
ALTERNATIVE EDUCATION STUDENTS HEALTH:
From Northland and Auckland Regions

Commissioned by AIMHI consortium

Adolescent Health Research Group,
The University of Auckland
April, 2002.

ALTERNATIVE EDUCATION STUDENTS HEALTH:
From Northland and Auckland Regions

Commissioned by AIMHI consortium

Adolescent Health Research Group, The University of Auckland

Terryann Clark, Simon Denny, Fiva Fa'alau, Peter Watson
Department of Paediatrics, Faculty of Medical and Health Sciences

Shanthi Ameratunga, Elizabeth Robinson, David Schaaf
Department of Community Health, Faculty of Medical and Health Sciences

Sue Crengle, Andrew Sporle
Department of Maori and Pacific Health, Faculty of Medical and Health Sciences

Vivienne Adair, Robyn Dixon
School of Education

Sally Merry
Department of Psychiatry, Faculty of Medical and Health Sciences

To be referenced as:

ALTERNATIVE EDUCATION STUDENTS HEALTH:
From Northland and Auckland Regions
Adolescent Health Research Group, The University of Auckland, 2002.

Author: Jennifer Utter
Analysis and design: Simon Denny

Ki te mea tuatahi nga mihi ki to tatou Kaihanga na, na, i timata, na, na i whakamutunga o nga mea katoa.

E mihi ki nga mate e hingatu i nga marae maha, tena koutou, tena koutou, tena koutou katoa. Huri noa ki nga taiohi o te kura tiaki, e mihi ana matou ki a koutou ki te hikoi koutou i runga te kaupapa patapatai, me te tirohia to koutou whakaaro i roto te ahua taiohitanga.

Huri noa ki a koutou, nga hunga ora o te haukainga nga mihi tautoko ki a koutou, I te mohio, ko tenei to koutou kauapapa. E kimi kimi matou nga pou pou mo tenei mahi hauora.

Ma te Atua e manaaki, e whaka u, tatou, i raro te tuanui o nga Taiohi whakapakaritanga .

Tena koutou, tena koutou, tena tatou katoa.

CONTENTS

Executive Summary	7
Introduction	9
Adolescent Health Research Group	10
About The Survey	11
Computer Based Youth Health Survey	12
The Students And Schools Who Participated	13
Culture And Ethnicity	15
Home And Family	17
Socio-Economic Environment	19
School	21
Health	25
Nutrition, Exercise & Activities	27
Emotional Health	29
Sexual Health	32
Substance Use	33
Injury And Violence	35
Community	37
Summary	39
Acknowledgements	40
References	41

EXECUTIVE SUMMARY

This report is based on a computer-based youth health survey of alternative education students from Northland and Auckland regions conducted in 2000. Results show that AE students are a vulnerable, at-risk population. Effective solutions will require a multi-sectoral approach, including health, education and social services to promote healthy youth development and change the life course for these young people.

The main findings from this report are:

1. Alternative education schools are successfully engaging a difficult group of young people where mainstream education has failed. Eight out of ten students enjoy their alternative education school and feel like they are part of school. Almost all students say that adults at school care about them. It needs to be recognised that alternative education schools provide a unique opportunity to provide the much needed resources to help and nurture these at risk youth.
2. Alternative education students experience high levels of socio-economic hardship. Over half the students reported that not having enough money to buy food is a problem for their families and many students come from overcrowded homes lacking resources. To improve youth health outcomes for this population, policy-makers and national leaders need to effectively address the growing economic disparities within communities.
3. Alternative education students experience high levels of physical and sexual abuse, witnessing violence in their homes and bullying at school. Seventy percent of students report that they frequently witnessed violence in their homes and almost 50% of female students had been sexually abused in the previous 12 months. It is vital that communities take responsibility to ensure that the home, school and social environments are safe for young people.
4. Students attending alternative education schools in Northland and Auckland regions had high levels of involvement in health risk behaviours, such as drug and alcohol use, risky sexual behaviours and risky motor vehicle use. These health risk behaviours can result in poor health outcomes, such as unintended pregnancy, sexually transmitted infections and injuries and/or death from motor vehicle crashes. There is pressing need for explicit health policies and programs for alternative high school students, specifically those that are culturally appropriate and provide comprehensive bio-psychosocial assessment, health services and referral, as well as interventions with high potential for reducing health-jeopardising behaviours.
5. Of serious concern are the high levels of emotional health problems within this population. Over 25% of students had levels of depressive symptoms indicative of significant psychopathology and a similar proportion had made one or more suicide attempts in the last 12 months. To effectively treat and prevent mental health needs in this population, policies and interventions that encompass both psychosocial risk and protective factors are required. The magnitude of the mental health problems that AE students face means that collaborations between community, schools and families are vital to most effectively utilise available resources and improve health services access.
6. Female students in this survey were more at risk for many of the health behaviours measured compared to male students. Female students had higher levels of emotional health problems, drug and alcohol use and sexual abuse compared to male students. Alternative education providers and youth health workers should be aware that female students are at particularly high risk for many poor health outcomes.

INTRODUCTION

In 1999, the Ministry of Education developed the alternative education initiative in response to a growing concern by schools, communities and families about truancy and the increasing number of young people who were excluded from school who had few other educational options.

Alternative education (AE) is a new concept in New Zealand and little is known about the health and well being of students who attend AE schools. Previous research from overseas suggests that young people excluded from mainstream education are more likely to have significant health, education and social issues (Grunbaum et al, 2001).

This survey was conducted as part of a larger national high school survey (Adolescent Health Research Group, 2003) in recognition that students excluded from mainstream education would be over-looked in a national survey. The aim of this report is to provide alternative education providers, teachers, health workers and policy makers with the necessary information to best meet the needs of their students and move towards a positive future for young people excluded from mainstream education.

ADOLESCENT HEALTH RESEARCH GROUP

The Adolescent Health Research Group (AHRG) was established in 1997 with the aim of improving the health and well-being of New Zealand's current generation of young people. The AHRG is comprised of researchers who are committed to improving the health and well-being of young people in New Zealand. The research group has representatives from the Departments of Paediatrics, Education, Maori and Pacific Health, Psychiatry and Community Health at the University of Auckland.

The AHRG is supported and guided by three advisory groups (Maori, Pacific and general). These advisory groups consist of key youth health advisors, community representatives, and leaders in health and education.

ABOUT THE SURVEY

In designing the national youth health survey, the Adolescent Health Research Group consulted with key stakeholders and end-users (including health providers, youth health researchers, government agencies, schools, young people, Maori and Pacific community leaders) to determine what youth health information was needed. The resulting questionnaire was developed from the major themes and research questions identified from the consultation process, literature review and available relevant youth health surveys that had been validated nationally and/or internationally.

The questionnaire identified a range of health risk behaviours, health status indicators, health care utilisation patterns and health promoting/resiliency enhancing factors. A branching design questionnaire design was used, particularly in sensitive areas such as sexuality and drug use. By using branching questions students were not exposed to questions that they had no direct experience with. For example, if a student responded that they had never smoked a cigarette, they would then go on to the next topic rather than answer more detailed questions about smoking. The aim was to limit exposure to sensitive questions for participants with no direct experience in these behaviours.

Cognitive testing of the questionnaire by young people was conducted to ensure comprehension and validity. A pilot study demonstrated that students found completing the questionnaire using laptop computers acceptable and enjoyable (Watson et al, 2001). Results from the pilot study provided suggestions that led to the refinement of the questionnaire and its administration. The final questionnaire used in this survey had a bank of 523 questions.

COMPUTER BASED YOUTH HEALTH SURVEY

The questionnaire was administered to students in each school using laptop computers. A team of designers and programmers were commissioned to design a youth-orientated and 'user friendly' multimedia questionnaire interface. A cartoon Kiwi on an island was the theme for the survey. As students answered sections on the different aspects of their life, they travelled around the island ending up at the top of a mountain at the conclusion of the survey.

Questions were read out over headphones as well as being displayed on the computer's screen. Answers required 'point and click' responses using a mouse. Keyboard data entry was not required. Respondents were also able to choose not to answer questions or sections at any point. Preceding sensitive sections of the questionnaire, reminders were given that involvement in the questionnaire was voluntary and answers were confidential and anonymous. For questions thought to be upsetting for respondents, 'Safety' screens provided advice and contact details of people to talk to; this included the people administering the questionnaire. Questionnaire responses were automatically coded and stored onto floppy disk. Files were then directly imported into statistical software and collated for analysis.

THE STUDENTS AND SCHOOLS WHO PARTICIPATED

A survey was conducted of all AE high schools in the Northland and Auckland regions from Kaitiāia to Meremere. This region encompasses both rural and urban populations. Lists of AE schools were obtained from the New Zealand Ministry of Education and local coordinators of AE programs. Each AE school was individually contacted to verify that it met the requirements for alternative education as there was overlap with training programs that catered to students 16 years and older. The requirement for inclusion was that each school receives funding from the Ministry of Education to provide alternative education to students at risk of exclusion from high school. Information was sent to each AE school asking for their consent to participate in the survey. Once consent was obtained from each AE school, information sheets, translated as required into Maori, Samoan, Niue, Tongan and Cook Islands languages, were sent to parents. On the day of the survey, informed consent was discussed and written consent was obtained from all participating young people.

Approval for the study of AE students was obtained from the University of Auckland Human Subjects Ethics Committee.

All 36 AE schools in the northern region of the North Island were surveyed during the winter of 2000. Of the 364 students enrolled in the AE schools, 268 completed the survey, 88 students were absent on the day of the survey, one student declined to participate, and seven students surveys were lost due to computer error, resulting in an overall student response rate of 73%.

The reasons for student absence were sickness or illness (16%), pregnancy related (4%), truancy (23%), at work placement (3%), and miscellaneous other reasons (14%). The reasons for their absence were unknown in the remaining 40%. No parents indicated that they were opposed to their child's participation.

