their identity. They must explore and commit to a set of beliefs and values of their own choosing, otherwise real identity achievement cannot take place (Strahan, 1994). As well as redetermining their role within family and community they also desire acceptance from peers. Within Western cultures achievement of identity and peer acceptance is often "wrapped up with appearance and perceptions about appearance" (Whitehead & Hoover, 2000, p 130). This desire to appear attractive affects all aspects of life, not only an individual's physical appearance, but their behaviour as well (Whitehead & Hoover, 2000). The importance of appearance is also driven

by the need for young adolescents to be attractive to the opposite sex (Dunkley & Wertheim & Paxton, 2001; Pritchard et al., 1997). This pre-occupation with appearance seems to be responsible for many of the at-risk behaviours commonly associated with adolescence (McKay Parks & Read, 1997; Pope et al. 2000; Whitehead & Hoover, 2000). An individual's body image, and its effect on social interaction, is also important. Teasing by family and peers has been shown to be a strong predictor of disturbed eating, and for experiencing dissatisfaction with one's body (Dunkley et al., 2001).

Alcohol

Alcohol is regarded as one of the most common types of risk-taking behaviours engaged in by Australian adolescents, and it is considered a gateway to many other risk-behaviours (Adalbjarnardottir, 2002; Sutherland & Willner, 1998; White & Pitts, 1998). The prevalence of alcohol use among adolescents, and the age at which many first experiment with it is an increasing cause of concern. In the Australian population it is estimated that up to 96% of young adolescents have tried alcohol (Sutherland & Willner, 1998; White & Pitts, 1998). Among some populations the use of alcohol is less prevalent, with a study published in 1993, and using a sample of Seventh-day Adventist youth, finding that only one-third had experimented with alcohol (Valuegenesis, 1993). Alcohol experimentation and use can start early, with one study finding that up to a quarter of children in the second and third grades had tasted beer (Query et al., 1998).

An Australian study conducted in 2003 shows that by age twelve over a quarter of its respondents had consumed a full glass or more of an alcoholic beverage. By age eighteen this proportion had risen to 94% (Copeland & Dillon, 2003). An English study found similar results, with almost a third of eleven-year olds indicating they were regular drinkers (Sutherland & Willner, 1998). This proportion rose to four-fifths by the age of sixteen (Sutherland & Willner, 1998). International literature provides evidence that the earlier individuals start to use alcohol the greater the risk of alcohol related problems later in life

(Copeland & Dillon, 2003). In New South Wales adolescent use of alcohol is of such concern that a special conference was convened in August 2003 to determine government policy regarding the advertising and sale of alcohol (Gibbs & Jacobsen, 2003).

One of the reasons for the high incidence of alcohol use is that it is a socially acceptable practice among Western culture (Copeland & Dillon, 2003; Naylor et al, 2001; NSW Health, 2001). Alcohol is rarely considered a drug, and many people consider it a normal, or even essential part of the celebrations of life events (Copeland & Dillon, 2003). National health survey data (Australian Bureau of Statistics, 1991) found that nearly 100% of males and 79% of females in the general population had consumed a glass or more of an alcoholic beverage in the past year, giving an overall total of 84% of the population (Hamilton, Kellehear & Rumbold, 1998). Adolescents see the behaviour modelled from home, in the media, and from their peers, and perceive that it is a low risk activity with a feeling of pleasure derived from its use (Rolison & Scherman, 2002; Smith & Rosenthal, 1995). Adolescents also perceive that the negative consequences associated with alcohol are likely to occur to others, rather than to themselves (Smith & Rosenthal, 1995).

Odgers, Houghton and Douglas showed in their 1997 study that approximately 40% of the secondary students surveyed in Western Australia regularly used alcohol, with half of those using alcohol on a weekly basis (Langsford, Douglas & Houghton, 1998). The Australian Institute of Health and Welfare in their 1998 study found that 43% of those surveyed were current regular drinkers, drinking at least once a week, with an additional 33% being occasional drinkers. The study found that the younger aged drinkers were more involved in hazardous levels of drinking, with females tending to drink at more hazardous levels than males. A disturbing finding of a study conducted by the Australian Bureau of Statistics in 1991 was that those who are the most likely to engage in alcohol consumption of a harmful or hazardous nature, such as binge-drinking, were adolescents and young adults, rather than people of middle age or older. A second report (Australian Institute of Health and Welfare,

1998) revealed that 69% of females and 48% of males aged 14-19 years were drinking at hazardous or harmful levels. Recent studies link these hazardous levels of drinking with a younger age of initiation into drinking (Sutherland & Willner, 1998). It seems that many younger drinkers are drinking with the express intention to get drunk (Copeland & Dillon, 2003; Shanahan & Hewitt, 1999; Sutherland & Willner, 1998).

The National Health and Medical Research Council (2001) does not provide safe limits on alcohol consumption for individuals aged less than eighteen, but the limit for adult females is five drinks, and this can serve as a bench-mark for adolescent binge drinking. The study by Copeland and Dillon (2003) found that less than one tenth of students aged nine to fourteen were drinking more than five glasses of an alcoholic beverage per drinking occasion (Copeland & Dillon, 2003). However, among students aged fifteen and sixteen almost a third were drinking six to ten glasses per session, and over 10% were drinking more than ten glasses per session. By the age of seventeen and eighteen more than half of the students were drinking more than five glasses a session, with 30% drinking six to ten glasses, and 27% drinking more than ten glasses a session (Copeland & Dillon, 2003). The number of drinks consumed per session thus increased with age, with seventeen and eighteen year olds reporting consuming an average of almost 14 glasses per drinking occasion, which is more than double the recommended limit for adult females.

Tobacco

Although cigarette smoking is less prevalent than alcohol use amongst Australian adolescents, it is still a major cause for concern, because smoking is associated with increased rates of vascular and pulmonary disease in adulthood (Melnick et al. 2001). In fact, tobacco is considered the most dangerous drug commonly used, and is responsible for half of the deaths of people who commonly use it (Anderson & Hughes, 2000). It is estimated that in twenty years time tobacco will be responsible for a fifth of all premature deaths (Anderson & Hughes, 2000). Australian research reveals similar figures. Smoking was responsible for

19,000 deaths in Australia in 1998 alone, which amounts to 15% of the total number of deaths that occurred in Australia in 1998 (Ridolfo & Stevenson, 2001).

It is important to note that most of the current adult smokers began smoking as adolescents (Melnick et al. 2001). The number of adolescents who have tried smoking is estimated at around one in three, with current smoking by adolescents aged 12-15 estimated at around 15.7-17.5 % of the age cohort (Melnick et al. 2001; Savage & Holcomb, 1998; Sutherland & Willner, 1998). It has been estimated that up to 12% of Australian adolescents smoke on a daily basis (Gillespie, Fisher, Stanton & Lowe, 1998). While the number of people who smoke is decreasing, the incidence among young people is higher than for the general population (Australian Institute of Health and Welfare, 1998).

Adolescent smoking results from a complex set of causes with varied correlates including attitudes toward females who smoke, close friend's use of cigarettes and personal use of alcohol (Melnick et al. 2001). The correlate with peers who smoke is very high, with one study reporting that the odds of an individual smoking who reported most friends as smoking was 36 times greater than for an individual without peers who smoke, and the odds of an individual engaging in daily smoking increased by more than a 100 times among those who reported their peers were smokers (Patton et al., 1998). It would seem to be that adolescents who smoke seek friends from among others who smoke (Greive, 1992). Daily smoking has also been associated with "high-dose alcohol consumption, daily parental smoking, and high psychiatric morbidity" (Patton et al., 1998).

The media is also implicated in smoking, mainly because of the advertising of these products, and the portrayal by the media of people such as film or sports stars as being 'cool' because they use these products (Charlton & While & Kelly, 1997; Glantz, 2003). Many adolescents smoke because it helps them portray a certain image, and allows them to emulate role-models, such as film stars (Glantz, 2003). However, film stars are not the only role-models who are

responsible for encouraging adolescents to smoke. It has been found that boys aged 12 and 13 were twice as likely to smoke if they watched motor racing than those who did not watch it, and this is thought to be due to the extensive advertising of cigarettes in motor racing (Charlton et al., 1997).

There are a number of reasons why young smokers are particularly vulnerable to influences to smoke. Many young people who are feeling depressed long to be accepted, and may see smoking as a way to gain acceptance (Tercyak & Goldman & Smith & Audrain, 2002). In the past cigarette advertising portrayed smokers as being accepted by the group and having fun. However, cigarette advertising is now very restricted, so tobacco companies use alternative methods of promoting their product. A common and effective method they use is product placement in films. Adolescents see actors they admire playing roles which involve frequent use of cigarettes in situations where brand names are sometimes even prominently displayed (Greive, 1996). If such situations did not encourage susceptible young people to smoke tobacco companies would not spend hundreds of thousands of dollars in product placement.

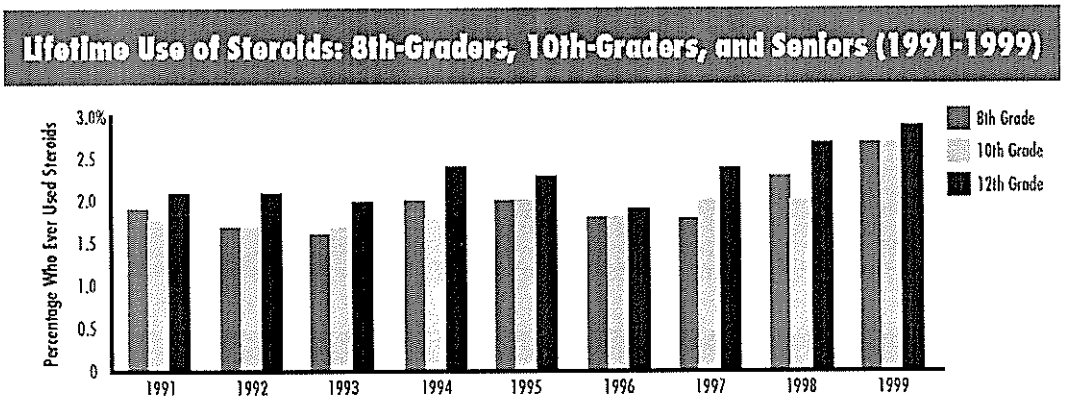
Young smokers are more likely to come from lower socioeconomic backgrounds than those who do not smoke, regardless of gender and family structure (Blum, Beuhring & Shew, 2000). Young smokers are also more likely to be from single parent families, regardless of socioeconomic factors or gender (Blum et al., 2000; Greive, 1994). Another characteristic of young smokers is that they have an external locus of control (Clarke, Macpherson & Holmes, 1982). Individual's with an external locus of control believe that consequences of events are unrelated to their behaviour, and therefore beyond their control, whereas individual's with an internal locus of control perceive events as being a consequence of their actions, and therefore under their control (Carlisle-Frank, 1991; Strahan, 1994). The literature suggests a link between locus of control and socioeconomic factors, with those who suffer the stresses of unemployment and poor economic resources more likely to report that they felt externally controlled (Strahan, 1994).

Steroids

Many countries in the world, particularly Western countries, place a large emphasis on athletic and sporting prowess. Professional athletes are admired, and some are paid millions of dollars to endorse products. It is no surprise, then, that adolescents feel pressure to perform well in their sporting endeavours, and that for some the pressure to perform might lead to the use of performance enhancing drugs. While a higher percentage of boys try steroids, the problem is by no means a male only one. An American study by DuRant et al. (1993) found that between five to eleven percent of boys, and up to two percent of girls have used anabolic steroids. The *American Family Physician* 'Clinical Brief' from the October 1, 1997 edition reported another study that showed the prevalence to be as high as 11% of males in the eleventh grade (American Academy of Family Physicians, *1997).* Figure 2.1 shows an increasing trend in the use of steroids amongst high-school students in America.

Figure 2.1

Data dealing with the prevalence of steroid use in US high schools (US Department of Health and Human Services, p3, 2000)



The use of drugs such as anabolic-androgenic steroids is not solely related to sporting goals. They can be used simply as a way of improving an individual's appearance by making them more muscular. A study by Naylor, Gardner and Zaichkowsky (2001) found that there was no difference in the use of anabolic steroids between athletes and non-athletes. However, there is

even a small number of adolescent males who use steroids even though they are not engaged in an activity designed to increase their muscle mass, such as weight-lifting (DuRant et al., 1993).

As with the users of alcohol and tobacco, steroid users typically start young and those who start young tend to use steroids more frequently, and for longer periods of time (Buckley et al., 1988). In fact, it has been found that those who first use steroids by the age of fifteen comprise the largest single group of steroid users among high-school seniors, but that steroid use probably occurs even earlier (DuRant et al., 1993).

Dieting and Eating Disorders

Many people living in Western society are becoming obese, and it is a problem that is currently in the news, but this study looks at the other end of the spectrum, namely those individuals with eating disorders. The prevalence of eating disorders in the general population is thought to be around one to three percent, with a higher percentage among adolescent and young adult women (Prouty & Protinsky & Canady, 2002). It has been estimated that up to two-thirds of high school females are already on a diet, or planning to go on one (Thomsen, Weber & Brown, 2002). This is significant especially when studies have found that those adolescents who diet are more likely to develop eating disorders, such as bulimia nervosa and anorexia nervosa (Thomsen et al., 2002). There is greater awareness about eating disorders and body image issues among women, as most of the focus has been on individuals who feel they are overweight, and use dangerous methods to lose weight (McCabe & Ricciardelli, 2001). These methods include using laxatives, forced vomiting, using diet pills, skipping meals, or even drastically lowering food intake for significant periods of time (Thomsen et al., 2002). Eating disorders also affect males, but often males are more interested in trying to gain weight and muscle mass, rather than dieting to lose weight (McCabe & Ricciardelli, 2001).

One of the major factors many researchers feel is responsible for low body image among both men and women is the role the media plays in portraying the 'ideal body' people should aspire to attain (David & Johnson, 1998). Adolescent females are continually bombarded with images of impossibly thin models, and when many adolescent females fail to acquire bodies like the models, they can develop a low body image, which many researchers have found can lead to eating disorders such as anorexia nervosa, or bulimia (Dyer & Tiggemann, 1996; Ferron, 1997; Tiggemann & Dyer, 1995). Females with distorted views of their bodies tend to think they are overweight, even if they are in the normal weight range, or even clinically underweight (Dunkley et al., 2001; Kim & Kim, 2001). Adolescent females are particularly susceptible to the influence of magazines that are targeted towards them, as the intense preoccupation with appearance and identity development is heightened during adolescence (Dunkley et al., 2001; Thomsen et al., 2002).

