Evaluation of Campus Watch:
a community-based initiative to reduce alcohol-related harm
and social disorder in a university setting

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a thesis submitted for the degree of
Doctor of Philosophy
at the University of Otago,
Dunedin, New Zealand

August 2012
Abstract

Background
The total social cost of alcohol-related harm in New Zealand is as high as $5 billion annually. In New Zealand and other high income countries, young people are at a greater risk of alcohol-related harm from their alcohol consumption, as they are more likely to drink hazardously, and are vulnerable to longer term risks from exposure at this age.

In North Dunedin, university students represent a large portion of the population and drink more frequently and more hazardously than their non-student peers. This environment increases the likelihood of experiencing harms caused by their own or others’ alcohol consumption, and these harms extend to non-drinking students and the wider community.

In 2007, amid concerns that anti-social behaviour was having serious impacts on students and the North Dunedin community, the University of Otago launched Campus Watch, using round-the-clock patrols of the university and surrounding neighbourhoods to provide pastoral care to students, improve the quality of the surrounding neighbourhood, and enforce the University’s Code of Student Conduct on and off campus. This programme did not aim to specifically target alcohol consumption.

Aims
The aim of this study was to evaluate the effect of Campus Watch on alcohol-related harm and social disorder among university students and residents of North Dunedin.

Methods
This quasi-experimental evaluation of Campus Watch used a recognised three-step evaluation framework to understand how the programme was developed and introduced (process), what behavioural change occurred after implementation (impact), and the effectiveness of the programme in reducing alcohol-related harm and disorder (outcome).

Data were collected using key informant interviews, Community Surveys (2008 and 2009), and national web-based surveys of university students (2005, 2007, 2009). Secondary analysis of Campus Watch incident data, New Zealand Police data, and New Zealand Fire Service data
was also undertaken. Where possible, comparison sites were included and relative changes measured.

**Results**

The process evaluation showed that the broad objectives of the programme allowed it to be responsive to the needs of the North Dunedin community. Campus Watch staff were highly visible in the area and were well received, with high levels of satisfaction among students and other residents.

The impact and outcome evaluations showed significant decreases in student alcohol consumption, some types of alcohol-related harms, nuisance fires, and other forms of social disorder in the wider university area. Crime rates decreased in the Campus Watch area after 18 months of the programme’s introduction and continued to decrease to the end of 2010. There were no significant changes in North Dunedin residents’ perceptions of their neighbourhood or its problems between 2008 and 2009.

**Conclusions**

Campus Watch had a positive impact on students and the North Dunedin community, by reducing hazardous drinking, some alcohol-related harms, crime rates, and nuisance fires. The programme’s flexibility and its balance between enforcement and pastoral care were important to the programme’s success. A clarification of its role within the university and the wider community and the development of effective indicators to measure further changes will help the programme adapt in light of imminent legislative changes surrounding the sale and supply of alcohol.
Acknowledgements

I would like to thank my supervisors, Jennie Connor and Kypros Kypri, for their invaluable expertise, advice, support, high standards, and patience. They always found the time to answer questions, review chapters, solve problems, and provide encouragement, even late at night and at the weekend.

I would also like to thank my advisors, Andrew Gray and Rob McGee. Andrew provided statistical advice and helped me fix the errors in my Stata code. I apologise for the many interruptions, especially once our offices were across the hall from each other. Rob McGee provided advice on the evaluation methodology.

The following people made this project possible and even enjoyable:

The thousands of university students and Dunedin residents who took the time to participate in the various surveys;

Susan Bell, Nicola Casey, Catherine Adamson, Debbie Payne, Brett Dailey and Bronwyn McNee in Preventive and Social Medicine, Dianne Casey, Sue Walker, Linda Holman and Jo-Ann Bremner in the Injury Prevention Research Unit, Diana Rothstein and others in the Research Office, who provided invaluable administrative support;

Brandon deGraaf for the beautiful 2009 National Survey, the combined dataset and data dictionaries, and a pretty map; Ari Samaranayaka for the National Survey data cleaning and weighting; Geoff Hay for the mapping and the address databases; All of the cheerful research assistants who spent many nights door-knocking with me, often in the rain; Sue Garrett, Sam McCall, and Jerome Cousins for data entry; Professor Peter Herbison, Melanie Bell, MJ Paschall, and Bob Saltz, for reviewing chapter drafts and/or providing statistical advice;

David Richardson and Carol Clarke from the Division of Student Services for the many interviews; Simon Thompson and all of the Proctor’s Office staff for providing Campus Watch data and additional information; Tim Oldfield and Tony Ritchie from the New Zealand Police, Gary Quigan and George Tetzlaff from the New Zealand Fire Service, for providing crime and fire data;
I am also grateful for the friendship and collegiality of the entire Department of Preventive and Social Medicine and of the Injury Prevention Research Unit, and the camaraderie of the postgraduate students, many of whom I was lucky to share an office with.

I am indebted to my family and many friends who have encouraged me throughout this project and provided much needed distractions, especially my parents and brothers, also Olivier, Mal and Murray, Thea, Sue, Maryann, Mariana, Kathleen, Jeremy and many others.

This project was funded by an Accident Compensation Corporation PhD Career Development Award, administered by the Health Research Council; a Ministry of Health National Drug Policy Discretionary Grant; and an Alcohol Advisory Council of New Zealand grant. Additional funding to attend conferences was generously provided by a Health Sciences Divisional Award, the Kettil Bruun Society, the Department of Preventive and Social Medicine, and the Public Health Association of New Zealand.

This thesis is dedicated to Anika, who made it all worthwhile, and to Nick, for all his love and support and without whom this project would have taken much longer.
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<td>ALAC</td>
<td>Alcohol Advisory Council of New Zealand</td>
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<td>AMOD</td>
<td>A Matter of Degree</td>
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<td>APS</td>
<td>Alcohol Problems Scale</td>
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<td>AUDIT</td>
<td>Alcohol Use Disorders Identification Test</td>
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<tr>
<td>AUDIT-C</td>
<td>Alcohol Use Disorders Identification Test - Consumption</td>
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<tr>
<td>BAC</td>
<td>Blood Alcohol Concentration</td>
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<td>CAS</td>
<td>College Alcohol Study</td>
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<td>CCS</td>
<td>Canadian Campus Survey</td>
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<td>CMCA</td>
<td>Communities Mobilizing for Change on Alcohol</td>
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<td>DUI</td>
<td>Driving Under the Influence</td>
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<td>MRC</td>
<td>Medical Research Council</td>
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<td>NIAAA</td>
<td>National Institute on Alcohol Abuse and Alcoholism</td>
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<td>NZ</td>
<td>New Zealand</td>
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<tr>
<td>SWP</td>
<td>Street Wardens Programme</td>
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<tr>
<td>UNH</td>
<td>University of New Hampshire</td>
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<td>UK</td>
<td>United Kingdom</td>
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<td>US</td>
<td>United States</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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PART I. Development of Campus Watch and its evaluation

Chapter 1. Introduction

Alcohol use is a major contributor to mortality and morbidity worldwide, associated with over 60 types of injury and disease and affecting all age groups. According to the World Health Organisation (WHO), it is the 8th leading cause of death and the 3rd leading cause of disability-adjusted life-years (DALYs) lost (World Health Organization, 2009).

The reduction of harms caused by alcohol consumption is a health priority for New Zealand (King, 2000). New Zealand adults (aged 15 years and over) consumed 9.3 litres of ethanol per person in 2005, more than adults in the United States and Canada and only slightly less than Australian adults (World Health Organization, 2011). New Zealanders spend NZ$85 million per week on alcohol (Law Commission, 2011) and the total social cost of alcohol-related harm has been estimated to be as high as NZ$ 5 billion annually (Slack et al., 2009), although there is no general consensus on this figure. Objective 6 of the New Zealand Health Strategy was to “minimise harm caused by alcohol and drug use to individuals and the community” (King, 2000). The goal of the National Drug Policy 2007-2012 is to “prevent and reduce the health, social and economic harms that are linked to tobacco, alcohol, illegal and other drug use” (Ministerial Committee on Drug Policy, 2007). In order to achieve this, one of the objectives of the policy is to “reduce harm to individuals, families and communities from the risky consumption of alcohol” with a particular focus on youth harm minimisation (Ministerial Committee on Drug Policy, 2007). As young people are over-represented in the alcohol-attributable burden of disease, initiatives to reduce alcohol-related harm in this high-risk population group are especially important.

In 2011, the Law Commission released a report with recommendations for a revised policy framework to regulate the sale, supply and consumption of alcohol in New Zealand (Law Commission, 2011). The report recommended substantial evidence-based reforms to the Sale of Liquor Act 1989 in order to reduce the harm associated with alcohol consumption. These included both supply control and demand reduction strategies, particularly for those groups most at risk, including young people.

Based on the Law Commission’s review, the current National Government put forward the Alcohol Reform Bill, which incorporates 130 of the 153 recommendations of the review. The
recommendations not adopted in the bill, however, include a range of strong evidence-based measures, such as raising the minimum alcohol purchase age to 20 (in 1990, the purchase age was lowered from 20 to 18), increasing the price of alcohol through taxation or minimum pricing, further restricting the hours of sale and locations where alcohol can be sold, banning or limiting alcohol advertising and sponsorship, and reducing the legal blood alcohol concentration (BAC) for driving (Alcohol Action New Zealand, 2010).

Given this continuation of the liberalised political and economic alcohol environment in New Zealand, the burden of reducing the health-related, social and economic costs of harmful alcohol consumption rests with the individual communities significantly affected by alcohol, who must develop strategies to counteract the physical and economic availability of alcohol. Unfortunately, while a number of evidence-based strategies exist to reduce alcohol consumption and related harms at the individual level or at the national policy level, multi-component community-based interventions are often complex and not evaluated. Without robust evaluation, the usefulness and cost-effectiveness of these types of interventions cannot be established.

This thesis presents an evaluation of one such complex intervention, Campus Watch, implemented by the University of Otago (New Zealand) in order to reduce alcohol-related harm and social disorder in the university community. We know that young people (aged 15-29) are at particular risk of harm from their alcohol consumption, as they tend to drink to intoxication (Connor et al., 2005) and this risk may be even greater for university students because of their more hazardous drinking patterns (Dawson et al., 2004; Kypri et al., 2005a; Slutske et al., 2004).

Part I of the thesis provides the background and rationale for the intervention and evaluation, as well as the methods used to undertake the evaluation. The background of the particular programme of interest, Campus Watch, is discussed in Chapter 2. Chapter 3 reviews the existing literature on strategies and interventions to reduce alcohol-related harms and disorder and how these have been evaluated. The methods developed and used to evaluate the programme are described in Chapter 4.

The findings of the component studies that contributed to the evaluation are presented in Part II, providing a complete picture of the programme’s implementation and its impact on the specified outcomes. Chapter 5 describes the implementation process, programme activities
and changes based on informant interviews and the Campus Watch incident database. Chapter 6 describes the unique setting of the intervention compared to a within-city comparison site and the changes in behaviours and experiences of residents following implementation (2008-2009). In Chapter 7, changes in alcohol consumption and related harms at Otago measured in 2005, 2007 and 2009 national surveys of university students are presented and compared with changes occurring at non-intervention campuses across New Zealand. Changes in crime rates and intentional fires are presented in Chapter 8.

Part III of the thesis synthesises the results into a full evaluation of the programme (Chapter 9) and discusses the significance and implications of the findings (Chapter 10).

1.1. Role of the candidate in the research project

The work for this thesis was carried out from 2007 to 2012. As the PhD candidate and project coordinator, my role in this project included:

- Writing the proposals to obtain funding to run the component studies of the evaluation project, including the 2009 National Survey, although the grant applications were in my supervisors’ names;
- Obtaining approval for the components studies from the relevant ethics committees, under the names of the principal investigators;
- Developing the methods used to evaluate the Campus Watch programme, based on the review of the relevant literature and existing data sources (given that the Campus Watch programme had already been developed and introduced);
- Developing data collection instruments and protocols for the 2008 and 2009 North and South Dunedin Community Surveys, preparing the print materials, sampling the addresses, managing and supporting the research assistants involved in data collection and entry, assisting in the data collection, and preparing the data for analysis;
- Adapting and verifying the print and web-based materials for the 2009 National Survey, based on the instrument and study protocols previously used in the 2005 and 2007 National Surveys, writing the Campus Watch sections specific to this project, overseeing the day-to-day running of the survey, and writing and disseminating the preliminary reports for participating institutions;
- Modifying the original Campus Watch incident report form to meet the needs of the evaluation and the Proctor’s Office, requesting and obtaining data from the Campus
Watch Incident database, and conducting interviews with the Director of Student Services and the Proctor;

- Requesting and obtaining data from the New Zealand Police and New Zealand Fire Service;
- Analysing the data relevant to the thesis;
- Writing the thesis.

The work was completed under the guidance of Professor Jennie Connor and Associate Professor Kypros Kypri, who helped plan and design the study and provided overall supervision. Professor Rob McGee provided advice on evaluation methodology and thesis structure, and Andrew Gray was the statistical advisor for the project. The assistance of other staff members is acknowledged in the Acknowledgements on Pages v-vi.

Neither I, nor my supervisors, were involved in the development or implementation of the Campus Watch programme. The funding for the evaluation was obtained independently.
Chapter 2. The problem of student behaviour at the University of Otago

It seems that at the slightest prompting – Orientation Week, the start or end of a semester or the Undie 500 – a minority of irresponsible students tank up on alcohol and undergo a character change, indulging themselves in a drunken street culture at odds with their community. The police, like the city of Dunedin, have come to the end of any tolerance they might have had for outbreaks of mindless street vandalism and couch-burning. Time and again, it has been demonstrated that it is pointless attempting to reason with those who have lost all reason through a combination of alcohol and mob mentality.


2.1. Background of the University of Otago and student behaviour issues

The University of Otago is located in Dunedin, New Zealand, and is the oldest university in the country. Otago University students have always been known for their pranks, antics and sometimes riotous behaviour, and the vibrant student culture has long been an attraction for those considering university study (Elworthy, 1990). In the last three decades, the University has experienced a rapid increase in student numbers: between 1984 and 1994, the number of students at the University of Otago more than doubled, from 7,051 students to 15,028 (Day & Donaldson, 2009). This growth – coupled with a concurrent liberalisation of the country’s liquor laws – has had significant implications for both the students and the city of Dunedin.

‘What do you expect when you have so many student flats in one street?’

Lance van Dyk, 18, out-of-town student present at the 2006 Undie 500 riots (Otago Daily Times, 2006a)

By 2002, 22,000 university students resided in the Dunedin City territorial area and in 2006, university students accounted for 18% of the total population and 70% of the area’s 18-25 year olds (Day & Donaldson, 2009). Half of all Dunedin City’s university students live in the three census area units (CAUs) immediately surrounding the university campus and constitute 90% of the 2008 estimated resident population of those university precinct CAUs. A 2009 Dunedin City Council report on the residential distribution of university students found that between 1999 and 2008, the number of students residing in the university precinct increased
by 2,160 or over 26% (Day & Donaldson, 2009). There is now a very high density of students living in the area immediately surrounding the campus: in 2002, there were 3,300 residents per square kilometre in the university precinct shown in Figure 1, and this has undoubtedly increased alongside the net growth in the area’s student population (Dunedin City Council, 2002). Secondly, 75% of university students come from outside of the Dunedin area to study (University of Otago, 2009) and are therefore away from the tempering influence of parents and the community that knows them.

By the mid-2000s, a number of large-scale student events ending in disorder, arrests, and injury led to increasing public disapproval of the North Dunedin student “lifestyle” (Editor, 2006). In 2006, one such event, centred on the annual car rally that attracted over 1,000 young people from outside of Dunedin, led to 30 arrests, caused 13 fires in under four hours, and required 20 police officers to disperse the crowds of intoxicated, bottle-throwing students (Otago Daily Times, 2006b). A similar event held the previous year had created similar problems, as had smaller events held at other times of the year.
Figure 1. The North Dunedin area including the campus of the University of Otago.
2.2. Community and University responses to student behaviour

Even before the 2006 ‘riots’, the University and local community had begun to discuss ways of addressing unruly and unlawful student behaviour in North Dunedin, which had gained increasing media coverage and was perceived to be escalating by both the University and the wider community. In 2005, the University of Otago convened The Working Party on Student Behaviour in North Dunedin, which included academic staff, members of the University Council, the Director of Student Services, the University Proctor, and the president and a staff member of the Otago University Students’ Association. The group consulted with the student body and University staff (inviting submissions from all students and staff), 40 relevant stakeholders in the University and Dunedin City, and North Dunedin residents and businesses (Working Party on Student Behaviour in North Dunedin, 2006).

Following its extensive consultation process, the Working Party made the following recommendations:

1. That the University develop a Code of Conduct to outline the standards of behaviour expected of students and that this Code be disseminated widely;
2. That the Office of the Proctor be sufficiently resourced to improve the safety of the North Dunedin environment and the health of its residents, including employing Campus Watch staff to be a visible presence in the campus and wider University area;
3. That the University continue to work with key stakeholders in the community to improve quality of life in the North Dunedin area;
4. That the University should respond publicly to issues relating to student behaviour, emphasising that anti-social student behaviour is unacceptable, and take a public position on issues of alcohol consumption;
5. That the University should distance itself from any association with aspects of the “student culture” that include or imply partying and excessive drinking;
6. That the University work with the North Dunedin community to address student behaviour problems and make the area a safer place to live; and
7. That the University adopt a long-term view to develop a “safe and sustainable” campus environment, through the use of the Campus Watch team, adequate street lighting and coordinated CCTV coverage.
2.3. A new programme to address student behaviour: Campus Watch

In 2006, the University agreed to adopt the recommendations of the Working Party on Student Behaviour in North Dunedin and both the Code of Conduct and the Campus Watch programme came into effect in 2007. The Code of Conduct allowed the University to make students accountable for their actions on and off campus. This gave the Campus Watch programme its mandate to operate outside of the physical campus boundaries.

Campus Watch has similarities with Neighbourhood Watch programmes, where residents patrol their neighbourhoods and report suspicious behaviour to the police. It is also consistent with the local concept of Māori wardens. Māori are the indigenous people of New Zealand, and the role of the voluntary wardens includes “discouraging crime on the streets, assisting in keeping our youth and people safe, while being compassionate of those in need […] to help, rather than to arrest people” (Nelson City Council). Although it is similar to both Neighbourhood Watch and Māori Wardens, Campus Watch differs from these and other initiatives developed to reduce alcohol-related harm, social disorder and crime due to the unique nature of the campus environment in Dunedin. It also differs from overseas interventions targeting university students, which will be discussed in detail in the next chapter, because the programme does not directly target alcohol supply. As New Zealand has a minimum purchase age of 18, the focus of Campus Watch is therefore on preventing and minimising the risks associated with the legal purchase and consumption of alcohol by students.

2.3.1. Overview of the programme

Campus Watch is primarily concerned with reducing social disorder in North Dunedin, of which alcohol-related behaviour and harms are a major focus. The programme operates by providing round-the-clock patrols of the North Dunedin and campus areas. These patrols assist and advise residents and visitors, provide a security patrol on campus, and liaise with the police and fire service. Where students are involved in anti-social behaviour, they may be referred to the University Proctor for disciplining under the University’s Code of Student Conduct (University of Otago, 2007a). Most of the work done by the Campus Watch teams is described as pastoral care of students who are new to ‘flatting’ (i.e. living in unsupervised shared housing), as well as relationship building with residents and businesses operating in the area.
The Campus Watch members operate in teams that work overlapping shifts patrolling the campus and surrounding areas on foot 24 hours per day. During the day, they focus on building rapport with students living in the area by chatting and offering advice or following up on previous incidents. They also provide directions to visitors, as their distinct uniforms make them a visible presence in the university precinct. After dark, the Campus Watch teams continue their rounds of the campus and surrounding neighbourhoods, with the aim of remaining a visible, approachable presence and preventing situations from getting out of hand. The Campus Watch patrols also frequently walk students home late at night and check whether intoxicated students need assistance.

The University Proctor’s office manages the Campus Watch programme. Campus Watch members ‘on the beat’ liaise with headquarters, and are also in communication with the local police in order to share information about incidents, such as sightings of suspicious (possibly criminal) behaviour in the area.

For each incident attended to by Campus Watch, a team member completes a brief Incident Report form which includes basic information about the time and location of the event, the type of event, how it was notified, details of the person(s) involved and whether they had been consuming alcohol, the outcome, and any further action needed. These forms are entered into a central database, and the Proctor uses the reports to deal with students who have been referred to him.

2.3.2. Conceptual framework of Campus Watch

As the Campus Watch programme is not strongly theory driven, Figure 2 shows a framework developed by the candidate to summarise the main features of the Campus Watch programme and how the various activities of staff might have an effect on alcohol-related harms, social disorder and other associated crimes. The framework, coupled with the review of the relevant literature, determined which methods would be most effective at evaluating the Campus Watch programme.
Enforcement and visibility

Consistent enforcement of the Code of Conduct and broader law enforcement would reduce crime and disorder according to Deterrence Theory, which stipulates that severity, swiftness, and certainty of punishment are important determinants of whether individuals commit crime (Siegel, 2007). The visibility of Campus Watch is equally important, as it reinforces the perception that punishment is consistent and certain.

Pastoral care and neighbourhood aesthetics

The Campus Watch programme focuses specifically on providing pastoral care to students and ensuring that the campus environment is a pleasant place to live, both for student and non-student residents. These aspects may serve to improve the neighbourhood’s amenity value, social capital and informal social controls, by improving the physical environment (e.g., removing rubbish and broken glass) (Perkins et al., 1992), providing advice and assistance, and giving residents a point of contact should they have any problems. Studies on neighbourhood amenity value, social capital, informal social controls, and social cohesion have found that these positive qualities and improved perceptions of communities are inversely associated with crime levels (Sampson et al., 1997). Higher levels of social capital
have also been found to be associated with reductions in alcohol consumption and related harms among university populations (Weitzman & Chen, 2005).

**Fire hazards**
Campus Watch staff remove abandoned couches, mattresses and piles of rubbish that pose a fire hazard when left unattended in the North Dunedin area. This reduces the likelihood of deliberately lit street fires, which often draw crowds of young people and can lead to social disorder and physical harms.

**Campus safety and personal safety**
Campus Watch seeks to ensure the personal safety of North Dunedin residents by their physical presence in the area, which may prevent assaults on intoxicated individuals, particularly late at night. In addition to undertaking foot patrols, staff seek to ensure that students or other residents reach their destination safely and provide assistance as needed.

**Party control, host responsibility**
Staff visit flats in the North Dunedin area to inform residents of responsible host guidelines and to monitor how parties are developing so they can intervene if necessary. Reminding students of their responsibilities as party hosts and encouraging them not to tolerate disorderly behaviour may help contain parties to flats. It may also discourage some students from hosting parties if they feel that it is not worth the potential problems. A reduction in the number or the size of parties would lead to a reduction in the social availability of alcohol in the area.
Chapter 3. Reducing alcohol-related harm and social disorder: prevalence, strategies and interventions

This chapter reviews the literature regarding the evaluation of interventions to reduce alcohol-related harm and social disorder among university students, using the guidelines recommended by the Cochrane Collaboration Guidelines for Systematic Reviews in Health Promotion and Public Health Taskforce (Armstrong et al., 2007). The scope of the review was determined by the following research question:

*What is the current evidence for effective environmental interventions that reduce alcohol-related harm and social disorder among university students, and how were these interventions evaluated?*

The review is divided into the following sections:

1. The prevalence and patterns of alcohol-related harm and social disorder among university students, in New Zealand and other countries, and their significance to public health;
2. The effectiveness of interventions to reduce such harms among university students; and
3. The methods used to evaluate community interventions to reduce such harms for university populations and the general public.

Studies were included in the review if they pertained specifically to college or university student alcohol consumption in developed countries. Where recently published, high-quality reviews of the relevant literature exist, these are described rather than the individual studies they include, particularly in the case of describing the prevalence and patterns of alcohol consumption among this population, as well as individual-level strategies to reduce consumption, where a vast literature exists on the topic. Environmental interventions were included in the review if they included at least one control site and/or utilised a pre-post design.

Due to the lack of well-evaluated environmental interventions focused on reducing student drinking and associated harms and disorder, a brief review of selected interventions that focus on crime and disorder among non-student populations and the ways in which these have been evaluated has been included.
3.1. The prevalence and patterns of alcohol-related harm and social disorder among university students

3.1.1. Alcohol consumption among university students

As a particular subset of young people, university students have been found to consume alcohol more hazardously than their non-student peers, both in quantity and frequency. Dawson et al. found that the prevalence of heavy episodic drinking was 24% among college students, compared with 20% for non-college students (p<0.01) (Dawson et al., 2004). In a longitudinal study of same-sex female twins that included nearly 800 individual twins in the United States (US), those attending college drank, binge drank and got drunk more frequently than those not attending college (Slutske et al., 2004). A cross-sectional survey of over 6,000 young adults (aged 18-25) in the US found that those who attended college had 32% increased odds of suffering from clinically significant alcohol-related problems in the past year compared with their peers who did not attend college (Slutske, 2005). In New Zealand, university students’ scores on the Alcohol Use Disorders Identification Test (AUDIT) were 50-60% higher than those of their non-student peers, putting them at significantly increased risk of suffering from problems associated with their drinking (Kypri et al., 2005a)\(^1\).

The problem of student alcohol consumption began to gain prominence in the literature in the 1970s on North American college campuses. In the mid-1980s, a review by Saltz and Elandt (1986) highlighted the issue and concluded that despite increased awareness of the problem, student drinking was becoming more prevalent and the volume of alcohol consumed appeared to be increasing. In 2002, a survey of the administrators of 747 US college campuses found that 15% of respondents considered alcohol use to be “a major problem”, 66% considered it to be “a problem”, 17% “a minor problem”, and 3% “not a problem at all” (Wechsler et al., 2004).

In 2003, a review of the North American college drinking literature by Ham and Hope (2003) found that alcohol consumption among college students continued to be a significant problem, despite a large body of literature outlining psychosocial and environmental factors that influenced levels of consumption and harm for drinkers and their peers. The Harvard School of Public Health multi-campus College Alcohol Study (CAS) found that binge drinking

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\(^1\) A US standard drink contains 12g ethanol; a NZ standard drinking contains 10g ethanol\(^1\)
(defined as 4/5 or more drinks for women/men in one occasion) prevalence in the past two weeks among college students was about 44% in each of four surveys conducted between 1993 and 2001. Of those students who drank alcohol, 29% had drunk to intoxication three or more times in the two weeks preceding the survey (Wechsler & Nelson, 2008). Despite the lack of change in the prevalence of heavy drinking, four out of five campus administrators surveyed in 2002 felt that their prevention efforts were successful (11%) or somewhat successful (71%) (Wechsler et al., 2004).

In a national stratified, two-stage clustered survey of 7,800 Canadian students randomly selected from 16 universities, the Canadian Campus Survey (CCS), 62.7% of students reported binge drinking (5 or more drinks in one occasion) at least once during the semester, with an average frequency of almost five times in one semester (Gliksman et al., 2003). When results of the 1998 Harvard CAS were compared with those of the CCS, there was a significantly higher rate of current drinkers at Canadian campuses than US campuses (87% vs. 81% past-year drinkers, respectively), but students at US colleges were more likely to engage in heavy alcohol use than Canadian university students, particularly if they were more frequent drinkers (53.9% vs. 42.7%, respectively, for those who had consumed alcohol in the past week) (Kuo et al., 2002). The comparative study also found no difference in some risk factors for heavy alcohol use, which included being younger and residing either on campus or off campus without parents. However, while males at US colleges were more likely to engage in heavy alcohol consumption than females, at Canadian colleges, the difference between sexes was not significant.

The problem of student alcohol consumption is not restricted to North American university campuses, although comparatively little research has been conducted on the topic outside of the US and Canada. A review of papers published in 2005 and 2006 on student alcohol consumption outside of North America found 24 papers describing alcohol consumption patterns, related harms and interventions (Karam et al., 2007). The review found that frequent binge drinking is highly prevalent among university students in many countries, including in Australia and New Zealand as well as in Europe, and the harms resulting from this drinking pattern are common and have both short and long-term implications for the drinkers, their peers and other community members. Another review of studies published between 1989 and 2009 on European university student drinking concluded that European students also have risky patterns of alcohol consumption and that the risk factors for heavy alcohol use are similar to those of North American university students (Wicki et al., 2010).
Alcohol consumption among New Zealand university students

Studies of New Zealand university students conducted in the past decade indicate that the problem of student drinking is as great – if not greater – than in North America. In a first study conducted in 2000 of 1,480 students residing in halls of residence at one university, 60% of male drinkers typically drank more than 6 drinks per occasion and 58.2% of female drinkers typically drank more than 4 drinks per occasion, with over a third of males and 7.2% of females drinking 16 or more drinks in one occasion in the preceding four weeks (Kypri et al., 2002). In 2005, a large multi-campus survey of 2,548 students aged 17-24 found that 88% of respondents were current drinkers (i.e. had consumed alcohol in the last 12 months), with 14% of women and 15% of men engaging in binge drinking (4 or more drinks for women, 6 or more drinks for men) on 2 or more occasions in the past 7 days (Kypri et al., 2009b). In addition, 68% of current drinkers had a score of 4 or more on the AUDIT-C scale, an indication of hazardous drinking. Those most likely to consume large amounts were younger, living in halls of residence and male, although females also consumed alcohol at levels much higher than the recommended guidelines.

3.1.2. Acute and long-term effects of intoxication

Due to the high prevalence of alcohol consumption and hazardous drinking among university students, this group is also at increased risk of the harmful consequences of alcohol. Hingson et al. (2009) estimated that in 2005 there were over 1,800 alcohol-related unintentional injury deaths among US college students, a rate of 14.1 alcohol-related traffic deaths per 100,000 college students and 4.9 alcohol-related non-traffic deaths per 100,000 college students.

In 2008, Wechsler and Nelson (2008) summarised the findings of the Harvard CAS, which was started in 1992 and included 4 national surveys and data from 38,982 drinkers to gather information about college student alcohol use, drinking behaviours and consequences. They found that binge drinking had significant short- and long-term impacts on the drinker’s academic performance, social relationships, risk-taking behaviours and health, and these impacts were greatest among those who were frequent binge drinkers.

In the 2005 national survey of New Zealand university students, 84.8% of current drinkers (i.e. who had consumed alcohol in the past 4 weeks) had experienced personal problems – hangovers, blackouts, vomiting, inability to pay bills, and injury – as a result of their alcohol consumption in the previous four weeks; 47% had been involved in anti-social behaviour,
such as emotional outbursts, heated arguments, physical aggression, theft, vandalism, removal from a pub/club, and arrests for drunken behaviour; 23% had engaged in sexual risk behaviours, including unprotected sex, sex the respondent was unhappy about at the time, and sex the respondent later regretted; and 12.8% had driven after having had too much to drink or had been the passenger of a drink-driver (Kypri et al., 2009b).

While the majority of harms attributable to alcohol are acute and short-lived for university students, studies have also shown that drinking patterns in the university years can continue to be problematic long after drinkers have left university, either by directly increasing the risk of alcohol dependence in adulthood or by the psychosocial, physical or even financial consequences of harms associated with acute intoxication episodes in college. A 10-year follow-up study of 1,972 US college students found that binge drinking patterns in college were risk factors for alcohol dependence and abuse, academic attrition, early departure from college, and negatively affected labour market outcomes for some students (Jennison, 2004).

3.1.3. Effects of student drinking on peers and the wider community

In the Harvard CAS, 77% of non-binge drinking students and abstainers experienced at least one second-hand effect of other students’ drinking (Wechsler et al., 2000c). These consequences ranged from having sleep or study interrupted, having property damaged, being the passenger of a driver who had had too much to drink, to being the victim of physical or sexual assault. Among a random sample of 1,524 students attending a New Zealand university in 2002, 85% of women and 81% of men had experienced at least one problem because of someone else’s drinking in the four weeks preceding the survey, with 60% reporting having had their sleep or study interrupted at least once, 40% having had to babysit a fellow student who had had too much to drink, 28% reporting at least one unwanted sexual advance, and 15% reporting having been pushed, hit or otherwise assaulted as a result of someone else drinking (Langley et al., 2003). The risk of experiencing these second-hand effects was highest for students who frequently engaged in heavy drinking, but even for those who never drank heavily, 72% reported at least one second-hand effect in the previous four weeks.
**Increased risks of harms on heavy drinking campuses**

Due to the high prevalence of heavy drinking among university students, even low-risk drinkers and abstainers are at risk in the heavy drinking environment. Findings from the Harvard CAS showed that non-heavy episodic drinking students attending universities with a higher prevalence of heavy drinking were 3.6 times more likely to experience at least one problem from other students’ drinking than those at campuses with a low prevalence of heavy episodic drinkers, such as being hit, having property damaged or experiencing an unwanted sexual advance (Wechsler et al., 1995b).

**Increased risk of harms in neighbourhoods surrounding campuses**

In a national telephone survey that included 2,300 successfully completed interviews (50% response rate) with US householders, residents who lived closer to university campuses were significantly more likely to experience a range of community problems and alcohol-attributed second-hand effects, and more likely to experience four or more problems than people who lived more than one mile (1.6km) from a university campus, even after adjusting for a range of socio-demographic factors (Wechsler et al., 2002). Those residing within one mile of a college campus had 2.7 times the odds of seeing vomit or urination, twice the odds of seeing vandalism or drunk people and twice the odds of reporting at least four second-hand effects of alcohol consumption than people who lived further away from a university campus. Residents of neighbourhoods adjacent to campuses with higher binge drinking rates were also significantly more likely to report second-hand effects of college student drinking than residents near low binge campuses.