CULTURE AND ETHNICITY

The demographic characteristics of the student participating in the survey are described in Table 1. Students ranged in age from 11 to 17 with the majority of students being either 14 years (38.7%) or 15 years (36.5%).

Most students were male (67.9%) and over 80% of the students were of Maori or Pacific ethnicity. Many students identified with more than one ethnicity (30%).

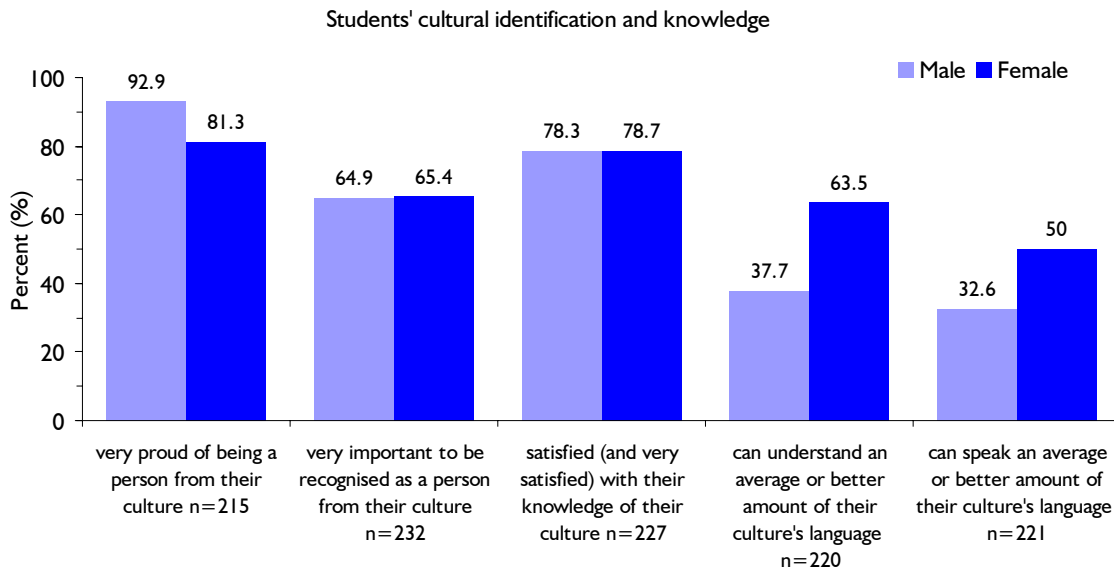
Students report high levels of cultural identification and knowledge. Female students were better able to understand and speak the language of their family's culture.

The main language spoken at home was English (90.3% males; 87.1% females), followed by Maori (2.3% males; 8.2% females) and the Pacific languages (5.7% males; 4.7% females).

TABLE 1. Demographic characteristics of surveyed students.

AE students	n (%)
Total population sampled	268
Gender (%)	
Male	182 (67.9)
Female	86 (32.1)
Age (%)	
≤13	36 (13.5)
14	103 (38.7)
15	97 (36.5)
≥16	30 (11.2)
Ethnicity (%)	
NZ European*	25 (9.3)
Maori*	117 (43.5)
Maori/ Pacific	45 (16.7)
Maori/ NZ European	44 (16.4)
Pacific*	25 (9.2)
Other	10 (3.7)

* with other ethnicities, not Maori, Pacific or European

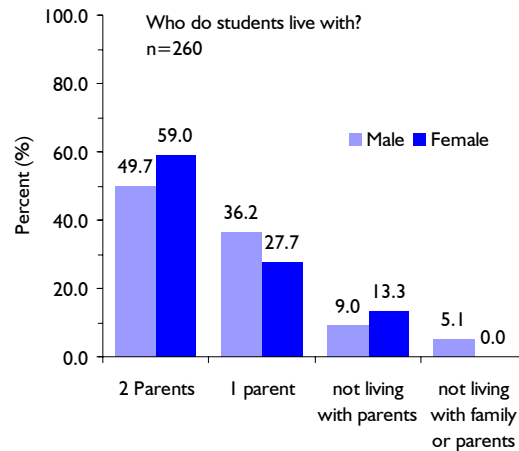


HOME AND FAMILY

A young person's physical and emotional health is influenced by the relationships they have with their family members (For reviews see McLaren, 2002). Families are fundamental in the positive health and development of children. This continues beyond childhood, into and throughout the teenage years. For Maori it is acknowledged that whanau provides the major source of strength, support, security and identity.

AE students report a range of living situations, but about half report living with two parents (49.7% males; 59.0% females).

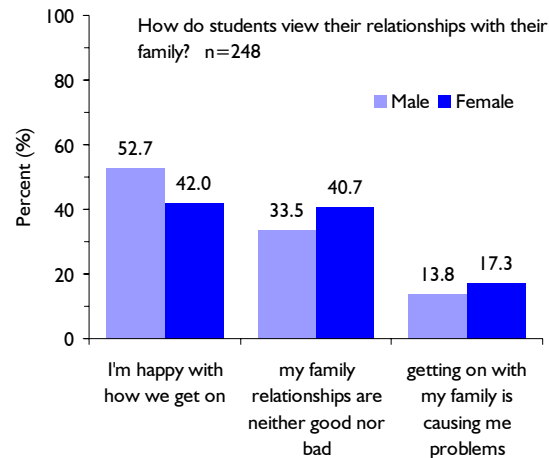
Research has shown that if parents know and care where their children are, their children are less likely to use drugs, be involved in crime and engage in early sexual activity (for review see McLaren, 2002). Most students, particularly female students, report that their parents always or usually want to know where they are and who they are with (63.5% males; 78.4% females).



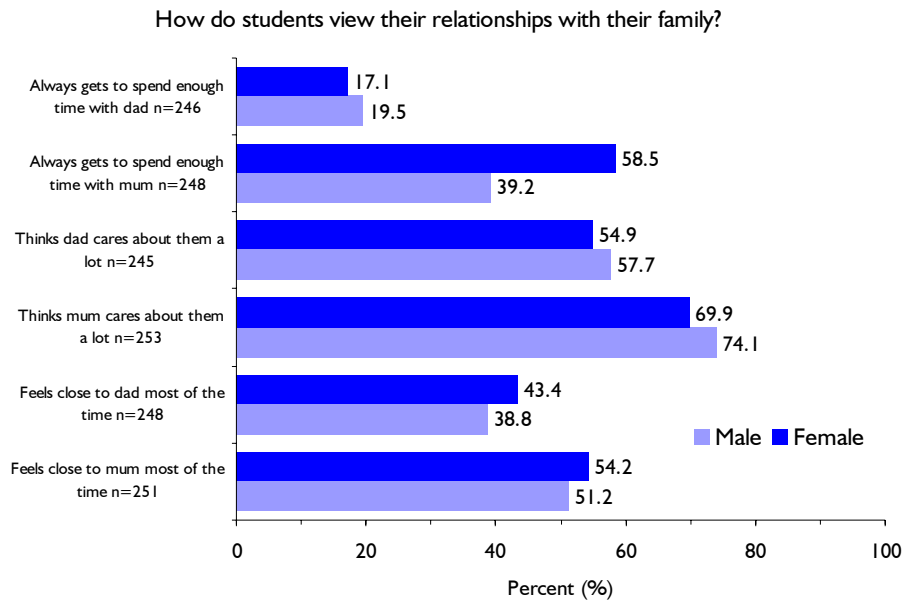
Nurturing relationships between young people and their families are vital to good outcomes. When asking students about their relationships with their families, about half of the males (52.7%) and less than half of the females (42.0%) say that they are happy with how they get on with their families.

Most students say they always or usually receive praise from someone in their family when they do well (57.2% males; 63.8% females).

Most female students talk about their problems with someone in their family (68.3%); the same is true for about half of the male students (49.4%).



When young people feel loved and accepted by their parents and family, they are more likely to develop self-reliance, self-esteem and a positive work orientation and they are less likely to feel depressed or anxious (for review see McLaren, 2002).



Most students think their mum and/or dad (or someone who acts like their mum and/or dad) care about them a lot. About half of the students feel close to their mum most of the time and always get enough time with her. Fewer students feel close to their dad most of the time, with less than 20% saying they always get enough time with him. When asking about other family members, most students (55.9% males; 60.2% females) feel their other family members care about them a lot.

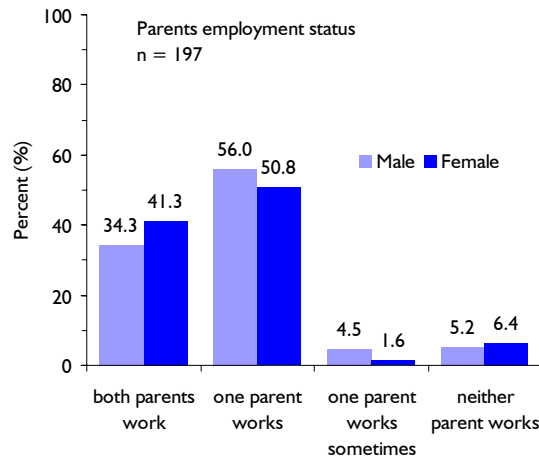
SOCIO-ECONOMIC ENVIRONMENT

To understand the context of the health and education issues described in this report, it is important to appreciate the socio-economic background of students attending alternative education schools. While socio-economic status is difficult to measure in young people, the range of indicators used in this report give insight into the difficult and disadvantaged social and economic environments alternative education students live in.