In the past, little attention has been paid to issues related to male body image, as it has been found that males generally achieve higher scores on body satisfaction and self-concept scales than females and therefore were considered more satisfied with their bodies (Hülya Aşci, 2002). However, it is now being recognised that adolescent males are not immune from media pressures to conform to the ideal male physique (McCabe & Ricciardelli, 2001; Morgan, 2000). This ideal physique is that of a muscular, yet lean individual, with wide shoulders, well-defined pectoral muscles, and the traditional abdominal "six-pack" (Mackay Parks & Read, 1997). There is now a disorder called muscle dysmorphic disorder, which appears to be the inverse of anorexia in women, in that a man's body is seen to be always to small (Pope et al., 2000). Even if the individual is actually extremely muscular, their perceptions about their body do not match reality, and they develop disordered eating habits, and train with weights extensively in an attempt to gain more muscle mass (Pope et al., 2000).

Research Questions

As a result of information gathered from the literature the following research questions were asked:

1. How prevalent is the use of alcohol, tobacco and steroids, and controlling diet in the community of the two schools?
2. How does the prevalence of the above behaviours compare with the general community of adolescents?
3. What attitudes do students at the two schools hold in regards to alcohol, tobacco and steroid use, and towards dieting?
4. What characteristics are shared by respondents who display similar behaviours in regards to the use of alcohol, tobacco and steroids, and similar dieting behaviours?

Chapter Summary

Adolescence is a time of great change, and a time when the pressures to engage in various risk-behaviours are very large. It is important to ensure that young people are equipped with the knowledge and desire to say no to the dangers of risks, while recognising that it is a time when they are becoming independent and creating their own identity. The literature suggests that the earlier an individual starts to indulge in drugs the more likely they are to engage in higher levels of risk. Thus it is important to try and provide safe environments where adolescents can be nurtured and grow independent, without feeling the need to engage in substance use or other harmful behaviours that can affect them for the rest of their lives.

The incidence of certain risk-behaviours by adolescents in the general population can be seen from the literature, but there is only a two studies dealing with risk-behaviour amongst students in an Australian Christian school context. The Copeland and Dillon paper (2003) dealt with attitudes to alcohol and patterns of use amongst students of a Christian College, and the Valuegenesis study (1993), which dealt with adolescents and youth in the Seventh-day Adventist church. The latter study is the most recent published study conducted by that

particular denomination, and the data involving at-risk behaviour was incomplete. Some questions were asked on alcohol use, but tobacco use was overlooked, and data on unhealthy eating habits was also missing.

Adolescent at-risk behaviour is a very important area of study, and is gaining the attention it deserves. This paper seeks to broaden and enrich the literature concerning the prevalence of these risk-behaviours in denominational schools, as well as addressing attitudes denominational school students have towards substance use and harmful dieting practise. It also hopes to stimulate further research in the area.

The next chapter provides a description of the manner in which the research was carried out. It details the creation of the questionnaire, the need for ethics approval, and the process by which the data was collected and analysed.

CHAPTER 3

RESEARCH METHOD

Introduction

This chapter describes both the research method for the study and the manner in which the data was collected. In so doing, it also describes the instrument and comments upon issues of an ethical nature and the process by which clearance for the study was obtained from the Avondale College Human Research Ethics Committee. Finally, the chapter discusses the nature of the analysis of the data.

The Questionnaire

The research investigated student attitudes to activities and substance use that have health implications among adolescent students attending two New South Wales Christian secondary schools. A questionnaire was used to collect the student responses. This was administered, with permission, to the students during school time.

The questionnaire consisted of two sections. The first asked questions of a demographic nature and the second section included attitudinal items set against a four-point Likert scale. These items were belief statements about substance use, dieting and of self-image. Together with the Likert scale, they provided measures of attitude and self-esteem. The attitudinal items were generated from the literature (Røysamb & Wiik, 1998) and from informal discussions in which young people reflected upon their life-experiences.

Ethical Issues

The purpose of the study was to provide information about the practices and attitudes adolescents possess towards certain risk-behaviours, allowing educators a fuller understanding of adolescent risk-taking. As such, questions needed to be asked that required

ethical clearance by the appropriate bodies, but it was necessary to ask these questions, as the health of young people is something about which society should be concerned.

In shaping the questionnaire care was taken to ensure the information collected would not allow any respondents to be identified. Further, as a principle of the research, the information collected would not be used in any way that would be detrimental to the respondents, their schools, the researcher or to Avondale College (See Appendix I). The questionnaire was trialled among tertiary students, who returned the questionnaire with comments. It was then submitted to members of the education faculty for comment. As a result of this process certain questions were reworded to avoid ambiguity, leading to a clearer questionnaire.

An information slip was prepared to notify and inform student's carers of the study (See Appendix II). This was a single page description of the nature of the study and its purpose. The information slip allowed carers to withdraw their dependent students from the study should they wish to do so. The information slip was worded in this manner so that the number of unnecessary exclusions due to the non-return of notifications would be minimised.

It was at this point that the research plan, the questionnaire and the parent's information and notification slip were submitted to the Avondale College Human Research Ethics Committee for its approval. The committee approved the questionnaire subject to certain minor changes (See Appendix III). The authority notification was also approved provided that in addition to the information sheet, a detailed description of the study was published in the school news bulletin well prior to the date of data collection (See Appendix IV). This description was to inform the carers of their right to withdraw their dependent students from the study, if they so desired.

Data Collection

It was at this point that a request was made to the appropriate educational authorities of two Christian schools for permission to approach school principals to discuss the study and the possibility of data collection. As a result, permission was granted to collect data in two Christian schools. These schools were more than 700 kilometres apart.

Data Analysis

The data were entered into the computer and the SPSS statistical software package was used to carry out the analysis. Initially the frequencies, along with maxima, minima and ranges of each variable were printed out and checked for errors in data entry. It was at this point that six responses were withdrawn, either due to missing data or because responses did not appear to be genuine.

Early analysis included cross-tabulations of categorical variables to provide a description of the respondents and of their behaviours in relation to diet and substance abuse (Norušis, 1993). The Chi Square statistic was used to indicate significance of relationships that appeared at this stage.

It was intended that the attitudinal items be subjected to factor analysis, and that this process should produce independent scales. For this reason the following criteria for factor analysis were employed:

1. A 'scree plot' of Eigen values against the number of factors was used to indicate the number of factors to be extracted.
2. Varimax rotation was employed as the factoring method since it returns orthogonal factors.
3. Only items with a loading exceeding 0.2 were included and those items with a loading difference of less than 0.2 on two or more factors were excluded.

4. Items were removed one at a time and scale reliabilities checked to ensure that the scale reliabilities were maximised.
5. Items with negative loadings were recoded and the attitudinal statements reversed.

Scales were produced by averaging the Likert weightings across the items loading onto each respective factor. This allowed scale scores to be interpreted against the original Likert scales.

The scales scores along with the other variables were entered into a correlational process. Relationships appearing in the correlation table were further explored using analysis of variance (ANOVA).

Hierarchical cluster analysis on specific variables related to each of the major at-risk behaviours was carried out (SPSS, 1990). The variables representing the various at-risk behaviours were the determining factor in the cluster analyses, and for each of the cluster analyses a clear differentiation of two to three groups was found. Once the groups had been determined they were analysed to determine how the characteristics of the respondents in the different groups varied. The cluster analysis thus provided a general view of the respondents, and how they differed in regards to their attitudes and engagement in at-risk behaviour.

Chapter Summary

This chapter looked at the process involved in the gathering of the data, and outlined the manner in which it would be analysed. It described the construction of the questionnaire, and the ethical procedures involved in its creation, as well as how the data was gathered and analysed.

The next chapter focuses on the analysis of the data generated by the questionnaire. The results of the study will be investigated and discussed.

CHAPTER 4

FINDINGS OF THE STUDY

Introduction

The chapter describes the return of the questionnaire and discusses the characteristics of the respondents (See Appendix I). It also presents an analysis of the data collected by means of the questionnaire, including results of the factor analysis and subsequent development of the attitudinal scales. Finally, relationships between attitudes and practices will be examined.

Questionnaire Return Rate

A total of 265 questionnaires were completed by the respondents to this study. Of these, six cases were excluded because they were either incomplete or because the manner in which they were completed suggested that the data was invalid. This left a total of 259 responses to be subjected to analysis.

The Respondents

The respondents came from two Christian schools. The smaller of the two schools had an enrolment of approximately 130 at the time of the study, while the larger school had an enrolment close to 350 (See Table 4.1). Ninety-eight students from the smaller school completed the questionnaire in an acceptable manner, and of these 38 were male (39%) and 60 were female (61%). Similarly, 161 respondents from the larger school completed acceptable questionnaires, and of these 82 were male (51%) and 79 were female (49%). Of the 259 participants, 120 were male (46%) and 139 were female (54%).

Table 4.1

Respondent's age and gender from each participating school

Age in Years	Small Christian School			Large Christian School			Grand Total
	Male	Female	Total	Male	Female	Total	
12	2	6	8	10	6	16	24
13	9	15	24	19	18	37	61
14	10	14	24	21	31	52	76
15	8	5	13	17	11	28	41
16	4	11	15	7	6	13	28
17	3	8	11	8	6	14	25
18	2	0	2	0	1	1	3
19	0	1	1	0	0	0	1
Total	38	60	98	82	79	161	259

The respondents ranged in age from twelve to nineteen (See table 4.1), with the majority aged between thirteen and fifteen, and with almost a third (29%) aged fourteen. There were only three eighteen-year olds, and one nineteen-year old respondent. At the larger school the Year 12 students were unavailable to take part in the study, due to their commitment to the trial Higher School Certificate exams. An examination of Table 4.1 indicates that females outnumbered males in most of the age brackets. The exceptions to this were the twelve-year olds, where the numbers were equal, and the fifteen and eighteen-year olds, where males outnumbered females. Table 4.1 also indicates a similar pattern of respondent ages in both schools. While the age frequencies of the schools may be different, both schools contributed few respondents at either end of the age range, with few twelve-year olds, and few eighteen and nineteen-year olds. The bulk of students numbers were aged thirteen to fifteen years.

Factor Analysis

Responses to the attitudinal items within the questionnaire were subjected to factor analysis. A scree plot was generated, which indicated that there were three significant factors (See Figure 4.1). A second factor analysis using principal compound factor analysis with varimax rotation was run to extract the three factors. The use of varimax rotation derived independent, orthogonal factors. These factors were refined to ensure that the resulting scales were stable. Items were eliminated if they had a loading of less than 0.2, or if they cross-loaded on two or

more factors – that is, they were eliminated if they had a loading difference less than 0.2. At each step, coefficient alpha for each factor was monitored, to ensure the scale reliabilities had not been reduced by the elimination process. The three factors can be seen in table 4.2, along with their respective coefficient alphas.

Figure 4.1

Scree-plot showing the three factors to be extracted

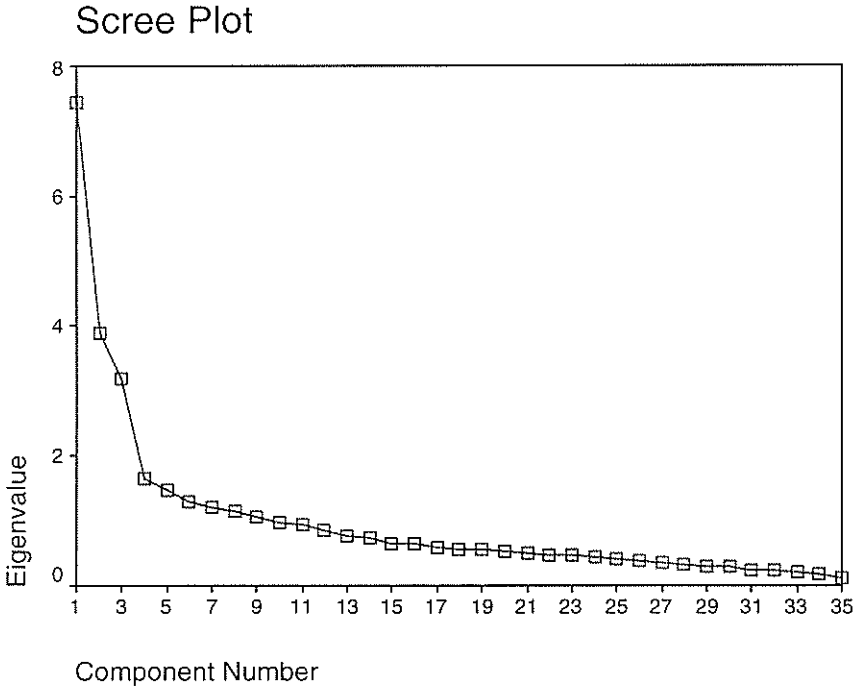


Table 4.2

Factor Loadings Onto the Three Scales

	Component		
	1	2	3
Attitudes Favourable to Substance Use (Coefficient alpha = 0.89)			
61. If a sportsperson I admired used steroids I would be more likely to use them	.77		
63. If I had the opportunity the use of steroids would be worth the money paid	.75		
49. I believe smoking makes you more attractive	.74		
50. If a favourite film star of mine smoked I would be more likely to smoke	.71		
43. I can safely consume more alcohol than my friends	.68		
64. If I were into sport or bodybuilding I would be more likely to use steroids	.66		
59. I would be more likely to use steroids if my friends used steroids	.65		
56. I don't believe that using steroids poses any dangerous side effects	.64		
60. I believe professional athletes should be allowed to use steroids	.63		
65. Knowing more about the dangers of drugs would not stop me using them	.60		
45. If I only get drunk occasionally alcohol isn't dangerous	.58		
51. As long as I smoked less than a pack a day it is not dangerous	.58		
41. If an adult I respected drank it would encourage me to drink	.56		
40. I believe drinking enhances my social image	.56		
48. If smoking helped me lose weight I would be more likely to smoke	.52	.29	
57. I believe that everyone who is muscular uses steroids	.45		
38. I do not believe alcohol is dangerous	.38		
Attitudes to Appearance (Coefficient alpha = 0.82)			
23. I would change my eating habits to achieve a better body		.77	
29. I avoid certain foods because they make me fat		.72	
5. If I were thinner I would be more attractive		.70	-.28
30. The main reason I exercise is to look good		.58	
31. I believe exercise is the best way to change my appearance		.56	
25. I believe dieting is the best way to change my appearance	.28	.66	
22. I believe dieting can help me lose weight		.65	
35. I would exercise more if I had more time		.36	
1. I care about the way I look		.39	
Attitudes to Self-Esteem (Coefficient alpha = 0.81)			
14. I feel good about myself		-.21	.81
13. I like the person I am		-.27	.75
3. I feel good about the way I look		-.30	.66
17. If I do my best I am going to be successful			.66
15. I can achieve any goal I set myself			.67
16. When I achieve a goal it is because of the effort I put into attaining that goal	-.27		.60
9. When others give me praise I feel I deserve it			.50
19. I can usually take care of myself in dangerous situations			.42

Scales

The three factors were turned into scales by averaging the response weightings across the component items of the factors for each respondent. This produced three scale-scores for each respondent that had a range that lay within the original Likert scale. Thus the scale scores for each respondent could be compared to the original item Likert scale.