In a study that investigated the spatial and temporal aspects of crime by mapping calls to police in a US college town, noise complaints were most frequent in neighbourhoods occupied by long-term residents and high-density student areas, assaults were centred around the city and campus bars at closing times, and vandalism complaints were spread fairly evenly across the town (Brower & Carroll, 2007). These findings show that the impact of student drinking on the wider community is particularly significant in neighbourhoods with a high density of student housing and/or a high density of liquor outlets, but also extends beyond these high-risk areas.
Social disorder and university students

The high levels of alcohol consumption common among university students sometimes lead to social disorder and other forms of anti-social behaviour. Social disorder among university students is not a new phenomenon. A 1969 article in the Lancet provided an epidemiological approach to student rioting, stating that “the ardour of the protest is often out of proportion to the magnitude of the grievances” and that “appearance of the police, passively or otherwise, is a sure way of converting a demonstration into a riot (p.618)” (Stewart, 1969).

A more recent trend, however, is the phenomenon of “issueless” rioting, where riots break out on or near university campuses that were not preceded by a political protest. Ruddell et al. (2005) describe three types of issueless college town disturbances: those related to sporting events, those relating to annual problem events, and beer riots. While the three types of disturbances may differ in their root causes, degree of spontaneity, their scale and the amount of damage caused, the high levels of alcohol consumption, harm and disorder affecting more than just those involved are common among all types of disturbances. A review of campus disturbances found that one-third of disturbances led to injuries to police and two-thirds led to property damage (McCarthy et al., 2002).

The cost of these alcohol-fuelled riots is very high for the communities in which they occur. In 2004, riots at the University of Wisconsin (US) following a Halloween event cost the city of Madison nearly US$500,000 (Brower & Carroll, 2007). Newspaper reports suggest that the most recent annual Hyde Street Keg Party organised by University of Otago (New Zealand) students, attended by over 5,000 people in April 2012, cost the police NZ$25,000, the Dunedin City Council NZ$4,000 to clean-up, with emergency services spending over 100 hours in planning and assistance, as well as the additional costs of treating 80 people in the emergency department of Dunedin Hospital – estimated to be hundreds of thousands of dollars - and the costs to the fire service of extinguishing six nuisance fires (Porteous, 2012). An earlier report by medical students in 2011 showed that Emergency Department admissions in Dunedin increased between 30% and 99% on student event days compared to non-event days for the years 2001 to 2011 (Chai et al., 2011).
3.2. The effectiveness of interventions to reduce alcohol-related harm and social disorder among university students

The Task Force on College Drinking of the National Institute on Alcohol Abuse and Alcoholism (NIAAA) outlined effective strategies to reduce excessive drinking by college students (Abbey, 2002). The Task Force reviewed the existing evidence for strategies that reduce excessive drinking and associated harms and organised the evidence into three tiers based on the strength of the evidence that existed. The tiers are presented in Figure 3 below.

![Figure 3. Strategies to reduce student alcohol consumption and the evidence of their effectiveness, adapted from the NIAAA Task Force on College Drinking "A Call to Action" (Task force of the National Advisory Council on Alcohol Abuse and Alcoholism, 2002).](image-url)

Interventions with evidence of effectiveness for college students that targeted individual high-risk drinkers included brief motivational enhancement, challenging alcohol expectancies, and social norms clarification. Institutional-level strategies, such as campus policies to shift the focus away from alcohol, through refusal of alcohol industry sponsorship, provision of alcohol-free activities and reinstatement of Friday classes, showed theoretical promise but evaluation of these types of interventions was lacking. Environmental interventions, including campus-community coalitions to address student drinking, more consistent enforcement of current alcohol policies and moves to restrict the physical and economic availability of alcohol were found to be effective in general populations and showed promise of being effective among university populations. Effective interventions at these three levels – individual, institutional and environmental – are discussed in more detail below.
3.2.1. Individual-level strategies

There is a substantial body of evidence to support the effectiveness of individual-level strategies to address student drinking. In 2007, a meta-analysis was published that included 62 studies of individual-level interventions intended to reduce alcohol consumption and related harms among university students published between 1985 and 2007 (Carey et al., 2007). Methodological criteria for inclusion in the review included: randomisation to the intervention, the existence of a control group, and measurement of drinking behaviours and/or alcohol-related problems. Intervention components included alcohol education (73%), normative comparison (56%), feedback on consumption (49%), as well as a wide range of other less frequently included components, and were most commonly delivered face-to-face (70%), but also using computer or print delivery or a combination of delivery modes. The review found that overall, individual-level interventions were effective at reducing both alcohol consumption and the negative consequences associated with that consumption, although only a few studies found effects that lasted beyond 6 months. Interventions that used motivational interviewing, feedback on expectancies, normative comparisons and decisional balance conditions were more effective than those that included skills training or expectancy challenge components. Furthermore, studies that were not restricted to heavy drinkers and/or included more women were found to be more effective than male-dominated studies that targeted heavy drinkers, suggesting that these types of interventions are more effective for women and more moderate drinkers and that further development of interventions is still needed in order to reach the most at-risk groups.

Although the majority of trials of individual-level interventions in this review have been conducted in the United States (US), there is some research from other countries that suggests that these interventions are also effective for university students outside of the US. In their international review of student drinking and related harms, Karam et al. (2007) identified three types of clinical trials that had been conducted in Europe and Australasia and had significant effects on alcohol consumption and related harms: electronic screening and brief intervention, expectancy challenges, and interventions for students whose parents have alcohol problems.

One of the studies included in the meta-analysis randomised 576 heavy drinking New Zealand university students (scoring in the hazardous or harmful range of the AUDIT) to receive an intervention using an electronic screening and brief motivational intervention tool (either once
or three times over 6 months) or a pamphlet (control) (Kypri et al., 2008b). The authors found lower frequency of drinking, lower overall total consumption and fewer academic problems among the intervention groups compared with the control group 6 months after the screening, with some effects persisting at 12 months following screening and intervention. The authors did not find that repeating the intervention at 1 month and 6 months significantly increased the effect compared with a single intervention point.

**Social norms campaigns**

Social norms campaigns consist of large-scale media campaigns that attempt to communicate the true rate of student alcohol consumption on campus in the belief that students will decrease their consumption levels as their perceptions of other students’ drinking behaviours are corrected. In 2007, the NIAAA released an update on college drinking research, which highlighted the increasingly mixed evidence for these highly popular interventions that use social norms campaigns to reduce alcohol consumption (National Institute on Alcohol Abuse and Alcoholism, 2007). These types of interventions were often poorly evaluated and varied significantly in the ways in which they were implemented. Results of an 18-site randomised trial of social norms campaigns on US college campuses found that these types of interventions work best on campuses with lower proportions of heavy drinkers, when the campaigns are run more intensively, and when they are combined with other interventions. Furthermore, the study also found alcohol outlet density of the surrounding neighbourhood mediated the effect of the social norms campaign (DeJong et al., 2006). The NIAAA therefore recommended that further research was needed into these types of interventions and that they may not be effective on their own (National Institute on Alcohol Abuse and Alcoholism, 2007). A further concern regarding social norms campaigns is the finding that campuses that use social norms campaigns were significantly less likely to adopt alcohol restrictions on campus to limit student access to alcohol, suggesting that the adoption of social norms campaigns may deter administrators from investigating other more effective strategies to address student drinking (Wechsler et al., 2004).

3.2.2. Institutional-level strategies

Institutional-level strategies that target alcohol consumption include university policies and investment in prevention infrastructure. A survey of 734 college administrators undertaken in 1999 (Wechsler et al., 2000a) and updated in 2002 (N=747) found that campuses employed a wide range of policies to restrict access to alcohol on campus, including some alcohol-free
dorms or floors (81.8%), athletic events (79.8%) and social events (58.1%), with one third of campuses completely banning alcohol on campus (Wechsler et al., 2004). Close to 90% of campuses provided counselling and treatment services for abuse problems and over 80% had a specifically designated ‘substance abuse employee’ to run programmes and services on alcohol and drug problems. The study, however, found that there was large variation in the types of policies, intervention and prevention efforts between the campuses surveyed. Campuses whose administrators felt that alcohol use was a major problem were less likely to have at least 4 out of the 7 listed campus alcohol restrictions than campuses where alcohol consumption was felt to be a minor problem or not a problem at all (28% compared to 61.2%, p<0.001), but much more likely to offer targeted alcohol education programmes to high risk groups (i.e. freshmen, fraternity/sorority members, athletes), with 80-90% of these campuses providing education programmes, compared to 60-75% at low-problem campuses. Campuses with alcohol industry funding for prevention efforts were also significantly more likely to conduct alcohol education programmes and social norms campaigns than those who received no industry funding.

A survey of New Zealand administrators and support staff at six university campuses also found that numerous policies and support strategies were in place to address alcohol consumption, but that these policies were primarily limited to addressing alcohol consumption on campus, limiting the visibility of alcohol on campus, and providing screening and treatment services through student health centres, as most administrators felt that the university’s role should not extend beyond the campus boundaries (Cousins et al., 2008).

3.2.3. Environmental strategies

Long-term interventions with a broad environmental approach are rarely aimed at university students, even though the negative impacts of student drinking on the communities surrounding campuses can be significant (Brower & Carroll, 2007; Ruddell et al., 2005). Environmental strategies are essential in addressing student drinking because alcohol consumption is not limited to the university campus. Outside of the US where underage drinking is not a significant issue for university communities, consumption is not restricted to halls of residence. There is evidence that aspects of the off-campus environment have the potential to directly affect drinking behaviours and associated harms. Alcohol outlet density was found to be associated with higher levels of heavy drinking and related harms in the US (Weitzman et al., 2003) and in New Zealand (Kypri et al., 2008a). The CAS also found that
such environmental factors as price and access were associated with consumption levels (Wechsler et al., 2000b).

A review of environmental interventions to reduce alcohol-related harm among college students showed that restrictions on where alcohol was advertised, purchased and consumed were effective, while a number of multi-strategy approaches had not been well evaluated (Toomey et al., 2007). Many of these multi-strategy approaches involved campus-community partnerships, but the evidence for their effectiveness was lacking.

The “A Matter of Degree” (AMOD) programme compared 10 campuses assigned to an environmental intervention to reduce alcohol consumption and related harms on campus with 32 comparison campuses and found that high environmental intervention campuses had significant decreases in alcohol use, harm, and second-hand effects measures compared with low-intervention and non-intervention campuses (Weitzman et al., 2004). There were also significant decreases in the percentages of students missing a class because of their drinking and in the percentage of students reporting driving after consuming five or more drinks at the intervention campuses (regardless of level of intervention) compared with relative increases over time for non-intervention campuses. The high environmental intervention campuses – which had the most significant decrease in alcohol consumption and related harms – focused on changing policies on campus as well as addressing student behaviour and alcohol use off campus.

More recently, a large randomised controlled trial of a multi-component campus-community intervention found significant reductions in risk of intoxication among students at intervention campuses compared to those at control campuses (Saltz et al., 2010). The Safer California Universities trial included over 19,000 students from four cross-sectional surveys (response rate 39-50% for each wave) attending 14 campuses in the state university system (i.e. University of California and California State University). The intervention combined population-level alcohol control measures, such as increased enforcement of existing laws and high visibility and publicity of this enforcement, with strategies to reduce alcohol availability by discouraging party organisers from planning large events for which they could be held accountable if laws were broken. The evaluation of the trial found relative reductions in the risk of intoxication on the last occasion of drinking at off-campus parties (OR 0.81, 95% CI=0.68, 0.97), a bar/restaurant (OR 0.76, 95% CI=0.62, 0.94), and any setting (OR 0.80, 95% CI=0.65, 0.97) following the intervention compared with the control campuses. The
authors also found no evidence of problem displacement to other settings, and the relative risk reductions were highest on campuses with the highest levels of implementation.

Some environmental interventions have targeted specific events as a result of the increase in “issueless” student disturbances since the mid-1990s (McCarthy et al., 2002). In 2003, as a result of these increasingly frequent events, the University of New Hampshire (UNH) and Ohio State University organised “riot summits” in order to discuss possible event-specific interventions. The UNH summit recommended better communication with media, law enforcement, and municipal officials prior to large-scale events or potential problem events; increased control over access to alcohol and the amount of alcohol consumed at such events; a redefining of what is considered “acceptable” behaviour; and consistent accountability for behaviour (University of New Hampshire, 2003).

In their analysis of over 800 participants of annual Halloween events in Chico, California, in 2002 and 2003, Ruddell et al. (2005) concluded that increased law enforcement strategies and the high visibility of these initiatives were effective at reducing the crowds and problems associated with the event. The initiatives adopted by the Chico community and university included closing the area to vehicle traffic, increased testing for DUI (driving under the influence), increased police presence overall, media campaigns to notify potential attendees of the increased policing measures, and increased enforcement of “quality of life” offences, such as public intoxication, public urination and underage drinking (Thomas et al., 2003).

A 2007 review of event-specific prevention methods to reduce alcohol consumption among US college students provided examples of how an environmental framework could be used to develop and implement a variety of interventions that had targeted specific events (Neighbors et al., 2007). The framework, developed by DeJong and Langford (2002), recommended targeting knowledge change, environmental change, health protection, and intervention and treatment services. They then organised the policies and programmes at the individual, group, institution, community, state, and societal level, in order to ensure that the approach considered and included all levels.
3.3. Methodologies for evaluating environmental interventions to reduce alcohol-related harms and social disorder

3.3.1. Evaluating complex interventions

Environmental interventions to reduce hazardous drinking and related harms among university students, though increasingly common, have often not been thoroughly evaluated (Karam et al., 2007; Toomey et al., 2007). This is partly due to the complexity of these types of interventions, which can make their evaluation difficult and costly. In 2000, the Medical Research Council (MRC) of the United Kingdom (UK) released a guidance document on the development and evaluation of complex interventions, which was subsequently revised in 2008 (Craig et al., 2008). Complex interventions are defined as interventions with several interacting components and the authors suggest that the difficulties in evaluating these interventions arise from the necessary flexibility of such programmes to suit the local context, their broad scope that leads to complex causal pathways and multiple outcomes – both initially specified and unintended – as well as the fact that some interventions are in fact comprised of a number of interventions, which are themselves complex.

Due to the variation in types of complex interventions that exists, the MRC guidance document suggests that, where possible, evaluators should:

- Have a solid theoretical understanding of how the intervention might cause change;
- Include a process evaluation so that lack of effect due to implementation flaws is not mistaken for programme ineffectiveness;
- Consider larger sample sizes and cluster randomised designs to account for greater individual-level outcome variability;
- Include a range of outcome measures and look for unintended consequences; and
- Adapt the intervention to local settings in order to maximise effectiveness (Craig et al., 2008).

As in simple interventions, where possible, a randomised controlled trial design is the ideal approach for evaluating a complex intervention. In many cases, however, this is not possible or practical, due to the nature of the intervention (e.g. randomisation is not feasible or all members of the population are exposed). When a randomised controlled trial is not suitable, a design should be adopted which minimises bias and captures the size and timing of effects.
Table 1 summarises the methods used to evaluate environmental interventions targeting university students, as well as the most relevant interventions implemented in non-student populations that show the variety of methodologies in use. The individual evaluation methods are described briefly in sections 2.3.2 (the campus-community interventions previously described in section 3.2.3.) and 2.3.3 (non-student population interventions) below.
<table>
<thead>
<tr>
<th>Programme Name</th>
<th>University students?</th>
<th>Study design</th>
<th>N</th>
<th>Intervention focus</th>
<th>Outcomes</th>
<th>Data sources</th>
<th>Data collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Matter of Degree (Weitzman et al., 2004)</td>
<td>Yes</td>
<td>Cluster non-randomised controlled trial</td>
<td>42 (10)</td>
<td>Campuses with high binge prevalence</td>
<td>Changes in alcohol use, alcohol-related harms, second-hand effect</td>
<td>Self-completed questionnaires (undergraduate students)</td>
<td>1997 (baseline); 1999; 2001; 2002 (1st year of intervention)</td>
</tr>
<tr>
<td>Chico Halloween Event (Ruddell et al., 2005)</td>
<td>Yes</td>
<td>Case study, post-intervention</td>
<td>1</td>
<td>Annual problem event</td>
<td>Differences in individuals' behaviour; event perceptions</td>
<td>Interviewer-administered questionnaire (event participants)</td>
<td>2002 (1st year of intervention); 2003 (2nd year of intervention)</td>
</tr>
<tr>
<td>Safer California Universities (Saltz et al., 2010)</td>
<td>Yes</td>
<td>Cluster randomised controlled trial, Matched pairs/triplet</td>
<td>14 (7)</td>
<td>Off-campus settings</td>
<td>Proportion of drinking occasions leading to intoxication; any intoxication; intoxication at last drinking occasion</td>
<td>Self-completed web-based questionnaires</td>
<td>2003 (baseline); 2004; 2005; 2006</td>
</tr>
<tr>
<td>Community Trials Project (Holder et al., 2000)</td>
<td>No</td>
<td>Quasi-experimental, matched pairs, pre-post</td>
<td>6 (3)</td>
<td>Alcohol-involved accidental injury and death</td>
<td>Alcohol consumption; drink-driving; alcohol-involved traffic crashes; assault injuries</td>
<td>Telephone surveys (residents); state highway patrol data; emergency department data (3 sites only)</td>
<td>1992-1996 (monthly cross-sectional surveys; routinely collected data)</td>
</tr>
<tr>
<td>Communities Mobilizing for Change on Alcohol (Wagenaar et al., 2000)</td>
<td>No</td>
<td>Cluster randomised controlled trial, Matched pairs/triplet</td>
<td>15 (6)</td>
<td>Alcohol accessibility to underage youth</td>
<td>Access to alcohol from social and commercial sources; drinking behaviours</td>
<td>In-school surveys of 12th graders; telephone surveys (18-20 year olds); controlled purchase operations; telephone surveys (alcohol outlet owners/managers)</td>
<td>1992 (baseline); 1995</td>
</tr>
<tr>
<td>Neighbourhood Watch (systematic review) (Bennett et al., 2008)</td>
<td>No</td>
<td>Randomised controlled trial or pre-post with comparison sites</td>
<td>42 (18)</td>
<td>Crime prevention</td>
<td>Number of crimes; number of people victimised</td>
<td>Police-recorded crime data; self-completed victimisation surveys (residents)</td>
<td>1 year pre-implementation; mostly 1 year post-implementation, some up to 3 years</td>
</tr>
<tr>
<td>UK Neighbourhood Wardens Scheme (national evaluation) (Office of the Deputy Prime Minister, 2004)</td>
<td>No</td>
<td>Mixed-method approach</td>
<td>34 (20)</td>
<td>Crime reduction</td>
<td>Crime victimisation; fear of crime; neighbourhood satisfaction; experience of environmental problems and anti-social behaviour</td>
<td>Wardens’ surveys; postal questionnaires (residents); focus groups; key informant interviews</td>
<td>Questionnaires: October 2001-January 2002 (baseline); May 2003</td>
</tr>
<tr>
<td>UK Street Wardens Programme (national evaluation) (Department for Communities and Local Government, 2006)</td>
<td>No</td>
<td>Quasi-experimental, cross-sectional, pre-post</td>
<td>12 (6)</td>
<td>Liveability in socially deprived neighbourhoods</td>
<td>Fear of crime; crime victimisation; neighbourhood satisfaction; perceptions of anti-social behaviour, social inclusion, environmental problems</td>
<td>Residents' surveys</td>
<td>2002 (baseline); 2003-2005</td>
</tr>
</tbody>
</table>
3.3.2. Evaluation methodologies of campus-community interventions to reduce alcohol use and related harms

*A Matter of Degree (AMOD) (Weitzman et al., 2004)*

The AMOD trial used a quasi-experimental design to measure the effect of a multi-component environmental intervention on student alcohol use, alcohol-related harms, and second-hand effects of alcohol. The ten intervention campuses were selected based on results from the Harvard CAS (described previously) that indicated that they had a high prevalence of binge drinking (>50%), as well as willingness from college presidents to commit to the intervention. The 32 comparison campuses were the remaining campuses whose Harvard CAS results showed a high prevalence of binge drinking. The campuses were selected in 1997 and programmes were implemented one to two years later.

Data on alcohol use, alcohol-related harms, and second-hand effects were collected using the same 20-page postal questionnaire that had been used for the Harvard CAS. In each survey year, a sample size of 750 randomly selected full-time undergraduate students from each intervention campus, and 250 students from each control campus, were invited to complete the questionnaire. Intervention campuses were surveyed annually from 1997 to 2001, while control campuses were surveyed only in 1997, 1999, and 2001.

*Chico Annual Halloween Event (Ruddell et al., 2005)*

In 2002, a campus-community intervention was implemented to reduce the size of the annual Halloween event in Chico, California, a town with a population of about 100,000 residents and 15,000 students. The aim of the intervention was to reduce the number of participants in the event, which had been estimated at 20,000 in 2001 and resulted in five stabbings, numerous arrests and crowds that were nearly impossible to control. Local officials, university administrators and the police were involved in making the area safer, strictly enforcing laws, particularly surrounding quality of life offences, and using media outlets to publicise the increased police presence and the zero-tolerance approach adopted for misdemeanors.

Ruddell and colleagues evaluated this event-specific intervention using surveys conducted at the 2002 Halloween event, the first year of the intervention, as well as at the 2003 event, the second year the intervention took place. No baseline data were collected prior to the 2002
event, although the authors were particularly interested in seeing whether the intervention would continue to reduce crowds and harms after the first year.

**Safer California Universities trial (Saltz et al., 2010)**

The Safer California Universities study was a randomised controlled trial to evaluate the effectiveness of a campus-community environmental intervention to reduce the likelihood and incidence of student intoxication at off-campus settings. The intervention specifically targeted off-campus parties with increased enforcement of nuisance laws and social host ordinances, DUI checkpoints, minor decoy operations to reduce the sale of liquor to minors, and the use of media outlets to publicise the interventions. The interventions took place in 2005 and 2006. Between 500 and 1000 students were randomly selected from each of the 14 participating campuses (7 intervention and 7 control sites) and completed web-based questionnaires about drinking habits, intoxication, and general health and socio-demographic information.

3.3.3. Community interventions targeting alcohol use, crime, and disorder among the general public

Due to the small number of student-focused interventions that have been properly evaluated, evidence from relevant evaluations of interventions aimed at the general public are described here, in order to inform the development and evaluation of environmental interventions targeting hazardous drinking among students. Brief overviews of the interventions’ outcomes are also included.

**Community Trials Project (Holder et al., 2000)**

The Community Trials Project was a national (US) 5-year trial to reduce alcohol-involved accidental injury and death using a multi-component community-based intervention. The programme targeted five areas: community mobilisation, responsible beverage service, drinking and driving, underage drinking, and alcohol access to reduce physical availability in the community. The three intervention communities were selected because they already had existing coalitions and showed interest in the proposed measures and had a sufficiently large population (>100,000 people) to allow for adequate power to evaluate outcomes. Comparison sites were matched to intervention sites that had similar socio-demographic, economic bases and geographical locations.
The evaluation of the trial included a process evaluation component in order to describe how comprehensively the interventions had been implemented, overall community mobilisation, difficulties that may have arisen during implementation, as well as to determine which components may have contributed to changes in harm. Each component of the intervention included information gathering and/or data collection in order to assess specific changes in knowledge, behaviours and practices of stakeholders and residents. One of the primary outcome measures reported was alcohol-involved traffic crashes and data from state highway traffic patrol on traffic crashes were collected for each community. Overall, there was a relative reduction in traffic crashes of approximately 10% and 6% in alcohol-involved traffic crashes at the intervention sites. There were also significant reductions in self-reported rates of “having had too much to drink” (49% reduction per 6-month period) and drink-driving (51% per 6-month period), and a 43% reduction in assault injuries reported by emergency departments at intervention sites compared to control sites.

**Communities Mobilizing for Change on Alcohol (Wagenaar et al., 2000).**

The Communities Mobilizing for Change on Alcohol Project (CMCA) used multiple environmental interventions to restrict social and commercial access of alcohol to underage drinkers in a randomised trial of 15 communities. The intervention consisted of encouraging councils, schools, enforcement agencies, alcohol merchants, business associations, and the media to take an active role in reducing accessibility of alcohol to minors. While not specifically targeting university students, three of the trial communities were in university towns. Surveys were conducted of randomly selected school students (12th graders), 18-20 year olds and alcohol outlet owners and managers, and alcohol purchase attempts by underage youth were made at baseline (2002) and after the two and a half year intervention (2005). Compared to control communities, the post-intervention CMCA communities were more effective at increasing alcohol policies and enforcement of drinking laws and the rates of alcohol consumption and drink driving were lower among 18-20 year olds.

**Neighbourhood Watch programmes**

Neighbourhood Watch programmes are crime-prevention programmes run by community members in conjunction with local police. Residents often act as the ‘eyes and ears’ of the community, reporting problems to the police, and also work together to solve community problems, which can improve social cohesion, collective efficacy, and promote stronger informal social controls. A Campbell Collaboration review of Neighbourhood Watch programmes published in 2008 found a 16-26% reduction in crime in areas where
Neighbourhood Watch programmes had been implemented (Bennett et al., 2008). Studies were included in the review if they used random allocation of the intervention or had a pre-post test design with a comparison site, and used police-recorded crimes or self-reported victimisations to measure outcomes. The review consisted of a narrative component, which included 19 studies (42 evaluations), as well as a meta-analysis of 12 studies (18 evaluations).

**UK Neighbourhood Wardens schemes**

Neighbourhood warden or citizen patrol schemes differ from Neighbourhood watch schemes because warden schemes operate by assigning residents or other people specific roles, such as patrolling the streets, while in neighbourhood watch programmes, residents operate in their capacity as residents only without taking on additional duties (Bennett et al., 2008).

The national evaluation of the eighty-four Neighbourhood Wardens schemes in the UK used a combination of methods to assess the impacts that the schemes were having on reducing experience of crime, anti-social behaviour, and environmental problems, as well as on fear of crime and perceptions of liveability among residents (Office of the Deputy Prime Minister, 2004). In all of the scheme areas, wardens’ reports were used to ascertain the scope of the work undertaken by the wardens as well as their perceptions of how they were being accepted by the communities in which they operated. In thirteen of the scheme areas, postal questionnaires were sent to randomly selected cohorts of residents before the scheme was introduced and about 18 months later. These results were also used in a cost-benefit analysis of the schemes. In seven scheme areas, qualitative methods including focus groups with various groups of residents and with wardens were used to gain a broader understanding of scheme acceptability and the ways in which the schemes impacted on various groups in the community. The review concluded that neighbourhood wardens programmes were a well-received, cost-effective means of reducing crime and fear of crime, addressing anti-social behaviour and generally improving the liveability of the neighbourhood.

The more recent national UK Street Wardens Programme (SWP) used residents’ surveys to evaluate its effectiveness at reducing “nuisances, incivilities and inconveniences” (p.3) (Department for Communities and Local Government, 2006). Residents in SWP communities felt that their neighbourhood had improved since the programme had been implemented, with 75% of residents reporting that they had not experienced any crime in the previous years, compared to 69% prior to the SWP. There was also a significant association between
residents’ knowledge of a warden programme and their sense of security, which made it difficult to determine whether or not the wardens were reducing crime in the neighbourhood.
3.4. Summary

While there is some evidence for environmental interventions that effectively reduce alcohol consumption among university students, nearly all of the research is US-based. For this reason, many institutional and environmental interventions to date have targeted underage drinkers. For many countries, including New Zealand, much of this existing US research is irrelevant because of the difference between the US minimum legal drinking age (21) and the lower minimum purchase/drinking age in other countries. Hazardous drinking among university students is a significant problem and because of the fact that the majority of the drinking that occurs is legal, interventions must target other aspects of the drinking environment.

Even in North America, few environmental interventions have been fully evaluated for their effectiveness at reducing alcohol use and its associated harms to the drinker, his or her peers and the wider community. Campus-community interventions used self-reported consumption and harm data from students, but did not investigate the wider effects on crime rates, residents’ experiences of victimisation or community problems, or other external measures of programme effectiveness on the wider community. University campuses also exist within a larger community, and student behaviour certainly impacts on the neighbours of these campuses. Aspects of the wider campus area, such as alcohol outlet density, have also been found to influence alcohol consumption patterns on campus. For this reason, campus-community interventions may be essential in effectively tackling the problem of student hazardous drinking and its effects on the university and the whole community.

The evaluation of one such intervention, Campus Watch, is presented in this thesis. Using recommended methods for conducting evaluations of public health interventions and a wide range of data sources, we developed and conducted a comprehensive evaluation that will add to the small evidence base for environmental interventions that reduce alcohol use and its associated harms.
Chapter 4. Aims and Methods of the Campus Watch evaluation

This chapter describes the aims and methods of the evaluation described in the rest of the thesis. It covers the overall rationale for the study, and the methods developed and used to evaluate the Campus Watch programme along with their strengths and potential limitations. A study protocol based on this chapter was published in *Injury Prevention* in 2010, a copy of which is included in Appendix A.

Campus Watch is a high intervention programme, and may have similarities with the ways in which the ‘A Matter of Degree’ and other environmental interventions described in the previous chapter have sought to address heavy drinking and related harms. Notably, however, Campus Watch is unique in its focus on quality of life rather than drinking behaviour per se. Campus Watch does not specifically target alcohol access or promotion, or even try to limit the amount of alcohol consumed in North Dunedin; rather, it is attempting to change what is considered acceptable behaviour in a densely populated student area with few existing social controls. There are fewer legal controls than exist in campus environments in the United States, where a minimum legal drinking age of 21 years can be used to regulate student alcohol use. In New Zealand, drinking per se is not illegal at any age and purchase is legal for those aged 18 years and over. It will be of value to know whether this broad-based approach is effective in reducing alcohol-related harm and disorder and improving the quality of life of North Dunedin residents.

The component studies conducted as part of the evaluation are briefly described in this chapter; further details concerning participant selection and recruitment, questionnaire development, specific outcome measures, sample size calculations, analytical methods, ethical considerations, and/or other source-specific information are included in the individual results chapters in Part II of the thesis (i.e. Chapters 5-8).
4.1. Aims

The primary aim of the study was to evaluate the effect that Campus Watch has had on alcohol-related harm and social disorder experienced by university students as well as the residents of the wider North Dunedin area since the programme was introduced in 2007. Prior to this evaluation, it was not known whether the Campus Watch programme had specific goals or objectives. The recently updated Medical Research Council framework for complex interventions emphasises the need for carefully designed, structured evaluations (Craig et al., 2008). By adapting a well-established health promotion framework to suit the complex Campus Watch programme, this quasi-experimental evaluation measured specific outcomes and helped develop an understanding of how Campus Watch may have contributed to any reductions in alcohol-related harm and social disorder. More specifically, the study aimed to answer the following key questions:

1. How was Campus Watch developed and implemented, and how has it been received by the community? (Process);
2. How has Campus Watch affected the behaviours of students and North Dunedin residents? (Impact); and
3. Has Campus Watch reduced social disorder and alcohol-related harm? (Outcome)
4.2. Evaluation framework

The methods developed to evaluate the Campus Watch programme were guided by the MRC guidelines for the development and evaluation of complex interventions (Craig et al., 2008). These stipulated that there should be a solid theoretical understanding of how the intervention might cause change, include a process evaluation, consider larger sample sizes and cluster randomised designs, include a wide range of outcome measures, and adapt the intervention to local settings. While it was not possible to incorporate all of these aspects – such as using a cluster randomised design or adapting the intervention to local settings as we were not involved in the development or implementation of the programme – we have based the study design on what is known about how the programme might change behaviours, included a process evaluation, and employed numerous data sources in order to evaluate the effect on a wide range of outcome measures.

The evaluation of Campus Watch comprised a traditional three-step health promotion evaluation model (Hawe et al., 1990). The model has been used to evaluate a variety of health promotion programmes such as community injury prevention (Coggan et al., 2000), youth mental health awareness campaigns (Wright et al., 2006), and community programmes for reducing youth smoking (Bruce & van Teijlingen, 1999).

The framework includes three evaluation phases in order to understand how a programme has been developed and implemented (process), what behavioural change has occurred since implementation (impact), and how effective the programme has been at achieving its primary health-related objectives (outcome). The Campus Watch evaluation model was underpinned by specific questions for each phase, as illustrated in Figure 4. The measurements used in each phase are described in more detail in the sub-sections that follow.
evaluate a variety of health promotion programmes such as campaigns for injury prevention and community programmes for reducing youth mental health awareness. People have been at achieving its primary objectives (outcome). The Campus Watch team members at work. It has been used to guide an investigation of the way in which an intervention was developed and implemented, how it was being delivered, as well as its acceptability within the community. This phase of evaluation is particularly important in complex interventions, in order to ensure that an observed lack of effect is not due to implementation flaws rather than programme ineffectiveness (Craig et al., 2008). Campus Watch has undergone many changes, both structural and functional, since it was introduced in early 2007; its evolution has not been guided by an overarching design, and modifications have occurred for reasons that have not always been well documented.

4.2.1. Process evaluation

The process evaluation assessed the way in which the programme was initially developed and implemented, how it was being delivered, as well as its acceptability within the community. This phase of evaluation is particularly important in complex interventions, in order to ensure that an observed lack of effect is not due to implementation flaws rather than programme ineffectiveness (Craig et al., 2008). Campus Watch has undergone many changes, both structural and functional, since it was introduced in early 2007; its evolution has not been guided by an overarching design, and modifications have occurred for reasons that have not always been well documented.