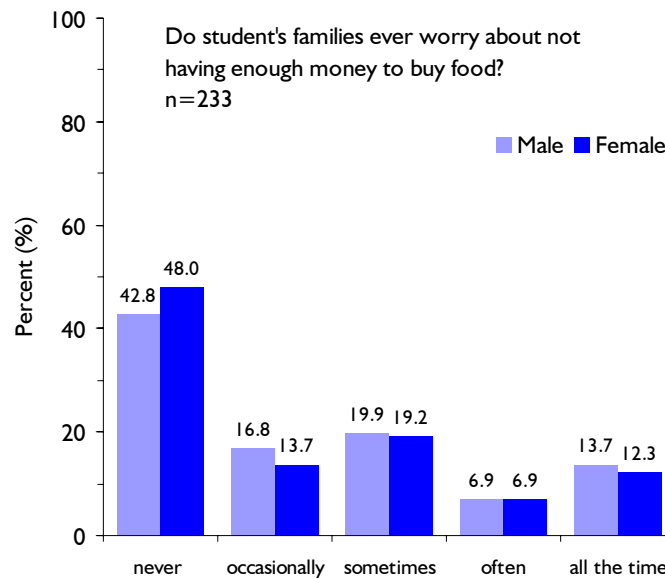
More than 75% of students live with an adult who has a community services card.

About 90% of AE students report that one or both parents have a paid job or work at home earning money.

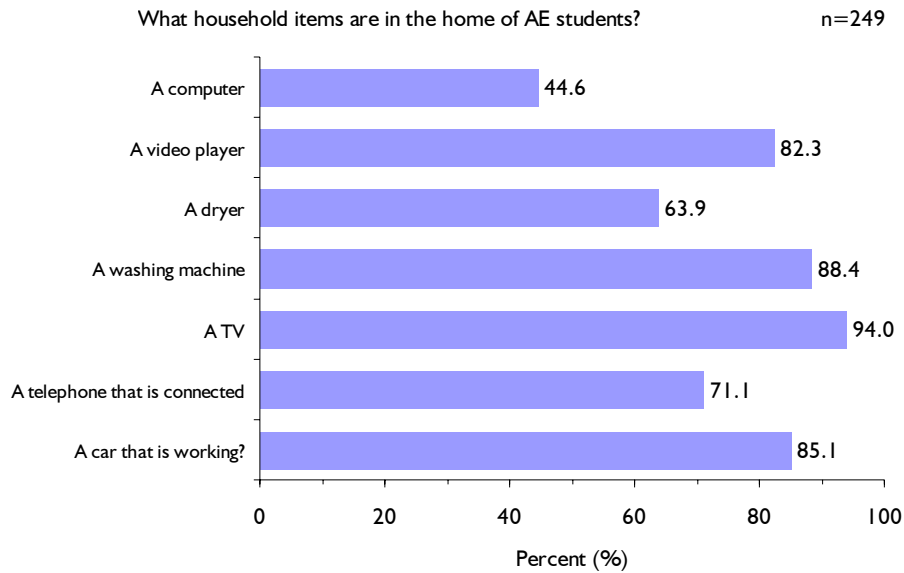
Almost half of all students have moved homes two or more times in the past year (46.2% males; 44.1% females). One quarter of students live in homes where overcrowding may be an issue (there are two or more people for every bedroom.)



More than half the students (57.3% males; 52.1% females) say their parents have concerns about not having enough money to buy food at least some of the time. Nineteen percent of students say their parent's worry about this often or all the time.



Poverty and economic pressure affect the ability of parents to parent and families to cope. This causes negative outcomes for young people. Youth who are poor are more likely to repeat a year at school and/or drop out of school (for review see McLaren, 2002).



Possession of certain material objects may reflect the socio-economic situations of families. More than 80% of students have at home a car that is working, a television, a washing machine and/or a video player. Fewer students have a working telephone, a clothes dryer or a computer. Additionally, 14.1% of males and 18.0% of females say that not having enough money to spend is causing them problems.

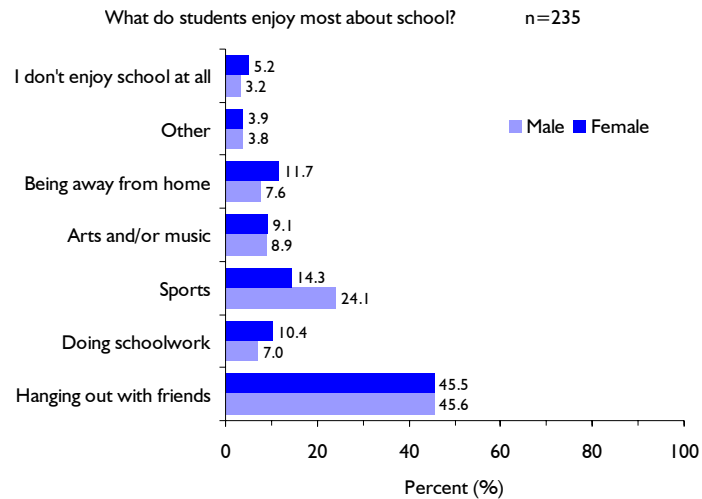
SCHOOL

Schools play a crucial role in the health and well-being of young people. As a result, students who are excluded from mainstream education are at particular risk for poor health and social outcomes (Denny et al, 2003). Alternative high schools provide important opportunities for health promotion and youth development that can change the life-course for these young people. This chapter describes what students said about their alternative education school.

When asked how they feel about their alternative education school, eight out of ten students say that they like it or find it OK.

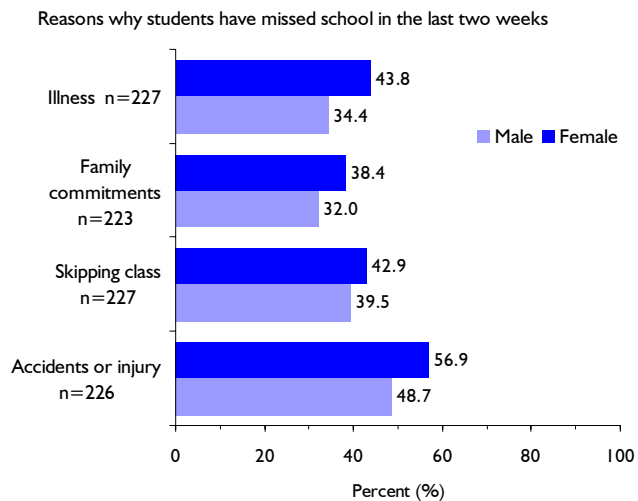
Hanging out with friends is the most commonly reported reason that students enjoy being at school (45.5% males; 45.6% females). Sport is the second most reported reason students enjoy being at school, but was reported by more male (24.1%) than female (14.3%) students.

Most students (85% males; 80.6% females) say it is very important or somewhat important for them to be at school everyday.

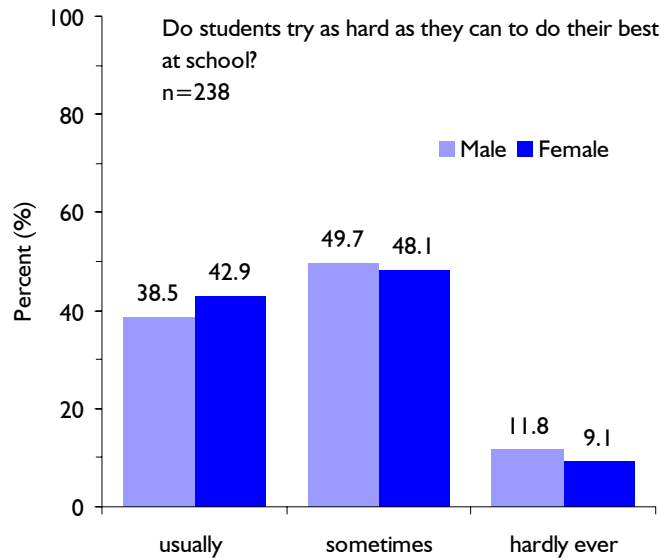


Likewise, almost all students (96.8% males; 90.5% females) say it is very important or somewhat important to their parents/caregivers that they go to school everyday. Despite this, absenteeism from school is common among students.

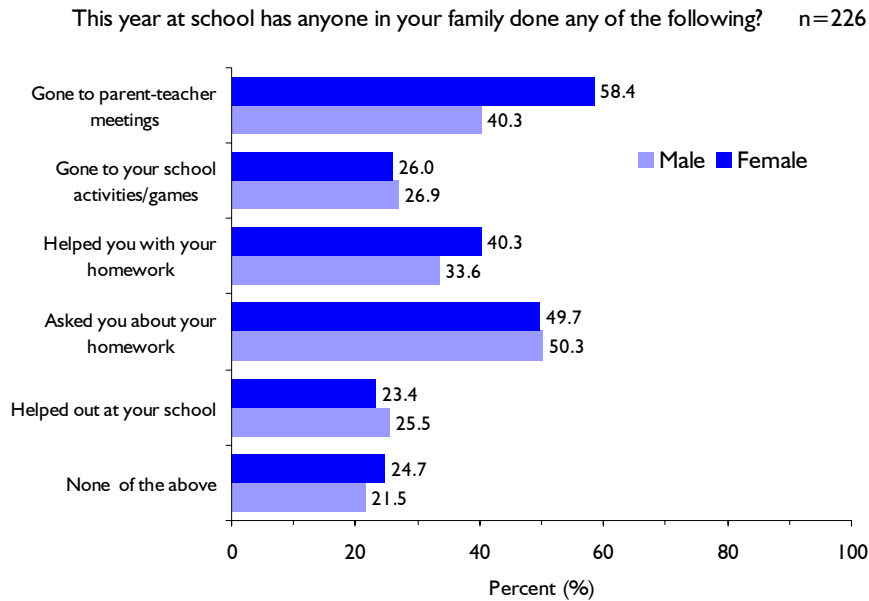
Most students (58.9% males, 67.1% females) have missed at least one full day of school this school year without any excuse. Furthermore, 19% of male students and 26.1% of female students have skipped 10 or more days this school year without any excuse. Absences in the previous fortnight due to accident or injury, skipping class, family commitments, or illness are also very common among students.



About 40% of students usually try as hard as they can to do their best at school. Almost all students (98.1% males; 96.1% females) say it is important or very important to their parents/caregivers that they do well at school.