Attitudes Favourable to Substance Use

There were 17 items that contributed to this factor. The items that loaded onto this factor related to the individual respondent's attitude to the use of illicit substances. High scores on the scale resulting from this factor meant that respondents would be more likely to use steroids if a sports person they admired used them; they thought they would be more likely to smoke if their favourite film star smoked; or that they would be more likely to use alcohol if they thought drinking alcohol enhanced their social image. This factor had an alpha co-efficient, or reliability, of 0.89. The scale that was created was labelled "Attitudes Favourable to Substance Use" (See Table 4.2). This scale produced scores that ranged from 1 up to 3.47 (See Figure 4.2). The median score was 1.41, and more than 75% of all respondents disagreed with the implications of the scale. However, a small portion, numbering less than a quarter of all respondents, was in agreement with this scale. These were the at-risk students.

Figure 4.2

Attitudes Favourable to Substance Use Box-plot and Likert Scale

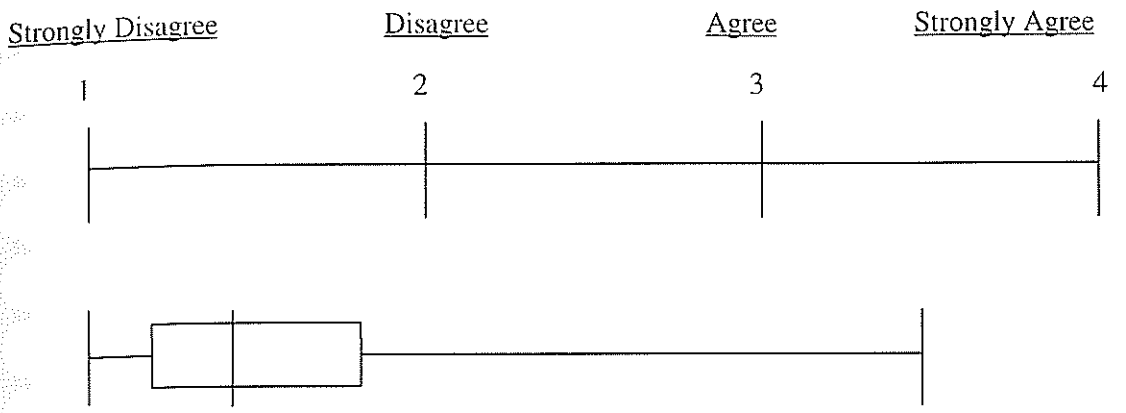


Figure 4.2B

Attitudes to Appearance Box-plot and Likert Scale

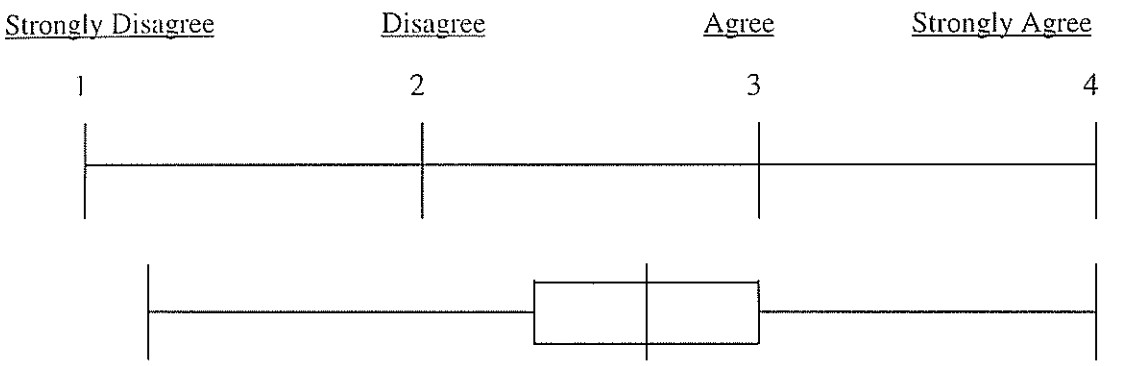
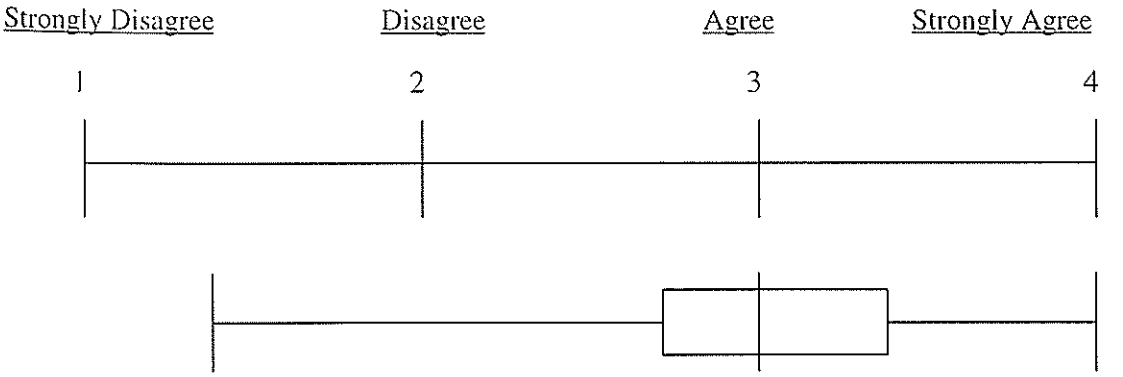


Figure 4.2C

Attitudes to Self-Esteem Box-plot and Likert Scale



Attitudes to Appearance

The second of the three factors consisted of 9 items, and had a reliability of 0.82. Items loading onto this factor had to do with a respondent's attitude to their appearance. These items asked if respondents would change their eating habits to achieve a better body, of if they thought they would be more attractive if they were thinner. The scale resulting from this factor was named "Attitudes to Appearance" (See Table 4.2). This scale produced results that ranged from 1.2 to 4, with a median of 2.6 (See Figure 4.2). While more than 25% of the respondents indicated they disagreed with what the scale was saying, over half of the respondents agreed with the scale. The implications of these figures are that the majority of respondents were dissatisfied with their current appearance, and wanted to change it. It is these students who are more likely to engage in dangerous dieting practices.

Attitudes to Self-Esteem

The last factor was composed of 8 items, with a reliability of 0.81. The items in this factor were related to a respondent's self-esteem, and asked for responses to questions asking if the respondent felt good about themselves, or if they liked who they were, or felt good about the way they looked. The corresponding scale was called "Attitudes to Self-Esteem" (See Table 4.2). Students who scored high on this scale indicated they had a high level of self-esteem. Results ranged from 1.38 to 4, with a median of 3.06 (See Figure 4.2). Thus, more than 75% of the respondents agreed with the scale, implying the presence of reasonable levels of self-esteem. Less than 25% disagreed with the scale and according to the literature it is these respondents who may be more at risk for certain behaviours where esteem is a factor.

Diet Related Behaviours

Of the 259 respondents, 81 (31%) indicated they had dieted. Girls were disproportionately represented among these young dieters (See Table 4.3 and Figure 4.3). This effect was statistically significant ($X^2 = 19.7$; $P < 0.05$) and indicated that girls aged between thirteen and seventeen were significantly more likely to indulge in strict dieting than were boys of the same age (See Table 4.3). Out of the 139 females who answered the question, 60 (43%) indicated they had dieted, compared to 21 of the 120 males (17.5%) who also indicated they had dieted. Of the respondents who claimed to have dieted almost three quarters (74%) were female.

Table 4.3

Prevalence of dieting compared with age and gender

	Never Dieted			Have Strictly Dieted			
Age in Years	Male	Female	Total	Male	Female	Total	Grand Total
12	9	10	19	3	2	5	24
13	20	21	41	8	12	20	61
14	27	25	52	4	20	24	76
15	21	7	28	4	9	13	41
16	10	8	18	1	9	10	28
17	11	8	19		6	6	25
18	1		1	1	1	2	3
19			0		1	1	1
Total	99	79	178	21	60	81	259

Figure 4.3

Incidence of dieting compared with gender

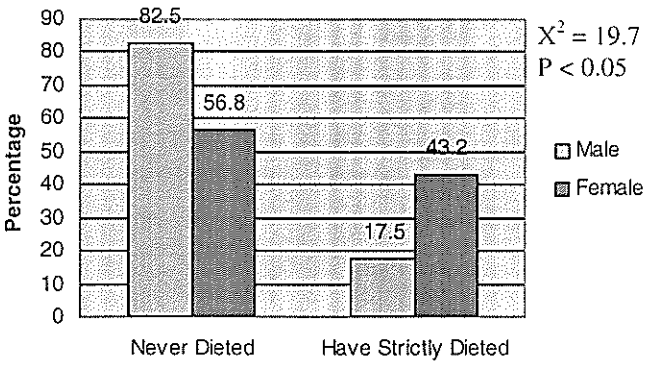


Table 4.3 indicates the distribution of dieting against age and gender, and shows some interesting trends. Among girls in the age category of fourteen to seventeen half indicated they had strictly dieted at some point in the past, with twelve-year old girls having the lowest incidence of dieting. Two of the twelve respondents aged twelve-years (17%) indicated they had dieted. Amongst boys the trend was very different, with boys aged twelve and thirteen accounting for a higher percentage of male dieters than older boys. In fact, about a quarter of boys aged twelve and thirteen indicated they had dieted, while only a little over 10% of boys over thirteen indicated they had dieted.

Respondent's attitudes as measured on the 'Attitudes to Appearance' scale were significant when compared to the items in the questionnaire relating to dieting practice. Those who scored higher on the 'Attitudes to Appearance' scale were more likely to have strictly dieted, to have dieted for more than a year, to currently be on a diet, and to eat more when stressed (See Figure 4.4).

Figure 4.4

'Attitudes to appearance' scale scores against dieting items

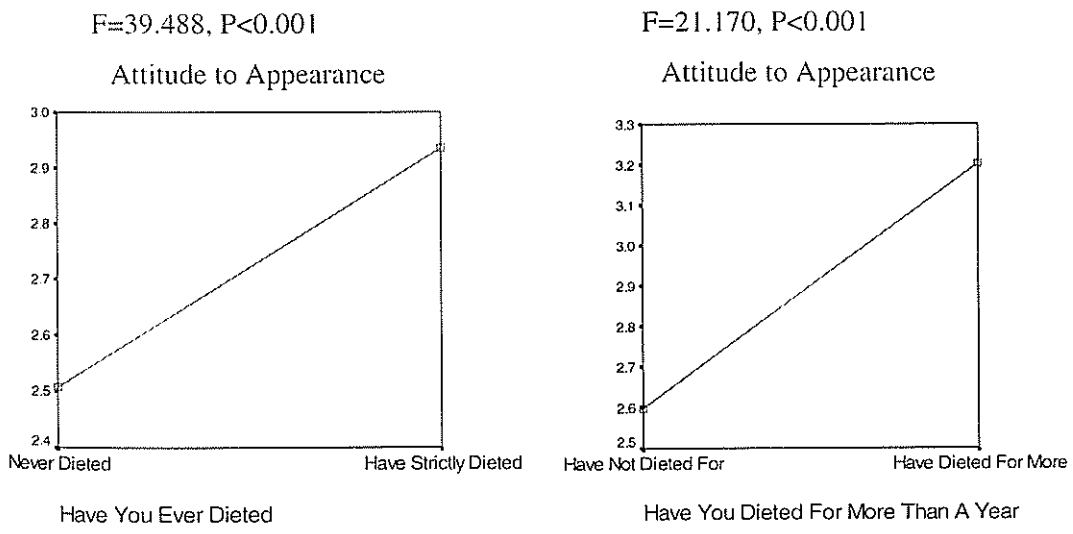
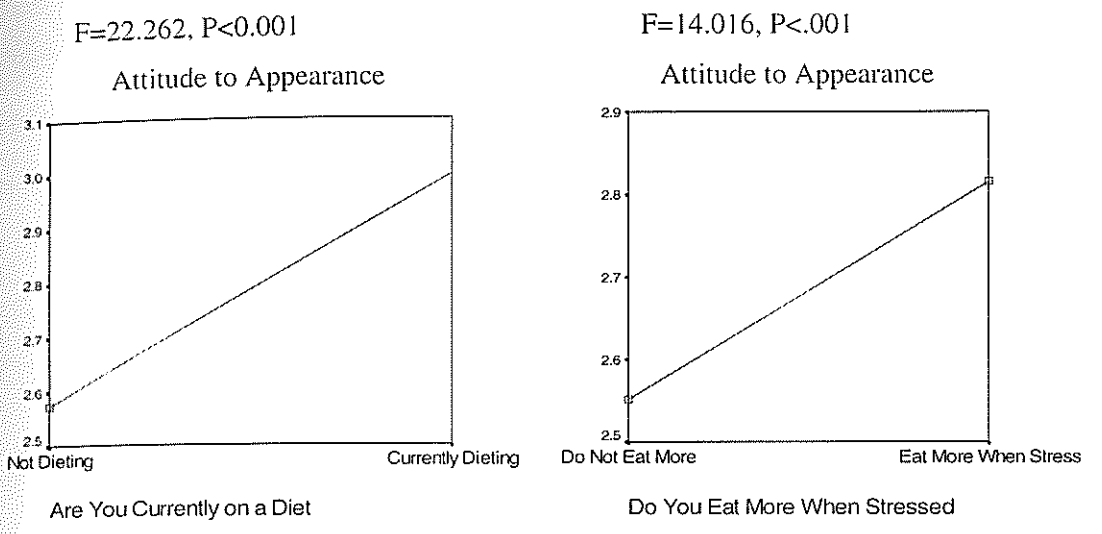


Figure 4.4 (Continued)

'Attitudes to appearance' scale scores against dieting items



Dieting Cluster

A cluster analysis was carried out to identify those most involved in dieting and related activities. Clustering was carried out on the variables related to dieting, and these included variables measuring if respondents had ever dieted, how long they had dieted, if they had used laxatives to control their weight, and other variables the analysis indicated related to dieting. Three clusters resulted from this analysis (see Figure 4.5). The first and largest cluster consisted of 212 respondents. These respondents were evenly distributed between male and female, and comprised those students who did not engage in dieting related behaviours. The second cluster consisted of 40 respondents, and was largely composed of females (82.5%). This cluster engaged in dieting related behaviours; with 95% of the respondents indicating they were currently dieting. The last cluster had only two respondents in it, but these two students engaged in extreme dieting behaviours. These two respondents were male, and indicated they had strictly dieted for more than a year and had used laxatives to control their weight. Students who could be considered to be at-risk would be more likely to come from these latter clusters.