The term ‘formative evaluation’ is sometimes used to describe an investigation of the way in which an intervention was developed, and is most useful in helping to improve a programme in its initial phases (Dehar et al., 1993). The purpose of the process evaluation is to provide insight into why the intervention may or may not be effective and to document changes in the programme delivery, rather than to influence the initial phase of the programme in any way. As we were not involved in the development of the intervention, a formative evaluation would not have been an appropriate element in our model. Instead, relevant elements of a formative evaluation were incorporated into our process evaluation by documenting the development of the programme through regular interviews with the programme director.

Figure 4. Detail of Campus Watch evaluation model and sources of data for each of the three evaluation phases.

<table>
<thead>
<tr>
<th>Evaluation Phase</th>
<th>Data Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process</strong></td>
<td></td>
</tr>
<tr>
<td>How was Campus Watch developed and introduced?</td>
<td>Interviews with key informants</td>
</tr>
<tr>
<td>How has the programme been accepted by the community?</td>
<td>2008 Community Surveys</td>
</tr>
<tr>
<td><strong>Impact</strong></td>
<td></td>
</tr>
<tr>
<td>How has Campus Watch affected the behaviours and perceptions of residents?</td>
<td>Campus Watch Incident Forms</td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td></td>
</tr>
<tr>
<td>Has there been a reduction in alcohol-related harm?</td>
<td>2005 National Survey</td>
</tr>
<tr>
<td>Has there been a reduction in social disorder?</td>
<td>2007 National Survey</td>
</tr>
<tr>
<td></td>
<td>NZ Police Data</td>
</tr>
<tr>
<td></td>
<td>NZ Fire Service Data</td>
</tr>
</tbody>
</table>

Study protocol

The term ‘formative evaluation’ is sometimes used to describe an investigation of the way in which an intervention was developed, and is most useful in helping to improve a programme in its initial phases (Dehar et al., 1993). The purpose of the process evaluation is to provide insight into why the intervention may or may not be effective and to document changes in the programme delivery, rather than to influence the initial phase of the programme in any way. As we were not involved in the development of the intervention, a formative evaluation would not have been an appropriate element in our model. Instead, relevant elements of a formative evaluation were incorporated into our process evaluation by documenting the development of the programme through regular interviews with the programme director.
Specific information on the programme’s development was obtained from the University’s Director of Student Services, the University Proctors and Campus Watch staff. Information about modifications to the programme and the motivation for these changes was collected prospectively during the evaluation. Results from North Dunedin Community Surveys of residents conducted in 2008 and 2009 (described below) were used to assess residents’ knowledge and perceptions of Campus Watch.

4.2.2. Impact evaluation

The impact evaluation focused on the behaviours of North Dunedin residents and students to establish whether or not the programme was creating a culture of safety (i.e. where community members would actively take part to prevent harm) and reducing anti-social behaviour. This was measured using two data sources: the North Dunedin Community Surveys and the Campus Watch Incident Database.

North Dunedin Community Surveys
The North Dunedin Community Surveys were conducted in 2008 and 2009 in the neighbourhoods where Campus Watch operated (cf. Figure 1, page 7). Non-student residents were oversampled to make up 50% of the total sample, due to the higher proportion of student residents living in the area (Day & Donaldson, 2009). The survey aims were to elicit the views of residents on problems in their community, the contribution of students to these problems, and the impact they felt Campus Watch had had in the area. The pen-and-paper questionnaires were delivered using a drop-and-collect method, which involved personally delivering questionnaires to selected participants and returning to collect the completed questionnaires at an agreed date and time. This method has been found to elicit better response rates compared to a standard postal survey method (Lovelock et al., 1976).

Campus Watch Incident database
Incident data from the Campus Watch database were used to monitor changes in student behaviour since 2007. All incidents attended by, or reported to, Campus Watch staff are routinely recorded on an Incident Report Form, which is then entered into a centralised database. Changes in the frequencies of various types of incidents provided an indication of behavioural change in the community. Using this database, we were also able to determine whether community members were actively utilising the programme by reporting incidents rather than waiting for Campus Watch to appear.
4.2.3. Outcome evaluation

The outcome evaluation consisted of two studies, one comparing students at Otago (intervention) with those at other New Zealand university campuses (control), and the other comparing North Dunedin residents (intervention) with South Dunedin (control), a primarily non-student residential area.

National Survey

Data on student alcohol consumption and its first- and second-hand effects on students were collected at six university campuses in 2005 and eight university campuses in 2007, as part of the Hazardous Drinking Project undertaken by the Injury Prevention Research Unit (Kypri et al., 2009b). In 2009, we replicated the web-based student drinking survey at the same eight university campuses that were included in 2007 (n=2,921), which included the six university campuses surveyed in 2005 (n=2,244). By comparing the results of each cross-sectional survey, we measured changes in alcohol consumption, related harms and disorder over time to determine whether changes over time at Otago – where Campus Watch was implemented – differed from changes at the non-intervention campuses. The three surveys provided data from before Campus Watch was introduced (2005), in the first few months of the programme’s activity (2007), and in the programme’s third year of operation (2009).

Within-city comparisons

Data routinely collected by the New Zealand Police on assaults, injuries and other offences were used to compare changes in offence rates between the North Dunedin (i.e. Campus Watch) area and the rest of the city from 2005-2010. This comparison served to control for changes that may have occurred on a citywide level that could explain the crime trends observed in the North Dunedin area. A number of legislative, economic, or other environmental factors operating in Dunedin may have had an impact on alcohol-related harm and disorder that would not have been separable from the effects of Campus Watch in the National Survey comparison between Otago and other university campuses nationwide.

New Zealand Fire Service data regarding deliberately lit street fires (e.g., couch burning) and other nuisance fires were obtained for North and South Dunedin, in an attempt to control for city-level factors that would influence these types of fires, such as climatic conditions. However, the incidence of nuisance fires in South Dunedin was too low to use the area for
comparison, so North Dunedin nuisance fire data were used on its own to measure changes in incidence in the Campus Watch area from 2005 to 2010.
4.3. Strengths and potential limitations of the study design

Given the complex politics of addressing social disorder and the immense resource costs involved, it would not have been possible to use a randomised design to evaluate Campus Watch, as campuses would have been unlikely to accept random allocation to an intervention, even if the costs were met by a third party. It should be noted that we were not involved in the conception or implementation of Campus Watch, that we had no control over the setting in which the programme operates, and that we have been careful to maintain independence from the programme director and staff.

We have been able to measure specific outcomes using non-randomised comparison groups measured over time. As described in the previous chapter, non-randomised comparison groups have been used in the evaluation of other campus-community and community-based initiatives and these designs have a long history in behavioural science (Campbell et al., 1966).

There are a number of risks inherent in the methods we used in this evaluation. First, Campus Watch Incident data are subject to variation in service delivery and to changes in reporting that may bias estimates of change over time (Langley et al., 2008). For example, the number of Campus Watch staff increased in mid-2007, and on busy nights, due to heavy workload, staff may report only major incidents. Second, changes in the incident report form affected how certain incidents were recorded in the database. While we have taken care to monitor the programme’s implementation closely and regularly and to document changes, there remains a risk that important variations in protocols could influence the estimates of intervention effects.

Another risk to the evaluation is error in the offence data supplied by the New Zealand Police. Police data, like Campus Watch data, are subject to changes in service delivery, e.g., putting more police on the beat can create the impression that crime has increased simply because incidents are more likely to come to police attention (Langley et al., 2008). The New Zealand Fire Service data, however, should not have the same service delivery issues given that the fire service is engaged solely in responding to incidents, in contrast to police, whose role includes deterring crime. Fire service data may produce intervention effect estimates with greater validity than the police data; however, they permit only a very narrow range of outcomes to be assessed (i.e. nuisance fires).
Without previous knowledge of the introduction of Campus Watch in 2007, we were not able to include more specific measures in the 2005 and 2007 national student surveys that might have better measured the effectiveness of Campus Watch. By measuring outcomes such as changes in student alcohol consumption and the effects of drinking on individuals and peers from the national surveys, and by analysing the Campus Watch incident data and police data, we aimed to understand what role the Campus Watch intervention had in any reduction in alcohol-related harm and social disorder.

It is also possible that the changes University administrators expect as a result of Campus Watch will take longer than three years to occur and would therefore be missed by our evaluation. If there was no clear evidence of change within the first three years of implementation, the evaluation could be extended, with repetitions of the community and national student surveys and collation of further police and fire service data.

The national evaluation of the Street Wardens Programme (SWP) in the UK found a significant association between residents’ knowledge of the programme and their sense of security, which made it difficult to determine whether an increased sense of security was a result of programme awareness or a reflection of real crime reduction (Department for Communities and Local Government, 2006). This would also be an issue in the Campus Watch area, as staff are highly visible, and programme awareness would affect respondents’ perceptions of crime and disorder in the North Dunedin community surveys. By analysing both the community survey responses and the data from the police and fire service, we should be able to differentiate between perceived and actual changes in harm and disorder. While the SWP evaluations attempted to do this, many of the non-intervention comparison communities adopted their own warden schemes during the evaluation period, thus becoming intervention communities themselves.

The comparison university campuses may have adopted new programmes to reduce alcohol-related harm and disorder. We are not aware of any such programmes despite regular correspondence with the universities. By including numerous comparison areas – five university campuses, South Dunedin and the rest of Dunedin City – we were able to control for many alternative explanations for any observed changes in North Dunedin.
PART II. Results of component studies

Chapter 5. Campus Watch Data, 2007-2009

This chapter presents the methods and results of the analysis of two internal datasets: key informant interviews, primarily with the Director of Student Services, and the Campus Watch incident database. Both of these data sources provide valuable information about the development and implementation of Campus Watch, as well as the range of incidents and events that Campus Watch staff attend, and how these may have changed over time.

5.1. Defining Campus Watch: Interviews with the Director of Student Services, the Proctor, Deputy Proctor, Personal Assistant to the Proctor

The Campus Watch programme operates from the Proctor’s Office, under the oversight of the Director of the Division of Student Services. In order to understand how Campus Watch was developed and implemented, we organised regular interviews with the Director of Student Services. The purpose was to obtain information about the development of the Campus Watch programme and any changes that occurred after the programme was first introduced. It was quickly evident that Campus Watch was adapting as the nature of the problem it was designed to address became clearer, with no formal method of recording changes to procedures. The initial objectives of the Campus Watch programme were broadly outlined, but the specific means of achieving these objectives were never explicitly defined.

In addition to providing a record of programme changes, we wanted to know how decisions were made and who was responsible for implementing them. The interviews sought to clarify the initial development of Campus Watch and the involvement of key stakeholders, its management structure, and the decision-making processes surrounding the programme.
5.1.1 Methods

Meetings with the Director of Student Services were scheduled each month from mid-2007 to discuss developments or changes that might affect the Campus Watch programme. The meetings were face-to-face and structured as follows:

1. Update of calendar of events – events occurring since the last meeting
   a. Changes within Campus Watch – staffing, rosters, duties, training programmes, and other operational matters
   b. Campus events
   c. City events
   d. Meetings, seminars, conferences about Campus Watch
2. Media update – reports or press coverage of Campus Watch or student behaviour
3. Follow up on issues discussed previously
4. New issues arising – student behaviour changes, upcoming events
5. Campus Watch implementation changes to come
6. Update on PhD progress; discussion of documents as needed

Meetings in 2007 also included clarification about the development of Campus Watch and the anticipated effects that Campus Watch would have on the University and the North Dunedin community. Meeting minutes were kept and outstanding issues were followed up by email correspondence.

Further meetings were held with the Proctor, the Deputy Proctor, and the Personal Assistant to the Proctor, particularly surrounding data collection by Campus Watch and changes to data collection and the Incident databases.

Ethical considerations

In 2007, a Memorandum of Understanding (MoU) was signed by the Division of Student Services and the Injury Prevention Research Unit, a copy of which is included in Appendix B. This agreement stipulated the terms and conditions regarding access to Campus Watch data and other relevant reports, and the ways in which confidential data would be securely handled and stored. It also outlined the reporting responsibilities of the research team, explicitly stated their right to publish and their independence as evaluators of the Campus Watch programme, and included an agreement that the Division of Student Services and Communications
Manager be notified in advance of any press releases or publications arising from the evaluation.

5.1.2. Results

Aims and objectives of the Campus Watch programme
The primary objectives of the Campus Watch programme were to “maintain and improve the quality of the student experience in the wider campus environment and to assist residents and businesses with any concerns they may have” (University of Otago, 2007b). These broad aims meant that the role of Campus Watch was not only to supplement the police presence in the area, but also to provide pastoral care to students and other residents, and to maintain positive relationships with business owners and managers in the area. While we tried to establish more precise objectives of the Campus Watch programme, both the Proctor and Director of Student Services were adamant that the programme had no specific targets for reducing disorder or improving the quality of life of residents in the area.

Programme development
The development of Campus Watch began in late 2005 following an annual student event where the ensuing student disorder generated local, national, and international media attention. In 2005, the Director of Student Services put forward a proposal for a “proctorial” student management plan, whereby student behaviour, both on campus and off campus, would be monitored and managed by the Proctor’s office. The Vice-Chancellor organized a working party on student behaviour in North Dunedin in 2005 (Working Party on Student Behaviour in North Dunedin, 2006), which was followed in 2006 by the Student Code of Conduct Working Party (Higham, 2006). The Campus Watch programme was the core recommendation of this working party, and a proposal was put forward to the Vice-Chancellor in September 2006.

In 2006, the Vice-Chancellor and Chief Operating Officer decided to adopt a “Campus Watch” concept proposed by the Director of Student Services. This concept was primarily developed by one person (i.e. the Director of Student Services) and was based on his experiences of positive behavioural management strategies for secondary school and university students, and community projects in New Zealand – such as Maori wardens (Nelson City Council) – and overseas – including the UK Home Office funded schemes targeting anti-social behaviour (Department for Communities and Local Government, 2006), security initiatives from Cardiff University, Wales, and the Town Centre Manager plan in
Colchester, England. As such, the concept of Campus Watch did not have a strong theoretical basis, but was specifically tailored to meet the needs of the community at the time of its inception.

**Timeline of Campus Watch**

An operational timeline of the Campus Watch programme is presented in Table 2 below.

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td>Campus Watch staff appointments</td>
</tr>
<tr>
<td>2007</td>
<td>January</td>
<td>Start of Campus Watch (21 staff; operating 9am-3am)</td>
</tr>
<tr>
<td></td>
<td>June</td>
<td>Changes in data recording</td>
</tr>
<tr>
<td></td>
<td>July</td>
<td>Additional staff appointments (36 staff in total)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibilities expanded to include campus security and emergency preparedness</td>
</tr>
<tr>
<td></td>
<td>September</td>
<td>Change to 24-hour operation</td>
</tr>
<tr>
<td>2008</td>
<td>February</td>
<td>Appointment of coordinator for Campus Watch teams (37 staff in total)</td>
</tr>
<tr>
<td>2009</td>
<td>March</td>
<td>Responsibilities expanded to include cash escort service for campus</td>
</tr>
<tr>
<td></td>
<td>April</td>
<td>Team leaders’ reports standardised</td>
</tr>
<tr>
<td></td>
<td>May</td>
<td>New uniforms introduced to increase visibility of Campus Watch staff</td>
</tr>
<tr>
<td>2010</td>
<td>February</td>
<td>Changes in data recording and database systems</td>
</tr>
</tbody>
</table>

When the programme began in January 2007, there were 21 staff and the service operated from 9am to 3am, using foot patrols organised in teams. The Campus Watch programme increased its operation to 24 hours a day following the appointment of 15 additional staff members in September 2007. In February 2008, a team coordinator was appointed, increasing the number of term-time\(^2\) staff to 37, which included the coordinator and five teams. Each team consisted of one team leader and six team members. The team leaders managed their teams and ensured that communication was maintained between team members and between shifts. One of the team members remained in the control room to coordinate response and liaise with emergency services and other teams as needed. The teams worked in shifts, patrolling all areas of the University campus and surrounding neighbourhoods. A well-marked Campus Watch vehicle was used when necessary, but the majority of the patrolling occurred on foot. The Campus Watch area included the University campus and a well-defined surrounding residential area, shown on the map in Figure 1 on page 7, totalling an area of

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\(^2\) While the majority of staff were appointed for the full year, a small number of staff were contracted to work only during the university semesters, as it is common for the majority of students to leave North Dunedin between November and February each year.
approximately 16 square kilometres. During peak hours, shifts overlapped so that two teams operated simultaneously. Team members patrolled on their own or in pairs during the day, and always in pairs after dark. As of August 2012, the overall structure, staffing numbers, and patrolling methods had remained largely unchanged.

Most of the work done by the Campus Watch teams was described as pastoral care of students who were new to ‘flatting’ (i.e. living in unsupervised shared housing), as well as relationship building with residents and businesses operating in the area. During the day, Campus Watch staff focused on building rapport with students living in the area by chatting and offering advice or following up on previous incidents. They also acted as a security patrol on campus and provided directions to visitors. All Campus Watch staff were easily recognisable by their highly visible uniforms, shown in Figure 5. These uniforms were upgraded in 2009 in order to make Campus Watch staff even more conspicuous, particularly at night with the addition of high-visibility vests. After dark, the Campus Watch teams continued their rounds of the campus and surrounding neighbourhoods, with the aim of remaining a visible, approachable presence and preventing situations from getting out of hand. The Campus Watch patrols also frequently walked students home late at night or gave them rides home in the Campus Watch vehicle or an additional Safety Patrol vehicle, and checked whether intoxicated students needed assistance.

Figure 5. Uniformed Campus Watch staff on patrol

Campus Watch staff referred students to the Proctor for disciplinary or remedial action if they had breached the Code of Student Conduct. Although Campus Watch did not have any legal powers to deal with people who were not students, they liaised with the police and local fire service and their services were called upon where necessary. In most cases, non-students
preferred to comply with Campus Watch staff requests rather than risk police involvement, so staff were often able to resolve minor issues involving non-students as well. Campus Watch staff also assisted the police, primarily by looking out for suspicious people identified by police who may be in the Campus Watch area.

**Staffing, management structure and decision-making processes**

Campus Watch staff were selected through an open recruitment process, followed by a rigorous screening process which included interviews with various university staff members and psychometric testing, to ensure they were able to build a positive rapport with students and the wider community, while enforcing the Code of Conduct regulations. Staff came from a variety of backgrounds, ranging from homemakers to former police officers, but were not current university students. They were employed by the University, either on permanent or fixed-term (i.e. during the academic year) contracts, and paid out of Campus Watch-allocated funds.

Figure 6 outlines the management structure of the Campus Watch programme. The Proctor’s role in the University was to “work closely with the police and other local authorities in fostering the unique town/gown relationship […], as it relates to student behaviour” (University of Otago, 2007b), and he was the operational manager of the Campus Watch programme. In consultation with the Proctor, the Director of Student Services managed the policy aspects of Campus Watch, and oversaw the set-up and overall structure of the programme. The Director of Student Services reported directly to the Chief Operating Officer and to the Vice-Chancellor.

In 2008, a team coordinator was appointed to ensure consistency across the team leaders and their teams, as well as being responsible for ongoing training of team leaders, developing formal policies and procedures and reviewing them regularly. The team leaders coordinated their patrols on the ground, and provided reports at the end of each shift.
Recording of Campus Watch activity

Campus Watch staff recorded information about each incident attended in a standard incident report form. These forms, shown in Figure 4, included data about the incident location, people involved, type of incident, whether or not alcohol was involved, and a brief description of the incident and how it was resolved. Although the incident report forms were designed to be completed at the time of the incident or shortly afterwards, Campus Watch staff also carried an additional notepad to record relevant details at the time of the incident, and these were then transferred to the incident forms at the end of each shift.

Until February 2010, all forms were entered into a centralised password-protected Microsoft Access database. The personal assistant to the Proctor was responsible for the data entry. Queries about the incidents were referred back to the attendant Campus Watch staff and/or team leader.

In February 2010, the incident database was migrated to a new web-accessible database created by i-Trac. When this occurred, the database was merged with the Proctor’s database (previously used to record student offenders dealt with by the Proctor) and the IRIS database (previously used for campus security issues). Minor coding changes were made in January 2011 to better reflect the types of incidents that Campus Watch was currently attending. Any changes in coding were applied retrospectively, i.e. historical incidents were recoded if they...
fell into any of the new codes. Under the new i-Trac system, Campus Watch team members continued to use the incident report forms but data were entered into the i-Trac system by the Campus Watch team members at the end of each shift.

In addition to the incident report forms, team leaders also completed a Team Leader report at the end of each shift. These reports, standardised in 2009, provided information about major incidents, notified the following shifts of any events requiring follow-up, and also included important information about weather and notable events that may have influenced the types of incidents that occurred. These reports were filed electronically and sent to the University Proctor, the Director of Student Services, and relevant administrators on a daily basis.

![Incident Report Form](image)

Figure 7. The Campus Watch incident report form

**Development of the incident report form**

The original Campus Watch reporting form was based on the New Zealand Police Offence Report form. In early 2007, the Director of Student Services and the Proctor decided to modify the original form to make the data more accessible for the purpose of the internal monitoring of the programme’s activity and to ensure it would meet the needs of the formal
Campus Watch evaluation. In addition to monitoring Campus Watch activity, the reporting forms provided information to the Proctor’s office about incidents and students who had been referred to the office for discipline and/or follow-up.

It was agreed that the modified incident report form needed to meet the following criteria:

1. Details about each incident attended by Campus Watch, as well as the people involved and the circumstances surrounding the incident, needed to be easily analysable
2. Further details needed to be available that were of specific use to the University Proctor, and should be in free-text format
3. The form needed to be small enough to fit in the pockets of the Campus Watch team members (i.e. retain its original size)
4. The form needed to be brief enough to be completed by Campus Watch members at the time of / immediately following the incident.
5. Incidents where alcohol was involved needed to be easily separated from those where no alcohol was involved.

Based on the above criteria, we (the evaluators) modified the original form, with feedback from the Proctor and the Director of Student Services. New offence codes were developed after analysing the type and frequency of incidents that had been recorded by Campus Watch from January-April 2007. This included reviewing the descriptions of all incidents that had been coded as ‘Other’ in order to ensure that the new codes captured the full extent of the activities of the Campus Watch team members, as by April 2007, over 15% of incidents had been coded as ‘Other’.
5.2. Changes in Campus Watch activity and utilisation

The Campus Watch incident database was created to record the activities of Campus Watch staff in the North Dunedin area. The data from June 2007 until November 2009 were analysed in order to determine:

1. The types of incidents attended by Campus Watch and changes over time;
2. How Campus Watch was being used by the North Dunedin community and emergency services;
3. The characteristics of those people who came in contact with Campus Watch and whether these had changed over time.

5.2.1. Methods and analysis

The original database was exported from Microsoft Access into Stata IC 10.1 for analysis. Initial data cleaning found six incident reports with missing dates or with dates that were outside the range of Campus Watch operation and these were excluded.

The analysis of the incident database was restricted to June 2007 – November 2009 in order for the data to be as comparable as possible. In early 2007, the incident report form was in a simpler format, with the majority of the relevant information added as free text, and a number of offence/assist codes were added in June 2007 to better reflect the role of Campus Watch in the community. Furthermore, Campus Watch only began to operate full-time in August 2007 with a full team, and as a consequence, there were more incidents reported. November 2009 was chosen as an end date for analysis, as this reflected the end of the academic year. Large changes were made to the database and data recording in 2010, most notably the fact that incident report forms began to be entered into the database by the team members themselves, rather than by the personal assistant to the Proctor. This change in recording practices would likely have affected the quality and consistency of incident reporting.

The following fields were used to evaluate the outcomes of interest:

*Offence/Assist code*

There were 27 codes for incidents attended by Campus Watch, which included 15 “offence” codes, 11 “assist” codes and 1 “other” code for incidents not covered by another specific code. For the purpose of this study, the four “offence” codes which covered breaches of
University regulations (alcohol, traffic, computer, other) were combined, and the three “assist” codes that covered the on-campus security role of Campus Watch (insecure premises, building check, function check) were excluded as we are not evaluating the role of Campus Watch as a security service here. An additional code for “suspicious behaviour” was added in 2009, and this was combined with the “suspicious person” code, which had been used previously.

**Incident reported by**

Campus Watch used this field to describe how staff found out about the incident being reported and could select one of the following options: *Routine* (for all incidents that Campus Watch came across on their routine walks around the neighbourhood and campus); *Follow-up* (a previous incident which required follow up); *Assist request – Police / Passerby / Neighbour / Person 1 / Person 2 / Campus Watch* (with the relevant option to be circled); and *Other*.

**Alcohol involvement**

Campus Watch staff selected “Yes” or “No” for whether they believed alcohol was involved in the incident. This was determined as a matter of staff opinion, sometimes – but not routinely – following a direct question to the individuals involved.

5.2.2. Results

**Types of incidents attended by Campus Watch**

Table 3 presents the types of incidents recorded by Campus Watch between 2007 and 2009 by semester. From 2007 to 2009, about half of the incidents reported by Campus Watch were offence-related, while half were assistance-related. There was a marked dip in nearly all types of incidents in the second half of 2008, which was followed by a net increase in all types of incidents in 2009. There were more incidents in the first semesters than in the second, and this was especially true for offence-related incidents. In 2008, first quarter offences accounted for nearly two-thirds of all offences in that year. Due to these semester variations and the large variations in the data overall, it is not possible to determine conclusive trends for the majority of incident types, although more evident patterns are described here.

There was a continued decrease in wilful damage across the 2008 and 2009 semesters, and overall these incidents more than halved between 2007 and 2009, from 86 to 36. The number
of fires halved between semester 2, 2007 (111 fires), and semester 1, 2009 (56 fires) before increasing again in semester 2, 2009 (78 fires). There was also a decrease in public urination offences between 2008 and 2009, although the numbers were small in both years. Suspicious person/behaviour incidents appeared to be declining overall, despite a spike in the first half of 2009. The majority of other offences increased between 2008 and 2009, with the largest increases for rubbish, noise control, offensive behaviour, and violence incidents, as well as breaches of University regulations.

The majority of assistance-related incidents were for “assistance to the public”, accounting for a larger percentage of all assistance-related incidents each year, from 47.7% in 2007 to about 60% by 2009. Campus Watch staff also recorded more ‘job follow-up’ work in 2009 compared with other years (less than 50 in each semester in 2007 and 2008, compared with 132 and 149 in semesters 1 and 2, respectively, of 2009). There was a large increase in Campus Watch staff walking students/residents home in the first semester of 2008 and this number remained steady through 2009, making up over 8% of all assistance-related incidents, compared with only 3.8% at the end of 2007.
### Table 3. Total incidents recorded by Campus Watch, by type and semester, from 2007-2009

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td>n</td>
<td></td>
</tr>
<tr>
<td><strong>Offence-related incidents</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disorderly behaviour</td>
<td>67</td>
<td>74</td>
<td>44</td>
<td>94</td>
<td>78</td>
<td>+45.8%</td>
</tr>
<tr>
<td>Glass</td>
<td>48</td>
<td>66</td>
<td>43</td>
<td>85</td>
<td>46</td>
<td>+20.2%</td>
</tr>
<tr>
<td>Wilful damage</td>
<td>86</td>
<td>89</td>
<td>59</td>
<td>56</td>
<td>36</td>
<td>-37.8%</td>
</tr>
<tr>
<td>Noise control</td>
<td>19</td>
<td>21</td>
<td>12</td>
<td>28</td>
<td>28</td>
<td>+69.7%</td>
</tr>
<tr>
<td>Rubbish</td>
<td>98</td>
<td>162</td>
<td>45</td>
<td>212</td>
<td>137</td>
<td>+68.6%</td>
</tr>
<tr>
<td>Fires</td>
<td>111</td>
<td>73</td>
<td>68</td>
<td>56</td>
<td>78</td>
<td>-5.0%</td>
</tr>
<tr>
<td>Theft</td>
<td>30</td>
<td>25</td>
<td>16</td>
<td>33</td>
<td>22</td>
<td>+34.1%</td>
</tr>
<tr>
<td>Offensive behaviour</td>
<td>10</td>
<td>12</td>
<td>10</td>
<td>17</td>
<td>22</td>
<td>+77.3%</td>
</tr>
<tr>
<td>Urinating</td>
<td>7</td>
<td>33</td>
<td>10</td>
<td>14</td>
<td>5</td>
<td>-55.8%</td>
</tr>
<tr>
<td>Suspicious person/behaviour</td>
<td>65</td>
<td>71</td>
<td>49</td>
<td>91</td>
<td>45</td>
<td>+13.3%</td>
</tr>
<tr>
<td>Violence</td>
<td>6</td>
<td>9</td>
<td>13</td>
<td>30</td>
<td>15</td>
<td>+104.5%</td>
</tr>
<tr>
<td>Breach of University regulations</td>
<td>35</td>
<td>44</td>
<td>24</td>
<td>53</td>
<td>61</td>
<td>+67.6%</td>
</tr>
<tr>
<td><strong>Assistance-related incidents</strong></td>
<td>636</td>
<td>560</td>
<td>458</td>
<td>875</td>
<td>801</td>
<td>+64.6%</td>
</tr>
<tr>
<td>Assistance to public</td>
<td>299</td>
<td>274</td>
<td>235</td>
<td>528</td>
<td>465</td>
<td>+95.1%</td>
</tr>
<tr>
<td>Walk home</td>
<td>24</td>
<td>46</td>
<td>43</td>
<td>72</td>
<td>64</td>
<td>+52.8%</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>12</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>+37.5%</td>
</tr>
<tr>
<td>General hazard</td>
<td>58</td>
<td>36</td>
<td>39</td>
<td>15</td>
<td>16</td>
<td>-58.7%</td>
</tr>
<tr>
<td>Medical assistance</td>
<td>23</td>
<td>16</td>
<td>14</td>
<td>22</td>
<td>14</td>
<td>+20.0%</td>
</tr>
<tr>
<td>Psychiatric assistance</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>-71.4%</td>
</tr>
<tr>
<td>Abandoned/lost/found property</td>
<td>170</td>
<td>137</td>
<td>78</td>
<td>102</td>
<td>85</td>
<td>-13.0%</td>
</tr>
<tr>
<td>Job follow-up</td>
<td>45</td>
<td>44</td>
<td>41</td>
<td>132</td>
<td>149</td>
<td>+230.6%</td>
</tr>
<tr>
<td><strong>Other incidents</strong></td>
<td>60</td>
<td>30</td>
<td>33</td>
<td>139</td>
<td>147</td>
<td>+354.0%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>1,278</td>
<td>1,269</td>
<td>884</td>
<td>1,783</td>
<td>1,521</td>
<td>+53.5%</td>
</tr>
</tbody>
</table>
**Alcohol involvement in incidents**

Alcohol was involved in one-sixth to one-quarter of all incidents attended by Campus Watch, as shown in Table 4. Alcohol involvement peaked in 2008, when 25.3% of all incidents occurring in the first semester were reported to have alcohol involved. In the second semester of 2008, 38.6% of all offence-related incidents and 11.2% of all assistance-related incidents had alcohol as a contributing factor.

Table 4. Proportion of incidents where alcohol was a contributing factor, by type of incident

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sem.2</td>
<td>Sem.1</td>
<td>Sem.2</td>
</tr>
<tr>
<td>Alcohol involvement</td>
<td>n=215</td>
<td>n=321</td>
<td>n=204</td>
</tr>
<tr>
<td>Offences</td>
<td>26.0</td>
<td>37.6</td>
<td>38.6</td>
</tr>
<tr>
<td>Assistance</td>
<td>9.1</td>
<td>10.7</td>
<td>11.2</td>
</tr>
<tr>
<td>Other</td>
<td>8.3</td>
<td>20.0</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16.8</strong></td>
<td><strong>25.3</strong></td>
<td><strong>23.1</strong></td>
</tr>
</tbody>
</table>
Community Utilisation of Campus Watch

The way in which North Dunedin residents and emergency services utilise Campus Watch gives an indication of how the programme has been accepted by the community and perceptions of Campus Watch’s role. A widely accepted programme would mean that residents would be more proactive in asking staff for assistance; therefore changes in utilisation would reflect changes in the public’s knowledge or acceptance of Campus Watch. For all incidents attended by Campus Watch staff, the manner in which staff found out about the event was recorded on the reporting form.

In all years, most of the incidents recorded in the database were reported from routine Campus Watch monitoring of the North Dunedin area, as shown in Table 5. In 2009, the proportion of incidents where assistance was requested increased, from 7.4% of all incidents in 2007 (semester 2) to 17.4% and 14.1% in semesters 1 and 2, respectively, of 2009. Among those requesting assistance, in semester 2, 2008 and 2009, over half of requests came directly from the witness, complainant, or suspect. While in earlier years, a significant portion (>10%) of requests came from the police, by 2009 fewer requests for assistance were made by the police (7.3% in semester 1 and 2.8% in semester 2). About one-fifth of all requests came from other Campus Watch staff in 2009, compared to just over one-tenth in previous years.