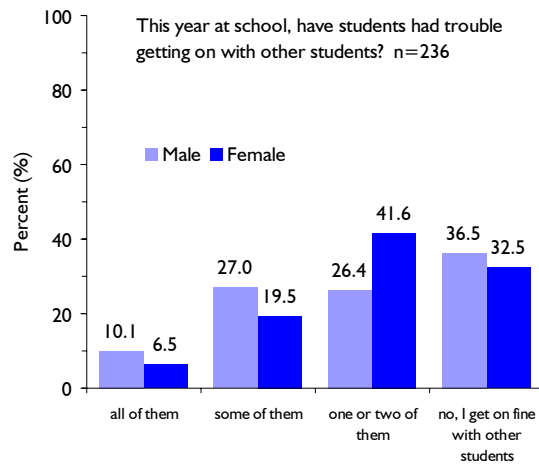
The type of parent/family participation at their child's school varies greatly. About one half of students say their family asks them about their homework, but only a quarter report their family has attended their school activities/games.



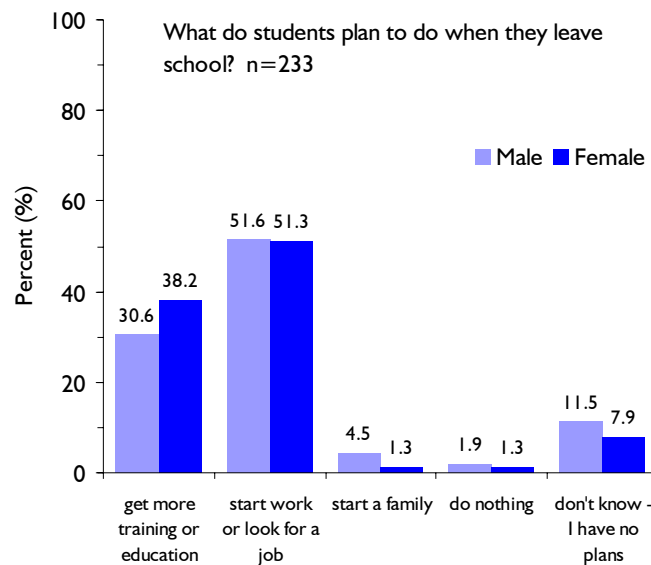
A positive school climate can improve health and behavioural outcomes and is associated with reduced depression among alternative education students (Denny, in press). Eight out of ten students feel like they are a part of their school (78.3% males; 83.1% females).

Peer relations pose a problem for some students at school. While about a third of students have no problems getting on with other students, more than a quarter have difficulty with some or all other students.

More than half of all students say that their teachers treat them fairly most of the time. While almost all students say that adults at school care about them some or a lot, 10.3% of male students and 9.2% of female students say that the adults at school do not care about them at all.



About half of the students plan to start working or look for a job when they leave secondary school and a third plan to get more schooling. While most students have discussed their plans for after high school with someone in their family, 18.0% of males and 16.9% of females have never discussed their job or education plans with anyone in their family.

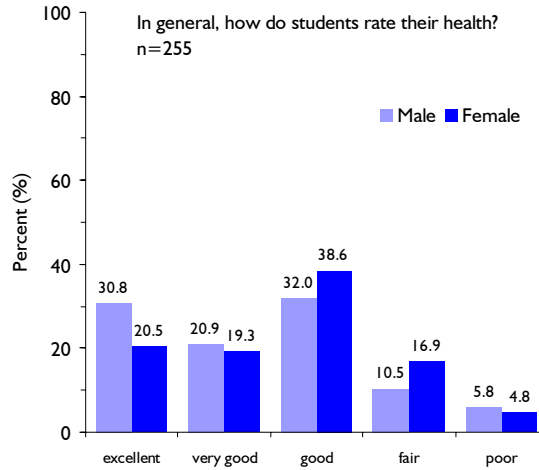


HEALTH

Traditionally, youth have been perceived as healthy and in less need of health services. However there are a range of health issues that affect today's youth. These include dangerous driving behaviours, violence victimisation, drug and alcohol use, sexual health issues and mental health problems.

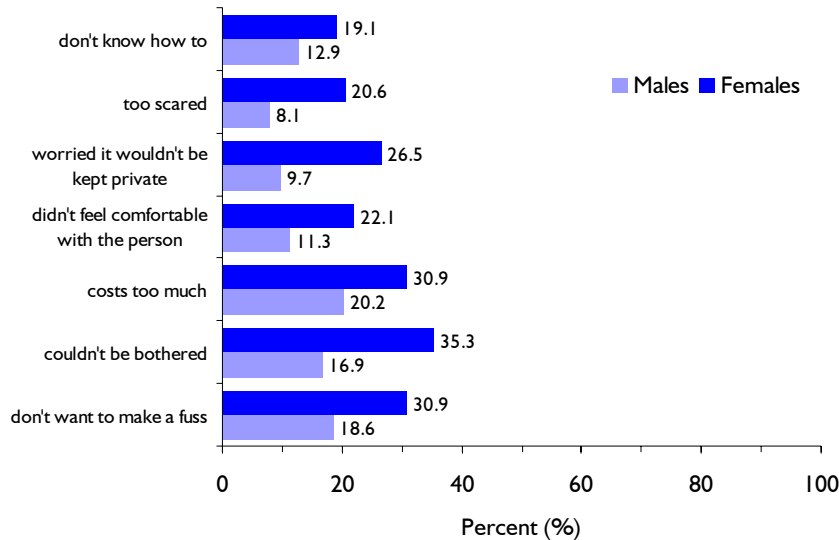
When compared to other age groups, youth have the lowest rates of healthcare service utilisation (Klein, 2000). This may be because students perceive fewer personal health problems.

When asked about their health in general, most students say their health is good, very good, or excellent.

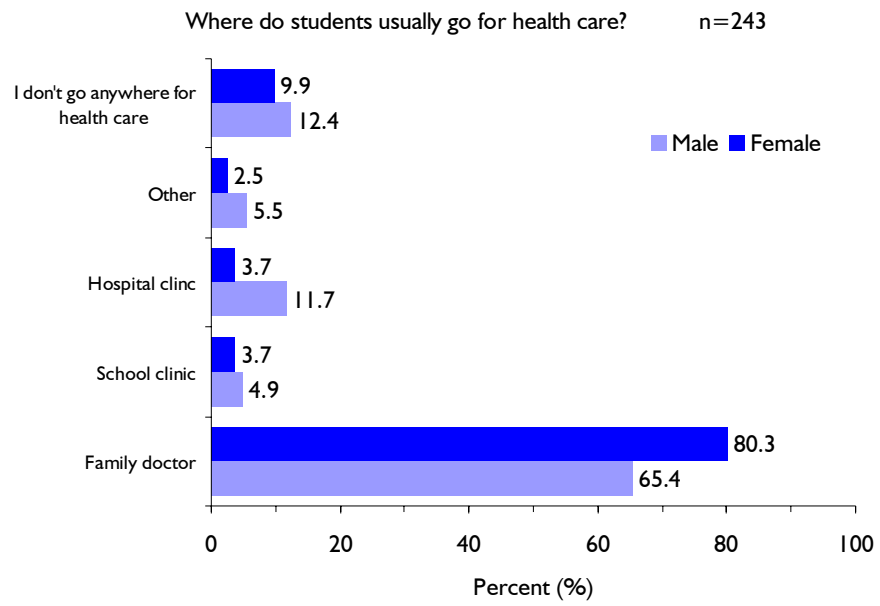


But the majority of students have had problems getting health care when they need it, especially female students (57.3% males; 72.1% females). Students report a variety of reasons for not obtaining health care. Students most frequently said they couldn't be bothered, it costs too much to seek health care or they didn't want to make a fuss.

Most commonly reported reasons for not seeking health care when needed n=192



Most students see their family doctor for health care, but approximately 10% do not go anywhere for health care.

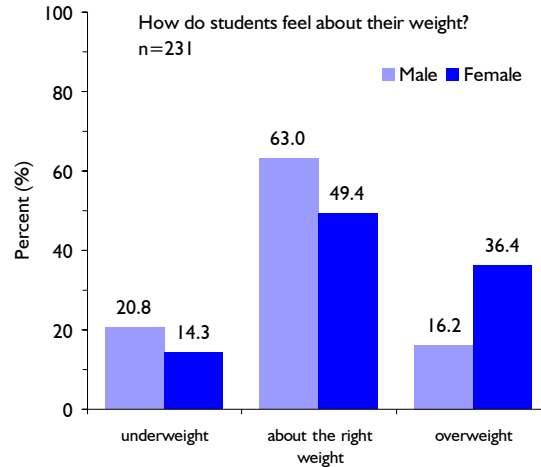


NUTRITION, EXERCISE & ACTIVITIES

Evening meals are an important time for families. About half of all students eat their evening meal with their family almost every night (55.8% males; 48.2% females).

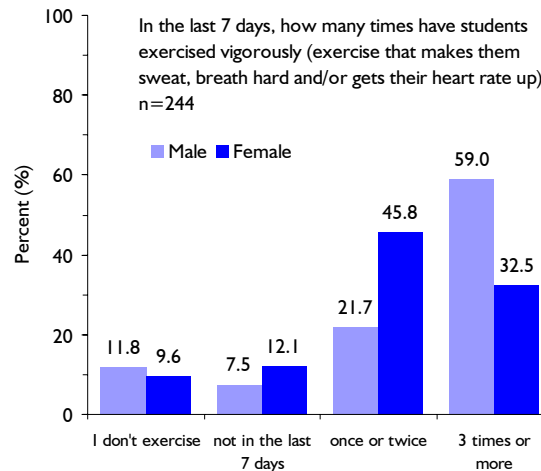
About half of all students report being about the right weight, but more female students than male students report feeling overweight.

Likewise, 59.3% of female students have tried to lose weight in the past year while only 35.2% of male students have tried to do so.