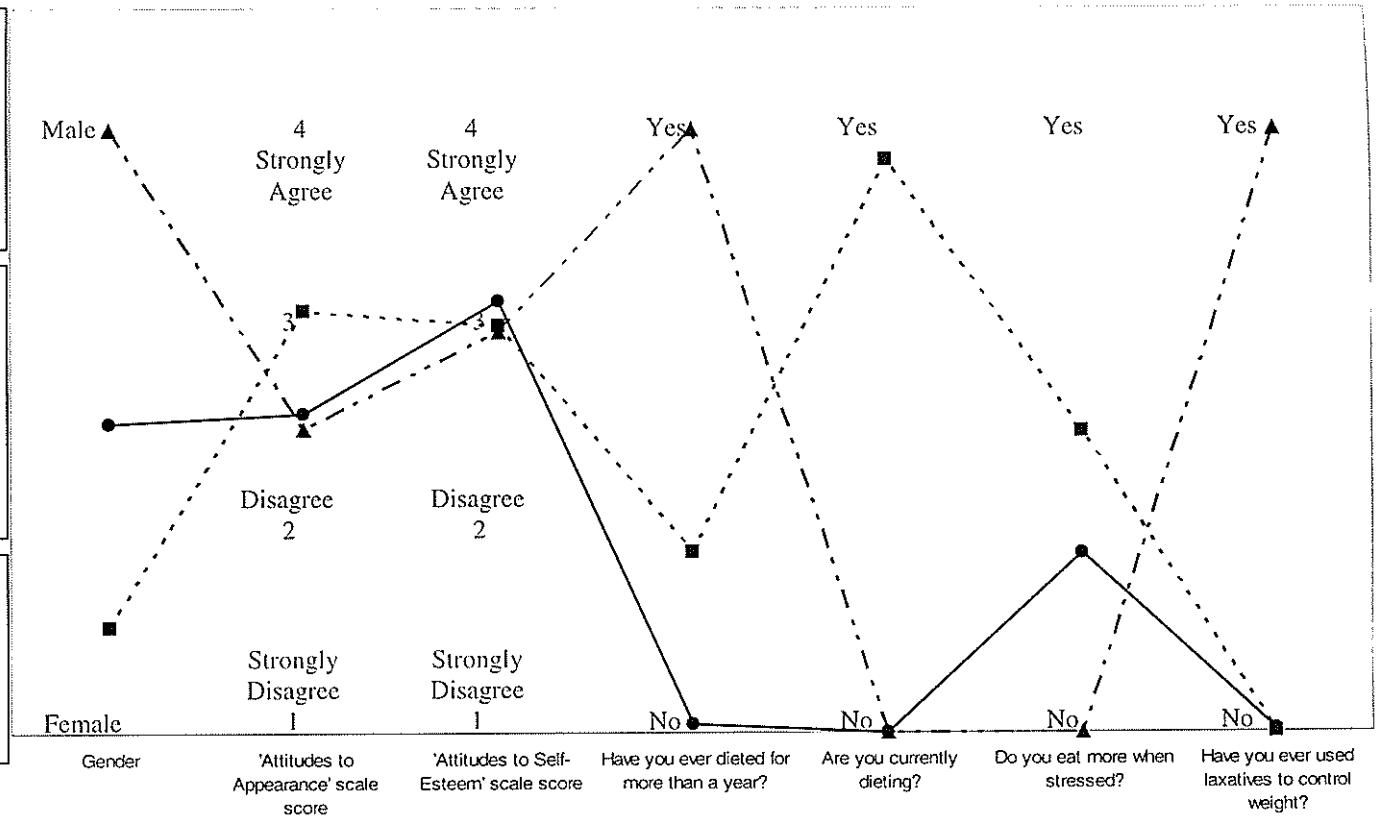
Figure 4.5

Cluster analysis of dieting behaviour

2 respondents, both male, lowest on both appearance and esteem scale, neither currently dieting, but both have done for more than a year at a time, neither ate more when stressed, but both have used laxatives to control weight.

212 respondents, with equal numbers of males and females, highest scorers on the esteem scale, most had never dieted for more than a year at a time, none are currently dieting, about 30% eat more when they're stressed, and almost none have used laxatives to control weight.

40 respondents, predominantly females, highest on the appearance scale. 30% have dieted for more than a year, 95% are currently dieting and half eat more when stressed. None have used laxatives to control weight.



Alcohol Related Behaviours

Of the 250 respondents who answered items related to alcohol use, almost two-thirds, or 161 (64%), indicated that they had tried alcohol (See Table 4.4). The pattern of alcohol use among females appeared to be very similar to that among males, with 75 of the 115 males having tried alcohol (65%) and 86 of the 135 females having tried alcohol (63%).

Table 4.4

Prevalence of alcohol experimentation compared with age and gender

	Never Tried Alcohol			Have Tried Alcohol			
Age in Years	Male	Female	Total	Male	Female	Total	Grand Total
12	5	6	11	5	6	11	22
13	9	12	21	18	19	37	58
14	12	17	29	19	27	46	75
15	6	4	10	18	12	30	40
16	4	4	8	7	12	19	27
17	3	6	9	7	8	15	24
18	1		1	1	1	2	3
19					1	1	1
Total	40	49	89	75	86	161	250

There were age effects on the number of respondents who had been drunk before (See Table 4.5 and Figure 4.6). It can be seen that as the respondent's age increases there is a general increase in the percentage of respondents who had been drunk. This is to be expected, as there is a cumulative effect, as respondents who may have been drunk when they were younger still count towards whichever age cohort they are currently in, and with older respondents having more opportunity to get drunk.

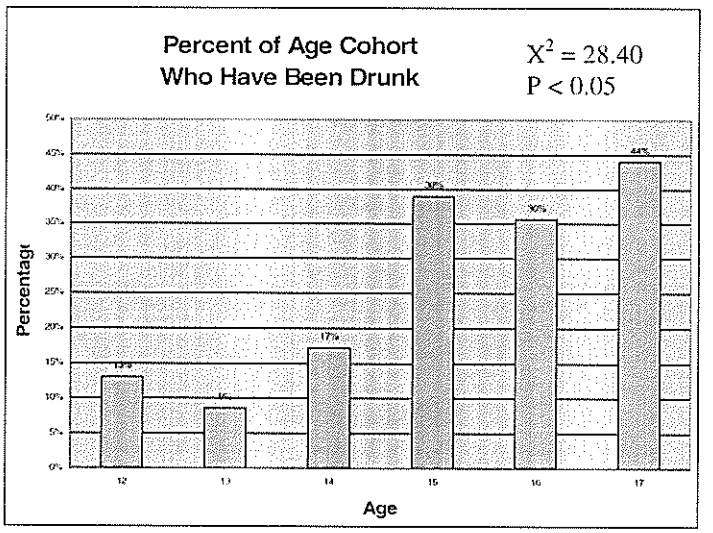
Table 4.5

Age and prevalence of being drunk

Age in Years	Never Been Drunk	Have Been Drunk	Total
12	20	3	23
13	53	5	58
14	63	13	76
15	25	16	41
16	18	10	28
17	14	11	25
18	3		3
19		1	1
Total	196	59	255

Figure 4.6

Percent of age cohort who have been drunk



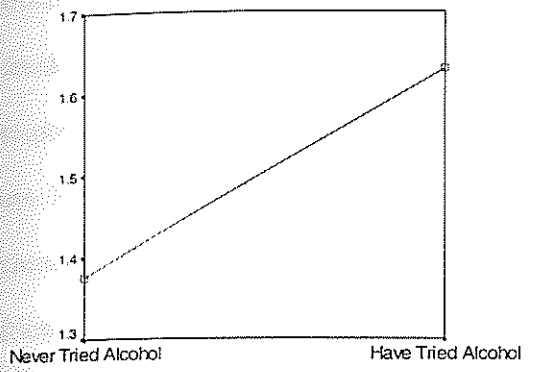
Respondent's who scored higher on the 'Attitudes Favourable to Substance Use' scale were more likely to have tried alcohol, been drunk, use alcohol regularly, and to drink with friends (See Figure 4.7). These findings give confidence that the scale is measuring what it is intended to correctly, as those who agree with the scale items are the ones who have an attitude more favourably inclined to substance use, and are indeed the ones engaging in the substance use.

Figure 4.7

'Attitudes favourable to substance use' scale against alcohol items

F=18.423, P<0.001

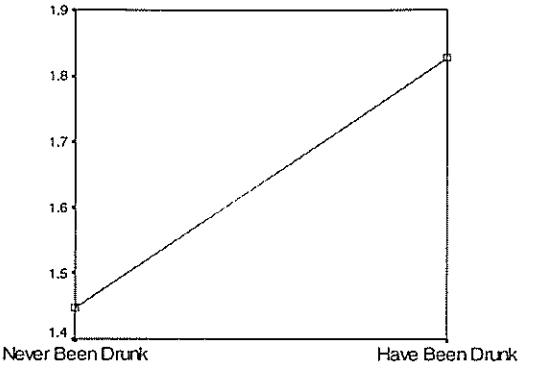
Attitudes Favourable to Substance Use



Have You Ever Tried Alcohol

F=34.083, P<0.001

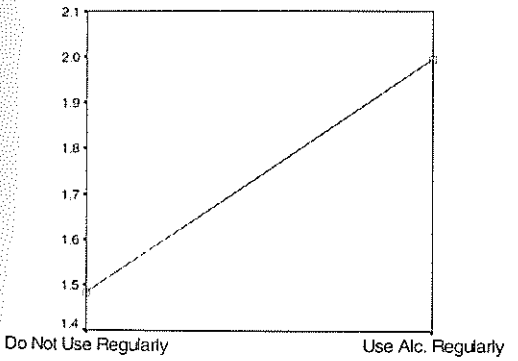
Attitudes Favourable to Substance Use



Have You Ever Been Drunk

F=32.782, P<0.001

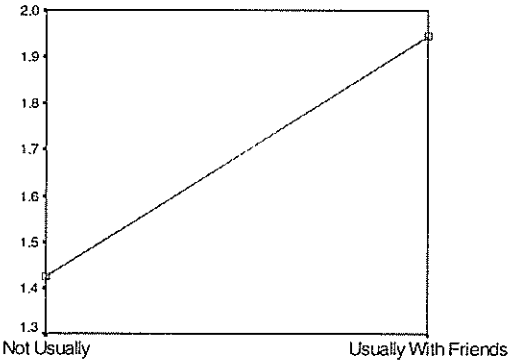
Attitudes Favourable to Substance Use



Use of Alcohol on a Regular Basis

F=65.055, P<0.001

Attitudes Favourable to Substance Use



Do you usually drink with friends

Alcohol Cluster

A cluster analysis was carried out on alcohol-related behaviours to determine if there were clusters of respondents who shared similar characteristics in regards to alcohol use. The items used in the cluster analysis included variables measuring whether respondents had ever used alcohol, whether they had been drunk, drank regularly, or if they drank with friends when they engaged in alcohol use. There were two clusters identified using the cluster analysis for alcohol related behaviour (see Figure 4.8). The first cluster contained 193 respondents, with a