Table 5. Incident reporting and persons requesting assistance, from 2007-2009

<table>
<thead>
<tr>
<th>Incident reported due to:</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sem.2</td>
<td>Sem.1</td>
<td>Sem.2</td>
</tr>
<tr>
<td>Routine</td>
<td>88.1</td>
<td>84.8</td>
<td>86.9</td>
</tr>
<tr>
<td>Follow up</td>
<td>3.4</td>
<td>5.8</td>
<td>4.0</td>
</tr>
<tr>
<td>Other</td>
<td>1.0</td>
<td>1.3</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Assistance requested</strong></td>
<td>7.4</td>
<td>8.1</td>
<td>8.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Person requesting assistance:</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sem.2</td>
<td>Sem.1</td>
<td>Sem.2</td>
</tr>
<tr>
<td>Police</td>
<td>15.1</td>
<td>13.5</td>
<td>14.8</td>
</tr>
<tr>
<td>Passerby</td>
<td>12.6</td>
<td>15.3</td>
<td>2.5</td>
</tr>
<tr>
<td>Neighbour</td>
<td>4.4</td>
<td>3.6</td>
<td>1.2</td>
</tr>
<tr>
<td>Campus Watch</td>
<td>11.3</td>
<td>13.5</td>
<td>11.1</td>
</tr>
<tr>
<td>Witness/complainant/suspect</td>
<td>32.0</td>
<td>37.8</td>
<td>58.0</td>
</tr>
<tr>
<td>Other</td>
<td>24.5</td>
<td>16.2</td>
<td>12.3</td>
</tr>
</tbody>
</table>
Characteristics of Campus Watch users

Table 6 describes the users of Campus Watch, i.e. those who were involved in incidents. There was a substantial decrease in the number of incidents where details of the person of interest (“Person 1”) were recorded in the incident database in 2009 as Campus Watch increasingly used student ID numbers to describe the persons involved in an incident and omitted other person descriptors.

Of those persons whose details were taken as the primary person of interest, the majority were considered to be the ‘offenders’, or perpetrators of an incident, or described as ‘other’. ‘Other’ was primarily used to describe people to whom assistance was given, such as escorting an intoxicated person home or identifying/returning lost property.

Table 6. Characteristics of Campus Watch users, from 2007-2009

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Offender</td>
<td>167</td>
<td>38.9</td>
<td>343</td>
<td>53.6</td>
<td>167</td>
<td>40.2</td>
<td>77</td>
</tr>
<tr>
<td>Witness</td>
<td>11</td>
<td>2.6</td>
<td>10</td>
<td>1.6</td>
<td>5</td>
<td>1.2</td>
<td>7</td>
</tr>
<tr>
<td>Complainant</td>
<td>78</td>
<td>18.2</td>
<td>55</td>
<td>8.6</td>
<td>29</td>
<td>7.0</td>
<td>18</td>
</tr>
<tr>
<td>Other</td>
<td>173</td>
<td>40.3</td>
<td>232</td>
<td>36.2</td>
<td>214</td>
<td>51.6</td>
<td>72</td>
</tr>
<tr>
<td>Total</td>
<td>429</td>
<td>100.0</td>
<td>640</td>
<td>100.0</td>
<td>415</td>
<td>100.0</td>
<td>174</td>
</tr>
</tbody>
</table>

As shown in Table 7, where the sex of the primary person of interest was given, men were more likely to be offenders and women were described as ‘Other’ as they were more likely to be the subject of assistance-related incidents.

Table 7. Campus Watch users by sex (where recorded), from 2007-2009

<table>
<thead>
<tr>
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<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offender</td>
<td>22</td>
<td>18.3</td>
<td>46</td>
<td>24.2</td>
<td>24</td>
<td>15.5</td>
<td>9</td>
</tr>
<tr>
<td>Witness</td>
<td>3</td>
<td>2.5</td>
<td>3</td>
<td>1.6</td>
<td>2</td>
<td>1.3</td>
<td>1</td>
</tr>
<tr>
<td>Complainant</td>
<td>31</td>
<td>25.8</td>
<td>29</td>
<td>15.3</td>
<td>14</td>
<td>9.0</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>64</td>
<td>53.3</td>
<td>112</td>
<td>58.9</td>
<td>115</td>
<td>74.2</td>
<td>26</td>
</tr>
<tr>
<td>Total Females</td>
<td>120</td>
<td>100.0</td>
<td>190</td>
<td>100.0</td>
<td>155</td>
<td>100.0</td>
<td>40</td>
</tr>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offender</td>
<td>125</td>
<td>54.6</td>
<td>256</td>
<td>67.9</td>
<td>127</td>
<td>58.0</td>
<td>30</td>
</tr>
<tr>
<td>Witness</td>
<td>4</td>
<td>1.7</td>
<td>6</td>
<td>1.6</td>
<td>3</td>
<td>1.4</td>
<td>4</td>
</tr>
<tr>
<td>Complainant</td>
<td>23</td>
<td>10.0</td>
<td>22</td>
<td>5.8</td>
<td>12</td>
<td>5.5</td>
<td>2</td>
</tr>
<tr>
<td>Other</td>
<td>77</td>
<td>33.6</td>
<td>93</td>
<td>24.7</td>
<td>77</td>
<td>35.2</td>
<td>28</td>
</tr>
<tr>
<td>Total Males</td>
<td>229</td>
<td>100.0</td>
<td>377</td>
<td>100.0</td>
<td>219</td>
<td>100.0</td>
<td>64</td>
</tr>
</tbody>
</table>
5.3. Discussion

5.3.1. Summary of key findings

The Campus Watch incident data illustrate the dual responsibilities of staff in providing pastoral care and controlling anti-social behaviour in the community, as fairly equal proportions of incidents were assistance-related and offence-related between 2007 and 2009. There was a reduction in offence-related incidents between 2007 and 2008, but not between 2008 and 2009. This pattern may indicate real changes in offences in the Campus Watch area, but may also be a result of Campus Watch becoming more effective at addressing problems before residents noticed them, or that staff were becoming more consistent at recording every incident they attended. In fact, discussions in 2010 with the personal assistant to the Proctor found that a push for greater internal consistency of incident reporting occurred in 2009, particularly following the appointment of the Campus Watch coordinator in the previous year.

In 2008 and 2009, at least one-third of offence-related incidents were believed to have alcohol as a contributing factor. This decreased only slightly in 2009, indicating that alcohol is still a major problem in the North Dunedin area. There was, however, a decrease by 2009 in assistance-related incidents where alcohol was believed to be involved.

While the majority of incidents attended by Campus Watch occurred on routine patrol, there was an increase in community members directly requesting assistance from Campus Watch staff. These changes in reporting of incidents suggest that the way in which Campus Watch operates and is utilised by the community has changed since Campus Watch was initially implemented. For example, Campus Watch staff are increasingly following up on incidents or assisting other staff members. The police may also have started relying more on Campus Watch to monitor the North Dunedin area, so the communication between the police and Campus Watch could have changed direction, with Campus Watch requesting assistance from the police as needed, rather than vice versa. The increase in community members requesting assistance from Campus Watch would suggest that residents in the area might have gained a better understanding of Campus Watch’s role, regarding them as a useful service for solving minor problems in the North Dunedin area.
5.3.2. Limitations of the Campus Watch incident database

Although the Campus Watch incident database is a useful tool in describing the range of activities undertaken by the Campus Watch staff, it suffers from a number of limitations that make it difficult to determine with confidence whether there have been changes in the behaviours of North Dunedin residents since its introduction in early 2007. These limitations are briefly described below.

Absence of baseline data

As the Campus Watch incident database was designed specifically for the work that Campus Watch was established to do, there are no pre-Campus Watch data available in this database. Baseline data would have provided a starting point from which to measure the effect that the intervention had on the population of interest. The University’s concern about student disorder and its reasons for developing Campus Watch, however, indicate that there were problems with alcohol-related harms and student disorder that were worthy of addressing, even if there are no internal baseline data from which to measure changes.

Inconsistency of reporting and recording of incidents

There was large variation in the amount of detail provided in incident reports. Since the data were not entered into the database by the staff attending the incident, it was not possible to create mandatory fields, and the person entering the data had to rely on what had been recorded on the form.

Inconsistency in reporting incidents, particularly minor and more frequent ones, became apparent in 2008, at which point a Campus Watch coordinator was appointed to increase consistency among the Campus Watch teams in how they operated and in how they recorded incidents. This may have had the desired effect, as there was a large increase in recorded incidents in 2009, but it is not possible to know whether the increase was caused by this improvement in reporting practices or a real increase in incidents, or a combination of the two.

The nature of the Campus Watch programme makes it prone to inconsistencies in reporting, particularly during busy periods and late at night, or when the weather is wet. Campus Watch staff are expected to complete incident report forms for each incident attended, regardless of its severity. During peak periods, Campus Watch staff attend numerous incidents and often
have little time to complete the forms. For this reason, it is common practice for staff to make a few notes at the scene and complete all of their incident report forms at the end of the shift, using the brief notes to remind them of the incident.

**Reliance on free text field or student ID numbers for recording details of incidents/persons**

Much of the useful information could be found in the free text field, despite specific fields being designed with the stated research questions in mind. Furthermore, by 2009, most incident report forms provided only a student ID number (when the person of interest was a University student) and left other person fields blank. For this reason, it was not logistically possible to look at other characteristics of Campus Watch users, such as age, to see which groups of people were most in contact with Campus Watch and for what reasons.

5.3.3. Comparison with other studies

Many of the limitations of the Campus Watch incident data exist for crime statistics and indicators used to describe rates of alcohol-related injury. The nature of the routinely collected Campus Watch data is similar to that of police crime data; in fact, the incident report forms used by staff were modelled on the offence reports used by the New Zealand Police. While police data are a valuable source of information to measure overall crime trends, patterns in the types, settings and distribution of crimes, and the characteristics of those who commit them, their reliability is dependent on the assumption that the proportion of offences reported and recorded over time remains stable (Weatherburn, 2011). Variations in service delivery, such as increases in staffing, changes in patrolling practices, or a renewed focus on specific types of offences, may influence the numbers and types of offences reported by staff. This may occur whether or not there has been a change in the actual incidence of offences in the community. The proportion of offences recorded is also dependent on the recording instrument used, the protocols for recording the data, how much time is allocated to this task, and the existence of a method of routine quality control to ensure consistency among staff.

In their critique of methods for developing indicators of non-fatal alcohol-related injury, Langley et al. (2008) discussed the risks of using police-recorded crime data to derive such indicators, which included the fact that reported crime does not necessarily correlate with actual crime rates, and that the discrepancy between the two is known to vary by type of offence. In their example, drink-drivers involved in single motor vehicle traffic crashes might
be more likely to try to evade police than drivers who had not been drinking, due to the additional penalty associated with drink-driving. In a similar way, it is possible that perpetrators of certain incidents, such as those deliberately lighting fires, would be more likely to try to evade Campus Watch due to the threat of discipline under Code of Conduct regulations, and the likelihood of this occurring may change over time.

5.3.4. Conclusion

Despite the significant limitations of the Campus Watch incident data, the dataset provides a valuable instrument for understanding the wide scope of daily activities of Campus Watch and how these change between semesters and across years. Its usefulness is enhanced by knowledge of what service delivery changes occurred and how these might affect the collection of data. Continued monitoring of the dataset and regular training on incident reporting could improve the consistency of reporting and recording of incidents and allow for more accurate measurement of the changes in behaviours occurring in the North Dunedin area.
Chapter 6. Life in a heavy drinking environment: North Dunedin residents’ characteristics and experiences of alcohol-related harm during the Campus Watch programme

6.1. Introduction and Background

This chapter describes the methods and findings of the North Dunedin and South Dunedin Community Surveys, conducted in 2008 and 2009 for the Campus Watch evaluation. The surveys were designed to inform aspects of both the process and impact phases of the evaluation by measuring community knowledge of and sentiment toward Campus Watch, and to provide information about residents’ perceptions of the problems in their communities.

The specific aims of this chapter are:

1. To compare the demographic characteristics and behaviour of North Dunedin (Campus Watch area) residents with South Dunedin residents (a within-city comparison site);
2. To understand the attraction of living in a heavy drinking environment, both for student and non-student residents of North Dunedin;
3. To describe the risks – both real and perceived – of living in such an environment, and how these compare to a comparison site;
4. To determine whether there have been changes in these risks between 2008 and 2009 and whether changes can be attributed to the on-going activities of Campus Watch; and
5. To describe the experiences and perceptions of residents towards Campus Watch.

Residents’ first-hand experiences of problems in their community can provide a more complete picture of life in North Dunedin than other data sources, such as police-reported crime data and Campus Watch incident data, as many of the problems might be minor and/or go undetected by the police or to Campus Watch staff. Furthermore, perceptions of residents provide an indication of community expectations of acceptable behaviour, which may have changed with the introduction of Campus Watch.
6.2. Methods

6.2.1. Study design

The North and South Dunedin Community Surveys were serial descriptive cross-sectional surveys conducted in 2008 and 2009. Both were completed after Campus Watch was introduced in the North Dunedin area. Using self-completed questionnaires distributed by a drop-and-collect method, we measured respondents’ perceptions and experiences of the problems in their community, their knowledge and views of Campus Watch (North Dunedin survey) or Community Patrol (South Dunedin survey), and their perceptions of social capital and informal social controls. The Campus Watch area in North Dunedin was the main study site; South Dunedin was included as a comparison site to determine whether changes occurring in the Campus Watch area could be explained by a city-wide change over the same period.

The South Dunedin area was selected as a comparison site because it did not border on any of the Campus Watch area boundaries, which reduced the likelihood that Campus Watch might have a flow-on effect on the outcomes of interest in the comparison site. Due to the unique nature of the Campus Watch area in terms of its social, economic and demographic characteristics, such as high population density, high proportion of university students, and low median income (as described in detail in Chapter 2), it was not possible to select a comparison site that was similar in all respects but for the presence of Campus Watch. However, South Dunedin is also a residential area with a high population density (2,000 residents per square kilometre) and is a relatively mixed population in terms of socio-economic and demographic characteristics (Dunedin City Council, 2002). The area also has an active South Dunedin Community Patrol, and we planned to make comparisons between this patrol and the Campus Watch programme.
6.2.2. Participant selection

Participants were randomly selected from randomly selected physical addresses within the Campus Watch area boundaries or comparison site boundaries in South Dunedin, shown below in Figure 8.

Within each household, the adult whose birthday was next (in 2008) or last (in 2009) was invited to participate. Due to the transient nature of the student population in North Dunedin, random household selection was chosen as the most reliable method of ensuring an accurate, random sample of participants.

![Figure 8. Campus Watch and South Dunedin (comparison site) area boundaries for 2008 and 2009 Community Surveys](image)

**Sample size**

A total of 600 residents, split equally among three different groups, were invited to participate in each survey year. The three groups were North Dunedin students, North Dunedin non-students, and South Dunedin residents. The North Dunedin residents were split into two groups (students and non-students) in order to increase the number of non-student residents sampled in North Dunedin, as close to 90% of North Dunedin residents are students (Day & Donaldson, 2009).

The sample size of 200 in each group, in each year, was in part based on the availability of resources. A sample size of 100 in each group would allow estimation of proportions to
within +/- 10% (worst case) using 95% confidence intervals, which was considered an acceptable level of precision for such a study. Sixty-nine participants in each group would be required to have 80% power to detect a difference of 25% in responses (worst case) between the two groups using a two-sided alpha of 0.05. In order to allow for a 65% response rate, 155 households in each group would need to be approached. This was increased to 200 households in each group, as it was not known whether a response rate of 65% would be achieved.

**Campus Watch boundaries**

Campus Watch boundaries were determined in consultation with the Director of Student Services, University of Otago. They are shown in Figure 8, page 67. In 2006, 11,317 people were living in the area (Statistics New Zealand, 2012b), which measures approximately 16 square kilometres. Names of all streets and house numbers located on or within the Campus Watch boundaries were obtained from the Dunedin City Council ratings database (Dunedin City Council, 2008). All physical addresses that fell within or on the Campus Watch boundaries were included in the North Dunedin community survey area.

**North Dunedin students**

We obtained a comprehensive term-time address list of all students currently enrolled at the University of Otago as at 22 April 2008 (for the 2008 community survey) and 22 April 2009 (for the 2009 community survey), which included the addresses of 19,532 students in 2008 and 18,206 students in 2009. Names, student ID numbers, and any other personal information were omitted from the address list. Duplicate physical addresses were removed. Using the Campus Watch boundaries, all physical addresses that did not fall within the boundaries were excluded from the sample. The remaining addresses were cleaned to remove halls of residence, schools, colleges, and University departments that had been given as term-time addresses. This left a total of 1,645 unique physical addresses in 2008 and 1,793 in 2009 within the Campus Watch boundaries. A random sample of 200 addresses for each year was obtained using the “rand” command in Microsoft Excel.

**North Dunedin non-students**

A list of all 2,433 physical addresses in the Campus Watch boundaries was provided by the Department of Surveying, University of Otago. Using a combination of automated and manual checking, the database was expanded to include individual flats that had been combined in the original address database, resulting in 4,260 physical addresses. Student
addresses (as provided for the North Dunedin student sample) were removed from the
database, leaving 2,615 physical addresses in 2008 and 2,467 in 2009. A subsequent manual
check to remove any addresses outside the Campus Watch boundaries left 1,351 unique non-
student physical addresses in 2008 and 1,187 in 2009. A random sample of 200 addresses for
each year was obtained using the “rand” command in Microsoft Excel. Each address in the
sample was manually searched for in the Dunedin City Council’s Online Ratings Database, a
publicly available database of all rateable properties in Dunedin. Addresses with a business
rating or identified as being vacant lots were removed from the sample and replaced with the
next address in the randomly selected replacement sample set. Approximately one in three of
the addresses in the sample was a valid residential address.

South Dunedin boundaries
The South Dunedin area included the suburbs of South Dunedin, St. Kilda and St. Clair. Its
boundaries were determined using an aerial photographic map of the area (Dunedin City
Council, 2008) and are shown in Figure 8, page 67. The area is confined by the Southern
Motorway to the north, a large commercial and industrial area to the east, the Pacific Ocean to
the south, and a steep slope to the west leading to other suburbs. These physical boundaries
correspond to South Road (north), Andersons Bay Road/Queens Drive (east), Victoria Road
(south), and Forbury Road (west). All physical addresses within and including these road
boundaries were included in the South Dunedin sampling area, covering an area of
approximately 30 square kilometres and nearly 10,000 residents (Statistics New Zealand,
2012b).

South Dunedin residents
A similar sampling method was used for South Dunedin as for the North Dunedin non-student
sample. A list of all 4,586 physical addresses within the South Dunedin sample boundary was
obtained from the Department of Surveying, University of Otago. Addresses with multiple
house numbers or suffixes were expanded, increasing the sample to 5,480 in both 2008 and
2009. A random sample of 200 addresses for each year was obtained using the “rand”
command in Microsoft Excel. The samples were checked against the Dunedin City Council
Online Ratings Database. Addresses with a business rating or identified as being vacant lots
were removed from the sample and replaced with the next address in the randomly selected
replacement sample set. Approximately 20% of the South Dunedin samples had non-
residential ratings.
6.2.3. Recruitment of participants

Participants were recruited using a drop-and-collect method, which has been shown in previous studies to yield higher response rates than a postal survey (Maclennan et al., 2012). This is most likely due to the interpersonal aspect of the recruitment. Research assistants were employed to assist with the recruitment of participants and delivery and collection of the surveys. The research assistants went to each sampled address and, using the selection method described above, verbally invited the selected individual to participate in the survey by completing the hand-delivered pen-and-paper questionnaire. A date and time were then arranged for the completed questionnaire to be collected. Alternatively, if the participant did not wish to be visited again, he or she was given the option to return it in the addressed, postage-paid envelope provided.

Research assistants worked in mixed-sex or female-only pairs, Sunday through Thursday evenings from 5pm-8pm. Participants were also recruited during the day, targeting in particular those addresses where no one had been home in the evenings. Following at least five unsuccessful visits, questionnaires were left in letterboxes with a personalised note, inviting the “person in the household whose birthday was coming up next/who had celebrated their birthday most recently” to complete the questionnaire and post it back or to ring and arrange a time for collection.

All people invited to participate were given a free pen, donated by the Alcohol Advisory Council of New Zealand (ALAC) for the purpose of the study. Token incentives have been found to slightly increase response rates (Dillman, 2000). Follow-up of non-responders and provision of replacement questionnaires also aimed to increase response rates of the survey.

North Dunedin student and non-student participants were recruited in May 2008 and May 2009, while South Dunedin participants were recruited in July 2008 and July 2009. The staggering of the North and South Dunedin groups was necessary due to the small number of research assistants, the large geographical areas being covered on foot, as well as other logistical aspects of the drop-and-collect method.

If participants had questions about the study, they could contact us by email, post, or using a toll-free 0800 telephone number provided on the questionnaire and information sheet.
6.2.4. Questionnaire and data collection

Data were collected using a 12-page, pen-and-paper, self-completed questionnaire including 30 questions in three sections, copies of which are included in Appendix C.

Section A included questions about residents’ perceptions of their community in order to measure community social capital, recent changes in the community, and experience and perceptions of problems occurring in the area.

Section B asked specifically about residents’ knowledge of Campus Watch, their familiarity with the programme, and their perceptions of Campus Watch and the impact it was having on the North Dunedin community. Questions relating to the effectiveness of Campus Watch were designed with reference to the purpose of Campus Watch, as it was described in interviews with the Director of Student Services, University of Otago (see Chapter 5).

Section C included questions about respondents’ demographics, including sex, ethnicity, household size and composition, reasons for residing in their community and intent to stay, study and employment status, community involvement, and affiliation with the University of Otago.

Data collection

Participants returned their completed questionnaires to the recruiters at a previously arranged time, or left their completed questionnaires in their letterboxes or other designated place for the recruiter to collect. Participants could also return their questionnaires in the supplied postage-paid envelope, although this option was only offered if participants did not want to be visited again, as it was found in the early days of recruitment that very few participants in North Dunedin actually posted back their questionnaires, even if they had said they would. When the recruiters returned to those addresses, they often found that the survey had been completed and was still waiting to be posted.

Data were entered into a Microsoft Excel spreadsheet by three research assistants experienced in data entry. Random checking of surveys was used to check accuracy, and double entry was used for the 2009 data entry to ensure accuracy.
6.2.5. Outcome measures and data analysis

Data from the 2009 community surveys were used in all analyses. The 2008 community surveys were used to measure changes in problem frequency and perceptions in North and South Dunedin between 2008 and 2009 (Aim 4: changes attributable to Campus Watch). The two North Dunedin samples (Student addresses and Non-student addresses) were combined, as the majority of respondents in the non-student address sample reported that they were students. All analyses comparing North Dunedin student and non-student respondents were therefore conducted based on self-reported student status.

Data were analysed using Stata IC 12.0 (StataCorp, 2011). Outcome measures are described below for each of the five aims of the surveys.

Aim 1. Characteristics of survey respondents
- General demographics
Age, sex, ethnicity, student status and type of study (full-time/part-time and type of institution), and employment status and hours worked were compared for North Dunedin student residents, non-student residents and South Dunedin residents.

- Household size and composition
Type of accommodation, mean household size and household composition (flatmates/partner/parents/children/other relatives/live alone) were compared for North Dunedin student residents, non-student residents and South Dunedin residents.

- Transience
The number of months/year that respondents had lived in North/South Dunedin was grouped into five categories: <6 months, 6 months – 1 year, >1-3 years, >3-5 years, >5 years. Respondents were also asked how long they intended to stay in North/South Dunedin, with the following response options available: Until I find another place to live; Until the end of the semester (North Dunedin only); Until the end of the year; Until I complete my course of study (North Dunedin only); This is my permanent home; Other.
Aim 2. Attraction of living in a heavy drinking environment

-Social capital and informal social controls
Respondents were asked to rate how strongly (on a five-point scale) they agreed with five statements relating to social capital adapted from Maclennan (2010) and Sampson et al. (1997). For measures of informal social control, respondents were asked about the likelihood (on a four-point scale, plus “I have no idea”) that someone would act in a series of 7 situations of anti-social behaviour or violence, also adapted from Maclennan, and Sampson et al.

Summary scores were calculated for the 5-item social capital question and for the 7-item informal social controls question. Scores were included if the respondent rated at least 4 of the 5 social capital items, or 5 of the 7 informal social control items; where not all items were rated, the imputed mean of the rated items was used.

The Cronbach’s alpha coefficient for the 5 items of the social capital measure was 0.68, which indicates moderately good internal consistency and makes it acceptable as a summary score (Nunnally, 1978). The Cronbach’s alpha coefficient for the 7 items of the informal social control measure was 0.78.

-Reasons for living in neighbourhood
Respondents were asked to rate on a 4-point scale how important a number of factors were in influencing their decision to live in their neighbourhood, ranging from “Very important” to “Not important at all”. Responses for each item are presented for North Dunedin student and non-student residents and for North Dunedin and South Dunedin residents separately.

Aim 3. Risks of living in a heavy drinking environment

-Perceptions and frequency of problems in the community
Respondents were asked to rate how big a problem they considered 15 issues to be in their community on a 4-point scale (Not a problem at all, Not a very big problem, A fairly big problem, A very big problem). Respondents were also asked to estimate how often they experienced the same 15 issues in their community. There were 6 frequency options, ranging from “Never” to “Nearly every day”. Student and non-student resident responses were compared, as were North Dunedin and South Dunedin responses, with p-values calculated using Wilcoxon rank-sums. P-values less than 0.05 were considered statistically significant, although significant p-values close to 0.05 were interpreted conservatively due to the large numbers of tests performed.
Summary scores were created for both the 15-item problem perception and problem frequency measures. Each problem perception item was scored from 0 (not a problem) to 3 (a very big problem) and problem frequency items were scored from 0 (never) to 5 (nearly every day). A score was included if the respondent rated at least 12 of the 15 items; where not all 15 items were rated, the imputed mean of the rated items was used. Differences between student and non-student North Dunedin residents and between North and South Dunedin residents were measured using two-sample t-tests. P-values less than 0.05 were considered statistically significant.

The Cronbach’s alpha for the 15 problem perception items was 0.89 and for the problem frequency items was 0.80, indicating good internal consistency and making them acceptable as summary scores.

**Aim 4. Changes in risk attributable to Campus Watch**

*Perceptions and frequency of problems in the community*

Changes in problem perception and in problem frequency for each of the 15 problems were measured between 2008 and 2009 by comparing Wilcoxon rank sums between years for North Dunedin and South Dunedin respondents. Changes in summary perception and frequency scores were also compared between 2008 and 2009 for the two communities using two-sample t-tests. P-values less than 0.05 were considered statistically significant for the t-tests.

**Aim 5. Experience with Campus Watch**

*Campus Watch visibility*

Respondents were asked a number of questions to measure the visibility of Campus Watch. The first question asked how the respondent had first heard about Campus Watch. The response options were: “I was involved in its development”, “I read about it in the newspaper”, “I heard about it when I was living in a hall of residence”, “I saw Campus Watch staff around the university campus”, “I met Campus Watch staff personally in the neighbourhood”, “I didn’t know anything about Campus Watch staff until this survey”, and “Other (free-text)”.

Respondents were also asked about the frequency with which they saw or encountered Campus Watch in the neighbourhood, with the following response options: “At least once per
day”, “Every weekend”, “More than three times per week”, “Weekly”, “One to three times per month”, “Monthly or less than monthly”, or “I have never seen them in my neighbourhood”. The category “Every weekend” was included to determine whether Campus Watch was more visible in the neighbourhood during the weekend, compared with during the week.

Campus Watch effectiveness
Respondents were presented with a series of nine statements about Campus Watch and were asked to select the statements that best reflected their general opinion about the programme.

Respondents were asked to rate the effectiveness of Campus Watch at addressing specific community issues, using a four-point effectiveness scale with an additional response option of “I have no idea”. Respondents were asked to rate the following things: helping students who are new at flatting, keeping parties under control, helping business owners in the area, keeping an eye out for suspicious-looking people, walking people home late at night, referring problems to the Proctor, getting the police involved where necessary, preventing things from getting out of hand by stopping them earlier rather than later, listening to people’s complaints, helping neighbours resolve problems amongst themselves, helping students resolve problems with neighbours (and vice versa), keeping the neighbourhood tidy. Respondents could also add other specific issues to the list and rate the effectiveness of these. Responses were combined for analysis into three categories: effective (“very effective” and “somewhat effective”), not effective (“not very effective” and “not effective at all”) and don’t know (“I have no idea”).

6.2.6. Ethical considerations

Ethical approval to conduct the surveys was obtained from the University of Otago Human Ethics Committee (ref. 08/001, attached in Appendix D). Questionnaires were securely stored in a locked University office. Each questionnaire had a unique ID number that was only linked to the physical address of the participant on one password-protected database on the author’s password-protected computer. The dataset with responses included the unique ID code, but no other identifying information (including physical address). When data entry was performed on another computer, only the dataset with unique ID codes was given and those employed for data entry did not have access to the database linking ID codes with the physical addresses of the respondents.
6.3. Results

6.3.1. Response rates

Survey response rates are presented in Table 8. For North Dunedin respondents, the overall response rate was 71.2% in 2008 and 64.7% in 2009. The student address sample had higher response rates in both years compared to the non-student address sample. 62.5% of the ‘non-student’ address sample identified themselves as students in 2008, and 48.4% did so in 2009. All analyses were therefore conducted based on self-reported student status for North Dunedin. In the combined North Dunedin sample, 80% of respondents were students in the 2008 survey and 78.1% were students in 2009.

The response rate for South Dunedin was considerably lower than for North Dunedin, with only 98 people (53%) completing questionnaires in 2009 and 92 people completing questionnaires in 2009 (50%).

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td>N (%)</td>
</tr>
<tr>
<td><strong>North Dunedin</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student addresses</td>
<td>152 (76.3)</td>
<td>139 (76.4)</td>
</tr>
<tr>
<td>Non-student addresses</td>
<td>123 (65.8)</td>
<td>94 (52.6)</td>
</tr>
<tr>
<td><strong>South Dunedin</strong></td>
<td>98 (53.0)</td>
<td>92 (50.0)</td>
</tr>
</tbody>
</table>
6.3.2. Aim 1: Demographic characteristics of North and South Dunedin residents

**Demographics**

In North Dunedin, student respondents were younger and more ethnically diverse than their non-student counterparts (Table 9). The median age of the students was 20 years, compared to 54 years in the non-students sample. Just over three-quarters of the students identified as NZ European, and a further 18.7% identified as Asian. Among non-students, four-fifths identified as NZ European, with another 7.8% identifying as Asian. A larger proportion of non-students identified as Pacific Islanders (5.9% compared to 2.2% of students). Just over 7% of both student and non-student residents were NZ Maori.

Nearly all students were full-time university students, with fewer than 5% of students enrolled part-time and only 7% of students enrolled at a polytechnic institution (another type of tertiary education institution). The median year of study was 3. Most students (88%) also worked, either for wage or salary. About one-third of students were employed full-time. Students worked fewer hours than non-student residents, with a median of 10 hours per week compared to 40 hours for non-student residents. Over half of non-student residents were employed full-time, with over 90% working for wages or salary.

The median age of South Dunedin respondents was 49, 82.3% were NZ European and 69.6% were female. Nearly all respondents were earning wages or salary, with over half employed full-time. A small proportion of South Dunedin residents were engaged in study (8.9%).
Table 9. Age, sex, ethnicity, type of study and type of employment for North Dunedin students, non-students and South Dunedin residents

<table>
<thead>
<tr>
<th></th>
<th>North Dunedin</th>
<th>South Dunedin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students (N=182)</td>
<td>Non-students (N=51)</td>
</tr>
<tr>
<td><strong>Age – median</strong></td>
<td>20</td>
<td>54</td>
</tr>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>55.5</td>
<td>52.9</td>
</tr>
<tr>
<td><strong>Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NZ European</td>
<td>75.8</td>
<td>80.4</td>
</tr>
<tr>
<td>NZ Maori</td>
<td>7.1</td>
<td>7.8</td>
</tr>
<tr>
<td>Asian</td>
<td>18.7</td>
<td>7.8</td>
</tr>
<tr>
<td>Pacific Islander</td>
<td>2.2</td>
<td>5.9</td>
</tr>
<tr>
<td>Other</td>
<td>2.8</td>
<td>0</td>
</tr>
<tr>
<td><strong>Study - any</strong></td>
<td>100.0</td>
<td>-</td>
</tr>
<tr>
<td>Full-time</td>
<td>95.6</td>
<td>-</td>
</tr>
<tr>
<td>Part-time</td>
<td>4.6</td>
<td>-</td>
</tr>
<tr>
<td>University</td>
<td>92.4</td>
<td>-</td>
</tr>
<tr>
<td>Polytech</td>
<td>7.1</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>0.5</td>
<td>-</td>
</tr>
<tr>
<td>year of study (median)</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td><strong>Waged</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>33.5</td>
<td>56.9</td>
</tr>
<tr>
<td>hours/week (median)</td>
<td>10</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>88.0</td>
<td>91.4</td>
</tr>
</tbody>
</table>
**Living arrangements: home ownership, household size, and composition**

Table 10 describes the housing characteristics of the respondents. Nearly all North Dunedin students lived in rented accommodation with flatmates (co-tenants). Fewer than 10% reported living with a partner. In contrast, 43% of non-student residents in North Dunedin owned their home. They lived with fewer people, with about 40% living on their own. Close to one-third lived with a partner, 23.5% lived with flatmates and only a small proportion (3.9%) lived with children.

South Dunedin respondents were more likely to be living in their own home (57.1%). Mean household size was 2.1, with 38.4% of respondents indicating that they lived with a partner and 31.9% indicating that there were children in the household. Just over one-quarter of South Dunedin respondents lived on their own.