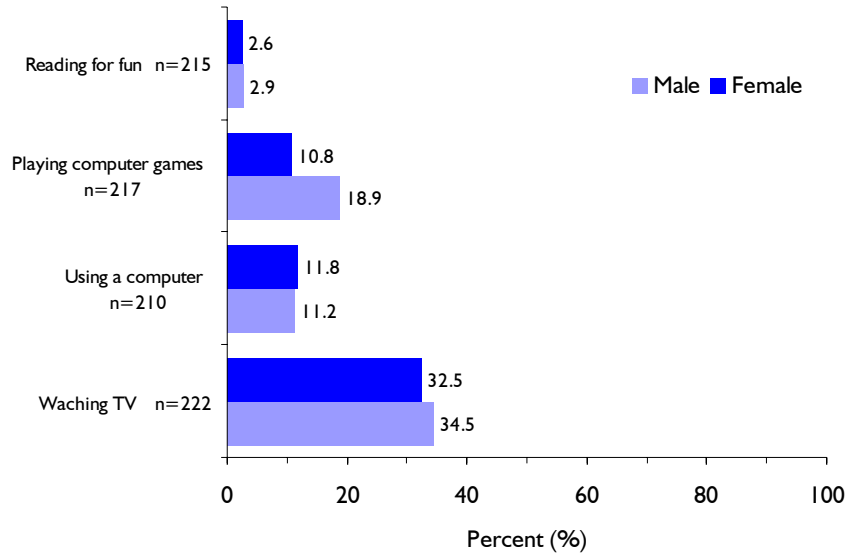
While nearly 60% of male students report participating in regular, vigorous exercise (3 or more times per week) only a third of female students report doing so.

When asked about light physical activity, 29.4% of males and 35.9% of females reported not doing any in the past week.

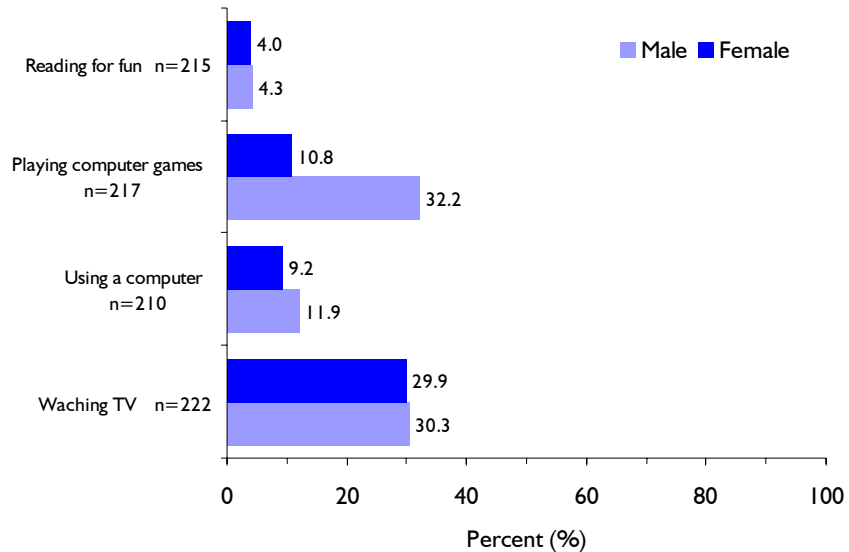


Watching TV is very common among AE students. Using a computer or the internet is far less common among students as nearly half report never using it. Playing computer games is far more common among boys; nearly a third of male students spend more than five hours a day doing so. Reading for fun was reported the least among the sedentary behaviours, by both female students and male students.

Percentage of students who spend 1 to 4 hours...



Percentage of students who spend more than 5 hours...

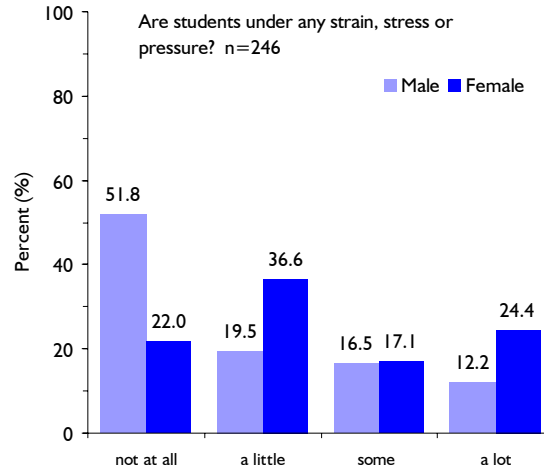


EMOTIONAL HEALTH

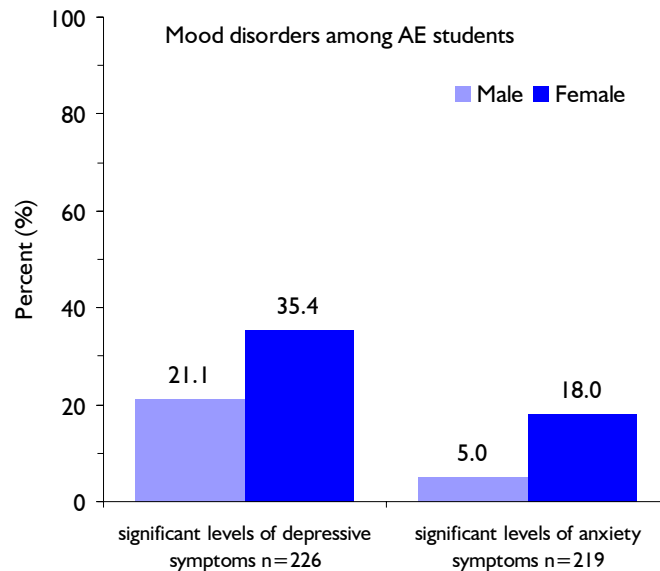
Research has estimated that over twenty percent of students who do not complete high school, end their education prematurely because of mental health problems (Kessler, 1995). The most common of these are mood disorders.

About half of the male students (52.7%), but less than one third of female students (31.3%), report that in general, their mood is good.

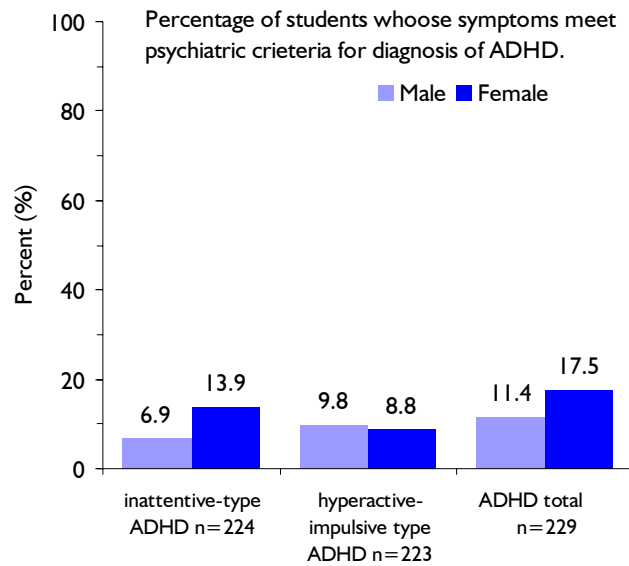
Similarly, 51.8% of males, but only 22.0% of females, report that they have no strain or stress in their lives. Conversely, nearly one quarter of female students are under a lot of strain, stress or pressure.



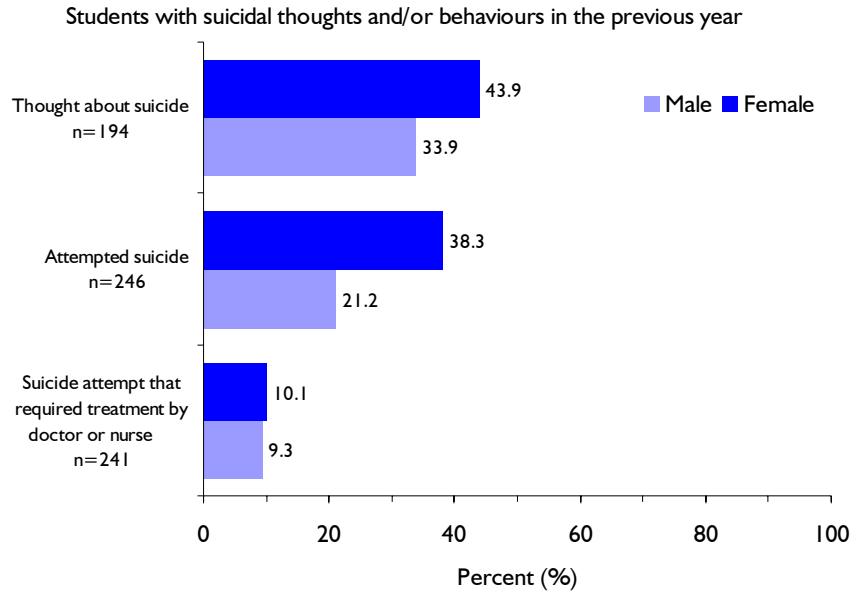
Serious emotional health problems are common among AE students, especially female students. About 20% of males and over one-third of females report high levels of depressive symptoms that are considered serious and in need of professional assistance. Five percent of males and 18% of females had symptoms of anxiety at levels that would indicate high likelihood of an anxiety disorder.