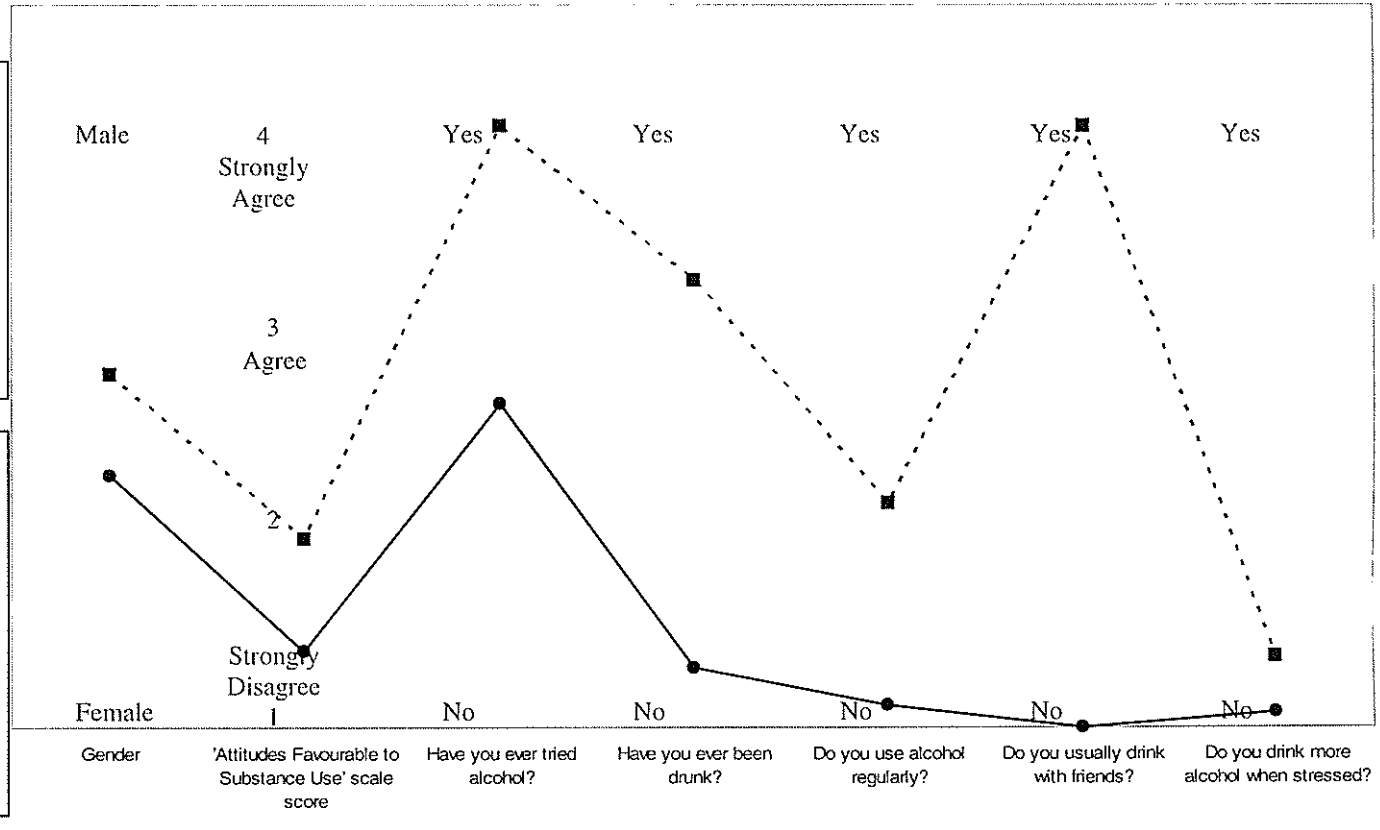
slightly larger proportion of females (112 or 58%). This cluster was composed of those who were not regular users of alcohol. Slightly more than half of the cluster (54%) had experimented with alcohol, and the rest had not even tried it. Respondents in this cluster had attitudes that were less favourable to using substances, and were far less likely to have been drunk, or to drink with friends. The second cluster contained 51 respondents, and these respondents were the ones whose attitudes disposed them to be more favourable to alcohol use. In fact, 19 (37%) used alcohol regularly and three-quarters of the respondents (38) in this cluster had been drunk. All of the respondents in this cluster indicated they usually drank with friends. It is the respondents in this second cluster who are the at-risk adolescents in terms of alcohol-related behaviours. They are more likely to develop alcohol related problems later in life.

Figure 4.8

Cluster analysis of alcohol-related behaviours

51 respondents, 60% were male, scored higher on the 'attitudes favourable to substance use' scale, all respondents have tried alcohol, 75% of respondents have been drunk, almost 40% use alcohol regularly, all respondents usually drink with friends, and just over 10% of respondents drink more when stressed.

193 respondents, 60% were female, respondents scored lower on the 'attitudes favourable to substance use' scale, just over half of respondents had tried alcohol, less than 10% of respondents had been drunk, less than 5% of respondents use alcohol regularly, none of the respondents usually drink with friends, and less than 3% of respondents drink more when stressed.



Smoking-Related Behaviours

Of the 254 respondents who answered items related to smoking, one quarter of them indicated they had smoked cigarettes (See Table 4.6). As with alcohol experimentation there was a high degree of similarity between the number of males and females who had tried smoking. Of the 117 males 31 had smoked cigarettes (27%), with 32 of the 137 females indicated they had also smoked (23%).

Table 4.6 and Figure 4.9 show that there were significant age effects on smoking cigarettes. Amongst both twelve and thirteen-year olds the rate of experimentation with cigarettes was 14%, but after that age the incidence of those having experimented rose to 25% of fourteen-year olds and 39% of fifteen-year olds. Among those aged sixteen and seventeen the proportion of respondents dropped to 29% and 32% respectively.

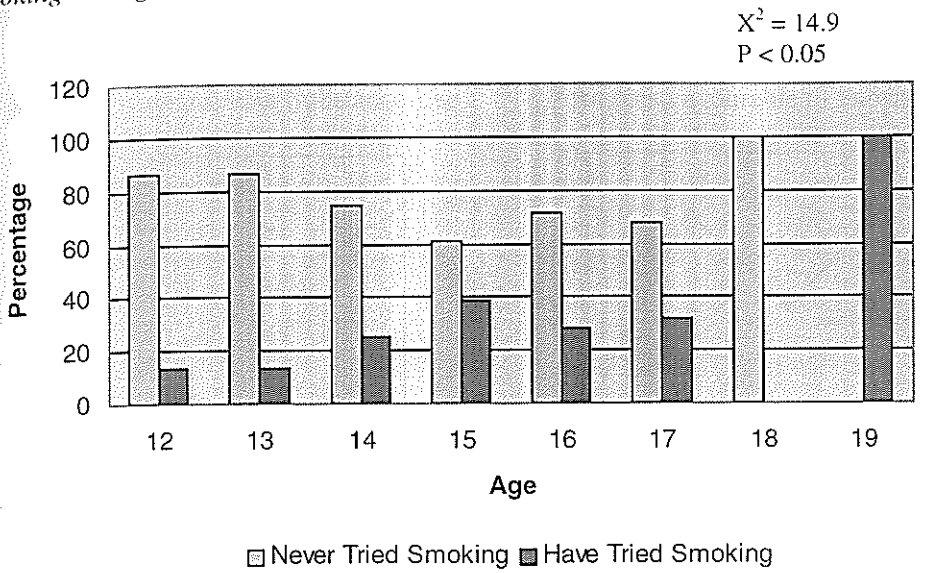
Table 4.6

Prevalence of cigarette experimentation compared with age and gender

	Never Tried Smoking			Have Tried Smoking			
Age in Years	Male	Female	Total	Male	Female	Total	Grand Total
12	9	10	19	1	2	3	22
13	24	27	51	3	5	8	59
14	20	36	56	11	8	19	75
15	15	10	25	10	6	16	41
16	8	12	20	3	5	8	28
17	8	9	17	3	5	8	25
18	2	1	3			0	3
19					1	1	1
Total	86	105	191	31	32	63	254

Figure 4.9

Smoking and age



An examination of Table 4.6 reveals some of the effects both gender and age had on the respondent's incidence of smoking. In general there was very little difference in the percentage of male and female respondents who had tried smoking. However, there was a considerable difference amongst the fourteen-year olds, where 11 males (35%) had tried smoking cigarettes, compared to only 8 females (18%) who had tried smoking cigarettes. There was also a large difference among the seventeen-year olds, where 5 females had tried smoking (36%) compared to 3 males (27%) who had tried smoking.

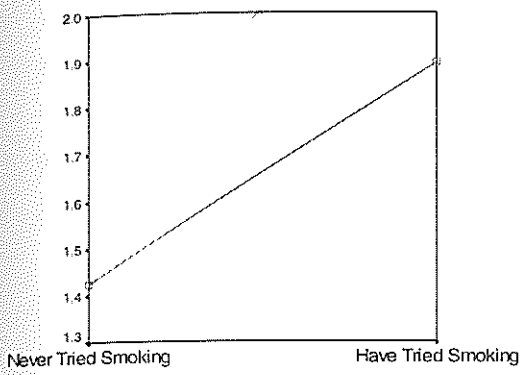
Respondent's scores as measured on the 'Attitudes Favourable to Substance Use' scale were higher for those who had tried smoking cigarettes, and the greater the number of cigarettes they smoked, the higher their score as well (See Figure 4.10). These results are also to be expected, as the individuals whose attitudes more favourably dispose them to using substances would be the ones that are more likely to use them.

Figure 4.10

'Attitudes favourable to substance use' scale scores against smoking items

F=58.648, P<0.001

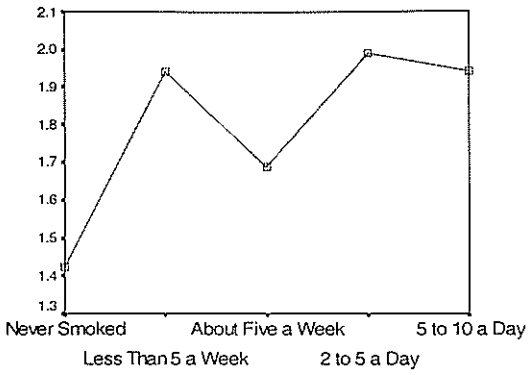
Attitudes Favourable to Substance Use



Tried Smoking Cigarettes

F=14.9, P<0.001

Attitudes Favourable to Substance Use



How Many Cigarettes Do You Smoke

Smoking Cluster

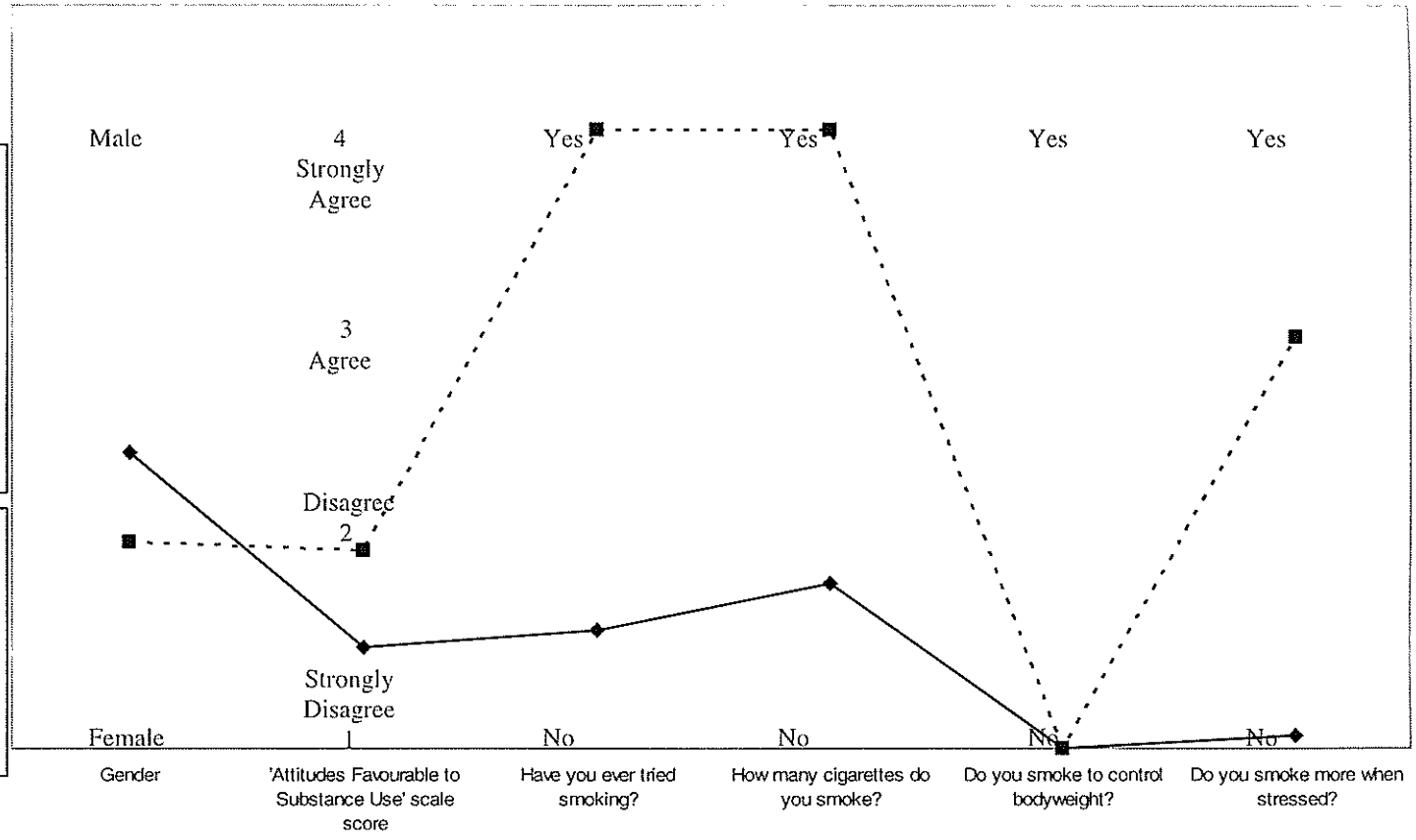
The cluster analysis involving smoking-related behaviours was conducted using variables that measured respondent's experimentation with smoking cigarettes, the number of cigarettes smoked, whether smoking was used to control weight, and whether respondents smoked more when they were stressed. There were two clusters identified using a cluster analysis regarding attitudes to smoking, with the first cluster consisting of 236 respondents, and the second cluster consisting of 6 respondents (see Figure 4.11). The larger cluster was comprised of respondents who do not engage in regular smoking, with only 45 (19%) indicating they had ever experimented with cigarettes. In the first cluster only 5 (2%) indicated they smoked more when stressed, with only 3 (1%) indicating any type of regular, albeit limited, smoking. The second cluster comprised the regular smokers, with all six in the second cluster indicating a regular intake of between two to ten cigarettes a day. In the second cluster 4 (66%) of the respondents indicating they smoked more when stressed. Thus it can be surmised that out of the sample of 236 respondents there are six committed smokers.

Figure 4.11

Cluster analysis of smoking-related behaviours

236 respondents, similar number of males and females, respondents scored lower on the 'attitudes favourable to substance use' scale, 20% had tried smoking, and there were fewer cigarettes smoked in a given time period, none smoked to control weight, and only 2% smoked more when stressed.

6 respondents, 4 were females, those in this cluster scored higher on the 'attitudes favourable to substance use' scale, all had tried smoking and smoked regularly, none smoked to control weight, but 4 smoked more when stressed.



Steroid-Related Behaviours

There were 250 valid responses indicating respondent's use of steroids, with six (2.4%) indicating that they had used steroids before. Of the six, four were male, meaning that 3.4% of males admitted to using steroids before. The two females who indicated they had used steroids before amounted to 1.5% of the females (See Table 4.7).