Table 10. Housing type, household size and composition for North Dunedin student and non-students and South Dunedin residents

<table>
<thead>
<tr>
<th></th>
<th>North Dunedin Students (N=182)</th>
<th>South Dunedin Non-students (N=51)</th>
<th>South Dunedin (N=94)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accommodation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Own home</td>
<td>1.7</td>
<td>43.1</td>
<td>57.1</td>
</tr>
<tr>
<td>Renting</td>
<td>93.4</td>
<td>54.9</td>
<td>35.2</td>
</tr>
<tr>
<td>Boarding</td>
<td>1.2</td>
<td>0</td>
<td>4.4</td>
</tr>
<tr>
<td>Studio accommodation</td>
<td>2.2</td>
<td>0</td>
<td>2.2</td>
</tr>
<tr>
<td>Other</td>
<td>1.7</td>
<td>2.0</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Household size – mean (SD)</strong></td>
<td>4.5 (1.8)</td>
<td>2.2 (1.6)</td>
<td>2.1 (1.2)</td>
</tr>
<tr>
<td><strong>Household composition</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>flatmates</td>
<td>89.0</td>
<td>23.5</td>
<td>7.7</td>
</tr>
<tr>
<td>partner</td>
<td>9.4</td>
<td>31.4</td>
<td>38.4</td>
</tr>
<tr>
<td>parents</td>
<td>0</td>
<td>2.0</td>
<td>6.7</td>
</tr>
<tr>
<td>children</td>
<td>2.2</td>
<td>3.9</td>
<td>31.9</td>
</tr>
<tr>
<td>other relatives</td>
<td>1.1</td>
<td>2.0</td>
<td>6.6</td>
</tr>
<tr>
<td>Live on own (%)</td>
<td>0.6</td>
<td>39.2</td>
<td>27.5</td>
</tr>
</tbody>
</table>
Transience: duration of residence, intent to stay

Over three-quarters of student residents in North Dunedin had lived in the area for three years or less, with one-fifth having lived in the area for fewer than 6 months (Table 11). The majority of non-student residents in the area had lived there for more than 5 years, with a further 20% having arrived in the last 1-3 years.

Close to half of North Dunedin non-student respondents considered the area to be their permanent home, while 57.1% of student respondents intended to stay in North Dunedin only until they had completed their course of study and a further 24.7% planned to stay only until the end of the year.

South Dunedin respondents were similar to North Dunedin non-students, with close to half reporting that they had lived in the area for more than 5 years and a similar proportion indicating that they considered the area to be their permanent residence. One-third of respondents did not how long they would remain in South Dunedin.

Table 11. Duration of residence and intent to stay, for North Dunedin students and non-students and South Dunedin residents

<table>
<thead>
<tr>
<th>Duration of residence</th>
<th>North Dunedin Students (N=182)</th>
<th>North Dunedin Non-students (N=51)</th>
<th>South Dunedin (N=94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 6 months</td>
<td>20.1</td>
<td>2.0</td>
<td>8.3</td>
</tr>
<tr>
<td>6 months – 1 year</td>
<td>4.4</td>
<td>5.9</td>
<td>9.4</td>
</tr>
<tr>
<td>&gt;1 to 3 years</td>
<td>52.2</td>
<td>29.4</td>
<td>21.9</td>
</tr>
<tr>
<td>&gt;3 to 5 years</td>
<td>14.8</td>
<td>9.8</td>
<td>12.5</td>
</tr>
<tr>
<td>More than 5 years</td>
<td>7.7</td>
<td>52.9</td>
<td>47.9</td>
</tr>
<tr>
<td><strong>Median years (range)</strong></td>
<td><strong>2 (&lt;1, 44)</strong></td>
<td><strong>6 (&lt;1, 60)</strong></td>
<td><strong>4 (&lt;1, 80)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intent to stay</th>
<th>North Dunedin Students (N=182)</th>
<th>North Dunedin Non-students (N=51)</th>
<th>South Dunedin (N=94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Until I find another place to live</td>
<td>2.2</td>
<td>9.8</td>
<td>6.7</td>
</tr>
<tr>
<td>Until the end of the semester</td>
<td>5.0</td>
<td>3.9</td>
<td>-</td>
</tr>
<tr>
<td>Until the end of the year</td>
<td>24.7</td>
<td>7.8</td>
<td>6.7</td>
</tr>
<tr>
<td>Until I complete my course of study</td>
<td>57.1</td>
<td>5.9</td>
<td>-</td>
</tr>
<tr>
<td>This is my permanent home</td>
<td>1.0</td>
<td>47.1</td>
<td>47.8</td>
</tr>
<tr>
<td>I don’t know</td>
<td>10.4</td>
<td>25.5</td>
<td>33.3</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>-</td>
<td>5.5</td>
</tr>
</tbody>
</table>
6.3.3. Aim 2: Attraction of living in a heavy drinking environment

**Social capital**

Table 12 shows that the majority of respondents in North Dunedin felt that residents were trustworthy and helpful. Students were more likely to agree that people were willing to help one another and were also more likely to disagree that people did not get along with each other. Despite these relatively high levels of trust, 38.9% of students and 32.6% of non-students agreed that someone would be verbally abusive if another person complained about their behaviour, and a further 11.1% of students and 15.2% of non-students agreed that someone might be physically abusive.

**Table 12.** Perceived levels of social capital measures for North Dunedin students and non-students

<table>
<thead>
<tr>
<th></th>
<th>Students</th>
<th>Non-students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly agree/Agree</td>
<td>Neither agree nor disagree</td>
</tr>
<tr>
<td>People can be trusted in this community</td>
<td>52.8 % 32.8 % 14.4 %</td>
<td>52.1 % 29.2 % 18.8 %</td>
</tr>
<tr>
<td>People are willing to help one another</td>
<td>70.2 % 24.9 % 5.0 %</td>
<td>60.4 % 25.0 % 14.6 %</td>
</tr>
<tr>
<td>People generally don’t get along with each other</td>
<td>7.3 % 14.5 % 78.2 %</td>
<td>6.4 % 29.8 % 63.8 %</td>
</tr>
<tr>
<td>A person would yell or swear at someone who complained about their behaviour</td>
<td>38.9 % 39.4 % 21.7 %</td>
<td>32.6 % 52.2 % 15.2 %</td>
</tr>
<tr>
<td>A person would push or hit someone who complained about their behaviour</td>
<td>11.1 % 32.6 % 56.4 %</td>
<td>15.2 % 34.8 % 50.0 %</td>
</tr>
</tbody>
</table>

**Median indicated in bold**
As presented in Table 13, South Dunedin respondents had similar opinions of trust and willingness to help in their community, although they were less likely to disagree with the statement “People generally don’t get along with each other”. A larger proportion of South Dunedin residents disagreed that someone would be verbally abusive if another person complained about their behaviour.

Table 13. Perceived levels of social capital for North Dunedin and South Dunedin respondents

<table>
<thead>
<tr>
<th></th>
<th>North Dunedin</th>
<th>South Dunedin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strongly agree/</td>
<td>Neither agree nor</td>
</tr>
<tr>
<td>People can be trusted in this community</td>
<td>Strongly agree/</td>
<td>Neither agree nor</td>
</tr>
<tr>
<td></td>
<td>Agree %</td>
<td>%</td>
</tr>
<tr>
<td>People can be trusted in this community</td>
<td><strong>53.6</strong></td>
<td>31.5</td>
</tr>
<tr>
<td>People are willing to help one another</td>
<td><strong>67.8</strong></td>
<td>25.0</td>
</tr>
<tr>
<td>People generally don’t get along with each other</td>
<td>7.3</td>
<td>18.5</td>
</tr>
<tr>
<td>A person would yell or swear at someone who complained about their behaviour</td>
<td>37.8</td>
<td><strong>41.2</strong></td>
</tr>
<tr>
<td>A person would push or hit someone who complained about their behaviour</td>
<td>12.0</td>
<td>32.5</td>
</tr>
</tbody>
</table>

Median indicated in bold

Differences in mean social capital scores between students and non-students in North Dunedin and between North and South Dunedin residents were small and non-significant (Table 14).

Table 14. Comparisons of mean social capital scores for North Dunedin students and non-students, and for North and South Dunedin residents

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>(95%CI)</th>
<th>t-value</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>17.3</td>
<td>(16.9, 17.6)</td>
<td>0.86</td>
<td>0.393</td>
</tr>
<tr>
<td>Non-students</td>
<td>16.9</td>
<td>(15.9, 17.8)</td>
<td>0.86</td>
<td>0.393</td>
</tr>
<tr>
<td><strong>Neighbourhood</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Dunedin</td>
<td>17.2</td>
<td>(16.9, 17.5)</td>
<td>0.21</td>
<td>0.838</td>
</tr>
<tr>
<td>South Dunedin</td>
<td>17.1</td>
<td>(16.4, 17.9)</td>
<td>0.21</td>
<td>0.838</td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means
Informal social controls

In North Dunedin, non-student residents were more likely than student residents to believe that someone would take action if an individual or group were engaging in anti-social or abusive behaviours (Table 15). Both students and non-students felt that someone was most likely to take action if someone was being assaulted, while action regarding less serious behaviours, such as a drunk person behaving badly or a party with loud music, was less likely, particularly among student respondents. Over one-quarter of students and one-fifth of non-students were uncertain as to whether action would be taken if a person were thought to be a victim of domestic violence.

Table 15. Perceived levels of informal social control for North Dunedin students and non-students

<table>
<thead>
<tr>
<th>How likely is it that people in the neighbourhood would do something if the following were occurring?</th>
<th>Students</th>
<th>Non-students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Likely</td>
<td>Unlikely</td>
</tr>
<tr>
<td>An individual or group were vandalising property</td>
<td>54.5%</td>
<td>35.4%</td>
</tr>
<tr>
<td>Someone was being assaulted</td>
<td>79.9%</td>
<td>14.5%</td>
</tr>
<tr>
<td>A fight broke out</td>
<td>61.5%</td>
<td>31.3%</td>
</tr>
<tr>
<td>A drunk person was behaving badly</td>
<td>39.1%</td>
<td>55.9%</td>
</tr>
<tr>
<td>A person was thought to be the victim of domestic violence</td>
<td>49.4%</td>
<td>25.0%</td>
</tr>
<tr>
<td>There was a party where drunken people were causing trouble</td>
<td>50.6%</td>
<td>45.6%</td>
</tr>
<tr>
<td>There was a party where the music was too loud</td>
<td>36.1%</td>
<td>61.1%</td>
</tr>
</tbody>
</table>

Most frequent response indicated in bold
Table 16 compares informal social control measures of North and South Dunedin residents. South Dunedin respondents reported higher levels of informal social control compared to North Dunedin residents. As in North Dunedin, action was more likely for more serious instances of anti-social behaviour (i.e. assault, vandalism) than for less serious ones (i.e. a drunk person behaving badly, a party with loud music). South Dunedin residents also expressed greater uncertainty about whether someone would take action if a person was thought to be the victim of domestic violence, with 16.9% of respondents saying they did not know if someone would act and only 67.4% saying it was likely that someone would act.

Table 16. Perceived levels of informal social control for North and South Dunedin residents

<table>
<thead>
<tr>
<th>How likely is it that people in the neighbourhood would do something if the following were occurring?</th>
<th>North Dunedin</th>
<th>South Dunedin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Likely</td>
<td>Unlikely</td>
</tr>
<tr>
<td>An individual or group were vandalising property</td>
<td>58.2</td>
<td>31.2</td>
</tr>
<tr>
<td>Someone was being assaulted</td>
<td>81.1</td>
<td>12.6</td>
</tr>
<tr>
<td>A fight broke out</td>
<td>63.3</td>
<td>29.1</td>
</tr>
<tr>
<td>A drunk person was behaving badly</td>
<td>42.9</td>
<td>52.1</td>
</tr>
<tr>
<td>A person was thought to be the victim of domestic violence</td>
<td>50.8</td>
<td>24.8</td>
</tr>
<tr>
<td>There was a party where drunken people were causing trouble</td>
<td>54.4</td>
<td>40.6</td>
</tr>
<tr>
<td>There was a party where the music was too loud</td>
<td>39.8</td>
<td>56.9</td>
</tr>
</tbody>
</table>

Most frequent response indicated in bold

Summary scores of informal social control, presented in Table 17, show that non-student residents in North Dunedin had higher mean scores than student residents and that the difference was statistically significant. South Dunedin residents also had significantly higher mean informal social control scores than North Dunedin residents.

Table 17. Comparisons of mean informal social control scores for North Dunedin students and non-students, and for North and South Dunedin residents

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>(95%CI)</th>
<th>t-value</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>18.5</td>
<td>(18.0, 19.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-students</td>
<td>20.5</td>
<td>(19.4, 21.7)</td>
<td>-3.37</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Neighbourhood</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Dunedin</td>
<td>19.0</td>
<td>(18.5, 19.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Dunedin</td>
<td>22.4</td>
<td>(21.5, 23.2)</td>
<td>-6.93</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means
**Reasons for living in the area**

The most important reason for students to choose to live in North Dunedin was its proximity to the University, with over 80% stating that this was “very important” to them (Table 18). This proximity to the University was also important to non-student residents, with nearly three-quarters stating that this was either “very important” or “somewhat important”. Both students and non-students also felt that the area’s proximity to the town centre and to other shops and amenities attracted them to the area. Affordability of rent/property were also important factors for both students and non-students, with over 80% of students and 70% of non-students agreeing that this was “very” or “somewhat” important to them. Student residents were also attracted to the area because they had friends living there and because of the social scene, while over half of non-student residents did not find these factors important. Proximity to workplace was only an important factor for non-student residents. The good reputation of the neighbourhood was not a particularly important factor for non-student residents, although it was for students.

Nearly half of South Dunedin residents stated that affordability was a “very important” factor in their decision to live in the area and a further one-quarter stated this was “somewhat important” (Table 19). Proximity to shops and other amenities and to the town centre were also important to South Dunedin residents, although less so than for North Dunedin residents. Proximity to good schools and to workplaces was more important for South Dunedin residents than for North Dunedin residents, even if less than half of respondents felt this was an important reason for living in the area. Most South Dunedin residents did not find that friends living in the area, the social scene, or the reputation were particularly important factors for deciding to live in the area.
### Table 18. Importance of various factors in student and non-student residents' decision to live in North Dunedin

<table>
<thead>
<tr>
<th>How important were the following in your decision to live in the area?</th>
<th>Students</th>
<th></th>
<th></th>
<th></th>
<th>Non-students</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very important (%)</td>
<td>Somewhat important (%)</td>
<td>Not particularly important (%)</td>
<td>Not important at all (%)</td>
<td>Very important (%)</td>
<td>Somewhat important (%)</td>
<td>Not particularly important (%)</td>
<td>Not important at all (%)</td>
</tr>
<tr>
<td>Proximity to workplace</td>
<td>29.2</td>
<td>15.8</td>
<td>9.4</td>
<td>45.6</td>
<td>47.6</td>
<td>16.7</td>
<td>14.3</td>
<td>21.4</td>
</tr>
<tr>
<td>Proximity to university/polytech</td>
<td>83.2</td>
<td>13.5</td>
<td>2.3</td>
<td>1.1</td>
<td>46.7</td>
<td>26.7</td>
<td>6.7</td>
<td>20.0</td>
</tr>
<tr>
<td>Proximity to town centre</td>
<td>42.1</td>
<td>42.6</td>
<td>12.5</td>
<td>2.8</td>
<td>54.4</td>
<td>26.1</td>
<td>15.2</td>
<td>4.4</td>
</tr>
<tr>
<td>Proximity to good schools</td>
<td>3.5</td>
<td>2.9</td>
<td>5.8</td>
<td>87.9</td>
<td>14.6</td>
<td>9.8</td>
<td>14.6</td>
<td>61.0</td>
</tr>
<tr>
<td>Affordability of rent/property</td>
<td>45.8</td>
<td>35.6</td>
<td>9.0</td>
<td>9.6</td>
<td>40.5</td>
<td>31.0</td>
<td>7.1</td>
<td>21.4</td>
</tr>
<tr>
<td>Proximity to shops/other amenities</td>
<td>33.2</td>
<td>47.8</td>
<td>12.9</td>
<td>6.2</td>
<td>50.0</td>
<td>37.0</td>
<td>2.2</td>
<td>10.9</td>
</tr>
<tr>
<td>Friends living in area</td>
<td>25.4</td>
<td>48.0</td>
<td>15.8</td>
<td>10.7</td>
<td>25.0</td>
<td>15.9</td>
<td>22.7</td>
<td>36.4</td>
</tr>
<tr>
<td>Good social scene</td>
<td>33.2</td>
<td>34.3</td>
<td>21.9</td>
<td>10.7</td>
<td>20.5</td>
<td>22.7</td>
<td>25.0</td>
<td>31.8</td>
</tr>
<tr>
<td>Good reputation</td>
<td>26.0</td>
<td>28.8</td>
<td>24.9</td>
<td>20.3</td>
<td>16.7</td>
<td>21.4</td>
<td>26.2</td>
<td>35.7</td>
</tr>
</tbody>
</table>

Median indicated in bold

### Table 19. Importance of various factors in North and South Dunedin residents' decision to live in their neighbourhoods

<table>
<thead>
<tr>
<th>How important were the following in your decision to live in the area?</th>
<th>North Dunedin</th>
<th></th>
<th></th>
<th></th>
<th>South Dunedin</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very important (%)</td>
<td>Somewhat important (%)</td>
<td>Not particularly important (%)</td>
<td>Not important at all (%)</td>
<td>Very important (%)</td>
<td>Somewhat important (%)</td>
<td>Not particularly important (%)</td>
<td>Not important at all (%)</td>
</tr>
<tr>
<td>Proximity to workplace</td>
<td>32.6</td>
<td>15.8</td>
<td>10.2</td>
<td>41.4</td>
<td>23.5</td>
<td>25.9</td>
<td>27.2</td>
<td>23.5</td>
</tr>
<tr>
<td>Proximity to university/polytech</td>
<td>76.0</td>
<td>16.0</td>
<td>3.1</td>
<td>4.9</td>
<td>3.9</td>
<td>12.8</td>
<td>24.4</td>
<td>59.0</td>
</tr>
<tr>
<td>Proximity to town centre</td>
<td>45.1</td>
<td>38.8</td>
<td>13.0</td>
<td>3.1</td>
<td>17.7</td>
<td>39.2</td>
<td>29.1</td>
<td>13.9</td>
</tr>
<tr>
<td>Proximity to good schools</td>
<td>5.6</td>
<td>4.2</td>
<td>7.4</td>
<td>82.9</td>
<td>31.7</td>
<td>13.9</td>
<td>15.2</td>
<td>39.2</td>
</tr>
<tr>
<td>Affordability of rent/property</td>
<td>44.3</td>
<td>34.8</td>
<td>9.1</td>
<td>11.8</td>
<td>47.5</td>
<td>27.5</td>
<td>11.3</td>
<td>13.8</td>
</tr>
<tr>
<td>Proximity to shops/other amenities</td>
<td>36.7</td>
<td>45.6</td>
<td>10.6</td>
<td>7.1</td>
<td>35.7</td>
<td>38.1</td>
<td>15.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Friends living in area</td>
<td>26.3</td>
<td>41.1</td>
<td>17.0</td>
<td>15.6</td>
<td>14.6</td>
<td>20.7</td>
<td>24.4</td>
<td>40.2</td>
</tr>
<tr>
<td>Good social scene</td>
<td>31.3</td>
<td>31.7</td>
<td>22.3</td>
<td>14.7</td>
<td>6.4</td>
<td>14.1</td>
<td>33.3</td>
<td>46.2</td>
</tr>
<tr>
<td>Good reputation</td>
<td>24.4</td>
<td>27.6</td>
<td>24.9</td>
<td>23.1</td>
<td>13.8</td>
<td>35.0</td>
<td>20.0</td>
<td>31.3</td>
</tr>
</tbody>
</table>

Median indicated in bold
6.3.4. Aim 3: Real and perceived risks associated with living in a heavy drinking environment

Perceptions of problems

Figure 9 shows North Dunedin student and non-student perceptions of problems in their area. In North Dunedin, students and non-students were in agreement as to which problems were the most important in the area: rubbish, broken glass and problem drinking among young people. Among student residents, 39.4% felt that broken glass was a very big problem in the area, followed by rubbish (32.8%) and problem drinking among young people (20.1%). These figures were even higher for non-students for broken glass (43.5%), rubbish (37.5%) and problem drinking among young people (30.4%). Non-student residents were overall more likely to rate problems as “very big” or “fairly big”. In contrast, about 95% of all North Dunedin respondents did not think that security during the day was a problem in the area and about 60% also did not think night time safety was a problem.

Figure 9. Perceptions of community problems for North Dunedin students and non-students
A smaller proportion of South Dunedin residents felt that many social issues were big problems in their community compared to North Dunedin residents, with a few exceptions (Figure 10). Over half of South Dunedin residents felt that dangerous or reckless driving were a big problem in the area, compared with only 34.5% in North Dunedin. This was the most important problem for South Dunedin residents, with 30% stating that it was a “very big” problem. Other issues that were considered big problems in South Dunedin were broken glass (48.3%), rubbish (43.5%) and general insecurity walking around at night (39.1%). Problems considered to be more significant to South Dunedin residents compared to North Dunedin residents were: general insecurity walking around, both during the day and at night, dangerous/reckless driving, drink driving and problem drinking among adults (>25 years).

Figure 10. Perceptions of community problems for North and South Dunedin residents

Differences in mean problem perception scores between students and non-students in North Dunedin were small and non-significant (Table 20). South Dunedin residents had a lower mean problem perception score than North Dunedin residents, which was statistically significant.

Table 20. Comparisons of mean problem perception scores for North Dunedin students and non-students, and for North and South Dunedin residents

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>(95%CI)</th>
<th>t-value</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>19.1</td>
<td>(18.0, 20.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-students</td>
<td>19.9</td>
<td>(17.6, 22.2)</td>
<td>-0.59</td>
<td>0.558</td>
</tr>
<tr>
<td><strong>Neighbourhood</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Dunedin</td>
<td>19.4</td>
<td>(18.4, 20.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Dunedin</td>
<td>17.3</td>
<td>(15.1, 19.4)</td>
<td>2.04</td>
<td>0.042</td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means
Experience of problems

The most frequent problems encountered by student residents in North Dunedin were rubbish, broken glass, excessive noise, and problem drinking among young persons, which were all experienced at least weekly by over half of respondents (Figure 11). Within the problem frequencies summarized in the figure, close to one-third of students in North Dunedin reported seeing rubbish and broken glass nearly every day. Close to one-third and one-quarter of non-student residents reported seeing rubbish and broken glass, respectively, nearly every day, with over half reporting rubbish in the area at least 2-4 times per week, and over half reporting broken glass in the area at least weekly.

Figure 11. Problem frequency for North Dunedin students vs. non-students
Figure 12 compares problem frequency for North and South Dunedin residents. The most frequently experienced problem for South Dunedin respondents was dangerous or reckless driving, with 22% seeing it nearly every day and over half reporting it at least weekly. Median frequencies of experiencing problems were higher for North Dunedin residents than South Dunedin residents overall, particularly for excessive noise and problem drinking among young people. Despite this, 16.3% of South Dunedin residents reported feelings of general insecurity walking around at night nearly every day, compared with only 5.7% of North Dunedin residents.

As shown in Table 21, median frequencies of experiencing excessive noise, wilful damage to property and petty theft were higher for students, while dangerous/reckless driving and drink driving were higher for non-students. Students experienced significantly more excessive noise and problem drinking among young persons than non-students. North Dunedin residents experienced nine out of the fifteen problems significantly more often than South Dunedin residents. South Dunedin residents saw significantly more dangerous/reckless driving and reported more frequently feeling insecure walking around during the day.
Table 21. Median frequencies of experiencing problems for North Dunedin students and non-students, and for North and South Dunedin residents, including p-values for the frequency differences between the groups (using Wilcoxon rank-sum)

<table>
<thead>
<tr>
<th>Problem</th>
<th>North Dunedin</th>
<th>Neighbourhood</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students</td>
<td>Non-students</td>
</tr>
<tr>
<td></td>
<td>Median frequency</td>
<td>Median frequency</td>
</tr>
<tr>
<td>Excessive noise</td>
<td>Weekly</td>
<td>Monthly</td>
</tr>
<tr>
<td>Wilful damage to property</td>
<td>Monthly</td>
<td>&lt;Monthly</td>
</tr>
<tr>
<td>Rubbish</td>
<td>Weekly</td>
<td>Weekly</td>
</tr>
<tr>
<td>Petty theft</td>
<td>&lt; Monthly</td>
<td>Never</td>
</tr>
<tr>
<td>Burglaries/break-ins</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>Broken glass</td>
<td>Weekly</td>
<td>Weekly</td>
</tr>
<tr>
<td>Intentional fires</td>
<td>&lt; Monthly</td>
<td>&lt; Monthly</td>
</tr>
<tr>
<td>Dangerous/reckless driving</td>
<td>&lt; Monthly</td>
<td>Monthly</td>
</tr>
<tr>
<td>Drink driving</td>
<td>Never</td>
<td>&lt; Monthly</td>
</tr>
<tr>
<td>Problem drinking among persons aged 25 or older</td>
<td>&lt; Monthly</td>
<td>&lt; Monthly</td>
</tr>
<tr>
<td>Problem drinking among persons aged less than 25</td>
<td>Weekly</td>
<td>Weekly</td>
</tr>
<tr>
<td>Physical assault</td>
<td>&lt; Monthly</td>
<td>Never</td>
</tr>
<tr>
<td>Sexual assault</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>Feeling of general insecurity walking around during the day</td>
<td>Never</td>
<td>Never</td>
</tr>
<tr>
<td>Feeling of general insecurity walking around at night</td>
<td>&lt; Monthly</td>
<td>&lt; Monthly</td>
</tr>
</tbody>
</table>
Differences in mean problem frequency scores between students and non-students in North Dunedin were small and non-significant (Table 22). The mean score for South Dunedin residents was significantly lower than that for North Dunedin residents.

Table 22. Comparison of mean problem frequency scores for North and South Dunedin residents

<table>
<thead>
<tr>
<th></th>
<th>Mean (95%CI)</th>
<th>t-value</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>22.9 (21.5, 24.3)</td>
<td>-0.11</td>
<td>0.914</td>
</tr>
<tr>
<td>Non-students</td>
<td>23.0 (23.0, 25.8)</td>
<td>-0.11</td>
<td>0.914</td>
</tr>
<tr>
<td><strong>Neighbourhood</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Dunedin</td>
<td>23.0 (21.8, 24.2)</td>
<td>5.89</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>South Dunedin</td>
<td>15.9 (13.7, 18.0)</td>
<td>5.89</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means
*Expectations of problems*

North Dunedin respondents were presented with a series of statements about students and disorder in the neighbourhood. The majority of both student and non-student respondents agreed that most problems in the area were caused by students and by people living in the neighbourhood, rather than outsiders, and a larger proportion felt that students were easy to blame for the problems occurring in North Dunedin (Table 23). Despite these opinions, 80.1% of student respondents and 70.6% of non-student respondents felt that most students in the area were respectful and that only a few caused problems.

The majority of North Dunedin student residents agreed that drunkenness and disorder were normal behaviours for tertiary students and over a quarter felt that residents were attracted to the neighbourhood for its disorderly lifestyle. Although close to 40% of non-student residents also agreed that drunkenness and disorder were normal behaviours for tertiary students, they were more likely to agree that the University should intervene with student behaviour problems off campus.

| Table 23. Levels of agreement regarding students and community problems in North Dunedin, for student and non-student residents |
|-------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
|                                                   | **North Dunedin**                                                                                   |                                                   |
|                                                   | **Students**                                                                                         | **Non-students**                                  |
|                                                   | Strongly agree/ Neither agree nor Disagree/ Strongly disagree | Strongly agree/ Neither agree nor Disagree/ Strongly disagree |
|bjbjbjbjbjb| % | % | % | % | % | % | % |
| Most of the problems in North Dunedin are caused by students | 71.8 | 25.4 | 2.8 | 66.7 | 29.4 | 3.9 |
| It is easy to blame students for the problems in North Dunedin | 89.5 | 9.4 | 1.1 | 77.1 | 20.8 | 2.1 |
| Most people who cause problems in North Dunedin are living in the area (year-round or during term time) | 59.6 | 38.8 | 1.7 | 53.1 | 46.9 | 0 |
| Most people who cause problems are people who don’t live in the area and see the neighbourhood as an easy target | 25.0 | 71.1 | 3.9 | 21.3 | 74.5 | 4.3 |
| Most students in the area are respectful of their neighbours and their property; it is only a few who cause problems | 80.1 | 18.2 | 1.7 | 70.6 | 29.4 | 0 |
| The people who choose to live in the area do so because they want to have a wild and disorderly lifestyle | 28.2 | 59.7 | 12.2 | 19.6 | 58.8 | 21.6 |
| Getting drunk and acting a bit disorderly is fun and it is normal to do it while at university/polytech | 63.0 | 27.6 | 9.4 | 39.2 | 47.1 | 13.7 |
| The university is right to get involved when students misbehave off campus | 46.4 | 39.8 | 13.8 | 72.0 | 22.0 | 6.0 |

**Median indicated in bold**
6.3.5. Aim 4: Changes in risks between 2008 and 2009

Changes in perception

There were non-significant decreases for the majority of problems in North Dunedin between 2008 and 2009, and non-significant increases for perceptions of nearly all problems in South Dunedin between 2008 and 2009 (Table 24). There was a statistically significant increase in perception of insecurity walking around during the day in South Dunedin. As shown in Table 25, changes in mean problem perception scores from 2008 to 2009 were small in North Dunedin and non-significant in both North and South Dunedin, despite an increase in scores in South Dunedin.

Table 24. Changes in problem perception between 2008 and 2009, for North and South Dunedin residents, tested using the Wilcoxon rank sums (Mann-Whitney) test

<table>
<thead>
<tr>
<th>Problem</th>
<th>North Dunedin</th>
<th>South Dunedin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive noise</td>
<td>Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>Wilful damage to property</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Rubbish</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Petty theft</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Burglaries/break-ins</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Broken glass</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Intentional fires</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Dangerous/reckless driving</td>
<td>Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>Drink driving</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>Problem drinking among persons aged 25 or older</td>
<td>Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>Problem drinking among persons aged less than 25</td>
<td>Increase</td>
<td>Increase</td>
</tr>
<tr>
<td>Physical assault</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Sexual assault</td>
<td>Increase</td>
<td>Decrease</td>
</tr>
<tr>
<td>Feeling of general insecurity walking around during the day</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
<tr>
<td>Feeling of general insecurity walking around at night</td>
<td>Decrease</td>
<td>Increase</td>
</tr>
</tbody>
</table>

Table 25. Comparisons of mean problem perception scores from 2008 to 2009 for North and South Dunedin residents

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>(95%CI)</th>
<th>t-value</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>19.8</td>
<td>(18.8, 20.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>19.4</td>
<td>(18.4, 20.3)</td>
<td>0.56</td>
<td>0.577</td>
</tr>
<tr>
<td><strong>South Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>15.6</td>
<td>(13.9, 17.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>17.3</td>
<td>(15.1, 19.4)</td>
<td>-1.13</td>
<td>0.260</td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means
Changes in problem frequency

Between 2008 and 2009, there were statistically significant decreases in the frequency of experiencing wilful damage to property, rubbish, intentional fires, and general insecurity walking around during the day in North Dunedin (Table 26). There was a statistically significant increase in frequency of general insecurity walking around during the day in South Dunedin between 2008 and 2009. As shown in Table 27, in North Dunedin the decrease in summary scores for problem frequency between 2008 and 2009 was important but not statistically significant, while in South Dunedin, the decrease was smaller and non-significant.

Table 26. Changes in problem frequency from 2008 to 2009, for North and South Dunedin residents, tested using the Wilcoxon rank sum (Mann-Whitney) test

<table>
<thead>
<tr>
<th>Problem</th>
<th>North Dunedin</th>
<th>South Dunedin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direction</td>
<td>p-value</td>
</tr>
<tr>
<td>Excessive noise</td>
<td>Decrease</td>
<td>0.988</td>
</tr>
<tr>
<td>Wilful damage to property</td>
<td>Decrease</td>
<td>0.030</td>
</tr>
<tr>
<td>Rubbish</td>
<td>Decrease</td>
<td>0.003</td>
</tr>
<tr>
<td>Petty theft</td>
<td>Decrease</td>
<td>0.111</td>
</tr>
<tr>
<td>Burglaries/break-ins</td>
<td>Decrease</td>
<td>0.128</td>
</tr>
<tr>
<td>Broken glass</td>
<td>Decrease</td>
<td>0.101</td>
</tr>
<tr>
<td>Intentional fires</td>
<td>Decrease</td>
<td>0.032</td>
</tr>
<tr>
<td>Dangerous/reckless driving</td>
<td>Increase</td>
<td>0.826</td>
</tr>
<tr>
<td>Drink driving</td>
<td>Increase</td>
<td>0.523</td>
</tr>
<tr>
<td>Problem drinking among persons aged 25 or older</td>
<td>Decrease</td>
<td>0.688</td>
</tr>
<tr>
<td>Problem drinking among persons aged less than 25</td>
<td>Increase</td>
<td>0.948</td>
</tr>
<tr>
<td>Physical assault</td>
<td>Decrease</td>
<td>0.577</td>
</tr>
<tr>
<td>Sexual assault</td>
<td>Decrease</td>
<td>0.238</td>
</tr>
<tr>
<td>Feeling of general insecurity walking around during the day</td>
<td>Decrease</td>
<td>0.040</td>
</tr>
<tr>
<td>Feeling of general insecurity walking around at night</td>
<td>Decrease</td>
<td>0.218</td>
</tr>
</tbody>
</table>

Table 27. Comparisons of mean problem frequency scores from 2008 to 2009, for North and South Dunedin residents

<table>
<thead>
<tr>
<th></th>
<th>North Dunedin</th>
<th>South Dunedin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (95%CI)</td>
<td>t-value</td>
</tr>
<tr>
<td>North Dunedin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>24.5 (23.3, 25.7)</td>
<td>1.70</td>
</tr>
<tr>
<td>2009</td>
<td>23.0 (21.8, 24.2)</td>
<td></td>
</tr>
<tr>
<td>South Dunedin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>16.5 (14.3, 18.7)</td>
<td>0.39</td>
</tr>
<tr>
<td>2009</td>
<td>15.9 (13.7, 18.0)</td>
<td></td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means
6.3.6. Aim 5: North Dunedin residents’ experience and perceptions of Campus Watch

Encounters with Campus Watch

North Dunedin residents’ knowledge of Campus Watch and frequency of seeing staff on patrol are described in Table 28. About two-thirds of student residents first found out about Campus Watch by seeing them patrolling on campus, and over a quarter heard about Campus Watch while in a hall of residence. Non-student residents were more likely to find out about Campus Watch from newspaper articles or by seeing them on the University campus.