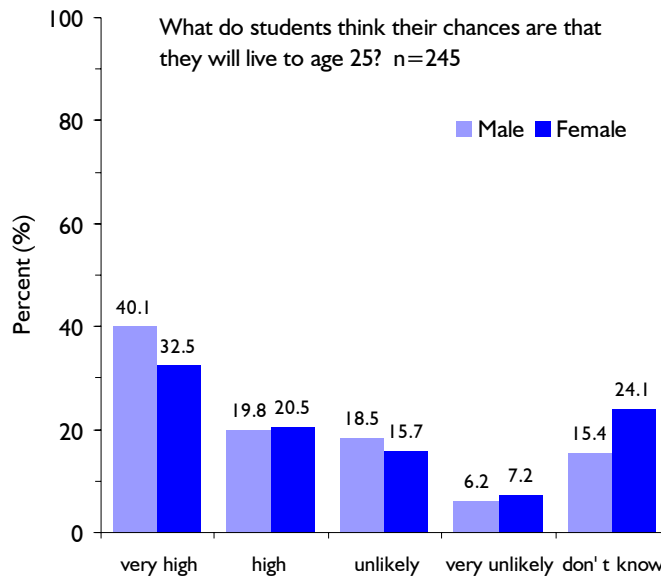
Furthermore, behavioural problems were common as 63.1% of male students and 64.5% of female students report behaviours that meet the psychiatric criteria for conduct disorder (American Psychiatric Association, 2000). Some of these behavioural concerns may be exacerbated by symptoms of attention deficit hyperactivity disorder (ADHD). Eleven percent of male and 17% of female students reported symptoms that meet psychiatric criteria for inattentive or hyperactive-impulsive ADHD (American Psychiatric Association, 2000).



Suicidal thoughts and behaviour are common among AE students, especially female students. Forty four percent of female students and 34% of male students had thoughts of suicide in the previous 12 months. Furthermore, many students have made a suicide attempt in the pervious 12 months (21.2% males; 38.3% females). About 10% of all suicide attempts were serious enough to require treatment by a doctor or nurse (9.3% males; 10.1% females).

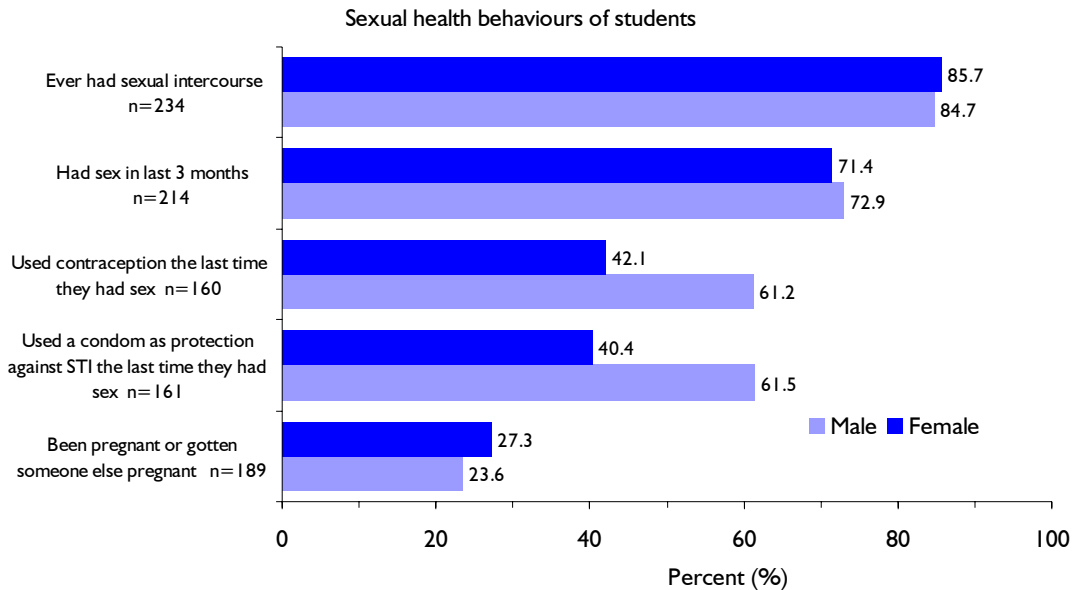


Additionally, a concerning number of students (24.7% males; 22.9% females) think it is unlikely that they will live to the age of 25 years.



SEXUAL HEALTH

The majority of students have had sexual intercourse (84.7% males; 85.7% females) and are currently sexually active (72.9% males; 71.4% females). More male students report using contraception and/or condoms the last time they had sex than female students. About one quarter of students have been pregnant or gotten someone else pregnant.

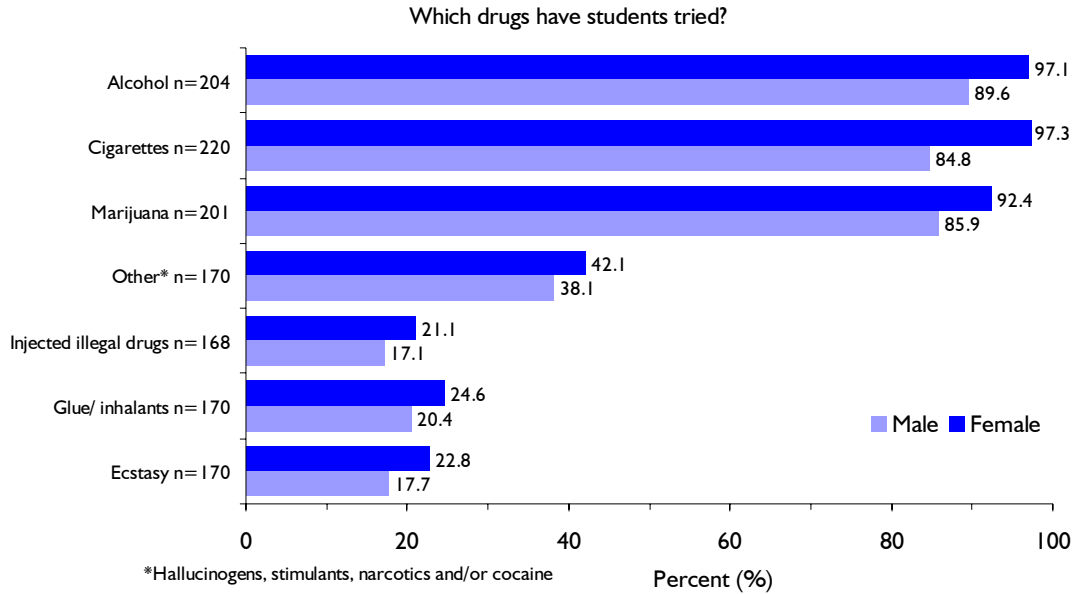


Most students (76.5% males; 84.4% females) report being attracted exclusively to people of the opposite sex. Male students were slightly more likely to report being attracted to both sexes (6.7%) or neither sex (8.7%) than female students (3.9% and 3.9%, respectively). Percentages of male and female students who are attracted to the same sex were similar (2.7% and 2.6%, respectively).

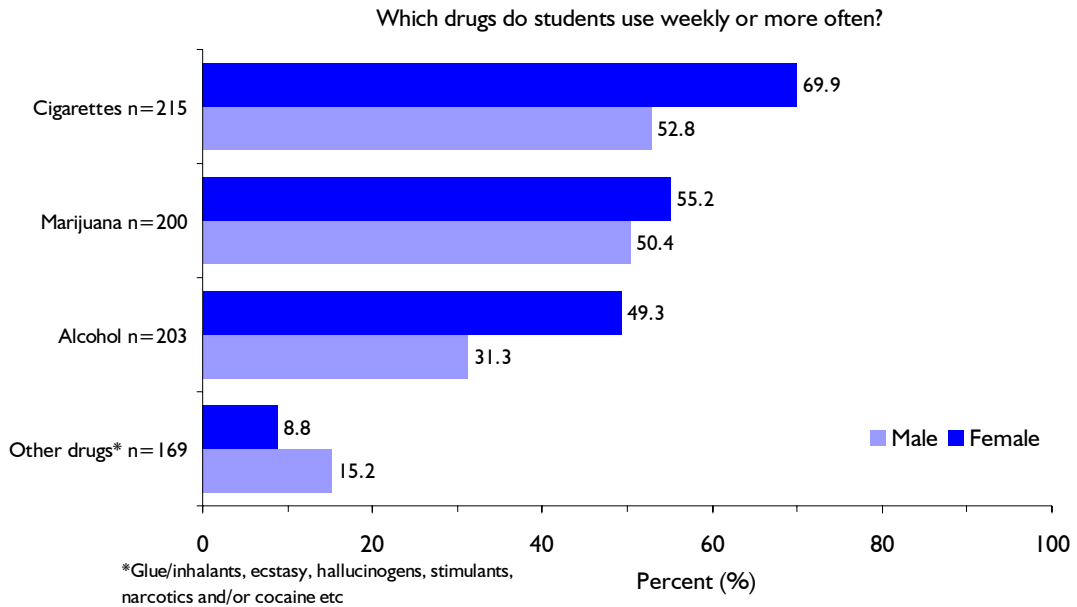
Students who are attracted to people of the same sex need a positive education and social environment and contact with peers with similar orientation for healthy youth development and identity formation (for reviews see McLaren, 2002).

SUBSTANCE USE

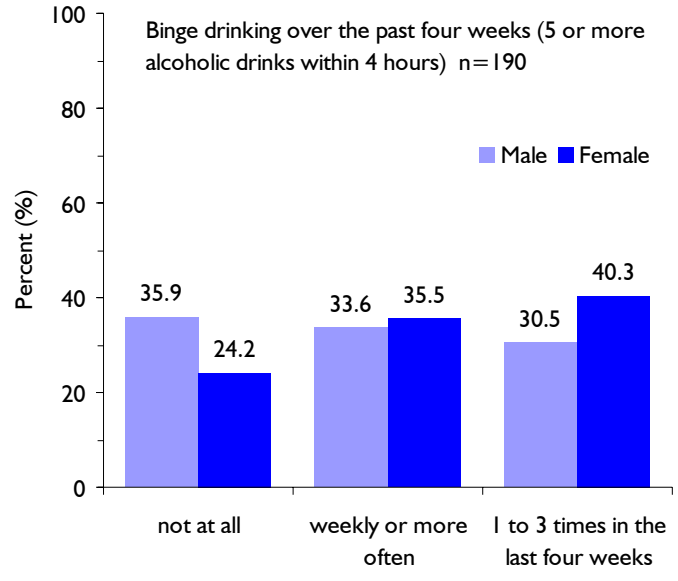
Almost all female students and the majority of male students have tried cigarettes, alcohol and marijuana. Experimenting with other drugs was also common as 40% of students have tried hallucinogens, stimulants, narcotics and/or cocaine.