Table 4.7

Prevalence of steroid use compared with age and gender

	Never Tried Steroids			Have Tried Steroids			
Age in Years	Male	Female	Total	Male	Female	Total	Grand Total
12	9	10	19	1		1	20
13	26	31	57	1		1	58
14	30	43	73	1		1	74
15	24	14	38	1	2	3	41
16	11	17	28			0	28
17	11	14	25			0	25
18	2	1	3			0	3
19		1	1			0	1
Total	113	131	244	4	2	6	250

The distribution of steroid use against age reveals that it in the population surveyed it is only found in younger students (See Table 4.7). All six of the respondents who indicated they had used steroids were aged fifteen or younger. There was one respondent in each age category less than fifteen, and three in the fifteen years of age category. Thus, one of the 20 twelve-year olds (5%), one of the 58 thirteen-year olds (1.7%) and one of the fourteen-year olds (1.3%) had used steroids, whereas three of the fifteen-year olds (7.3%) indicated they had used steroids before.

Table 4.7 reveals that the patterns of use vary considerably between the two genders when age is also considered. Amongst the males there was one respondent who had tried steroids in each age group between twelve to fifteen-years, whereas amongst the females both of those who had tried steroids were fifteen-year olds.

Respondents who had used steroids measured higher on the 'Attitudes Favourable to Substance Use' scale than respondents who had not used steroids. Those who indicated that they would use steroids if they were obtainable also scored significantly higher on the 'Attitudes Favourable to Substance Use' scale than those who indicated they would not use them (See Figure 4.12). These results confirm that the scale is measuring what it is intended to, as individuals who score higher on the 'Attitudes Favourable to Substance Use' scale are more likely to have used, and to want to use steroids. Respondents who indicated that they would use them if they were obtainable also scored significantly higher on the 'Attitudes to Appearance' scale (See Figure 4.13). It is to be expected that the respondents who want to change their body shape are also the ones more inclined to use steroids, a class of chemicals that are used precisely for that purpose.

Figure 4.12

'Attitudes favourable to substance use' scale scores against steroid items

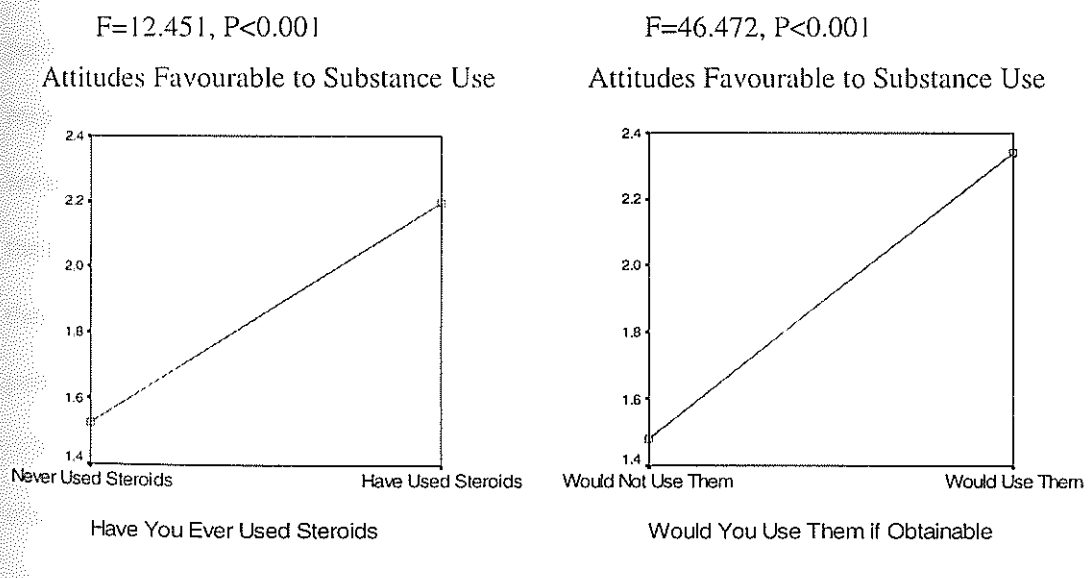
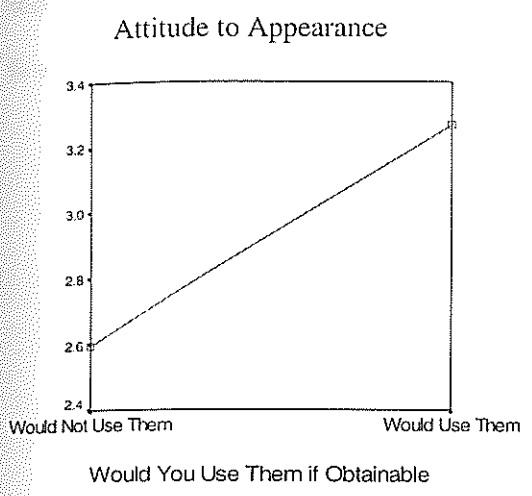


Figure 4.13

'Attitudes to appearance' scale scores against steroid use intent

F=19.593, P<0.001



Steroid Cluster

A cluster analysis was carried out on steroid-related behaviours, and included variables that measured whether respondents had ever used steroids, whether their use had been for performance enhancement, or for muscular gain, and there was also a variable measuring if respondents would use steroids should they be able to obtain then. The cluster analysis revealed two distinct clusters in terms of steroid-related behaviours, with 216 respondents in the first cluster, and 2 respondents in the second cluster (see Figure 4.14). Although 3 (1%) in the first cluster indicated they had used steroids, none of the respondents used them for performance enhancement, but one (0.5%) indicated they used steroids to gain muscle. Nine (4%) of the respondents in the first cluster indicated they would use steroids if they could obtain them, but respondents in this cluster scored lower on the 'attitudes favourable to substance use' scale, indicating a more resistant attitude to the use of steroids.

The two respondents in the second cluster indicated they had used steroids before, with both indicating the steroid use had been primarily for performance enhancement. One of the two respondents in the second cluster had used the steroids for muscle gain. When asked if they

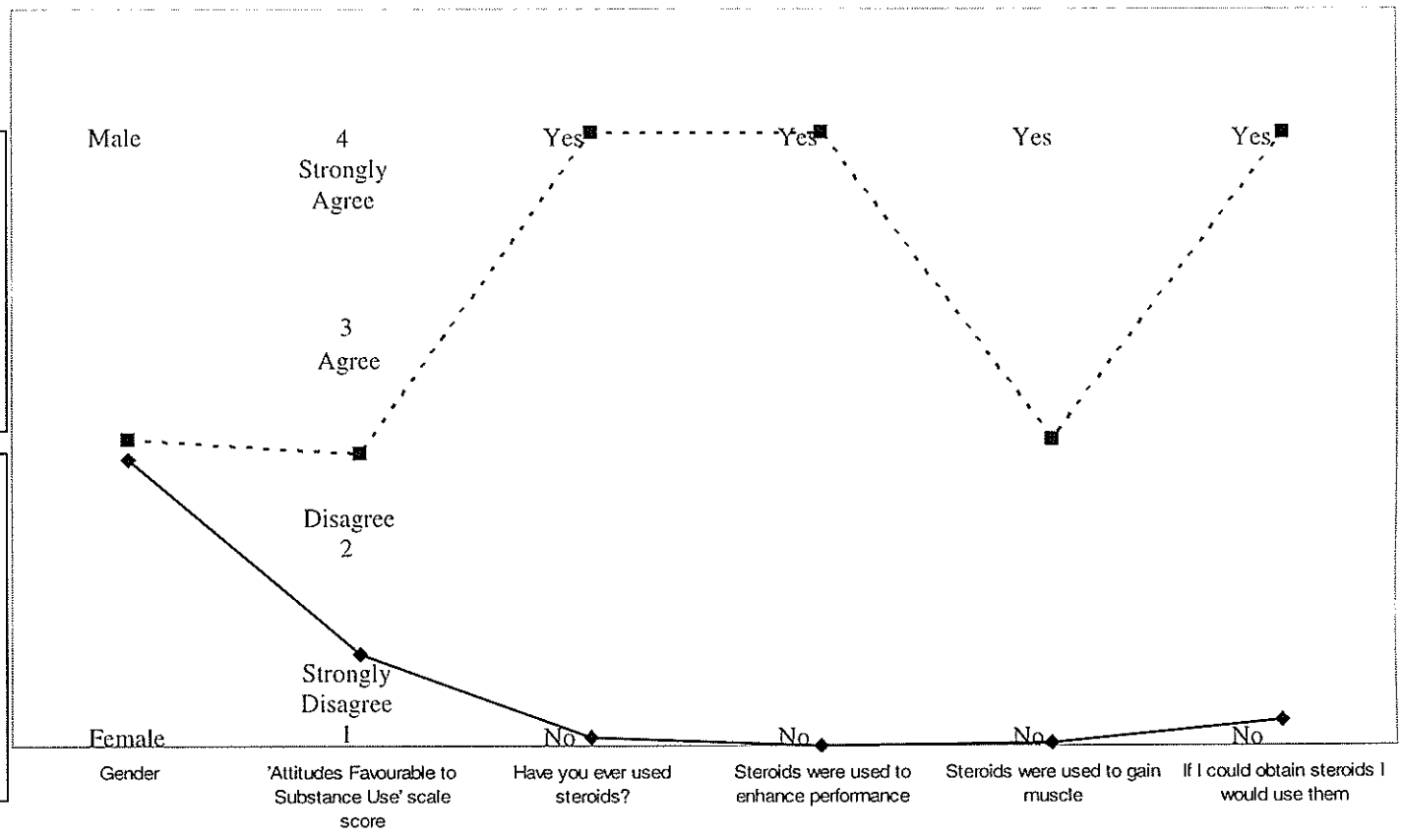
would use steroids if they could obtain them, both agreed they would. The respondents in the second cluster scored higher on the attitudes favourable to substance use' scale. This indicates that these respondents possess attitudes disposing them to look upon steroid use more favourably, which is backed up by their history of use.

Figure 4.14

Cluster analysis of steroid-related behaviours

2 respondents, 1 male and 1 female, scored higher on the 'attitudes favourable to substance use' scale, both respondents had used steroids before, and the steroid use was for performance enhancement, 1 had used them to gain muscle, both would use them again if given the opportunity.

216 respondents, Similar numbers of males and females, scored lower on the 'attitudes favourable to substance use' scale, only 1% of respondents had used steroids before, and the steroid use was not for performance enhancement, steroid use was not necessarily for muscle gain either, only 4% would use steroids if they could obtain them.



Correlations

Only the correlations where the magnitude exceeds 0.2 are shown in Table 4.8, as correlations with a magnitude less than 0.2 represent relationships with less than 4% common variance. The items used in the correlation analysis included demographic information, such as age, gender, school, as well as the three scales derived from the factor analysis.

Table 4.8 shows that questions related to alcohol use correlate with other questions related to alcohol use. For instance, those who reported drinking are more likely to report that they drank with friends (r=0.46), were more likely to drink when stressed (r=0.22) and were more likely to hold attitudes favourable to substance use (r=0.34). Items in the table that relate to the same behaviour correlate together, which allows confidence in the accuracy of the correlations.

Those who report they have used cigarettes heavily tend to come from the group who have experimented with cigarettes (r=0.82) and to report that they smoke more when stressed (r=0.57). Some other interesting correlations observed from Table 4.8 show that the respondents who have experimented with alcohol are more likely to experiment with cigarettes (r=0.35) and that those respondents who had tried cigarettes tend to feel a greater desire to engage in their use when stressed (r=0.41). It was also those respondents who had tried smoking who were more likely to be willing to experiment with steroids, if given the opportunity (r=0.32). These correlations between the various substances indicate the likelihood that a common core of respondents are experimenting with chemicals. It is these students who are willing to engage in experimentation with a variety of substances who are the at-risk respondents. It is further evidence that the scale called "Attitudes Favourable to Substance Use" is measuring a dimension that relates to a willingness to experiment with substances.

Another interesting observation was that those who had used laxatives to help control weight were more likely to have tried steroids (r=0.28), a class of chemicals that helps alter body composition, suggesting that certain individuals are willing to try a range of pharmaceutical means of altering their bodies. Those who were currently dieting were more likely to have dieted for more than a year (r=0.40). The respondents who had dieted for more than a year were more likely to have used laxatives to control their weight (r=0.26). Those who dieted tended to be females (r=0.28) and generally scored higher on the "Attitudes to Appearance" scale (r=0.37). This again suggests that the scale is measuring what it is intended to, and that those respondents who said they were willing to engage in behaviours to alter their appearance were actually doing so.

There was a negative correlation between respondent's attitudes regarding their self-esteem and their gender (r=-0.28), meaning that males generally had a higher self-esteem, as they tended to score higher on the 'Attitudes to Self-Esteem' scale. However, self-esteem was unrelated to any other variable, including those involved in body image.

Another area where gender had an effect was in respondent's attitudes to chemical use (r=-0.25), again with males scoring higher on the 'Attitudes Favourable to Substance Use' scale, indicating that males were generally more favourably disposed to using the various substances. It is interesting to note that respondent's scores on the 'attitudes favourable to substance use' scale correlated with their scores on the 'attitudes to appearance' scale (r=0.24). A significant implication of this is that those who showed a favourable disposition towards engaging in substance use are also more likely to be dissatisfied with their bodies, and want to alter them.

The correlation table reveals an internal consistency, with related items correlating together in an expected manner. This gives added confidence that the questionnaire as a whole is reliable and valid.