Student residents frequently saw Campus Watch patrolling the area, with over half of respondents reporting that they saw them more than once per week and 23.1% seeing them on a daily basis. Non-student residents saw Campus Watch with less frequency than students, although one-fifth still reported seeing them every day. Over a quarter of non-student residents had never seen Campus Watch staff.

Table 28. Residents’ knowledge of and frequency of seeing Campus Watch, for North Dunedin students and non-students

<table>
<thead>
<tr>
<th></th>
<th>Students (n=182)</th>
<th>Non-Students (n=51)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Knowledge of Campus Watch</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Involved in development</td>
<td>0.0</td>
<td>3.9</td>
</tr>
<tr>
<td>Newspaper or student press</td>
<td>9.9</td>
<td>44.1</td>
</tr>
<tr>
<td>Heard about it in hall of residence</td>
<td>26.4</td>
<td>2.0</td>
</tr>
<tr>
<td>Saw on campus</td>
<td>67.0</td>
<td>43.1</td>
</tr>
<tr>
<td>Saw/Met off campus</td>
<td>16.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Heard from friends</td>
<td>1.1</td>
<td>6.8</td>
</tr>
<tr>
<td>Didn’t know about Campus Watch</td>
<td>0</td>
<td>2.0</td>
</tr>
<tr>
<td><strong>Frequency of seeing Campus Watch</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At least once per day</td>
<td>23.1</td>
<td>19.6</td>
</tr>
<tr>
<td>Every weekend</td>
<td>9.3</td>
<td>3.9</td>
</tr>
<tr>
<td>More than 3 times per week</td>
<td>24.2</td>
<td>11.8</td>
</tr>
<tr>
<td>Weekly</td>
<td>17.6</td>
<td>9.8</td>
</tr>
<tr>
<td>1-3 times per month</td>
<td>10.4</td>
<td>13.7</td>
</tr>
<tr>
<td>Monthly or less than monthly</td>
<td>6.6</td>
<td>13.7</td>
</tr>
<tr>
<td>Never seen Campus Watch</td>
<td>8.8</td>
<td>27.5</td>
</tr>
</tbody>
</table>
**General impressions of Campus Watch**

As shown in Table 29, both students and non-students were split in whether they felt Campus Watch was having a positive effect on the area, although few respondents felt that Campus Watch was having a negative impact on the neighbourhood. Only 3.9% of students and 2% of non-students thought that Campus Watch was making things worse for students and 10% of all respondents agreed with the statement that Campus Watch “won’t make a difference in North Dunedin”.

<table>
<thead>
<tr>
<th>General impressions of Campus Watch</th>
<th>Students (n=182)%</th>
<th>Non-Students (n=51)%</th>
</tr>
</thead>
<tbody>
<tr>
<td>They seem to be making a difference</td>
<td>44.5</td>
<td>52.0</td>
</tr>
<tr>
<td>It is good the university has taken action</td>
<td>40.1</td>
<td>54.0</td>
</tr>
<tr>
<td>They have been helpful to student residents</td>
<td>47.8</td>
<td>22.0</td>
</tr>
<tr>
<td>The university (and Campus Watch) should not act off campus</td>
<td>19.2</td>
<td>18.0</td>
</tr>
<tr>
<td>They are making things worse for students</td>
<td>3.9</td>
<td>2.0</td>
</tr>
<tr>
<td>They are making things worse for the whole community</td>
<td>1.1</td>
<td>4.0</td>
</tr>
<tr>
<td>They won’t make a difference in North Dunedin</td>
<td>9.9</td>
<td>10.0</td>
</tr>
<tr>
<td>It is too soon to notice any change</td>
<td>9.3</td>
<td>12.0</td>
</tr>
<tr>
<td>I have no opinion</td>
<td>8.2</td>
<td>6.0</td>
</tr>
</tbody>
</table>
Effectiveness of Campus Watch

The majority of student residents felt that Campus Watch was “very effective” or “moderately effective” at keeping an eye on suspicious people, walking people home, referring problems to the Proctor, involving the police where needed, and preventing problems in the area (Table 30). Opinions were mixed as to whether or not Campus Watch was effective at controlling parties, and the majority of students did not know whether Campus Watch was effective in its other activities. Non-student respondents were less likely to know how effective Campus Watch was, with the majority responding “I don’t know” for most activities.

Table 30. North Dunedin student and non-student residents’ perceptions of Campus Watch effectiveness

<table>
<thead>
<tr>
<th>Activity</th>
<th>Students</th>
<th>Non-students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Effective</td>
<td>Not very effective</td>
</tr>
<tr>
<td>Helping students new to flatting</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18.0</td>
<td>38.2</td>
</tr>
<tr>
<td>Controlling parties</td>
<td>40.5</td>
<td>39.9</td>
</tr>
<tr>
<td>Helping business owners</td>
<td>18.8</td>
<td>20.5</td>
</tr>
<tr>
<td>Keeping an eye on suspicious people</td>
<td>73.0</td>
<td>11.2</td>
</tr>
<tr>
<td>Walking people home</td>
<td>61.8</td>
<td>13.5</td>
</tr>
<tr>
<td>Referring problems to Proctor</td>
<td>48.6</td>
<td>5.1</td>
</tr>
<tr>
<td>Involving police as needed</td>
<td>52.5</td>
<td>7.9</td>
</tr>
<tr>
<td>Preventing problems</td>
<td>51.1</td>
<td>18.5</td>
</tr>
<tr>
<td>Listening to complaints</td>
<td>34.8</td>
<td>23.0</td>
</tr>
<tr>
<td>Helping neighbours resolve problems</td>
<td>11.8</td>
<td>23.0</td>
</tr>
<tr>
<td>Resolving student-landlord disputes</td>
<td>5.6</td>
<td>28.1</td>
</tr>
<tr>
<td>Keeping neighbourhood tidy</td>
<td>17.4</td>
<td>42.1</td>
</tr>
</tbody>
</table>

Most frequent response indicated in bold
6.4. Discussion

6.4.1. Summary of key findings

Student residents of North Dunedin were for the most part employed part-time while they studied and lived in rented properties with flatmates. They were a highly transient group, unlikely to have been in the neighbourhood for more than three years and only intending to stay until they completed their studies. Non-student residents were a more stable population, having lived in the area for much longer and intending to stay for the long-term. They were similar in age, ethnicity and employment status to the South Dunedin group, although were much less likely to own their home or to be living with young children. Close to 40% of non-student residents lived alone.

North Dunedin residents overwhelmingly chose to live in the area for its proximity to the University (for students), the town centre and other shops and services. Having close friends living in the area and the social scene were also important to student residents. Social capital scores were higher for student residents than non-student residents, but there was no statistically significant difference overall between North Dunedin and South Dunedin respondents. South Dunedin residents had greater informal social controls and in North Dunedin, non-student residents were more likely than student residents to think someone would act if another person were causing problems in the area.

Despite having similar summary social capital scores, North Dunedin residents experienced much higher levels of social problems and disorder than South Dunedin residents, particularly for ‘nuisance’ problems such as excessive noise, property damage, broken glass and rubbish. South Dunedin residents reported a higher frequency of dangerous/reckless driving and were more likely to feel insecure walking around their neighbourhood, particularly at night. North and South Dunedin had much lower prevalence of petty theft, burglaries, and physical or sexual assaults than other problems. Perceived harms generally matched harm prevalence in both neighbourhoods, although North Dunedin student residents were more tolerant of the high prevalence of disorder and harms in the area than their non-student counterparts. As a reflection of the higher prevalence of problems, North Dunedin residents also had significantly higher problem perception scores than South Dunedin residents.
By comparing the 2009 survey results with those of an identical survey conducted in 2008, we were able to study the changes in perceptions and experiences of problems between 2008 and 2009 that may have been a result of the Campus Watch programme, first introduced to North Dunedin in 2007. We found statistically significant reductions in residents’ frequency of experiencing wilful damage to property, rubbish and intentional fires and an overall decreasing trend in most problem frequencies in North Dunedin that were not evident in South Dunedin. South Dunedin residents showed consistent increases in perceived problems, despite showing no change in problem frequency. Neither the changes in overall problem frequency scores or problem perceptions scores, however, were statistically significant for North or South Dunedin.

The Campus Watch programme had a highly visible presence in the North Dunedin area, with close to one-quarter of students and one-fifth of non-students reporting that they saw them on a daily basis. Nearly all residents were aware of Campus Watch and opinions about the programme were generally positive or indifferent. While there were very few negative comments about the programme overall, many residents were unsure of its effectiveness, although students were more likely than non-students to think Campus Watch was effective at preventing problems, keeping an eye on suspicious people, walking people home, and involving the Proctor and/or police as needed.

6.4.2. Strengths and limitations of the study

Strengths of this study included the drop-and-collect method, which has been shown to elicit a higher response rate (Maclennan et al., 2012). Sampling by physical address is also likely to have contributed to a more representative sample and a higher response rate in North Dunedin, particularly among students, as other sampling methods, such as from electoral rolls, are less effective for populations with less residential stability.

This study was limited by its modest response rate, particularly for South Dunedin (50%) and for North Dunedin non-student respondents. Although we aimed to oversample non-students by increasing the non-student sample size in North Dunedin, the majority of respondents in the non-student sample were students, despite having removed all known University student addresses from the list. In addition, the response rate of the “non-student” sample was lower than the response rate of the “student” sample (52.6% compared to 76.4% in 2009). Data collection in North Dunedin in 2009 was further hampered by wet weather, which made it
very difficult to keep paper questionnaires dry and much less likely for residents of selected households to hear the data collectors knocking at the door. With an initial aim of a North Dunedin sample of 200 student addresses and 200 non-student addresses, we were able to include 182 students and 51 non-students in our analysis. Despite these relatively low numbers of non-student respondents, the final sample consisted of 21.9% non-students, which is more than twice the proportion of non-students known to be living in the area (10% in 2006) (Day & Donaldson, 2009).

The low response rate in South Dunedin was primarily due to refusals from potential participants and many residents of selected addresses refused to open the door to survey staff. This may be related to the higher frequency of feeling insecure walking around during the day or at night in South Dunedin that we found in our study. It is possible that for South Dunedin residents, a less personal data collection method, such as a postal questionnaire or a letterbox drop, may have resulted in a higher response rate.

6.4.3. Comparison with other studies

Our findings echo those of other studies that have found an increased risk of alcohol-related harms in heavy drinking environments surrounding university campuses. A US study found that residents of neighbourhoods adjoining university campuses were significantly more likely to report observing noise/disturbance, drunkenness, vandalism, or vomit/urination than those who lived more than one mile from campus (Wechsler et al., 2002). The prevalence of observing the harms at least once in the last year by residents within one mile of a college campus was much lower than the prevalence of experiencing the problem less than monthly (but not never) in our study, for all similar measures including litter, noise, vandalism, drunkenness, and assaults. This suggests that the levels of harm experienced by residents of North Dunedin are not merely typical of all communities surrounding university campuses. However, the levels of harm experienced by South Dunedin residents in our study were also much higher than similar harms experienced by those residing more than one mile from a campus in the study by Wechsler et al. described above.

In a report published by Statistics Canada describing the characteristics of neighbourhoods in a city with high levels of crime, analysts found that neighbourhoods with lower incomes and lower education levels, more young males, greater proportions of renters (rather than homeowners) tend to have higher rates of violent crimes (Wallace et al., 2006). They also
found that neighbourhoods with higher residential mobility, where residents had been in the area for less than one year, had higher violent crime rates than those with greater residential stability. Similarly, in North Dunedin where the majority of residents are young (including young males), are highly transient and have lower workplace participation, respondents experienced higher frequencies of antisocial behaviour and disorder than South Dunedin residents, who were an older, more stable population with higher levels of employment and home ownership overall.

North Dunedin residents agreed that problem drinking among young people (<25 years) was a major problem in their neighbourhood. The demographic and household characteristics of the North Dunedin residents also make them more likely to drink more frequently and more hazardously than South Dunedin residents. While we did not measure alcohol consumption in these samples, it is known that university students in New Zealand, including those at the University of Otago, consume alcohol frequently and in large quantities and experience high levels of alcohol-related harm as a consequence of these drinking patterns (Kypri et al., 2009b) and they have been found to drink more heavily than their non-student peers (Kypri et al., 2005a).

Despite a higher prevalence of harms in North Dunedin compared to South Dunedin, residents of North Dunedin were attracted to the area for its high amenity value, in particular the proximity to the University and to the city centre. This amenity may offset the high levels of ‘nuisance’ problems, as more serious problems such as theft, robbery and assaults occurred relatively infrequently compared with other problems and not more frequently than in South Dunedin. It is possible that North Dunedin residents, both students and non-students, did not feel personally threatened by the range of problems that they experienced with relatively high frequency, but rather viewed them as an acceptable consequence of the high density of young people in the area. This is supported by the fact that many North Dunedin residents – even non-students – agreed that drunkenness and disorderly behaviour were fairly normal for tertiary students and also felt that the majority of students were respectful neighbours.

In a study published by the UK Home Office, communities with greater levels of social cohesion had lower overall rates of crime, with a 3% decrease in crime predicted for each unit increase of sense of community (Wedlock, 2006). In our study, informal social control – but not social capital - was negatively associated with problem frequency, as North Dunedin student residents had both the lowest levels of informal social control and the highest problem
frequency scores and South Dunedin residents had the highest levels of informal social control and the lowest problem frequency scores. North Dunedin residents also perceived problems to be less serious despite experiencing them more frequently than South Dunedin residents. There was, however, no significant difference in social capital scores between North Dunedin students and non-students, nor between North and South Dunedin residents.

Given the high frequency of problems experienced by North Dunedin residents as well as the demographic and household characteristics of the residents, levels of social capital are surprisingly high in that area. In other studies comparing neighbourhood social capital with levels of crime, social capital was negatively associated with crime (Garcia et al., 2007). In those studies, neighbourhoods with older adult residents, more owner-occupied households and more married couples were significantly more likely to “strongly agree” that people could be trusted in their community.

Despite little change in perceptions of problems occurring in North Dunedin between 2008 and 2009, there were some reductions in experience of problems between the two survey years. Keeping in mind the broader study limitations and our inability to control for a number of unmeasured influences, this suggests that the Campus Watch programme may have been having a positive effect on the neighbourhood, even if residents still felt that highly prevalent problems continued to be problematic. A recent review and meta-analysis of Neighbourhood Watch-type initiatives found that these programmes were associated with reductions in crime, although the exact mechanism was unclear (Bennett et al., 2008). Other evaluations found that improved perceptions of safety often accompanied Neighbourhood Warden programmes in the UK (Department for Communities and Local Government, 2006; Office of the Deputy Prime Minister, 2004), which is somewhat contrary to our findings that there was no noticeable difference in problem perceptions between 2008 and 2009. However, our study only analysed changes post-implementation, so it is possible that initial improvements in perceptions of safety would have occurred before the 2008 survey, only to change little between 2008 and 2009, when data were collected. As we were not involved with the development and implementation phases of the Campus Watch programme, it was not possible to collect pre-implementation baseline data about the North Dunedin community. By 2009, about half of North Dunedin residents agreed that Campus Watch was making a difference in the neighbourhood, even if there was some uncertainty about what specific effect it was having on problems in the area.
6.4.4. Conclusion
North Dunedin can be characterized as an area with high levels of normalized anti-social behaviour and disorder with low levels of informal social controls. Despite this, it has high amenity value and levels of social capital similar to an area with significantly lower levels of neighbourhood problems. Though seen to be a major problem, the heavy drinking environment in North Dunedin is also generally accepted by many residents as ‘normal’ behaviour for the student residents and the associated harms may be seen as a mere inconvenience of living in an otherwise convenient and socially vibrant neighbourhood.

The North Dunedin resident population is highly self-selected and it is likely that people who are less tolerant of antisocial behaviour and social disorder would choose to live elsewhere, as the area is known nationally for its high density of student housing, heavy drinking and associated harms and disorder. It is in this generally accepting environment that Campus Watch has been tasked with reducing alcohol-related harm and disorder and changing the student drinking culture.

While Campus Watch appears to have had some effect on reducing neighbourhood problems, the low levels of informal social controls and acceptance of anti-social behaviour and disorder would hamper the attempts of the programme to reduce harm and disorder in the area. It is possible, however, that a highly visible and generally well-received programme like Campus Watch may make residents less likely to continue to tolerate ‘nuisance’ problems and report them to Campus Watch staff. Other residents might previously have been unwilling to report problems to the police if they felt they were a mere ‘nuisance’ as they generally thought the student residents were respectful neighbours and would not want to get them into trouble. They may also have previously felt that their complaints would not lead to a substantial change in behaviour.

Further analyses of routinely collected data may clarify whether the small decreases in problem prevalence found here are indicative of more substantial changes since the Campus Watch programme was introduced in 2007. While the visible presence of Campus Watch may reduce the prevalence of some neighbourhood problems, the high levels of alcohol consumption among the student population are likely to help maintain high levels of many social problems. Whether Campus Watch will significantly alter this heavy drinking environment is yet to be determined.

7.1. Introduction

This chapter presents the findings of the national web-based surveys of students conducted in 2005, 2007 and 2009 at the University of Otago and other university campuses throughout New Zealand. The surveys were conducted before and after the Campus Watch intervention was introduced, allowing us to examine the effect of Campus Watch on student drinking patterns and related harms at the intervention campus, compared with five control campuses. The primary outcomes of interest were:

1. Alcohol consumption patterns;
2. Alcohol-related harms to the drinker, including the prevalence of blackout, perpetration of aggression, and vandalism; and
3. Second-hand effects of alcohol (i.e. harms experienced due to someone else’s drinking), including the prevalence of assault and damage to property.

The 2009 National Survey also included questions about University of Otago respondents’ perceptions and experiences of Campus Watch. The findings from this section of the survey are also included in this chapter.
7.2. Methods

7.2.1. National Surveys overview

In 2005 and 2007, national web-based surveys of tertiary students were conducted as part of the Tertiary Student Health Project. Of New Zealand's eight universities, five participated (including six campuses) in both the 2005 and 2007 cross-sectional surveys. The surveys were confidential and included a range of questions about students’ alcohol consumption, alcohol-related harms, and general health, as well as additional sections relating to specific aspects of student health and well-being. Sections on drinking patterns, alcohol-related consequences, and second-hand effects were in both surveys. The findings of the 2005 National Survey have been published elsewhere (Connor et al., 2010; Kypri et al., 2008a; Kypri et al., 2009b).

For the purposes of the Campus Watch evaluation, we repeated the survey in 2009. The questionnaire was created using LimeSurvey (LimeSurvey Project Team / Carsten Schmitz, 2012) and was available in both English and Māori. A demonstration version of the survey can be viewed via the following link: https://ipru3.otago.ac.nz/limesurvey/index.php (National Survey 2009) and a printed version of the questionnaire is included in Appendix E. The 2009 survey used the same study design and recruitment process as the two previous surveys and included the same sections about drinking patterns and related harms.

7.2.2. Participant selection and recruitment

In each year the National Survey was conducted, independent, cross-sectional, simple random samples of up to 430 Māori (the indigenous people of New Zealand) and up to 430 non-Māori students were invited to complete a self-administered web-based questionnaire. Māori were oversampled in order to maximise explanatory power, as they are often under-represented in alcohol studies despite bearing a greater burden of alcohol-related harm than non-Māori (Connor et al., 2005). Students were eligible to participate if they were aged between 17 and 25 years and currently enrolled as full-time intramural students at the participating campus. A pre-notice letter was posted to each sampled student, including a URL to access the web-based questionnaire and a pen. This was followed by an invitation email with a hyperlink and URL to the questionnaire. Up to one reminder letter and three reminder emails were sent to sample members who had not yet responded.
7.2.3. Survey measures

_Alcohol consumption patterns_

Participants were asked whether they had consumed alcohol in the last 12 months, 4 weeks, and 7 days. Respondents who had not had a drink in the last 12 months were classified as non-drinkers. Current drinkers were asked how many days in a typical four-week period they consumed alcohol, as well as how many standard drinks they consumed in a typical drinking occasion. Respondents were provided with the definition of a standard drink (10g ethanol; note that a US standard drink contains 12g ethanol). Pictures of standard drinks (e.g. a glass of beer) were provided on the web pages as a guide, and examples were given of the number of drinks in typical drink containers (e.g. “a bottle of wine contains approximately 7.5 standard drinks”). Binge frequency was measured using the question, “On how many days in a typical four-week period would you have 6 or more standard drinks on one occasion?”

We coded the responses to these consumption questions into the AUDIT-C (Alcohol Use Disorders Identification Test – Consumption) scale. This scale is a reliable tool to identify hazardous drinkers that ranges from 0-12, with scores of 4 or higher (for men) and 3 or higher (for women) being indicative of hazardous drinking or alcohol use disorder (Bradley et al., 2007). In 2005, due to an error in the programming, the AUDIT-C score was calculated for women using a binge frequency question with a cut off point of 4 or more – rather than 6 or more – drinks. This would suggest that AUDIT-C scores for women would be over-estimated in 2005. When we compared mean AUDIT-C scores of women in the 2009 survey using a 4+ or a 6+ binge cut off, we found a small but statistically significant difference between the two binge levels (mean AUDIT-C score of 6.0 compared with 5.6 for 4+ and 6+ drinks, respectively; p<0.001).

_Alcohol-related problems_

We used the Alcohol Problems Scale (APS), a validated instrument (McGee & Kypri, 2004), to ask students about harms they had experienced in the preceding four weeks as a result of their own drinking. Additional questions were included about drink-driving, being a passenger of an intoxicated driver, and sustaining an injury requiring medical attention. The response options for each question were _yes, no, or prefer not to answer._

_Second-hand effects_
Respondents were asked 11 questions about consequences they had experienced in the preceding four weeks as a result of other students' drinking (Langley et al., 2003). These questions ranged from having sleep or study interrupted, to having property damaged, to being the victim of assault. Responses in 2005 were never, once, more than once, prefer not to answer. The once and more than once options were combined to match response options in 2007 and 2009, which were yes, no, or prefer not to answer.

**Demographics**

Participants answered questions about their gender, age, place of residence, and ethnicity. Places of residence included living at home with parents, living in a hall of residence, sharing a house (flattening), living in one's own home, boarding, or other. We also asked how far the place of residence was located from the university campus (less than 3 km, 3-10 km, more than 10 km). Ethnicity data were collected consistent with best practice, allowing for multiple responses, using the Statistics New Zealand ethnicity categories (Statistics New Zealand, 2012a).

**High school alcohol binge frequency**

Participants were asked about the frequency with which they consumed more than 4 (for women) or 6 (for men) servings of alcohol per drinking occasion in their last year of high school. Responses were grouped into Never, Less than monthly, or Monthly or more. In 2007, the cut-off used for high school binge frequency was 6 or more standard drinks for both males and females, due to an error in the programming. This means that it is likely that high school binge frequency will have been underestimated for females in 2007, compared with 2005 and 2009.

**Campus Watch at Otago**

University of Otago participants completed an additional section of the questionnaire about their experiences and perceptions of Campus Watch. Participants were asked whether or not they lived in the area where Campus Watch operated (Yes, No, I don’t know). Those who replied I don’t know were excluded from the remaining analyses, which were stratified by area of residence (Campus Watch area, other area of the city). Participants were then asked about the frequency with which they had seen or had an encounter with Campus Watch staff since the start of the year, with the following response options: Every day or nearly every day, 3-5 times a week, Once a week, 2-3 times a month, Monthly or less than monthly.
Participants’ interactions with Campus Watch staff were measured by asking about the most recent encounter they had had with staff. The list of response options was developed following analyses of the 2008 Community Survey responses to a similar free-text question (questionnaire included in Appendix C). A four-point scale (Very satisfied, Somewhat satisfied, Somewhat dissatisfied, Very dissatisfied), with an additional Not applicable option, was used to describe respondents’ satisfaction with their most recent encounter with Campus Watch staff.

Participants rated the effectiveness of Campus Watch at dealing with a series of twelve situations that were considered within the scope of usual Campus Watch pastoral care and other activity, as determined by the interviews with the Director of Student Services (cf. Chapter 5). An additional I don’t know option was added to the three-point effectiveness scale (Very effective, Moderately effective, Not effective at all).

General opinions of Campus Watch were measured using a four-point scale of agreement, ranging from Strongly agree to Strongly disagree, applied to each of seven statements about the intervention’s existence and impact on the students and wider community. These were also adapted from a similar question included in the 2008 and 2009 Community Surveys.

7.2.4. Data analysis

Data from respondents at the intervention campus in the 2005, 2007, and 2009 surveys were analysed for changes in alcohol consumption and alcohol-related harms that may have been associated with the Campus Watch programme. The results from the intervention campus were compared with those of the control campuses to determine whether changes in alcohol consumption and alcohol-related harm at the intervention campus differ significantly from changes occurring at other campuses (where no Campus Watch programme was introduced).

As Campus Watch was implemented in early 2007, results from the 2005 National Survey were used to measure drinking patterns and related harms before the intervention was introduced, while the 2007 and 2009 National Surveys provided data in the first year Campus Watch was introduced and two years later, respectively.

Preliminary descriptive analyses were conducted to compare the intervention and comparison campuses with respect to demographic characteristics and alcohol-related variables. Mean
AUDIT-C scores were used to analyse changes in drinking patterns across the three survey years (2005, 2007, 2009) and were compared for the intervention campus versus the five control campuses combined.

We used the prevalence of students experiencing a blackout, committing an act of vandalism, and being physically aggressive towards someone as measures of alcohol-related problems. These variables were chosen because they occurred relatively frequently but are also fairly serious consequences of alcohol consumption. We used prevalence of assault (i.e. being pushed, hit, or otherwise assaulted) and the prevalence of having had personal property damaged to measure risks associated with someone else’s drinking (second-hand effects). Data were analysed for men and women separately. Sample weights were constructed for the campuses to reflect the oversampling of Māori (described earlier) and were used to compute all descriptive statistics.

Individual-level regression analyses were then conducted to further examine changes in alcohol use, alcohol-related problems and second-hand effects among students at the intervention campus (Otago) compared to students at the 5 control campuses between 2005 and 2009. The 2005 survey was considered the baseline, as Campus Watch had only just been introduced at the time of the 2007 survey. Linear regression was used to measure changes in AUDIT-C scores (a continuous variable) and logistic regression was used for alcohol-related problems and second-hand effects (dichotomous variables). Survey year was treated as a categorical variable in all models. In all models, we adjusted for sex, age, ethnicity (prioritised according to the Statistics New Zealand algorithm as follows: Māori, Pacific, Asian, Other, NZ European (Statistics New Zealand, 2012a)), high school binge frequency (never, less than monthly, monthly or more) and place of residence to account for differences in demographics between campuses and across survey years. Where necessary (indicated by a footnote in the tables), age and other variables were omitted from the models where there were issues with estimation due to sparse data. As with the group-level analyses, sample weights were used to adjust for the oversampling of Māori. We adjusted for clustering of student observations within each campus by using Huber-White robust variance estimates as implemented in the vce command in Stata 12.0.

All questions used in the analysis were mandatory but participants were provided with a prefer not to answer option. While this format may increase the likelihood of missing data (Couper, 2008), the sensitive nature of some of the questions made this the preferable format.
for the questions. In all analyses, respondents who selected *prefer not to answer* were excluded from the analysis of that particular outcome only. For calculation of the AUDIT-C scores, those respondents who selected *prefer not to answer* to any of the three questions used for the AUDIT-C score were excluded from the AUDIT-C score outcome analyses as well as from the harm models that adjusted for AUDIT-C score.

All analyses were conducted using Stata 12.0 (StataCorp, 2011).

7.2.5. Ethical considerations

All surveys had the approval of the Multi-Region Ethics Committee (MEC/05/01/013, included in Appendix F) and of the managers/directors of student services at each of the participating universities.
7.3. Results

7.3.1. Response rates

A total of 7,549 students completed surveys in 2005, 2007, or 2009. Response rates are presented in Table 31. They varied between campuses and were lowest in 2009. The proportion of respondents selecting the *Prefer not to answer* option for questions pertaining to outcome measures was small, ranging from 0.1% to 1.25% in all survey years.

<table>
<thead>
<tr>
<th>Campuses, by intervention</th>
<th>2005 N</th>
<th>2007 N</th>
<th>2009 N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention campus - Otago</td>
<td>600 (69.8)</td>
<td>602 (70.0)</td>
<td>522 (60.7)</td>
</tr>
<tr>
<td>Control campuses - Total</td>
<td>2,011 (57.0)</td>
<td>2,155 (63.0)</td>
<td>1,722 (49.8)</td>
</tr>
<tr>
<td>Campus A</td>
<td>257 (57.8)</td>
<td>334 (69.6)</td>
<td>280 (57.1)</td>
</tr>
<tr>
<td>Campus B</td>
<td>268 (50.7)</td>
<td>313 (63.9)</td>
<td>251 (49.4)</td>
</tr>
<tr>
<td>Campus C</td>
<td>431 (51.4)</td>
<td>469 (64.2)</td>
<td>425 (57.6)</td>
</tr>
<tr>
<td>Campus E</td>
<td>604 (70.4)</td>
<td>535 (62.2)</td>
<td>503 (58.5)</td>
</tr>
<tr>
<td>Campus F</td>
<td>451 (52.8)</td>
<td>504 (58.6)</td>
<td>263 (30.6)</td>
</tr>
<tr>
<td>Total (all campuses)</td>
<td>2,611 (59.2)</td>
<td>2,757 (64.4)</td>
<td>2,244 (52.0)</td>
</tr>
</tbody>
</table>
Demographic characteristics.

Gender, age, place of residence, and ethnicity for all campuses for each survey year are presented in Table 32. Demographic characteristics did not differ greatly between the intervention campus and the control campuses, except for residence. For all survey years, the intervention campus had a higher proportion of students living in shared accommodation (flating) than the control campuses (65% versus 51% for all campuses combined in 2009) and a lower proportion of students living at home with parents (8% versus 21% for all campuses combined in 2009). Demographic characteristics were also similar across survey years, with the exception that over twice as many respondents selected Chinese as one of their ethnicities in 2005 as in 2007 and 2009. In 2005, 88% of participants had consumed alcohol in the last 12 months, with little difference between men and women. The proportion of current drinkers increased slightly for each survey year, so that by 2009, 93.2% of participants had consumed alcohol in the last 12 months. The proportion of current drinkers was slightly higher across all survey years for Otago respondents compared to other respondents at other campuses.

<table>
<thead>
<tr>
<th>Table 32. Age, sex, ethnicity, place of residence, and current drinkers by survey year, for total samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
</tr>
<tr>
<td>(N=2,548)</td>
</tr>
<tr>
<td>Age – mean</td>
</tr>
<tr>
<td>Sex</td>
</tr>
<tr>
<td>Female</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Ethnicity</td>
</tr>
<tr>
<td>NZ European</td>
</tr>
<tr>
<td>NZ Maori</td>
</tr>
<tr>
<td>Chinese</td>
</tr>
<tr>
<td>Pacific Islander</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Residence</td>
</tr>
<tr>
<td>Board</td>
</tr>
<tr>
<td>Hall</td>
</tr>
<tr>
<td>Own home</td>
</tr>
<tr>
<td>Parents</td>
</tr>
<tr>
<td>Flat</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Current drinkers</td>
</tr>
<tr>
<td>Otago</td>
</tr>
<tr>
<td>Control</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
7.3.3. Drinking patterns

Mean AUDIT-C scores across the three survey years by intervention condition are shown in Figure 13. Mean AUDIT-C scores were higher at the intervention campus for all survey years. The difference in mean AUDIT-C scores between intervention and control campuses was greatest in 2005 (6.3 at the intervention campus compared with 4.8 at control campuses, p<0.01). Intervention campus men had the greatest increase in mean AUDIT-C scores of any group from 2005 to 2007, but also had the sharpest reduction in scores of any group from 2007 to 2009. Mean AUDIT-C scores of intervention campus women changed very little across the survey years.

Figure 13. Changes in mean AUDIT-C scores across survey years, by intervention condition
Results of the adjusted regression analysis are summarised in Table 33. Between 2005 and 2009, both the decrease in AUDIT-C scores at the intervention campus and the increase at the control campuses, though small, were statistically significant. Despite the more significant decrease at the intervention campus, AUDIT-C scores remained slightly higher at the intervention campus than at the control campuses in 2009. There was a statistically significant difference in AUDIT-C scores between the control campuses and the intervention campus from 2005 to 2009 (the test of the main hypothesis), which is consistent with the interpretation that Campus Watch caused the reduction seen at Otago.