About half the students are weekly users of alcohol, cigarettes and/or marijuana. Female students are more likely to be weekly users of alcohol and/or cigarettes than male students; male students are more likely to be weekly users of other drugs.

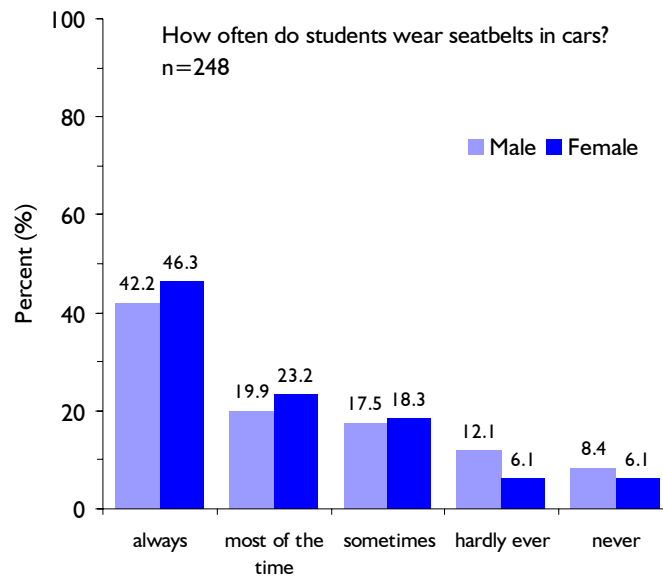


Binge drinking is of particular concern as 64.1% of males and 75.8% of females have had one or more episodes of binge drinking over the past four weeks.

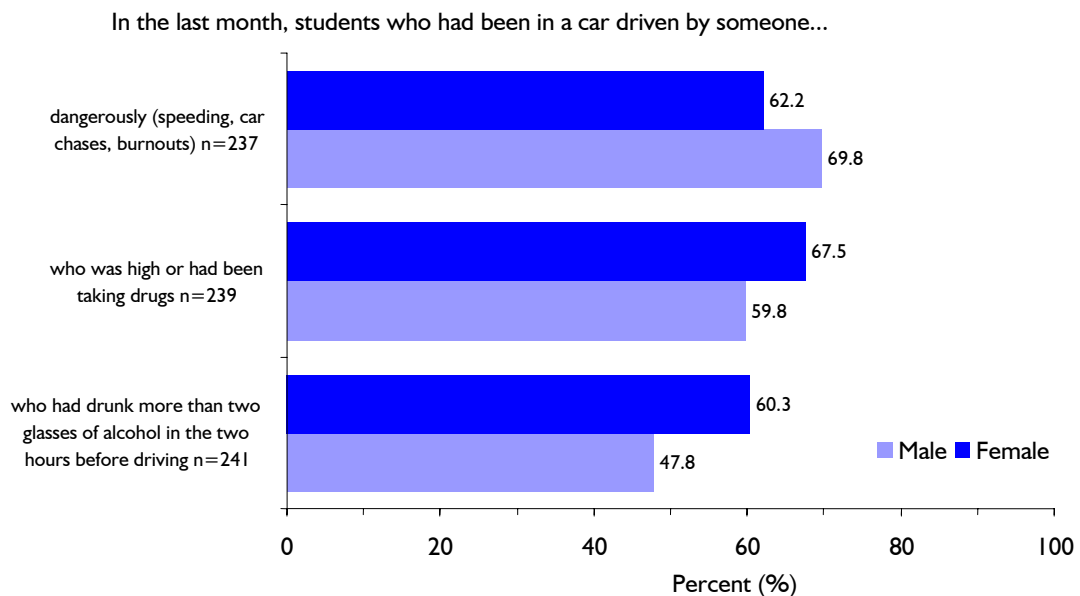


INJURY AND VIOLENCE

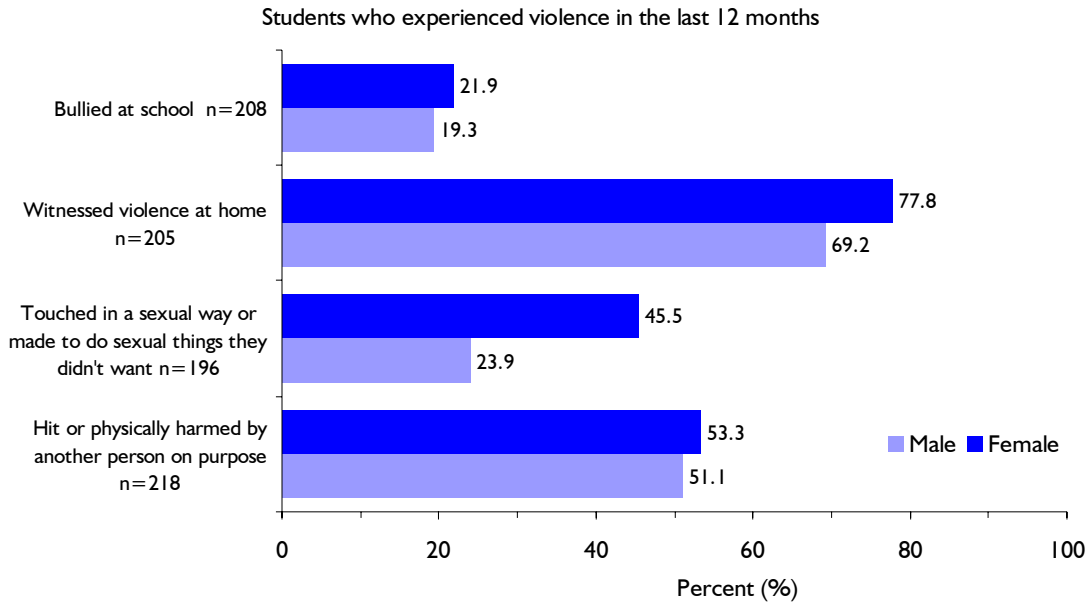
Motor vehicle crashes remain the leading cause of death among people aged 12 to 19 years in New Zealand (Ministry of Health, 2002). There are concerning rates of high-risk behaviours among AE students related to car use. For example, less than half the students always wear a seatbelt when riding in a car (42.2% males; 46.3% females).



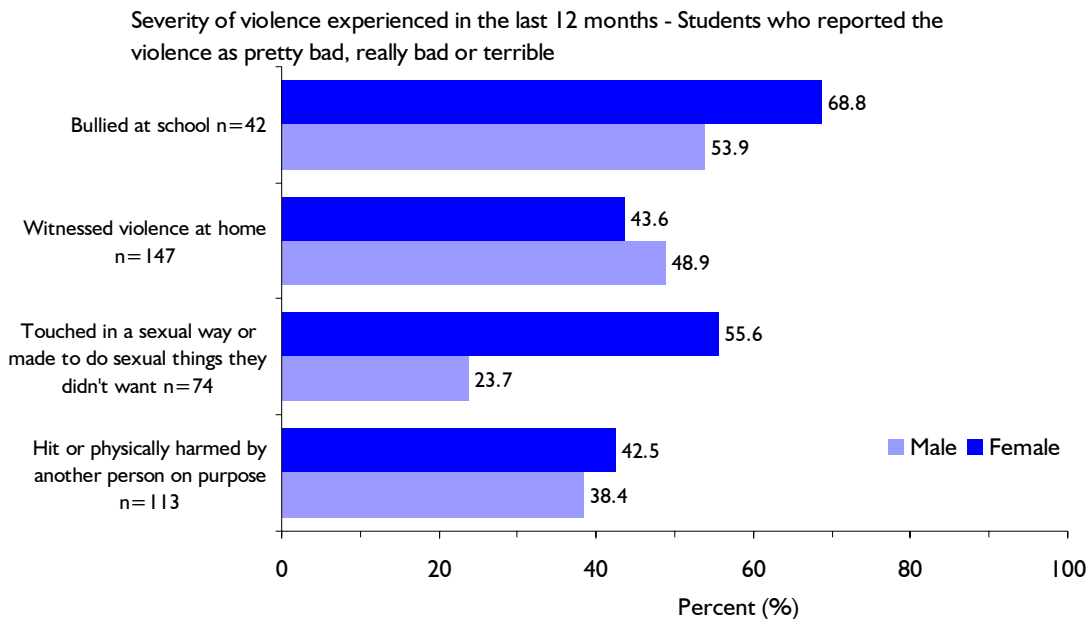
Furthermore, many students had recently been in a car driven by someone who was potentially drunk, who had taken drugs or who had driven dangerously.



An alarming number of students experience physical and/or sexual abuse, bullying at school and/or witnessing violence in their homes. Witnessing violence at home was the most common form of violence experienced by students and included adults yelling or swearing at each other or at children, adults at home physically harming each other or other children within the home. Female students were more likely to experience sexual abuse.



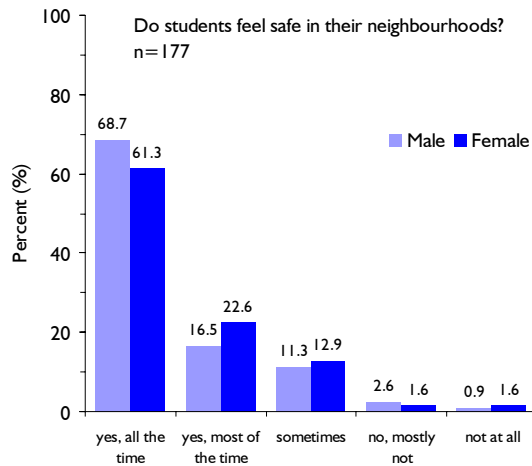
When asked how bad the violence experienced was, many students reported that the violence was pretty bad, really bad or terrible. Of those being bullied at school, a greater proportion reported the violence as pretty bad, really bad or terrible, compared to other forms of violence experienced. Among those who witnessed violence at home, a similar proportion of students perceived the violence to be pretty bad, really bad or terrible, as compared to physical abuse. Sexual abuse was reported to be more severe by female students than male students.