Table 4.8

Correlation Table – Only items where $p < 0.05$ are shown

	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16	17	18	19
1. Gender																		
2. Age (Years)																		
3. Have ever dieted	.28																	
4. Dieted for more than a year			.26															
5. Currently dieting	.21		.38	.40														
6. Ever used laxatives				.26														
7. Ever tried alcohol																		
8. Ever been drunk		.27					.42											
9. Use alcohol regularly							.26	.44										
10. Drink with friends		.25					.40	.63	.46									
11. Alcohol and stress						.28		.23	.22									
12. Ever tried smoking							.35	.53	.42	.50	.26							
13. How many do you smoke							.28	.42	.40	.44	.28	.82						
14. Smoking and stress						.20			.30	.25	.41	.39	.57					
15. Ever tried steroids						.28					.21							
16. Steroids used for performance enhancement														.63				
17. Steroids used for muscle gain														.63	.50			
18. Would you use steroids if you could obtain them									.25	.23	.21	.32		.35	.42			
19. 'Attitudes favourable to substance use'	-.25						.26	.35	.34	.45		.44	.36	.22	.22	.30	.42	
20. 'Attitudes to appearance'			.37	.28	.28												.29	.24
21. 'Attitudes to self-esteem'	-.28																	

Discussion of Findings

The results of the analysis indicate that there is a high prevalence of various at-risk behaviours even in Christian schools. Many of the behaviours reveal significant gender and age effects, with females more susceptible to appearance related risk-behaviours, and older respondents more likely to engage in substance use behaviours. It can also be seen that individual's who engage in many of these at-risk behaviours have different attitudes towards them than the individuals who abstain from the behaviours. The results obtained indicate that the high level of at-risk behaviour among adolescents will not 'go away' and that school authorities need to remain vigilant. The literature suggests that a proportion of these students will continue to engage in these behaviours as they get older, and some will inevitably suffer serious health problems as a result of their substance use as they age.

There is an increase in the number of individuals engaging in alcohol use among students of this particular denomination. Compared to the number of individuals who had tried alcohol when the Valuegenesis study was conducted over ten years ago levels of alcohol use appear to have doubled. While the Valuegenesis study found that only 9% of those in Years 7 and 8 had experimented with alcohol, this study found that approximately 65% of respondents in Years 7 and 8 had tried alcohol. Similarly, the Valuegenesis study found 20% of those in Year 9 and 10 had tried alcohol, whereas this study found that 72% of the Year 9 and 10 respondents had tried alcohol. Finally, where the Valuegenesis study found that 33% of those in Years 11 and 12 had tried alcohol this study found that 61% of respondents in those same years had experimented with alcohol.

Chapter Summary

This chapter described characteristics of the respondents, and analysed the data generated by the questionnaire. A discussion of the findings of the analysis was discussed, with comparisons to the literature made where appropriate.

The next chapter will review previous chapters, draw general conclusions regarding the study, make recommendations for further study, and discuss the limitations of the present study.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents an overview of the preceding chapters, and shows how the conclusions arising from the analysis of the data answer the research questions. Recommendations about how to follow up the study will be made, and limitations of the study will also be addressed.

Summary

Adolescence is a time of life where risk-taking is an accepted and frequent part of life. The literature outlined the extent of engagement in the various risk behaviours in the general community, but there was little information regarding Christian school populations and risk behaviour. The literature indicates that there are a large number of adolescents who engage in risks that are harmful to their health, and the Christian community is not immune from such behaviour. The present study sought to answer the following questions in regards to adolescents attending Christian schools and at-risk behaviours:

1. How prevalent is the use of alcohol, tobacco and steroids, and controlling diet in the community of the two schools?
2. How does the prevalence of the above behaviours compare with the general community of adolescents?
3. What attitudes do students at the two schools hold in regards to alcohol, tobacco and steroid use, and towards dieting?
4. What characteristics are shared by respondents who display similar behaviours in regards to the use of alcohol, tobacco and steroids, and similar dieting behaviours?

It is important that adolescents are informed of the dangers of substances such as alcohol and tobacco, as early use is associated with higher morbidity and mortality rates later in life.

The study sought to determine if there were any differences in the attitudes of individuals who abstained from certain risk-taking behaviours compared with those who engaged in the different risk-taking behaviours. To determine this, and to identify other items of significance in the study the following method was undertaken:

- Construction of the questionnaire, and then distribution and collection from the schools involved in the study.
- Analysis of the data using SPSS to identify statistically significant pieces of information using cross tabulations,
- analysis of variance,
- factor analysis of attitudinal items,
- creation of scales from the attitudinal items,
- the preparation of correlation tables, and
- the use of cluster analysis to identify what characteristics were shared among individuals who had similar patterns of use in regards to the substances the study was concerned with.

Based on the analysis of the data and the results reported in chapter four the following general conclusions can be made:

Conclusions

With regards to research question one the following conclusions are drawn:

- Alcohol experimentation was the most common of the potential risk behaviours, with almost two thirds of respondents indicating they had tried drinking. Of those who had tried alcohol 23% had been drunk before, and 10% used it regularly.
- Dieting was the next most common of the behaviours under study, with almost a third of respondents indicating they had strictly dieted before. Approximately 15% of all the respondents were currently dieting, with over a fifth of females currently dieting

compared to just over 7% of males indicating they were currently dieting. Almost 7% of respondents indicated they had dieted for more than a year before. Three respondents indicated they had used laxatives as a means of controlling their weight.

- Almost a quarter of respondents had experimented with smoking cigarettes, and of these less than 4% smoked more than five cigarettes a week. A similar number indicated stress as a trigger for smoking.
- Six respondents (2.4%) indicated they had used steroids before, with two indicating they used them for performance enhancement, and two indicating they used them for gaining muscle. However, 5% of respondents indicated they would use them if they could obtain them.

With regards to research question two the following conclusions are drawn:

- Alcohol experimentation in this population was lower than for the populations in many other studies. Where this study found 64% had tried drinking alcohol another study dealing with adolescents found that 96% reported having tried alcohol. The two previous studies dealing with populations from Christian schools found dissimilar numbers of respondents who had experimented with alcohol. The Valuegenesis study (1993) found that only about a third had tried alcohol, while Copeland and Dillon (2003) found that 94% of the students of a Sydney Christian College had tried alcohol. Respondents in this study used alcohol less regularly than respondents from the Sydney study. While 10% of respondents in this study indicated they used alcohol regularly Odgers, Houghton and Douglas (1997) found that 40% of adolescents in the broader community used alcohol regularly.
- The literature indicated that up to two-thirds of females were thought to be either on a diet, or planning to go on one, but this study found that the incidence of dieting was less prevalent. Only 43% of females and 18% of males had ever dieted. A similar proportion of females (9%) and males (4%) existed amongst those who had dieted for

more than a year.

- The rate of experimentation with cigarettes was lower for the respondents in this study compared with the broader population. Where other studies found about a third of adolescents had tried smoking this study found that a quarter had tried cigarettes. Other studies also found just over 15% smoked regularly, whereas in this study only about 4% could be said to smoke regularly.
- International literature indicated that between 5-11% of adolescent males and up to 2% of adolescent females had used steroids before. This study found that 3.4% of boys and that 1.5% of females indicated they had used steroids. The literature also suggests that those who use steroids before the age of fifteen make up the single largest group of high-school seniors who have tried steroids, but that steroid use probably starts even earlier. This study supports those findings, with all of the respondents who indicated they had used steroids aged fifteen or younger.

With regards to research question three the following conclusions are drawn:

- The scale entitled 'Attitudes Favourable to Substance Use' measured respondents attitudes to the chemical-related risk behaviours focussed on in the study. The higher the score on this scale the more an individual felt favourably towards using the substances under study. Overall, more than 75% of individuals disagreed with the scale, meaning that most respondents did not feel favourably inclined towards the various substances. However, a minority of students held attitudes that put them at risk in regards to the use of alcohol, tobacco and steroids, and males were found to be more likely to hold attitudes favourable to substance use.
- The scale entitled 'Attitudes to Appearance' measured whether respondents wanted to change their appearance. Over 75% of respondents agreed that they wanted to change their appearance, indicating a wide-spread level of mild dissatisfaction with appearance among the respondents.

- The final scale, entitled 'Attitudes to Self-Esteem,' measured whether respondents like who they were, or felt good about themselves. The higher a respondent scored the greater their self-esteem. Less than 25% of respondents indicated they disagreed with the scale; however, females were more likely to have a lower self-esteem than males. This study found no relationship between self-esteem levels and the various risk behaviours. This result does appear to be contrary to some of the literature.

With regards to research question four the following conclusions are drawn:

- Those respondents who used alcohol more regularly, and had used it in greater quantities generally scored higher on the 'Attitudes Favourable to Substance Use' scale. Numbers were fairly even between males and females, with 60% of those in the higher use cluster being male. Besides a respondent's history of use, it was their difference in the 'Attitudes Favourable to Substance Use' scale that differentiated regular users from casual experimenters and non-users.
- Those respondents more heavily involved in dieting tend to be females, although of the three respondents who had used laxatives to control weight two were male. Those more heavily involved in dieting also tended to score higher on the 'Attitudes to Appearance' scale, indicating a greater dissatisfaction with their appearance than those who were not dieting.
- Those respondents who were more committed smokers were more likely to be female than male. The committed smokers also tended to score higher on the 'Attitudes Favourable to Substance Use' scale. A general trend could be seen where the greater the number of cigarettes smoked the higher a respondent tended to score on the 'Attitudes Favourable to Substance Use' scale.
- Those respondents who clustered together and had used steroids scored higher on the 'Attitudes Favourable to Substance Use' scale. There was one male and one female who claimed they used steroid as a means of enhancing athletic performance. Both

these respondents indicated they would use steroids again if they could obtain them and those who scored higher on the 'Attitudes to Appearance' scale were also more likely to want to use steroids if they could obtain them.

Limitations of the Study

Looking back at the study it is appropriate to mention certain limitations. With regards to the questionnaire there were questions that could have been asked that would have aided in the analysis, and provided a more complete description of the respondents. For instance, the religious background of respondents would have provided information pertinent to alcohol use. It would have ascertained whether there were any differences between members of certain faiths and non-members. For instance, while the number of adolescents at a school who engage in risk behaviours might be increasing, it may be because the demographic profile of a school has changed. The overall number of students engaged in risk behaviours might increase because of the influx of students from the broader Christian community.

The timing of the questionnaire also proved limiting, as many of the older respondents were unavailable due to their commitment to the HSC Trial Exams, and thus the limited number of respondents in the older age groups meant that there was a limit on the analysis that could be carried out in regards to the older age groups.

Another limitation was in regards to the literature. Although statistics were obtained from the literature concerning at-risk behaviours in the broader Australian community there was very little in the way of information from the Christian community. The few direct comparisons that were found showed that the levels of engagement in risk behaviours were generally lower among the individuals in this study. However, such a comparison did show that use of alcohol had significantly increased. More information about the Christian community would have provided a more complete picture of trends.

Recommendations for Further Study

Based both upon the results of this study, and its obvious limitations the following recommendations can be made:

- The risk behaviours investigated in this study need to be examined in more detail.
- A wider range of risk behaviours need to be addressed in future, including adolescent use of substances such as marijuana and ecstasy.
- It needs to be ascertained how parental engagement in the various risk behaviours influences adolescent's engagement in risk behaviour.
- How a respondent identifies with a certain faith needs to be researched to see to what extent a person's religious affiliation affects their engagement in risk behaviours.
- It needs to be determined whether certain risk behaviours engaged in by students are carried out in the company of students from the school, or with members of the broader community.

Concluding Statement

The present study showed that students attending Christian schools are not immune from the pressures of adolescence, and the attendant experimentation and risk-taking associated with that stage of development. It is the hope of the researcher that this study will prompt further research into the area of adolescent risk-taking, with a particular focus on those attending Christian schools.

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Appendix I

Avondale College

Human Research Ethics Committee –

principles of ethical conduct guidelines

AVONDALE COLLEGE
HUMAN RESEARCH ETHICS (HRE) COMMITTEE

PRINCIPLES OF ETHICAL CONDUCT

Reference

National Health and Medical Research Council. (1999). *National Statement on Ethical Conduct in Research Involving Humans*. Canberra: (pp. 11-14).

Copies of this book are available in the libraries: Cooranbong Campus – Call No. 174.28N21; Wahroonga Campus – Call No. 18.2/NHMR/1999.

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The primary purpose of this Statement of ethical principles and associated guidelines for research involving humans is the protection of the welfare and rights of participants in research. The ethical and legal responsibilities which researchers have towards participants in research reflect basic ethical values of integrity, respect for persons, beneficence and justice. The responsibilities set out below accord with accepted moral and scientific principles set out in declarations, conventions and guidelines listed in Appendix 1. The principles in 1. Principles of Ethical Conduct are intended to apply to the interpretation and the use of all subsequent parts of this Statement.

INTEGRITY, RESPECT FOR PERSON, BENEFICENCE AND JUSTICE

1.1 The guiding value for researchers is integrity, which is expressed in a commitment to the search for knowledge, to recognised principles of research conduct and in the honest and ethical conduct of research and dissemination and communication of results.

1.2 When conducting research involving humans, the guiding ethical principle for researchers is respect for persons which is expressed as regard for the welfare, rights, beliefs, perceptions, customs and cultural heritage, both individual and collective, of persons involved in research.

1.3 In research involving humans, the ethical principle of beneficence is expressed in researchers' responsibility to minimise risks of harm or discomfort to participants in research projects.

1.4 Each research protocol must be designed to ensure that respect for the dignity and well being of the participants take precedence over the expected benefits to knowledge.

1.5 The ethical value of justice requires that, within a population, there is a fair distribution of the benefits and burdens of participation in research and, for any research participant, a balance of burdens and benefits. Accordingly, a researcher must:

(a) avoid imposing on particular groups, who are likely to be subject to over researching, an unfair burden of participation in research;

(b) design research so that the selection, recruitment, exclusion and inclusion of research participants is fair, and

(c) not discriminate in the selection and recruitment of actual and future participants by including or excluding them on the grounds of race, age, sex, disability or religious or spiritual beliefs except where the exclusion or inclusion of particular groups is essential to the purpose of the research.

1.6 The proportion of burdens to benefits for any research participant will vary. In clinical research, where patient care is combined with an intent to contribute to knowledge, the risks of participation must be balanced by the possibility of intended benefits for the participants. In other research involving humans that is undertaken solely to contribute to knowledge, the absence of intended benefits to a participant should justly be balanced by the absence of all but minimal risk.

CONSENT

1.7 Before research is undertaken, whether involving individuals or collectivities, the consent of the participants must be obtained, except in specific circumstances defined elsewhere in this Statement [see paragraphs 1.11, 6.9, 14.4, 15.8, 16.13].

(a) provision to participants, at their level of comprehension, of information about the purpose, methods, demands, risks, inconveniences, discomforts, and possible outcomes of the research (including the likelihood and form of publication of research results); and

(b) the exercise of a voluntary choice to participate.

Where a participant lacks competence to consent, a person with lawful authority to decide for that participant must be provided with that information and exercise that choice.