Table 33. Change in AUDIT-C scores between 2005 and 2009, for intervention and control campuses

<table>
<thead>
<tr>
<th>Effect</th>
<th>95% CIs</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention effect (2005-2009)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change over time (2005-2009)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention campus (Otago)</td>
<td>-0.3</td>
<td>-0.3, -0.3</td>
</tr>
<tr>
<td>Control campuses</td>
<td>0.2</td>
<td>0.0, 0.4</td>
</tr>
<tr>
<td><strong>Difference between Otago and other campuses (ref. control campuses)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>0.8</td>
<td>0.6, 1.0</td>
</tr>
<tr>
<td>2007</td>
<td>0.7</td>
<td>0.5, 0.9</td>
</tr>
<tr>
<td>2009</td>
<td>0.3</td>
<td>0.2, 0.5</td>
</tr>
</tbody>
</table>

Results of regression analysis to assess intervention effects on AUDIT-C scores after adjusting for age, sex, ethnicity, place of residence, high school binge frequency and accounting for clustering effects of campuses.
7.3.4. Alcohol-related problems.

**Blackout**

Figure 14 shows changes in prevalence of blackout for intervention compared with control campuses. There was a marked increase in prevalence of blackouts from 2005 to 2007 for both groups. Prevalence dropped again from 2007 to 2009, down to 41.5% for the intervention campus and 26.6% for the control campuses. There was no decrease in blackout prevalence for intervention campus women between 2007 and 2009, nor any significant decrease for men at control campuses.

![Figure 14. Changes in blackout prevalence across survey years, by intervention condition](image-url)
In all three survey years, students at the intervention campus were at increased odds of experiencing a blackout as a result of their own drinking compared to students at the control campuses (Table 34). While the odds of blackout increased for students at both intervention and control campuses between 2005 and 2009, the increase was only significant for students at the intervention campus. The intervention effect, however, was not statistically significant.

After adjusting for AUDIT-C score in the regression model, the difference between the intervention and control groups reduced in 2005, 2007 and 2009, but was still statistically significant, so that drinking patterns of students at the intervention campus only partially explained the increased odds of blackout compared to students at the control campuses.

Table 34. Odds of experiencing a blackout between 2005 and 2009, for intervention and control campuses

<table>
<thead>
<tr>
<th></th>
<th>OR</th>
<th>95% CIs</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention effect (2005-2009)</td>
<td>1.07</td>
<td>0.89, 1.29</td>
<td>0.478</td>
</tr>
<tr>
<td>Change over time (2005-2009)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention campus (Otago)</td>
<td>1.12</td>
<td>1.10, 1.13</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Control campuses</td>
<td>1.04</td>
<td>0.87, 1.25</td>
<td>0.639</td>
</tr>
<tr>
<td>Difference between Otago and other campuses (ref. control campuses)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>1.69</td>
<td>1.46, 1.96</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2007</td>
<td>1.57</td>
<td>1.40, 1.76</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2009</td>
<td>1.81</td>
<td>1.67, 1.96</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Difference after adjusting for AUDIT-C score (ref. control campuses)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>1.19</td>
<td>1.11, 1.27</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2007</td>
<td>1.25</td>
<td>1.11, 1.41</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2009</td>
<td>1.73</td>
<td>1.61, 1.86</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Results of regression analysis to assess intervention effects on odds of blackout after adjusting for age, sex, ethnicity, place of residence, high school binge frequency and accounting for effect of clustering
Perpetration of aggression

Perpetration of aggression (Figure 15) increased at both intervention and control groups across all survey years, with a greater increase at control campuses from 2005 to 2007. By 2007, more students at control campuses reported being aggressive than students at the intervention campus, and this continued in 2009. Intervention campus men, however, showed the steepest increase in prevalence, despite having a lower prevalence than men at control campuses in all survey years.

Figure 15. Changes in prevalence of perpetration of aggression across survey years, by intervention condition
Table 35 presents the results of the adjusted regression analysis, with and without adjustment for AUDIT-C scores. There was a statistically significant increase in odds of perpetration of aggression between 2005 and 2009 for students at both the intervention and control campuses, but the increase at the control campuses was much greater, resulting in a statistically significant intervention effect. After adjusting for AUDIT-C score, the higher (but not statistically significant) odds of aggression at the intervention campus compared to control campuses in 2005 disappeared and the lower odds at the intervention campus evident in 2007 and 2009 were even more pronounced.

Table 35. Odds of perpetration of aggression between 2005 and 2009, for intervention and control campuses

<table>
<thead>
<tr>
<th></th>
<th>OR</th>
<th>95% CIs</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention effect (2005-2009)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change over time (2005-2009)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention campus (Otago)</td>
<td>0.66</td>
<td>0.48, 0.93</td>
<td>0.016</td>
</tr>
<tr>
<td>Control campuses</td>
<td>1.15</td>
<td>1.09, 1.22</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Difference between Otago and other campuses (ref. control campuses)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>1.18</td>
<td>0.86, 1.62</td>
<td>0.301</td>
</tr>
<tr>
<td>2007</td>
<td>0.58</td>
<td>0.42, 0.81</td>
<td>0.001</td>
</tr>
<tr>
<td>2009</td>
<td>0.79</td>
<td>0.63, 0.98</td>
<td>0.033</td>
</tr>
<tr>
<td><strong>Difference after adjusting for AUDIT-C score (ref. control campuses)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005*</td>
<td>0.97</td>
<td>0.71, 1.34</td>
<td>0.872</td>
</tr>
<tr>
<td>2007*</td>
<td>0.56</td>
<td>0.40, 0.78</td>
<td>0.001</td>
</tr>
<tr>
<td>2009**</td>
<td>0.72</td>
<td>0.55, 0.93</td>
<td>0.012</td>
</tr>
</tbody>
</table>

Results of the regression analysis to assess intervention effects on odds of perpetration of aggression after adjusting for age, sex, ethnicity, place of residence, high school binge frequency, and accounting for effects of clustering

*Residence omitted due to sparse data
**Age and residence omitted due to sparse data
**Vandalism**

Prevalence of vandalism (Figure 16) at the intervention campus dipped from 2005 to 2007 and increased from 2007 to 2009, while at control campuses prevalence peaked in 2007 and then decreased from 2007 to 2009. Men were more likely to report that they had damaged property as a result of their own drinking than women. Prevalence of vandalism for intervention campus men nearly halved between 2005 and 2009, while for the other groups there was little difference over the same period.

![Figure 16. Changes in prevalence of vandalism across survey years, by intervention condition](image_url)
The odds of committing vandalism were 39% lower for students at the intervention campus between 2005 and 2009, relative to students at the control campuses (Table 36). In 2005, students at the intervention campus had 2.68 times the odds of committing vandalism compared to students at the control campus, but by 2009, the odds were only 1.6 times higher and the difference was no longer statistically significant between the two groups. The difference in odds between the two groups was even smaller in 2009 after adjusting for AUDIT-C score. In all years, controlling for drinking pattern (as measured by AUDIT-C score) reduced the odds of committing vandalism for students at the intervention campus.

Table 36. Odds of committing vandalism between 2005 and 2009, for intervention and control campuses

<table>
<thead>
<tr>
<th></th>
<th>OR</th>
<th>95% CIs</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention effect (2005-2009)</td>
<td>0.61</td>
<td>0.37, 1.03</td>
<td>0.062</td>
</tr>
<tr>
<td>Change over time (2005-2009)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention campus (Otago)</td>
<td>0.60</td>
<td>0.59, 0.61</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Control campuses</td>
<td>1.00</td>
<td>0.59, 1.69</td>
<td>0.992</td>
</tr>
<tr>
<td>Difference between Otago and other campuses (ref. control campuses)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>2.68</td>
<td>2.21, 3.25</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2007</td>
<td>0.51</td>
<td>0.40, 0.63</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2009</td>
<td>1.60</td>
<td>1.00, 2.58</td>
<td>0.051</td>
</tr>
<tr>
<td>Difference after adjusting for AUDIT-C score (ref. control campuses)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005*</td>
<td>2.00</td>
<td>1.64, 2.44</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2007*</td>
<td>0.32</td>
<td>0.26, 0.41</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2009**</td>
<td>1.37</td>
<td>0.86, 2.16</td>
<td>0.185</td>
</tr>
</tbody>
</table>

Results of regression analysis to assess intervention effects on odds of vandalism after adjusting for sex, ethnicity, place of residence, high school binge frequency, and accounting for effects of clustering (age omitted due to sparse data)

*Residence omitted due to sparse data
**Residence and ethnicity omitted due to sparse data
7.3.5. Second-hand effects (problems resulting from someone else’s drinking).

**Assault**

Figure 17 shows the prevalence of assault for intervention and control campuses. There was large variation in prevalence of assault between campuses and across survey years; for simplicity, control campuses have been grouped together in the figure. In 2007, the intervention campus had the highest prevalence of assault of any campus in any survey year. The prevalence had increased by over a quarter compared to 2005. By 2009, assault prevalence at the intervention campus had declined by nearly a third. There was a two-thirds increase in prevalence of assault among intervention campus men from 2005 to 2007, so that this group had the highest prevalence of assault of any campus by 2007. Despite a small reduction in assault prevalence from 2007 to 2009, intervention campus men still had the highest prevalence of assault in 2009. All campuses had increases in rates of assault for men from 2005 to 2007, but only two control campuses continued to show increases from 2007 to 2009. Prevalence of assault for women from 2005 to 2009 declined by over 40% at the intervention campus and also declined at two of the control campuses. From 2007 to 2009, assault prevalence reported by intervention campus women more than halved.

![Figure 17. Changes in assault prevalence (caused by someone else's drinking) across survey years, by intervention condition](image-url)
Between 2007 and 2009, the odds of being assaulted reduced by 9% for students at the intervention campus, while at the control campuses there was a small but non-significant increase in odds of being assaulted (Table 37). The reduction at the intervention campus meant that by 2009, the difference in odds between campuses was no longer statistically significant. The intervention effect (i.e. test of the main hypothesis) was not statistically significant. AUDIT-C scores had a greater effect on the odds in 2005 than in 2007 and 2009.

Table 37. Odds of being assaulted between 2005 and 2009, for intervention and control campuses

<table>
<thead>
<tr>
<th></th>
<th>OR</th>
<th>95% CIs</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention effect (2005-2009)</td>
<td>0.83</td>
<td>0.57, 1.20</td>
<td>0.327</td>
</tr>
<tr>
<td>Change over time (2005-2009)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention campus (Otago)</td>
<td>0.91</td>
<td>0.89, 0.92</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Control campuses</td>
<td>1.09</td>
<td>0.76, 1.57</td>
<td>0.643</td>
</tr>
<tr>
<td>Difference between Otago and other campuses (ref. control campuses)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>1.28</td>
<td>0.80, 2.05</td>
<td>0.300</td>
</tr>
<tr>
<td>2007</td>
<td>1.35</td>
<td>1.11, 1.63</td>
<td>0.002</td>
</tr>
<tr>
<td>2009</td>
<td>1.06</td>
<td>0.74, 1.53</td>
<td>0.737</td>
</tr>
<tr>
<td>Difference after adjusting for AUDIT-C score (ref. control campuses)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005*</td>
<td>1.08</td>
<td>0.67, 1.72</td>
<td>0.756</td>
</tr>
<tr>
<td>2007*</td>
<td>1.31</td>
<td>1.13, 1.52</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2009*</td>
<td>1.06</td>
<td>0.65, 1.74</td>
<td>0.805</td>
</tr>
</tbody>
</table>

* Age omitted due to sparse data
Damage to property

The prevalence of damage to respondents’ property caused by someone else’s drinking (Figure 18) was much greater at the intervention campus than at control campuses, during all survey years, and the greatest difference in prevalence between the groups was in 2009. While both groups experienced small increases in prevalence of property damage between 2005 and 2007, only the intervention campus continued to increase from 2007 to 2009, though less sharply than in the previous period. In 2007, 60% more men at the intervention campus reported having had their property damaged as a result of someone else’s drinking than in 2005.

Figure 18. Changes in prevalence of property damage (caused by someone else’s drinking) across survey years, by intervention condition
Students at the intervention campus in 2009 had higher odds of having property damaged than students in 2005 (Table 38). Conversely, students at control campuses had lower odds of property damage in 2009 than in 2005, although this reduction was not statistically significant. By 2009, students at the intervention campus had 2.2 times the odds of experiencing property damage compared to students at control campuses. The significant intervention effect shows that the increase in odds at the intervention campus was significantly greater than the change in odds at the control campuses over the same time period. The differences between the campuses in all years were very similar to the with or without adjustment for AUDIT-C score, indicating that drinking patterns did not explain the inter-campus differences in odds of property damage.

### Table 38. Odds of property damage between 2005 and 2009, for intervention and control campuses

<table>
<thead>
<tr>
<th></th>
<th>OR</th>
<th>95% CIs</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intervention effect (2005-2009)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Change over time (2005-2009)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intervention campus (Otago)</td>
<td>1.69</td>
<td>1.35, 2.10</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Control campuses</td>
<td>0.83</td>
<td>0.68, 1.01</td>
<td>0.069</td>
</tr>
<tr>
<td><strong>Difference between Otago and other campuses (ref. control campuses)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>1.30</td>
<td>1.07, 1.59</td>
<td>0.008</td>
</tr>
<tr>
<td>2007</td>
<td>1.67</td>
<td>1.20, 2.34</td>
<td>0.003</td>
</tr>
<tr>
<td>2009</td>
<td>2.20</td>
<td>1.60, 3.03</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Difference after adjusting for AUDIT-C score (ref. control campuses)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>1.32</td>
<td>1.14, 1.53</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>2007*</td>
<td>1.69</td>
<td>1.24, 2.32</td>
<td>0.001</td>
</tr>
<tr>
<td>2009*</td>
<td>2.24</td>
<td>1.55, 3.25</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Results of regression analysis to assess intervention effects on odds of property damage after adjusting for age, sex, ethnicity, place of residence, high school binge frequency, and accounting for effects of clustering.

*Age omitted due to sparse data
7.3.6. Campus Watch at Otago – experiences and perceptions of respondents

As shown in Table 39, about half of male respondents and 60% of female respondents reported that they were currently residing in the Campus Watch area. Just over one-tenth of respondents were unsure whether they were living in an area where Campus Watch operated. Nearly all respondents had seen Campus Watch on patrol.

Table 39. Proportion of Otago respondents living in the Campus Watch area, and proportion who had ever seen Campus Watch, by sex

<table>
<thead>
<tr>
<th></th>
<th>Women (n=333)</th>
<th>Men (n=189)</th>
<th>Total (N=522)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Living in Campus Watch area, %</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>60.2</td>
<td>52.0</td>
<td>57.3</td>
</tr>
<tr>
<td>No</td>
<td>29.5</td>
<td>34.2</td>
<td>31.2</td>
</tr>
<tr>
<td>Unsure</td>
<td>10.4</td>
<td>13.8</td>
<td>11.6</td>
</tr>
<tr>
<td><strong>Ever seen Campus Watch, %</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>97.3</td>
<td>98.0</td>
<td>97.6</td>
</tr>
</tbody>
</table>

Results are weighted (counts are not)

Male and female respondents who lived in the Campus Watch area saw Campus Watch staff more frequently than those who lived in other areas of the city, with close to half of Campus Watch area residents seeing staff on a daily basis and over three-quarters seeing them more than once a week (Table 40). However, close to two-thirds of students living in other areas of the city still reported seeing Campus Watch staff more than once per week.

While Campus Watch staff were frequently seen in the neighbourhood, 28.3% of Campus Watch area residents and 44.4% of those living elsewhere had never personally spoken to them. The most common last encounters with Campus Watch were to say “hello”, to request assistance, and for women living in the Campus Watch area, to be offered a ride or walk home. A quarter (n=17) of men living in other areas of the city cited an “Other reason” for their last encounter with Campus Watch, the majority of which were neutral (“just a chat”, “opening a lecture theatre”, “turning in lost property”) or assistance-related. Very few respondents were “dissatisfied” or “very dissatisfied” with their last encounters with Campus Watch, although men were more likely than women to feel any degree of dissatisfaction with the encounter.
Table 40. Frequency of seeing Campus Watch and last encounters with Campus Watch, by sex and area of residence

<table>
<thead>
<tr>
<th>Respondent's area of residence</th>
<th>Campus Watch area</th>
<th>Other area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women N=201</td>
<td>Men N=108</td>
</tr>
<tr>
<td>Frequency of seeing Campus Watch:</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Every day or nearly every day</td>
<td>46.1</td>
<td>44.6</td>
</tr>
<tr>
<td>3-5 times per week</td>
<td>31.2</td>
<td>29.8</td>
</tr>
<tr>
<td>Once a week</td>
<td>17.1</td>
<td>17.8</td>
</tr>
<tr>
<td>2-3 times per month</td>
<td>3.7</td>
<td>5.8</td>
</tr>
<tr>
<td>Monthly or less than monthly</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Reason for last encounter with Campus Watch:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Just said hello</td>
<td>32.4</td>
<td>31.8</td>
</tr>
<tr>
<td>I asked for assistance</td>
<td>10.5</td>
<td>0.8</td>
</tr>
<tr>
<td>They offered me a ride/walk home</td>
<td>15.6</td>
<td>2.1</td>
</tr>
<tr>
<td>They offered other assistance</td>
<td>0.2</td>
<td>3.7</td>
</tr>
<tr>
<td>They were just checking I was all right</td>
<td>6.2</td>
<td>7.8</td>
</tr>
<tr>
<td>They wanted to talk to me about an incident they thought I knew about</td>
<td>3.0</td>
<td>6.0</td>
</tr>
<tr>
<td>I was doing something they didn’t think I should be doing</td>
<td>1.8</td>
<td>7.6</td>
</tr>
<tr>
<td>I had a complaint about a neighbour, landlord, or someone else</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>A neighbour, landlord, or someone else had a complaint about me</td>
<td>0.2</td>
<td>1.8</td>
</tr>
<tr>
<td>Other reason</td>
<td>4.4</td>
<td>4.2</td>
</tr>
<tr>
<td>I’ve never spoken to Campus Watch</td>
<td>25.7</td>
<td>33.8</td>
</tr>
<tr>
<td>Satisfaction with last encounter:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very satisfied</td>
<td>43.0</td>
<td>28.6</td>
</tr>
<tr>
<td>Somewhat satisfied</td>
<td>18.5</td>
<td>22.2</td>
</tr>
<tr>
<td>Somewhat dissatisfied</td>
<td>3.5</td>
<td>5.3</td>
</tr>
<tr>
<td>Very dissatisfied</td>
<td>1.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Not applicable</td>
<td>33.4</td>
<td>41.6</td>
</tr>
</tbody>
</table>
Respondents’ perceptions of the effectiveness of Campus Watch at addressing a range of issues are presented in Table 41. Campus Watch area residents were felt that staff were most effective at walking people home late at night, making the neighbourhood feel safer, and looking out for suspicious people. Over half felt that they were “very effective” or “moderately effective” at controlling parties, referring problems to the Proctor or police as needed, listening to people’s complaints, and preventing issues from getting out of hand. Those who lived in other areas of the city were most likely to state that they did not know how effective Campus Watch was. However, over half of “other area” respondents still felt that Campus Watch was “very effective” or “moderately effective” at looking out for suspicious people, walking people home late at night, and making the neighbourhood feel safer.

Table 41. Perceived effectiveness of Campus Watch, by area of residence

| How effective, in general, is Campus Watch at helping community members by... | Respondent’s area of residence |
|---|---|---|
| | Campus Watch area | Other area |
| | Very effective | Moderately effective | Not effective at all | I don’t know | Very effective | Moderately effective | Not effective at all | I don’t know |
| Helping students who are new to flatting? | 8.6 | 24.6 | 18.7 | 48.1 | 8.6 | 18.0 | 12.0 | 61.4 |
| Keeping parties under control? | 11.0 | 40.7 | 15.6 | 32.6 | 6.5 | 30.3 | 15.7 | 47.5 |
| Keeping an eye out for suspicious looking people? | 36.1 | 46.7 | 4.0 | 13.2 | 24.9 | 34.4 | 1.7 | 39.1 |
| Walking people home late at night? | **43.7** | 29.8 | 6.7 | 19.7 | 25.0 | 23.9 | 6.8 | 44.3 |
| Referring problems to the Proctor? | 27.1 | 24.1 | 3.2 | **45.6** | 22.1 | 13.8 | 0.5 | **63.6** |
| Getting the police involved where needed? | 30.8 | 25.9 | 2.7 | **40.6** | 18.8 | 23.7 | 3.5 | **53.9** |
| Preventing things from getting out of hand by stopping them sooner rather than later? | 22.1 | 34.7 | 8.3 | 34.9 | 15.4 | 25.5 | 5.8 | **53.3** |
| Listening to people’s complaints? | 20.5 | 35.7 | 4.5 | **39.3** | 11.2 | 20.8 | 5.0 | **63.0** |
| Helping neighbours resolve problems among themselves? | 9.1 | 19.7 | 10.0 | **61.3** | 7.3 | 6.2 | 5.8 | **80.6** |
| Helping students resolve problems with landlords (or vice versa)? | 3.6 | 11.7 | 16.2 | **68.6** | 6.4 | 5.6 | 6.2 | **81.7** |
| Keeping the neighbourhood tidy? | 5.7 | 24.5 | 20.3 | **49.4** | 3.1 | 14.4 | 17.5 | **64.9** |
| Making the neighbourhood feel safer? | 37.3 | **43.6** | 4.7 | 14.4 | 20.8 | **47.5** | 2.9 | 28.8 |
There was strong support for the presence of Campus Watch in the North Dunedin area and Campus Watch area residents were more supportive than students living outside the area, as shown in Table 42. Only one-fifth of students felt that Campus Watch should only operate on Campus and very few felt the programme was making things worse for students or for North Dunedin. About half of all students disagreed that it would be too soon to know whether Campus Watch was making a difference in the area.

Table 42: General opinions about the presence of Campus Watch in North Dunedin, by area of residence

<table>
<thead>
<tr>
<th>Respondent’s area of residence</th>
<th>Campus Watch area</th>
<th>Other area</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agree/Strongly agree</td>
<td>Neither agree nor disagree</td>
</tr>
<tr>
<td>Campus Watch seems to be making a positive difference in North Dunedin</td>
<td>76.6</td>
<td>20.5</td>
</tr>
<tr>
<td>It is good that the university initiated Campus Watch to do something about anti-social behaviour among some students</td>
<td>85.3</td>
<td>11.9</td>
</tr>
<tr>
<td>On the whole, Campus Watch has been a help to students who live in the area</td>
<td>80.1</td>
<td>17.0</td>
</tr>
<tr>
<td>Campus Watch should only operate on campus</td>
<td>18.8</td>
<td>23.0</td>
</tr>
<tr>
<td>On the whole, Campus Watch is making things worse for students</td>
<td>3.8</td>
<td>10.8</td>
</tr>
<tr>
<td>Campus Watch is making things worse for the whole community</td>
<td>2.3</td>
<td>8.9</td>
</tr>
<tr>
<td>It is too soon to know whether Campus Watch has made a difference one way or the other</td>
<td>14.7</td>
<td>35.7</td>
</tr>
</tbody>
</table>
7.4. Discussion

7.4.1. Summary of key findings

The pattern of changes in alcohol consumption from before the introduction of Campus Watch until 2009 (i.e., decreases at Otago and increases at other campuses) is consistent with the hypothesis that Campus Watch reduced drinking among Otago students. The changes in alcohol-related harm and disorder are more mixed, however. For aggression, vandalism, and assault, effect estimates were in the hypothesised direction, but were only statistically significant for aggression. The effect estimates were in the opposite direction to what we expected for blackouts and property damage, and in the latter case, the effect was statistically significant.

The responses of Otago students showed that Campus Watch had a highly visible presence in the wider University area and students were positive about the effects they felt the intervention was having on improving safety in the neighbourhood and preventing and dealing with crime and disorder problems. Students residing in the Campus Watch area were more supportive of Campus Watch and more likely to think they were effectively tackling many of the problems in the area.

7.4.2. Strengths and limitations of the study

Strengths of this study included using the same study design and sampling frame at each campus for each of the survey years. The overall response rates were high in 2005 and 2007 and lower in 2009. The timing of the surveys allowed us to compare data from one cross-sectional survey before Campus Watch was introduced with two surveys after Campus Watch had been implemented. Differences in response rates between the campuses and between the different survey years have the potential to affect results due to changes in non-response bias, although this has not been investigated in detail in this study.

Our results are limited by having only one intervention campus and five control campuses. A much larger study, the Safer California Universities trial, included 14 large universities, of which half were randomised to the intervention group (Saltz et al., 2010). In contrast with that project, here the evaluation team was not involved in the development or implementation of the intervention, nor did we have any control over the setting in which it operated. The
exposure (i.e. Campus Watch) was therefore not randomised. The 2005 and 2007 surveys were conceived before Campus Watch commenced, and were therefore not designed to evaluate Campus Watch. Ideally, one would have more comprehensive measures of harm, disorder and other community problems before and after the introduction of Campus Watch, and have a baseline just prior to the programme’s introduction (rather than two years before).

Our evaluation also focuses specifically on the impact of Campus Watch in one university community. We know from contact with other universities that no other campus has a programme on a similar scale to Campus Watch. A previous review of initiatives targeting alcohol consumption among students found that in 2007 all universities had programmes in place to address student alcohol consumption and related harm, but only one of the control campuses included in this study had an initiative which extended beyond its campus boundaries, by involving local government and police (Cousins et al., 2008). It remains possible that other factors affected drinking patterns and related harms at all campuses, including Otago. The spate of earthquakes that have struck Christchurch since 2010, for instance, would have had a significant impact on student behaviour and drinking patterns, but we know of no similar events that occurred during our data collection period at the control sites.

7.4.3. Comparison with other studies

The higher rates of most of the alcohol-related harms reported at the intervention campus compared with control campuses are consistent with other studies, which found that students who consumed more alcohol were more likely to experience negative consequences of their drinking (Wechsler et al., 1994). In our study, students at the intervention campus had higher AUDIT-C scores across all survey years, compared with the control campuses. This increase in harm has been found to extend into the community, with students and residents around “wetter” campuses (i.e. where more alcohol consumption occurred, or with a higher proportion of heavy drinkers) more likely to report adverse alcohol-related consequences, even if they were not drinking heavily themselves (Wechsler et al., 1994; Wechsler et al., 1995a; Wechsler et al., 2002; Wechsler et al., 1995b). Our findings are consistent with this, as prevalence of both assault and property damage – harms resulting from someone else’s drinking – were higher at the intervention campus than at control campuses.
Our findings show that the intervention campus had a lower prevalence of aggression and vandalism than control campuses in 2007, even though the intervention campus maintained a higher mean AUDIT-C score in 2007. After adjusting for AUDIT-C score, however, only the odds of vandalism remained statistically significant. By 2009, aggression had decreased more than at control campuses. This suggests that there are environmental factors tempering the increase in hazardous drinking occurring at the intervention campus and other university campuses, and Campus Watch may be one of them. The dramatic decrease in prevalence of assault for women at the intervention campus, for example, may in part have been a consequence of the Campus Watch practice of assisting students (typically female) by walking them home, particularly late at night.

Community-based interventions implemented around university campuses in the US have been found to have a greater impact on binge drinking and alcohol-related harms than our analyses suggest for Campus Watch. The Safer California Universities trial, for example, found significant reductions in intoxication and likelihood of intoxication at off-campus settings for intervention campuses (Saltz et al., 2010). In our study, the intervention campus had a higher mean AUDIT-C score post-implementation, although the rate of increase of the score was slower than that of control campuses. Furthermore, while the intervention campus still had a higher mean AUDIT-C score than control campuses in 2009, the gap between the two groups had narrowed significantly.

It is particularly interesting that Campus Watch appears to have affected drinking patterns more than disorder, although it may be too early to see the full effect of the intervention on drinking and alcohol-related harms. The NU Directions programme, an environmental intervention conducted at Nebraska University – Lincoln as part of the larger multi-site ‘A Matter of Degree’ (AMOD) trial, found the greatest reduction in binge drinking five years post-implementation (Newman et al., 2006). However, no national comparisons were reported and the overall trial, conducted at 10 campuses, did not result in any changes in drinking, consequences, or secondhand effects over time. Our data are limited to student drinking patterns and related harms up to two years post-implementation. Evaluation of the NU Directions programme found a significant decrease in binge frequency between 1997 (prior to implementation) and 2003 (five years post-implementation) (Newman et al., 2006). The campuses targeted in the NU Directions coalition were compared with other university campuses to ensure that a similar trend had not occurred nationwide, in the same way that we have compared our intervention campus with other university campuses in New Zealand.
7.4.4. Conclusion

Findings from the National Surveys strongly support the hypothesis that Campus Watch has had an effect on drinking patterns, but the evidence for its effect on alcohol-related harms and disorder is weaker. It is possible that in restricting the harms experienced to those that respondents attributed to their own or others’ alcohol consumption, the effects of Campus Watch on general disorder and community problems were missed. Including other data sources, such as police and fire service data, may be able to provide more insight on whether or not Campus Watch via its positive effect on drinking patterns had an impact on overall crime and disorder.
Ch. 8 External Incident Data

8.1. Introduction

This chapter presents the findings of the external incident data obtained from the New Zealand Police (offence data) and the New Zealand Fire Service (nuisance fire data). Changes in crime rates and fire callouts are important outcomes for the evaluation of the Campus Watch programme. Comparing crime rates from the Campus Watch area with those of the rest of the city will also help establish whether the patterns observed in the North Dunedin area are unique or are in fact a reflection of the changes occurring in the city as a whole. Using the police and fire service data, we sought to answer the following questions:

1. Have there been changes in rates and types of offending in the Campus Watch area between 2005 and 2010?
2. Have these changes been unique to the Campus Watch area or have they occurred in the greater Dunedin area?
3. In which groups have the changes been most pronounced (offence types, time of day, day of week)?
4. Have there been changes in the incidence of nuisance fires in the Campus Watch area between 2005 and 2010 that are not indicative of a wider trend in the Dunedin area?
8.2. Effect of Campus Watch on crime rates – New Zealand Police dataset

8.2.1. Methods

We obtained data from the data analysts of the Central Dunedin Police in October 2011 for all offences recorded by the Dunedin Central, Dunedin North and Dunedin South scene stations from 2005-2010.

Offences recorded in the police dataset were grouped into six categories, as shown in Table 43. In some cases, there was more than one record for each incident (e.g. where both the victim and the offender had separate records, or where the offender committed multiple offences during the same incident), so the number of offences in the dataset is greater than the actual number of crimes committed. It was not possible to identify multiple entries for the same incident, as any uniquely identifying information was removed.

<table>
<thead>
<tr>
<th>Violence</th>
<th>Sexual</th>
<th>Drugs &amp; Antisocial</th>
<th>Dishonesty</th>
<th>Property damage</th>
<th>Property abuses</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Homicide</td>
<td>-Sexual affronts</td>
<td>-Drugs (not cannabis)</td>
<td>-Burglary</td>
<td>-Property damage</td>
<td>-Trespass</td>
</tr>
<tr>
<td>-Kidnapping</td>
<td>-Sexual attacks</td>
<td>-Cannabis</td>
<td>-Car</td>
<td>-Property damage</td>
<td>-Littering</td>
</tr>
<tr>
<td>-Robbery</td>
<td>-Abnormal sex</td>
<td>-Disorder</td>
<td>-conversion</td>
<td>-Endangering</td>
<td>-Animals</td>
</tr>
<tr>
<td>-Grievous</td>
<td>-Immoral behaviour</td>
<td>-Vagrancy</td>
<td>-Theft</td>
<td>property</td>
<td>-Postal / Rail /</td>
</tr>
<tr>
<td>assaults</td>
<td>-Other immoral</td>
<td>offences</td>
<td>-Receiving</td>
<td>Fire service</td>
<td>Fire service</td>
</tr>
<tr>
<td>-Serious</td>
<td></td>
<td></td>
<td>-Fraud</td>
<td>abuses</td>
<td>abuses</td>
</tr>
<tr>
<td>assaults</td>
<td></td>
<td></td>
<td>-Accessory</td>
<td>-Arms Act</td>
<td>-Offences</td>
</tr>
<tr>
<td>-Minor assaults</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Intimidation &amp; threats</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Group assemblies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Crime rates were determined for the Campus Watch area and the rest of Dunedin using the usually resident population counts determined for each area by the 2006 Census, which were 8,440 for the Campus Watch area and 110,283 for the rest of Dunedin (Statistics New Zealand, 2012b). Crime rates were calculated by area for total offences as well as by type of crime, time of day, and day of the week (Sunday-Wednesday compared to Thursday-Saturday). Data from the first half of 2005 were excluded from the analysis as there were twice as many offences recorded in that time in the rest of Dunedin as in any other subsequent half-years in the dataset. We were unable to determine the cause of this anomaly and therefore excluded it from the analysis.
Crime rates were plotted in six-monthly increments in order to most clearly see trends in the data. Although we initially tried to analyse the data monthly, the fluctuations in crime rates by month were too great to clearly see any trends. Analysing the data quarterly also made it more difficult to see trends in crime rates and to compare the Campus Watch area with the rest of Dunedin. While it is also common to adjust for seasonal variation in longitudinal analysis, the seasonal variation is nearly opposite for the Campus Watch area and the rest of Dunedin (i.e. crime decreases in the student area in the summer, but increases in the rest of Dunedin). The university academic calendar runs from mid-February to mid-November, so using six-monthly increments (January-June and July-December) meant that the summer period was split evenly between the two half-years.