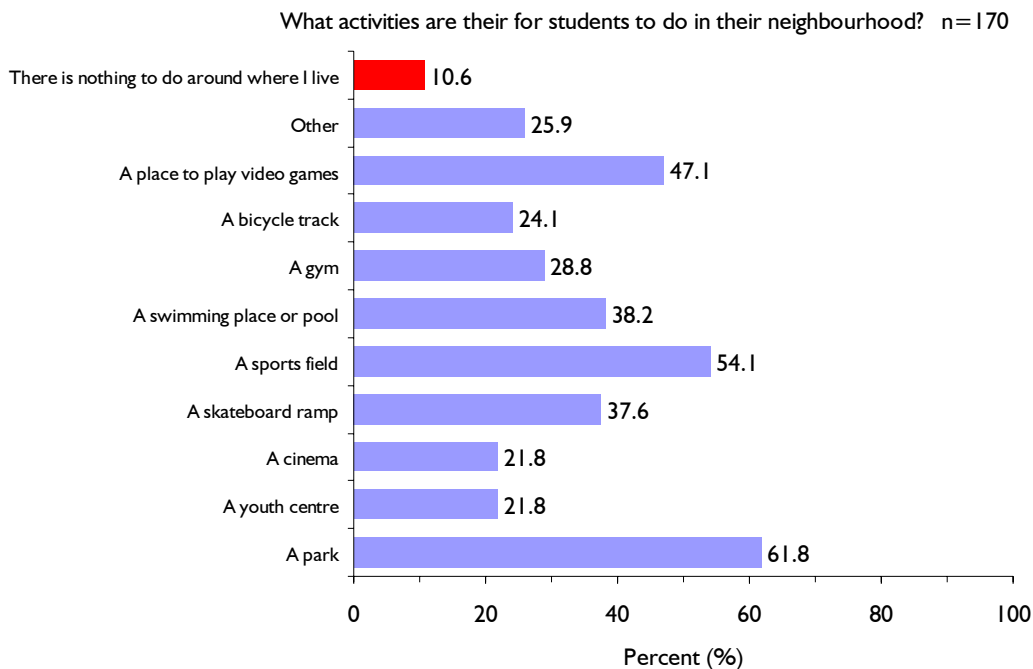
COMMUNITY

Youth are influenced by the communities that they live in. The availability of safe activities and opportunities to learn new and different skills support the healthy development of young people. For young people at risk of negative health and social outcomes, having an adult mentor (who is not part of their family) is a potentially important protective factor in their development into healthy and productive adults.

Many students do feel safe in their neighbourhoods, but safety is a concern for some students. Sixteen percent of males and 30% of females did not go to school at least once in the last month because they thought they would be unsafe at school or on the way to or from school.



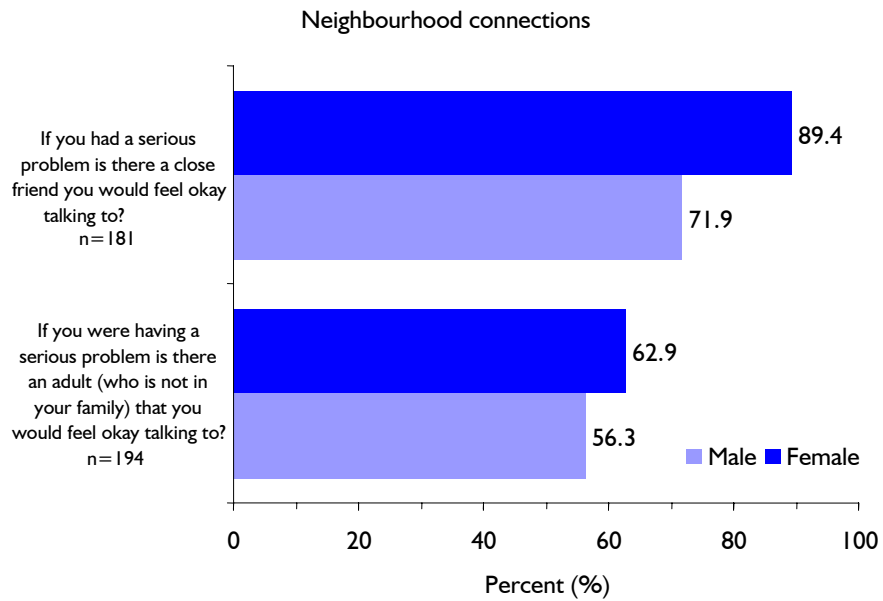
Students report that there are a variety of things to do in their neighbourhoods that are within walking distance to their homes. The most commonly reported opportunities were parks and sports fields. Unfortunately, more than ten percent of students say that there is nothing to do around where they live.



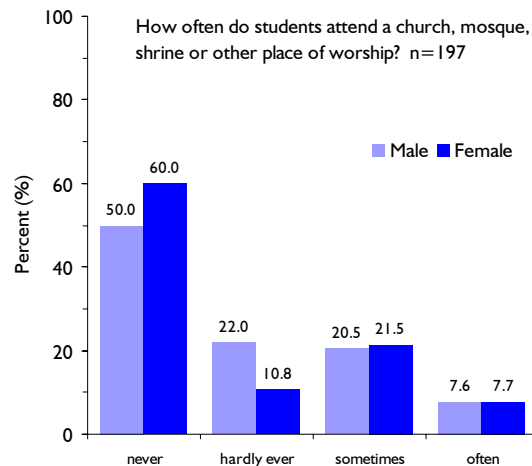
Part time employment provides young people with opportunities for earning income and acquiring skills. Previous research has demonstrated positive outcomes are associated with part time work, including lower school dropout rates (for review see McLaren, 2002). However, youth who work more than 20 hours a week during the school year may engage in more health risking behaviours and have worse outcomes.

Twenty-nine percent of male students and 23.4% of female students have regular part-time jobs. Of those with a part-time job, 53.6% of male students and 71.4% of female students work 5 or more hours per week.

Most students (70.4% males; 87.1% females) know some or a lot of the people in their neighbourhoods. Likewise, if they had a serious problem, most students have a close friend they would feel okay talking to about it, but fewer report having an adult (not in their family) that they would feel okay talking to.



More than half the students report that spiritual beliefs are very important to them (53.5% males; 49.2% females) and about one quarter attends a church, mosque or other place of worship at least sometimes.



SUMMARY

This survey provides comprehensive information on the health and wellbeing of students attending alternative education schools from Northern New Zealand. The findings highlight a vulnerable and at-risk group who experience high levels of socio-economic hardship and violence victimisation. Effective solutions will require committed and sustained efforts by communities to address the health and safety issues identified in this report. Resources are urgently needed to address these youth health issues that cut across traditional boundaries of health, welfare and social services. Multi-sectorial approaches, with collaborations between schools, health and social services are essential to utilise scarce resources in the most effective ways. There is a unique opportunity to promote healthy youth development in alternative education schools and change the life course for these young people. Alternative education schools are the logical place to co-ordinate and deliver services as they are successfully engaging students whom mainstream education has failed.

ACKNOWLEDGEMENTS

To all the youth who participated in this survey

To the alternative education schools, their dedicated teachers and co-ordinators

Starship Foundation

Darren Cottingham at Ad Infinitum

Bruce Timmins and Jim At Stream Interactive

Gorham Milbank at the Ministry of Education

Gilli Sinclair and Jude Gillies at Counties Manukau District Health Board

Jim Peters, AIMHI consortium

Rawiri Wharemate, Kaumatua for KidsFirst Community & Child Health

Centre for Youth Health, KidsFirst Community & Child Health

REFERENCES

Adolescent Health Research Group. A health profile of New Zealand youth who attend secondary school. *New Zealand Medical Journal*, 2003;116-9.

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision*. Washington, DC, American Psychiatric Association, 2000.

Grunbaum JA, Lowry R, Kann L. Prevalence of health related behaviors among alternative high school students as compared with students attending regular high schools. *Journal of Adolescent Health* 2001;29:337-343.

Kessler RC, Foster CL, Saunders WB, Stang PE. The social consequences of psychiatric disorders, I: Educational attainment. *American Journal Psychiatry* 1995; 152(7), 1026-1032.

Klein JD. Adolescents. Adolescents, health services and access to care. *Journal of Adolescent Health* 2000;27:293-294.

McLaren K. *Youth Development Literature Review: Building Strength*. Wellington. Ministry of Youth Affairs. 2002.

Ministry of Health. *New Zealand Youth Health Status Report*. Available from <http://www.moh.govt.nz>. Wellington. Ministry of Health 2002.

Denny SJ, Clark TC, Watson PD. Comparison of Health Risk Behaviours among Students in Alternative High Schools from New Zealand and the USA. *Journal of Paediatrics and Child Health*. 2003; 39(1), 33 - 39.

Denny SJ, Clark TC, Fleming T, Wall M. Emotional resilience: risk and protective factors for depression among alternative education students in New Zealand. *Journal of Orthopsychiatry*. Accepted for publication.

Watson PD, Denny SJ, Adair V, Ameratunga SN et al. Adolescents' perceptions of a health survey using multimedia computer-assisted self-administered interview. *Australian & New Zealand Journal of Public Health* 2001;25:520-4.

Parts of this report have previously been published in the following scientific papers.

Denny SJ, Clark TC, Watson PD. Comparison of Health Risk Behaviours among Students in Alternative High Schools from New Zealand and the USA. *Journal of Paediatrics and Child Health*. 2003; 39(1), 33 - 39.

Denny SJ, Clark TC, Fleming T, Wall M. Emotional resilience: risk and protective factors for depression among alternative education students in New Zealand. *Journal of Orthopsychiatry*. Accepted for publication.