1.8 A person may refuse to participate in a research project and need give no reasons nor justification for that decision.

1.9 Where consent to participate is required, research must be so designed that each participant's consent is clearly established, whether by a signed form, return of a survey, recorded agreement for interview or other sufficient means.

In some circumstances and some communities, consent is not only a matter of individual agreement, but involves other properly interested parties, such as formally constituted bodies of various kinds, collectivities or community elders. In such cases the research needs to obtain the consent of all properly interested parties before beginning the research.

1.10 The consent of a person to participate in research must not be subject to any coercion, or to any inducement or influence which could impair its voluntary character.

1.11 It is ethically acceptable to conduct certain types of research without obtaining consent from participants in some circumstances, for example, the use of de-identified data in epidemiological research, observational research in public places, or the use of anonymous surveys. [See 14.

Epidemiological Research and 17. Research Involving Deception of Participants, Concealment or Covert Observation.]

1.12 A participant must be free at any time to withdraw consent to further involvement in the research. If any consequences may arise from such withdrawal, advice must be given to participants about these before consent to involvement in the research is obtained.

RESEARCH MERIT AND SAFETY

1.13 Every research proposal must demonstrate that the research is justifiable in terms of its potential contribution to knowledge and is based on a thorough study of current literature as well as prior observation, approved previous studies, and where relevant, laboratory and animal studies.

1.14 All research proposals must be so designed as to ensure that any risks of discomfort or harm to participants are balanced by the likely benefit to be gained.

1.15 Research must be conducted or supervised only by persons or teams with experience, qualifications and competence appropriate to the research. Research must only be conducted using facilities appropriate for the research and where there are appropriate skills and resources for dealing with any contingencies that may affect participants.

ETHICAL REVIEW AND CONDUCT OF RESEARCH

1.16 Research projects involving humans must be reviewed by a Human Research Ethics Committee (HREC) and must not be undertaken or funded unless and until approval has been granted.

1.17 A researcher must suspend or modify any research in which the risks to participants are found to be disproportionate to the benefits and stop any involvement of any participant if continuation of the research may be harmful to that person.

1.18 The results of research (whether publicly or privately funded) and the methods used should normally be published in ways which permit scrutiny and contribute to public knowledge. Normally, research results should be made available to research participants.

1.19 Where personal information about research participants or a collectivity is collected, stored, accessed, used, or disposed of, a researcher must strive to ensure that the privacy, confidentiality and cultural sensitivities of the participants and/or the collectivity are respected. Any specific agreements made with the participants or the collectivity are to be fulfilled.

1.20 Where the records and results of research contain information of clinical significance it is the responsibility of both the researcher and the institution or organisation to maintain the security and storage of records and results so as to enable any necessary follow-up studies to be carried out.

1.21 Where research is conducted in an overseas country under the aegis of an Australian institution or organisation, the research must comply with the requirements of this Statement as well as the laws and guidelines of that country.

Appendix II

Covering letter

Avondale College
DEGREES WITH A CAREER FOCUS

Notice of Research Project

Topic: Attitudes Toward Personal Appearance and Use of Chemical Substances

Dear Care Giver,

Adolescence is a time where young people search for their own identity, and as such is a time where a preoccupation with appearance and image is important. It is also a time when experimentation with controlled substances may occur. The way young people respond to these pressures is of concern to all who are interested in the health and well-being of our youth. This study aims to examine any potential relationship between adolescent perceptions of body image and dieting, and possible use of chemical substances that affect the body.

The study is being conducted by a fourth year Bachelor of Education honours student, Ken McClintock, under the supervision of Cedric Greive, a member of the Faculty of Education at Avondale College. The necessary data will be collected through the use of a questionnaire, to be administered to the students while they are at school, during school time. Responses will be totally anonymous, and the results of the study will not be used in any way that causes hurt or embarrassment to individuals or institutions.

This research project has been approved by the Avondale College Human Research Ethics Committee (HREC). Avondale College requires that all participants are informed that if they have any complaint concerning the manner in which a research project is conducted it may be given to the researcher, the supervisor (Cedric Greive, at 4980 2181) or the honours coordinator (Malcolm Coulson, at 4980 2186). If an independent person is preferred, contact the College's HREC Secretary, Avondale College, PO Box 19, Cooranbong, NSW, 2265 or phone 4980 2161.

On the reverse of this page is a permission slip that may be filled out and returned to the school if you are unwilling for your child or children to participate in the survey.

Signed

Ken McClintock (Honours Student)

Attitudes Toward Personal Appearance and Use of Chemical Substances

Withdrawal Slip

If you do not wish your child/children to be involved in the questionnaire, please fill out this withdrawal form and return it to the school.

Permission Slip Withdrawing Consent to Participate

I do not wish my child(ren) to participate in the study described above.

Child(ren)'s Name(s):_____

_____

Signature:_____ Date:_____

Appendix III

Questionnaire

Avondale College
DEGREES WITH A CAREER FOCUS

Address: PO Box 19, COORANBONG, NSW, 2265
Telephone: (02) 4980 2188
Fax: (02) 4980 2190

ATTITUDES TO PERSONAL APPEARANCE AND USE OF CHEMICAL SUBSTANCES

QUESTIONNAIRE INSTRUCTIONS

This questionnaire asks you to indicate your attitudes to your appearance, your attitudes to ways of managing your appearance, and also some aspects of your use or avoidance of chemical substances. Your cooperation can help researchers understand further some of the links between these items. Please be honest in your responses.

This is NOT a test. Should you feel uncomfortable with answering any of the questions, you may omit a response. DO NOT WRITE YOUR NAME, your responses are confidential and anonymous. Neither your teachers nor parents will ever see any of the responses to this questionnaire. Your responses will NOT influence your relationship and standing with your school.

1. There are two sections to the questionnaire. The first section deals with some demographic questions, and yes or no responses to a series of questions.

2. Section two deals with attitudes you may have about your appearance, and chemical substances, and consists of 66 sentences. For each sentence on the questionnaire circle the option that best represents your attitude to the question.

For example:

	Strongly Agree	Agree	Disagree	Strongly Disagree
I believe most people diet:	1	2	3	4

If you believe that most people diet, then you would circle '1.' If you think that only a few people diet, then circle '3.' If you want to change your answer after you've circled an option please place a cross through it and circle your final choice.

Once you are finished please place the completed questionnaires into the envelope they came in and seal it up. The envelope will not be opened at school but will be returned to the researcher for further analysis.

THANK YOU FOR YOUR ASSISTANCE

Questionnaire – Demographic Information

1. Gender: Male / Female ☐ ☐

2. Age: _____
(in years)

3. Do you exercise regularly: Yes / No ☐ ☐

4. Please list any physical activities that you **participate** in (You can list more than one):

_____

_____

5. Do you play competitive sport: Yes / No ☐ ☐

6. If so, what is the name of the sport/s that you **compete** in: _____

_____

7. Have you ever subjected yourself to a strict diet: Yes ☐ No ☐

8. Have you ever regulated your food intake for a period longer than a year: Yes ☐ No ☐

9. Are you currently on a diet: Yes ☐ No ☐

10. Do you eat more when stressed: Yes ☐ No ☐

11. Have you ever used laxatives to control your weight: Yes ☐ No ☐

12. Have you ever tried alcohol: Yes ☐ No ☐
If you answered **YES** please go to question **13**
If you answered **NO** please go to question **17**

13. Have you ever been drunk: Yes ☐ No ☐

14. Do you use alcohol on a regular basis: Yes ☐ No ☐

15. Do you usually drink with some of your friends: Yes ☐ No ☐

16. Do you feel more pressure to drink when you are stressed: Yes ☐ No ☐

17. Have you tried smoking: Yes ☐ No ☐

If you answered **YES** please go to question **18**
If you answered **NO** please go to question **21**

18. How many cigarettes do you smoke: < 5 / week ☐ 5 / week ☐ 2-5 / day ☐ 5-10 / day ☐

19. Do you smoke as a way to control your weight: Yes ☐ No ☐

20. Do you feel compelled to smoke when you are stressed: Yes ☐ No ☐

21. Have you ever used steroids: Yes ☐ No ☐

If you answered **YES** please go to question **22**
If you answered **NO** please go to question **24**

22. Was your steroid use to help with sports performance: Yes ☐ No ☐

23. Was your steroid use to gain muscle: Yes ☐ No ☐

24. If you could obtain steroids would you use them: Yes ☐ No ☐

Attitudes Towards Personal Appearance and Use of Chemical Substances Scale

Please circle the response that best represents your answer to the question.

	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
1. I care about the way I look:	1	2	3	4
2. I believe I can change the way I look:	1	2	3	4
3. I feel good about the way I look:	1	2	3	4
4. If I had better muscle tone I would be more attractive:	1	2	3	4
5. If I were thinner I would be more attractive:	1	2	3	4
	Strongly Agree	Agree	Disagree	Strongly Disagree
6. I want to get better muscle tone:	1	2	3	4
7. I believe people with a good body image are more successful:	1	2	3	4
8. My perception of my body image matches what others tell me I look like:	1	2	3	4
9. When others give me praise I feel I deserve it:	1	2	3	4
10. When others make fun of me I feel bad:	1	2	3	4
	Strongly Agree	Agree	Disagree	Strongly Disagree
11. I wish I felt better about myself:	1	2	3	4
12. If others thought better about me I would feel better about myself:	1	2	3	4
13. I like the person I am:	1	2	3	4
14. I feel good about myself:	1	2	3	4
15. I can achieve any goal I set myself:	1	2	3	4
	Strongly Agree	Agree	Disagree	Strongly Disagree
16. When I achieve a goal it is because of the effort I have put into attaining the goal:	1	2	3	4
17. If I do my best I am going to be successful:	1	2	3	4
18. I could break a bad habit with my will-power:	1	2	3	4
19. If I was in a dangerous situation I could take care of myself:	1	2	3	4
20. Other people can't pressure me to do things I don't want to do:	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
21. I believe forced vomiting is a good method of controlling unwanted fat:	1	2	3	4
22. I believe dieting can help me to lose weight:	1	2	3	4
23. I would change my eating habits to achieve a better body:	1	2	3	4
24. I would increase my food intake to gain muscle:	1	2	3	4
25. I believe dieting is the best way to change my appearance:	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
26. If I could change my weight I would gain weight:	1	2	3	4
27. I believe everyone has the potential to be thin:	1	2	3	4
28. I believe people who are obese eat too much:	1	2	3	4
29. I avoid certain foods because they make me fat:	1	2	3	4
30. The main reason I exercise is to look good:	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
31. I believe exercise is the best way to change my appearance:	1	2	3	4
32. Exercise is a priority for me:	1	2	3	4
33. Exercise is enjoyable to me:	1	2	3	4
34. I believe people who exercise are healthy:	1	2	3	4
35. I would exercise more if I had more time:	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
36. I would rather miss my favourite TV program than miss an exercise session:	1	2	3	4
37. My only exercise involves training for a competitive sport:	1	2	3	4
38. I do not believe alcohol is dangerous:	1	2	3	4
39. If I were to drink I could stop drinking whenever I wanted to:	1	2	3	4
40. I believe drinking enhances my social image:	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
41. If an adult I respected drank, it would encourage me to drink:	1	2	3	4
42. If drinking changed my body for the worse I would be less likely to drink:	1	2	3	4
43. I can safely consume more alcohol than my friends:	1	2	3	4
44. If I don't want to drink, I won't, despite what others say	1	2	3	4
45. If I only get drunk occasionally alcohol isn't dangerous	1	2	3	4
	Strongly Agree	Agree	Disagree	Strongly Disagree
46. If I were seriously into a sport I would be less likely to drink:	1	2	3	4
47. I believe smoking is dangerous:	1	2	3	4
48. If smoking helped me lose weight I would be more likely to smoke:	1	2	3	4
49. I believe smoking makes you more attractive:	1	2	3	4
50. If a favourite film star of mine smoked, I would be more likely to smoke:	1	2	3	4
	Strongly Agree	Agree	Disagree	Strongly Disagree
51. I can stop smoking whenever I want to:	1	2	3	4
52. As long as I smoked less than a pack a day it is not dangerous:	1	2	3	4
53. If I don't want to smoke, others can't convince me to:	1	2	3	4
54. I believe people who smoke have less self-control than people who don't smoke:	1	2	3	4
55. I believe the use of appetite suppressants is not unhealthy:	1	2	3	4
	Strongly Agree	Agree	Disagree	Strongly Disagree
56. If I were into a sport for competition or health I would be less likely to smoke:	1	2	3	4
57. I don't believe that using steroids poses any dangerous side effects:	1	2	3	4
58. I believe everyone who is muscular uses steroids:	1	2	3	4
59. I don't need steroids to build more muscle:	1	2	3	4
60. I would be more likely to use steroids if my friends used steroids:	1	2	3	4

	Strongly Agree	Agree	Disagree	Strongly Disagree
61. I believe professional athletes should be able to use steroids:	1	2	3	4
62. If a sports person I admired used steroids, I would be more likely to use steroids:	1	2	3	4
63. I believe that people who use steroids work just as hard as people who don't use them:	1	2	3	4
64. If I had the opportunity, the use of steroids would be worth the money paid:	1	2	3	4
65. If I were into sport or bodybuilding I would be more likely to use steroids:	1	2	3	4
66. Even if I knew more about the dangers of drugs it would not stop me from using them:	1	2	3	4

Appendix IV

Pre-questionnaire newsletter article

Newsletter

Notice of Study

On (day & date) Ken McClintock, a fourth year honours student from Avondale College, will be collecting research data from a selection of students from our school. Participation is voluntary and parents will be informed and will be able to withdraw their children from the study should they so desire. The study relates student body image to such possible activities as weight control and use of chemical substances. His study has clearance from the Avondale Human Research Ethics Committee and is under the supervision of Cedric Greive, a faculty member of Avondale College. The study is anonymous and will be conducted in a number of schools. Participants will not be identifiable and the study looks for factors that will influence adolescent behaviour. It is not directed toward individuals or institutions. Should you have any queries about the study, you can contact:

Cedric Greive (Supervisor): (02) 4980 2181

Malcolm Coulson (Honours Coordinator): (02) 4980 2186

The secretary of the Avondale College Human Research Ethics Committee can be contacted on: (02) 4980 2161.

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