Ethical considerations
Any personally identifying information was removed from the dataset by the New Zealand Police, including names of persons involved and the house number of the offence location. The New Zealand Police data analyst who provided the data obtained permission to do so from Sergeant Tony Ritchie of the Dunedin intelligence unit.

8.2.2. Results

Types of crimes and time of day and week of crime occurrence are presented for the Campus Watch area and the rest of Dunedin in Table 44. In the Campus Watch area, the most crimes were recorded in 2007, while in the rest of Dunedin more crimes were recorded in 2010 than in other years. Dishonesty crimes were the most frequently recorded crimes in both areas, accounting for 39-54% of all crimes. In the Campus Watch area, property damage offences made up around one-fifth of all crimes, while drug and anti-social offences were more common in the rest of Dunedin. In both areas, over half of all crimes were committed on weekends compared to weekdays and, in the Campus Watch area, over half of crimes were committed between 9pm and 7am.
Table 44. Summary of police offences from 2005-2010, by offence type, time of week, and time of day, for the Campus Watch area and the rest of Dunedin

<table>
<thead>
<tr>
<th>Year</th>
<th>Type of offence</th>
<th>Time of day</th>
<th>Day of the week</th>
<th>Total offences</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005*</td>
<td></td>
<td></td>
<td></td>
<td>620</td>
</tr>
<tr>
<td></td>
<td>Violence</td>
<td></td>
<td></td>
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<td>1,464</td>
</tr>
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<td></td>
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<td>852</td>
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<tr>
<td></td>
<td>Property abuses</td>
<td></td>
<td></td>
<td>816</td>
</tr>
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</table>

# Type of offence

<table>
<thead>
<tr>
<th>Year</th>
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<th>Day of the week</th>
<th>Total offences</th>
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<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
<td>1,496</td>
</tr>
</tbody>
</table>

* Includes only July-December

** Includes 12.01am-6.59am Sunday
Figure 19 shows the overall crime rates for the Campus Watch area compared to all other areas in Dunedin, before and after Campus Watch was introduced in 2007. Rates of crime in the Campus Watch area were higher than in the rest of Dunedin for all time periods measured. While rates of crime in the rest of Dunedin remained fairly stable from the second half of 2005 until the end of 2010, with a slight decrease toward the end of 2009, the Campus Watch area showed much larger changes in crime rates over the same period. There was a large increase in rate of crime in the Campus Watch area from the first half of 2006 to the second half of that year, followed by a 20% decrease by the second half of 2008. The crime rate in the Campus Watch area then remained steady until the second half of 2010, where it dropped again by nearly 25%.

Figure 19. Dunedin crime rates from 2005-2010, for the Campus Watch area and the rest of the city (includes all offence types)
Figure 20 shows the trends in rates of violence offences between mid-2005 and 2010 in Dunedin. In the Campus Watch area, the rate of violence offences recorded increased steadily from 2005 (56 /10,000 population) until the first half of 2008 (200/10,000 population), and then dropped to 2007 levels again before continuing on a general decreasing trend until the end of 2010. In the rest of Dunedin, there was a fairly steady 10% increase in violence offences between mid-2005 and 2010.

The rates of sexual crimes in Dunedin were much lower than for other types of crime and were most similar between the Campus Watch area and the rest of Dunedin (Figure 21). The variation from year to year in sexual crime rates in the Campus Watch area reflects the low numbers of such crimes in an area with a small population (<10,000). There were no obvious trends.
Drugs and anti-social behaviour crime rates were higher in the Campus Watch area than in the rest of the city between the end of 2006 and 2010 (Figure 22). Between 2006 and 2008, the crime rate in the Campus Watch area doubled and then fluctuated until 2010.

![Dunedin Crime Rates 2005-2010 - Drugs & Anti-Social](image)

Figure 22. Rates of drug and anti-social offences for the Campus Watch area and the rest of Dunedin City, from 2005-2010

There were large fluctuations in rates of dishonesty offences in the period before Campus Watch was introduced in 2007 (Figure 23). The rates dropped unevenly from the first half of 2008 (419/10,000) until the second half of 2010 (274/10,000). In the rest of Dunedin, there was a small and steady decline in dishonesty offence, from 235 per 10,000 population in mid-2005 to less than 200 per 10,000 population by the end of 2010.

![Dunedin Crime Rates 2005-2010 - Dishonesty](image)

Figure 23. Rates of dishonesty offences for the Campus Watch area and the rest of Dunedin City, from 2005-2010
As shown in Figure 24, property damage crime rates increased in the Campus Watch area until the end of 2007, in the year after Campus Watch was introduced. The rates then declined overall until the end of 2010, although they showed small increases in the first half of both 2009 and 2010. By the end of 2010, rates of property damage in the area had reduced by 30%. In the rest of Dunedin, rates of property damage remained stable.

![Dunedin Crime Rates 2005-2010 - Property Damage](image)

Figure 24. Rates of property damage offences for the Campus Watch area and the rest of Dunedin City, from 2005-2010

Rates of property abuse offences fluctuated greatly in the Campus Watch area, with peaks in 2006 as well as in 2008, one year after Campus Watch was introduced (Figure 25). From 2009 onwards, rates in the area dropped to levels close to those of the rest of Dunedin.

![Dunedin Crime Rates 2005-2010 - Property Abuses](image)

Figure 25. Rates of property abuse offences for the Campus Watch area and the rest of Dunedin, from 2005-2010
Rates of crime by day of the week are presented in Figure 26 (weekdays) and Figure 27 (weekends) for the Campus Watch area and the rest of Dunedin. Weekday crime rates in the Campus Watch area fluctuated greatly until peaking in early 2008, then dropped to rates similar to the rest of Dunedin after mid-2009. Crime rates over the weekends in the Campus Watch area peaked just after Campus Watch was introduced and showed an overall decrease from 2008 onwards.

Figure 26. Weekday crime rates for the Campus Watch area and the rest of Dunedin City, from 2005-2010

Figure 27. Weekend crime rates for the Campus Watch area and the rest of Dunedin City, from 2005-2010
When crime rates were calculated by time of day, as shown in Figure 28 (7am-5pm), Figure 29 (5pm-9pm) and Figure 30 (9pm-7am), there were large fluctuations in the Campus Watch area for all times that were not present in the rest of Dunedin. Daytime (i.e. 7am-5pm) offence rates in the Campus Watch area were similar or higher than in the rest of Dunedin until the end of 2008, about two years after Campus Watch was introduced. Evening (i.e. 5pm-9pm) offences in the Campus Watch area peaked shortly after Campus Watch was introduced and then dropped to pre-2007 levels. Overnight crime rates in the Campus Watch area showed no obvious trends between 2005 and 2010, increasing to nearly 600 crimes per 10,000 population in 2008 and then showing a drastic decline at the end of 2008 before increasing sharply until early 2010.
Figure 28. Daytime crime rates for the Campus Watch area and the rest of Dunedin City, from 2005-2010

Figure 29. Evening crime rates for the Campus Watch area and the rest of Dunedin City, from 2005-2010

Figure 30. Night time crime rates for the Campus Watch area and the rest of Dunedin City, from 2005-2010
8.3. Effects of Campus Watch on nuisance fires – New Zealand Fire Service

8.3.1. Methods

Fire service data from 2005 to 2010 were obtained from the New Zealand Fire Service data support person in December 2010. Data were obtained for the Campus Watch area and South Dunedin in fire service zones determined in consultation with the operational planning officer for the Southern Fire Region, based in Dunedin. The physical boundaries for the Campus Watch and South Dunedin comparison areas were the same as the boundaries that were determined for the North and South Dunedin community surveys (see Chapter 6).

Only incidents relevant to social disorder were included in the analysis. These included the following incident types:

1501 Outside rubbish fire
1502 Rubbish bin, Skip fire
1503 Bonfire
1599 Miscellaneous fire - not classified above

In the latter half of 2009, unionized members of the New Zealand Fire Service took industrial action and stopped recording incidents in the database. For this reason, fires occurring between July and December 2009 were excluded from the analysis. All remaining fires occurring between January 2005 and November 2010 were included.

8.3.2. Results

Total nuisance fires for the Campus Watch area and the South Dunedin comparison area are shown in Figure 31. Fires in the Campus Watch area peaked in last six months of 2006, caused in part by two events which resulted in 17 and 13 fire callouts, respectively, in a single day, as well as a persistent high frequency of multiple callout days in that time period. Following the introduction of Campus Watch in January 2007, there was a sharp decline in fires in the first half of the year. The peak in fires in the second half of 2007 was caused primarily by a single event that occurred from the 24th to 26th August, where a total of 67 fire callouts were made (detail not shown). Figure 32 shows the number of fire callouts after the callouts from the 2007 Undie500 weekend were omitted, which shows a clear downward trend in fire callouts after Campus Watch was introduced. From 2008 onwards, fire callouts were lower than in the period before Campus Watch was introduced.
Only a very small number of nuisance fires were recorded in the South Dunedin area (between 4 and 14 per year).

Figure 31. Trends in nuisance fire callouts for the Campus Watch area and South Dunedin, from 2005-2010

Figure 32. Trends in nuisance fire callouts for the Campus Watch area and South Dunedin, from 2005-2010, after exclusion of events occurring from 24th-26th August, 2007
8.4. Discussion

8.4.1. Summary of key findings

Crime rates in the Campus Watch area continued to increase for about twelve to eighteen months following the introduction of Campus Watch and then decreased sharply at the end of 2008. Following this decrease, crime rates remained fairly stable in the Campus Watch area and were lower than in the period immediately preceding the introduction of Campus Watch.

Rates for specific types of crime in the Campus Watch area showed either a decrease or levelling off after 2007. These trends are different from those of crime rates in the rest of the city, which remained stable. This supports the hypothesis that Campus Watch contributed to a decrease in crime in the area, after an initial period of increased crime.

Data from the New Zealand Fire Service indicate that Campus Watch completely reversed the increasing trend in fire callouts and had a sustained effect from the time that it was introduced until the end of the recording period in 2010. The downward trend was particularly noticeable after excluding callouts recorded between the 24th and 26th August 2007, where one event resulted in 67 callouts.

8.4.2. Strengths and limitations

Strengths of this study included using two sources of routinely collected data that spanned the period from two years before Campus Watch was introduced until four years after its introduction, which allowed us to identify changes in trends that may have occurred as a result of the intervention. By obtaining data for comparison areas – the rest of the city for crime rates and South Dunedin for fire callouts – we could exclude the possibility that trends in the Campus Watch area were simply indicative of trends occurring in the larger Dunedin area.

Limitations in the use of police data to analyse crime trends include the fact that police reports are heavily dependent on service delivery variables, such as staffing and policy changes, as well as the willingness of residents to report offences to the police (Weatherburn, 2011). Fire service data, however, are less susceptible to these variations in service delivery, as fires are more likely to be reported consistently as they are a visible threat to public and property. It is
possible that the introduction of Campus Watch to the North Dunedin area changed the ways in which the police and fire service operate in the area as well as affecting the likelihood of emergency services being notified of an incident, either by Campus Watch or directly by residents of the area. Campus Watch may have adopted a policing role in the area and dealt internally with minor offences through the Proctor’s Office when students were involved, which may have reduced the incidence of minor crimes reported to the police. Major offences, however, would continue to be dealt with by the police.

8.4.3. Comparison with other studies

These results have some similarities to the small number of previous studies. In a US study, residents living within one mile of a university campus were at increased risk of experiencing problems compared to those who lived further away from a campus (Brower & Carroll, 2007). This is consistent with our findings that indicate that the Campus Watch area had higher crime rates – sometimes nearly two times higher – than the rest of the city. The differences in crime rates were most pronounced for weekends (Thursday – Sunday), nighttime (9pm-7am) and more specifically for dishonesty offences and property damage offences. Daytime crime rates were fairly similar in both areas, as were rates of violent crimes and sexual crimes.

An analysis of crime rates at over 500 US college campuses found that 64% of campus crime consisted of burglary and theft (types of dishonesty crimes) while violent crimes only accounted for 5.9% of all crime (Sloan, 1994). Our study also found that dishonesty crimes made up the largest proportion of crime (over 40%), while violent crimes accounted for less than one fifth of all crimes in the Campus Watch area.

A systematic review of Neighbourhood Watch programmes found that police data were used in 15 of the 18 studies included in the review and results of the meta-analysis found that crime decreased 16-26% in Neighbourhood Watch areas compared to control areas (Bennett et al., 2008). In our study, crime rates in the Campus Watch area eventually decreased, although not at first.

In the narrative section of the same review, 19 of 24 studies included found that Neighbourhood Watch was associated with a reduction in crime, while 5 showed an increase in crime in the intervention areas (Bennett et al., 2008). Interestingly, the studies that found
that Neighbourhood Watch was associated with a reduction in crime compared baseline crime rates with those from one to three years post-implementation, while studies that used a shorter follow-up of just one year found increases in crime. In our study, the perceived effect of Campus Watch on crime rates would vary substantially depending on the pre- and post-intervention time frames used, as crime rates increased in the Campus Watch area in the first 6-18 months after the programme was introduced before eventually dropping to below those immediately before the programme was introduced.

We do not know of other evaluations of community interventions that have used data from the fire service. This is most likely an indication of the fact that deliberate acts of fire lighting (i.e. arson) are not major problems in most communities and so are not the focus of such community interventions.

8.4.4. Conclusion

The crime and fire callout data strongly suggest that Campus Watch had a positive effect on harm and disorder in the North Dunedin area. It appears, however, that sporadic, large-scale events in North Dunedin continue to cause problems. The spike in fire callouts that occurred from the 24th-26th August 2007, for instance, was caused by an annual event known as the ‘Undie 500’. The event, which was widely covered by the press, was subsequently banned after the riotous behaviour that occurred in 2007. It has been estimated that over 2000 people congregated in the Campus Watch area over the weekend and 69 arrests were made (NZPA, 2007). While overall crime rates and fire callouts may be decreasing as a result of Campus Watch in North Dunedin, additional interventions may be necessary to address the disorder and harms associated with specific events in the area as the scale of these events may be beyond the scope of Campus Watch staff.
PART III. Integrated evaluation of Campus Watch

Chapter 9. Evaluation of Campus Watch

9.1. Process Evaluation

The purpose of the process evaluation was to describe the activities of a programme in order to understand why it produced the results it did and to interpret its strengths and weaknesses (Waa et al., 1998). This process evaluation aimed to answer the following questions:

1. How was Campus Watch developed and implemented?
2. What changes have occurred since the programme was first implemented?
3. How has the programme been delivered in terms of reaching its target audience?
4. Are participants satisfied with the programme?

The primary data sources used in this phase of the evaluation were the North Dunedin Community Surveys as well as the internal data sources (i.e. Campus Watch Incident Database and interviews with the Director of Student Services). The section of the 2009 National Survey that referred specifically to Campus Watch was also used to assess programme reach and participant satisfaction.

9.1.1. Programme development and implementation

The Campus Watch programme was introduced in January 2007, following the recommendations of the Working Party on Student Behaviour in North Dunedin. The final report of this working party recommended that the Office of the Proctor be adequately resourced “to ensure the full and effective delivery of both preventive and responsive measures aimed at achieving a healthy and safe campus and wider North Dunedin environment” (p.16) (Working Party on Student Behaviour in North Dunedin, 2006). In order to achieve this, the recommendations included the appointment and resourcing of “Wardens” who would make up the Campus Watch team. The Working Party recommendations make it clear that the objectives of Campus Watch have always been two-fold, including both preventive and “responsive” measures.

The Campus Watch programme was launched in January 2007, during the University’s Summer School programme. The timing of the programme launch meant that Campus Watch
was already an established presence in the wider campus area by the time the majority of full-time students arrived for Orientation Week of the first semester in mid-February. The incident database showed that Campus Watch staff spent the early weeks establishing contacts with residents and local business owners in the area in order to make themselves known and to familiarise themselves with the particular issues in the area. Contact visits continued once the student residents began to arrive and night incidents were often followed up by day staff in order to further establish a rapport with residents.

The analysis of the Campus Watch incident database, presented in Chapter 5, found that approximately half of all Campus Watch activity involved assisting students, staff, North Dunedin residents and visitors. Of these assistance-related activities, half involved general “assistance to the public”, which included helping residents move furniture, giving directions to visitors, rescuing kittens, protecting property from vandalism, ensuring doors and windows of flats were properly secured, attending to victims of car crashes and assisting police and emergency services as needed, as well as a number of other activities. The descriptions of “assistance to the public” activities by Campus Watch show that the broad objectives of the programme to “maintain and improve” the quality of the wider campus environment were embraced by programme staff, so that they not only focused on the negative aspects of student behaviour but were proactive in ensuring that the pastoral care aspect of their role got equal attention.

9.1.2. Changes since implementation

The Campus Watch programme developed and evolved as specific needs required to meet its broad objectives became clear, rather than as a result of any preconceived implementation plan. The programme’s broad objective of “maintaining and improving” the wider campus environment for students, residents and businesses became more explicitly defined so that by 2011 the Campus Watch web page stated the following four objectives:

1. To foster and maintain a safe and secure Campus environment that encourages and enables all students to realised their maximum potential
2. To patrol the student flatting area 24/7 to ensure the streets and house frontages are clean and tidy from a health and safety perspective
3. To proactively discourage local criminals from frequenting the University and student flatting area
4. To assist departments across the University in a number of ways, eg, the delivery and collection of exam papers and assisting Library staff at closing time (Proctor's Office & University of Otago).

Shortly after the introduction of Campus Watch in 2007, it became evident that campus security and emergency preparedness were critical functions of a programme responsible for the health and safety of those on campus and in the wider North Dunedin area and these additional tasks were adopted by Campus Watch in July 2007.

It also became clear in the first few months that in order to be most effective, the Campus Watch programme needed to operate 24 hours a day. In July 2007, additional staff were appointed in order to cover the extended rosters introduced in September of the same year. In early 2008, a coordinator role was created in order to create consistency across the five rotating teams, so that all staff dealt with incidents in a similar way.

Both the pastoral and preventive roles of the Campus Watch programme relied on the highly visible presence of staff in the area. Campus Watch teams operated in foot patrols during the day and night, ensuring that all streets within their boundaries were covered numerous times throughout the day. When it was initially introduced, staff uniforms were clearly marked but were fairly unobtrusive so that Campus Watch staff were recognizable and approachable but were not mistaken for security guards or law enforcement officers. In May 2009, new uniforms were introduced in order to increase the visibility of Campus Watch staff. These new uniforms included high visibility vests and outerwear with larger lettering. Although the new uniforms resembled more closely those of law enforcement officers, high visibility was deemed crucial.

The recording of Campus Watch activity underwent significant changes after the initial introduction of the programme in 2007. The changes were guided by both the evaluation needs and the needs of the Office of the Proctor for measuring Campus Watch activity and changes in student behaviour in the North Dunedin area. The initial incident reporting form, adapted from the New Zealand Police Offence Report Form, was revised in May 2007 in order to make data collection and analysis possible for the purposes of this evaluation. A single person, who acted as a sort of quality controller, subsequently entered these incident reports into a database. Following the amalgamation of the campus security into the Campus Watch programme, the IRIS database, previously used by the campus security staff, was used to record all calls made to the Campus Watch control room. The Office of the Proctor also
used its own database to record the outcomes of students who had been referred to the Proctor by Campus Watch staff.

In February 2010, the three independent databases – the Campus Watch database, IRIS database and Proctor’s database – were replaced by a single “i-Trac” database designed specifically to address the needs of Campus Watch staff and the Office of the Proctor. The new database also allowed Campus Watch staff to enter their own incident reports into the database.

9.1.3. Programme reach

The target population of Campus Watch was primarily students living in the North Dunedin area, but also included non-student residents, local businesses and visitors to the campus (University of Otago, 2007b). In order to achieve its objectives, Campus Watch must be a visible presence in the University precinct, particularly to the large student population.

Both the North Dunedin Community Surveys and 2009 National Survey included questions regarding participants’ knowledge and encounters with Campus Watch, which were used to determine whether the programme was effectively reaching North Dunedin residents, both students and non-students, as well as the wider University student population. The Campus Watch incident database provided information about the types of services provided and the characteristics of the people using them.

*North Dunedin residents’ and students’ knowledge of Campus Watch*

The 2009 North Dunedin Community Survey found that all student residents knew about Campus Watch and only 2% of non-student residents did not know about the programme’s existence. Student residents were more likely to have seen Campus Watch staff than non-student residents, with only 8.8% reporting that they had never seen them compared with 27.5% of non-student residents (Table 28, page 96).

National Survey analyses found that even students living outside the Campus Watch area still saw staff frequently, with 40.5% seeing them every day and over 80% seeing them at least weekly (Table 40, page 127). Campus Watch staff operated both on and off campus, so even students living in other areas of the city would see Campus Watch frequently on campus.
Students residing in the Campus Watch area still saw Campus Watch staff with greater frequency than those living elsewhere.

National survey respondents reported a greater frequency of seeing Campus Watch staff compared to Community Survey respondents. This may have been because the National Survey sample included students residing in halls of residence; as these halls are located on or very close to the University campus, it is possible that hall residents saw Campus Watch staff with greater frequency. The differences in survey modality (web-based or paper-based) may also have affected non-response bias in different ways, although we do not know why those who saw Campus Watch with greater frequency might be less likely to respond to a paper-based survey.

**Wider community outreach**

Of the 2,317 incidents attended by Campus Watch between 2007 and 2009 where student status was recorded (31.3% of all incidents), 20.2% did not involve University students as the primary person of interest. As shown in Table 45, there was a fairly even split of offence and assist-type incidents for University students and non-students.

<table>
<thead>
<tr>
<th>Incident Type</th>
<th>University students (n=1848)</th>
<th>Non-students (n=407)</th>
</tr>
</thead>
<tbody>
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<td>Offence</td>
<td>45.4</td>
<td>46.2</td>
</tr>
<tr>
<td>Assist</td>
<td>51.4</td>
<td>49.4</td>
</tr>
<tr>
<td>Other</td>
<td>3.3</td>
<td>4.4</td>
</tr>
</tbody>
</table>

*Note: 62 polytechnic students were excluded as there were too few for reliable estimates*

9.1.4. Participant satisfaction

National Survey results indicate that student residents were more likely than non-residents to think that Campus Watch was making a difference in the area, that the University’s actions were justified, and that the programme was helping student residents (Table 42, page 129). Community Survey results indicate weaker support for the Campus Watch programme, particularly among student residents, where less than half felt that the programme was making a difference and helping student residents (Table 29, page 97). However, negative reactions to Campus Watch were rare, with less than 5% of respondents thinking that Campus Watch would make things worse for students or for the community as a whole. Despite the
programme existing for over two years at the time of the surveys, over 10% of respondents still felt that it was too soon to notice any changes in the area resulting from Campus Watch. The variation in results between the National Survey and the Community Survey may have been a consequence of the different way in which agreement was measured (i.e. a single tick box in the Community Survey versus a 4-point likert scale in the National Survey) or the differences in the sample demographics, but overall there was strong support for the Campus Watch programme.

**Satisfaction with last encounter**

As shown in Table 2, both the Community Survey and the National Survey results indicate that the majority of respondents were satisfied with the last encounter they had had with Campus Watch. Women were significantly more likely to be satisfied than men (Community Survey chi2=7.04 F(1, 134), p=0.008; National Survey chi2=3.90 F(1, 274), p=0.049). This difference may have been due to the fact that fewer women attributed their “last encounters” to any wrongdoing that they may have been involved in, although the frequency of these types of “last encounters” were too small to make reliable comparisons.

Table 46. Respondents' satisfaction with their last encounter with Campus Watch (source: 2009 North Dunedin Community Survey; 2009 National Survey)

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th></th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Satisfied % (n)</td>
<td>Dissatisfied % (n)</td>
<td>Satisfied % (n)</td>
</tr>
<tr>
<td><strong>Satisfaction with last encounter:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009 Community Survey</td>
<td>93.9 (62)</td>
<td>6.1 (4)</td>
<td>77.9 (53)</td>
</tr>
<tr>
<td>2009 National Survey*</td>
<td>93.8 (165)</td>
<td>6.2 (9)</td>
<td>84.3 (88)</td>
</tr>
</tbody>
</table>

*Note: proportions for National Survey are weighted; count data are unweighted

**Community utilisation of Campus Watch**

One indication of the acceptance of Campus Watch by residents and students is how approachable the community perceives Campus Watch to be. The Campus Watch incident database indicates that between July 2007 and November 2009, the proportion of incidents attended by Campus Watch at the request of the general public or other emergency/support service (i.e. police, fire service or other Campus Watch staff) nearly doubled, from 7.4% in late 2007 to 14.1% in late 2009. Over half of these requests for assistance were by individuals rather than emergency/support services.
9.1.5. Summary

The development and implementation of Campus Watch described in the process evaluation provide the context in which to consider the impact and outcome evaluations. The broad objectives of the programme allowed it to be flexible and adapt to better meet the needs of the University and North Dunedin community as a whole. Results of the 2009 National Survey and the North Dunedin Community Survey indicate that Campus Watch has high visibility in the target community and on campus. While most of the work of Campus Watch staff has focused on student residents, non-students and non-residents also featured in Campus Watch reports. The programme has been generally well received, with high levels of satisfaction and support amongst residents, and amongst a representative sample of students on campus. It is noted however that this is not unanimous. Most residents felt that Campus Watch had made a positive difference to North Dunedin and agreed the programme should not be restricted to the campus area, with very few of the opinion it had been a harmful influence in the area.
9.2. Impact evaluation

The purpose of the impact evaluation was to measure the immediate effects of the programme and determine whether its objectives have been met (Hawe et al., 1990). As the overall objective of the Campus Watch programme was to improve the quality of life of students and residents in the wider campus area, the aims of this impact evaluation were therefore to answer the following questions:

1. Has Campus Watch helped to create a culture of safety in the North Dunedin area?
2. Has the programme reduced perceptions and experiences of community problems and disorder?

Data from the 2008 and 2009 Community Surveys and from the Campus Watch incident database were used to assess changes in both the positive aspects of the community, such as social capital, informal social controls and harm prevention activities, as well as the negative perceptions and experiences of those living in the area.

9.2.1. Creating a culture of safety

Harm prevention and improvement of amenity values

Campus Watch incident data, presented in Table 1 of Chapter 5, show that half of all incidents reported by staff related to assisting students, the general public and emergency services with a range of minor and major issues. In 2009, Campus Watch provided assistance to nearly twice as many people as in 2008 (993 occasions in 2009 compared to 508 in 2008). In those years, 8-10% of these assistance-related events involved walking people home – usually intoxicated female students late at night – and ensuring that they were safe.

Other measures undertaken by staff were concerned with both preventing harms and improving the amenity value of the area. These included dealing with fire hazards, such as abandoned furniture, general hazards that could potentially cause physical harms, and more specifically cleaning up broken glass and rubbish. Broken glass and rubbish accounted for 15% of all Campus Watch activity recorded in 2009.
Social capital and informal social controls

Community survey results reported in Chapter 6 indicate that North Dunedin residents experienced higher levels of problems and disorder than residents in the comparison neighbourhood (South Dunedin). Despite this, overall levels of social capital in the North Dunedin area were similar to those of the comparison neighbourhood (South Dunedin). The majority of respondents in both areas felt that people in their neighbourhood were trustworthy and willing to help each other, although over one-third of respondents agreed that a person would be verbally abusive if someone complained about their behaviour. There was no significant difference in social capital scores in either neighbourhood between 2008 and 2009, as shown in Table 47.

Table 47. Mean social capital scores in 2008 and 2009, for North and South Dunedin residents (source: 2008/9 Community Survey)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>(95%CI)</th>
<th>t-value</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>17.2</td>
<td>(16.9, 17.5)</td>
<td>-0.05</td>
<td>0.961</td>
</tr>
<tr>
<td>2009</td>
<td>17.2</td>
<td>(16.9, 17.5)</td>
<td>-0.05</td>
<td>0.961</td>
</tr>
<tr>
<td><strong>South Dunedin</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2008</td>
<td>17.8</td>
<td>(17.2, 18.4)</td>
<td>-1.43</td>
<td>0.154</td>
</tr>
<tr>
<td>2009</td>
<td>17.1</td>
<td>(16.4, 17.9)</td>
<td>-1.43</td>
<td>0.154</td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means

Although North and South Dunedin residents had similar social capital scores, residents in North Dunedin had significantly lower informal social control scores than those in South Dunedin (difference in means 3.4, t-value -6.93, p<0.001). Within North Dunedin, non-student residents were more likely than student residents to think that someone would take action against someone engaging in anti-social or abusive behaviours (difference in means 2.0, t-value -3.37, p<0.001). Changes between 2008 and 2009 in both neighbourhoods were small and non-significant, as shown in Table 48.

Table 48. Mean informal social control scores in 2008 and 2009, for North and South Dunedin residents (source: 2008/9 Community Surveys)

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>(95%CI)</th>
<th>t-value</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>North Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>19.1</td>
<td>(18.7, 19.6)</td>
<td>0.32</td>
<td>0.752</td>
</tr>
<tr>
<td>2009</td>
<td>19.0</td>
<td>(18.5, 19.5)</td>
<td>0.32</td>
<td>0.752</td>
</tr>
<tr>
<td><strong>South Dunedin</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>22.0</td>
<td>(21.2, 22.9)</td>
<td>-0.54</td>
<td>0.590</td>
</tr>
<tr>
<td>2009</td>
<td>22.4</td>
<td>(21.5, 23.2)</td>
<td>-0.54</td>
<td>0.590</td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means
9.2.2. Anti-social behaviour and community perceptions and experience

Perceptions of problems
Between 2008 and 2009, North Dunedin residents’ perceived severity of problems showed decreases for most of the problems included in the Community Surveys, though most individual changes, as well as the overall change in perceptions, were small and non-significant. There was a significant decrease in perceived severity of wilful damage to property between 2008 and 2009. In contrast, South Dunedin respondents showed a non-significant increase in perceived severity of most problems, as well as in their overall perceptions scores between 2008 and 2009.

The attitudes that North Dunedin residents held toward student behaviour were more tolerant than those of their South Dunedin counterparts, showing a higher level of agreement with the statement “Getting drunk and acting a bit disorderly is fun and it is normal to do it while at university/polytech” (Wilcoxon rank sum p<0.001). If Campus Watch had changed residents’ perceptions of “appropriate” student behaviour, we would have expected to see a reduction in residents’ tolerance of student disorder. However, there were no significant differences in expectations of behaviour and social problems among North Dunedin respondents between 2008 and 2009 (data not shown).

North Dunedin residents were more likely to agree that some individuals chose to live there for the “wild and disorderly lifestyle”, but were also more likely to agree that most students were respectful neighbours. There was greater support in South Dunedin for the University to deal with student behaviour problems (Wilcoxon rank sum for difference in location: p<0.001).

Experience of problems
The Community Survey results (Chapter 6) showed that between 2008 and 2009 there were statistically significant decreases in the frequency that North Dunedin residents saw wilful damage to property, rubbish, intentional fires, or felt general insecurity walking around during the day, as well as non-significant decreases for all other problems rated except for problem drinking among young people (Table 26, page 95). These overall decreases did not occur in South Dunedin. Although we found no significant changes in overall problem frequency scores in either group (Table 27, page 95), there was a significant decrease in overall problem
frequency score among North Dunedin student residents between 2008 and 2009, but not among non-students (Table 49).

Table 49. Mean problem frequency scores in 2008 and 2009, for North Dunedins student and non-student residents (Source: 2008/9 Community Surveys)

<table>
<thead>
<tr>
<th>North Dunedin</th>
<th>Mean (95%CI)</th>
<th>t-value</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>24.8 (23.6, 26.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>22.9 (21.5, 24.3)</td>
<td>2.06</td>
<td>0.040</td>
</tr>
<tr>
<td><strong>Non-students</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>21.7 (18.8, 24.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>23.0 (20.3, 25.8)</td>
<td>-0.66</td>
<td>0.511</td>
</tr>
</tbody>
</table>

*two-sample t-test for difference in means

9.2.3. Summary

Since the introduction of Campus Watch in 2007, the programme maintained its dual responsibilities of providing pastoral care and enforcing University and local policies, laws and regulations. Campus Watch incident data show an overall increase in all types of Campus Watch activity, including providing assistance, preventing harms and dealing with offences.

Although Campus Watch incident data showed that staff were active in trying to promote a “culture of safety” through assistance and harm prevention activities, there were no significant changes in the perceptions of social capital or informal social controls, nor in the expectations of student behaviour among North Dunedin residents. As indicated by the 2008 and 2009 Community Surveys, residents in North Dunedin had similar levels of social capital as South Dunedin residents and lower levels of informal social controls, as well as a greater tolerance of student behaviour and disorder in the neighbourhood. This was despite residents in North Dunedin consistently reporting more problems.

It appears that Campus Watch significantly reduced the frequency of harms and problems experienced by student residents between 2008 and 2009. This significant decrease in problem frequency experienced by student residents – but not non-student residents – is plausible, given the specific focus of Campus Watch on student well-being, as well as the fact that students reported significantly higher levels of problems than their non-student counterparts. All North Dunedin residents, including non-students, had significant reductions in the frequency of seeing wilful damage to property, rubbish, intentional fires and feeling insecure walking around during the day.
9.3. Outcome evaluation

The aims of the outcome evaluation were to measure the health outcomes of the Campus Watch programme on students and in the wider campus environment. The health outcomes of interest are:

1. Alcohol consumption patterns
2. Alcohol-related harms
3. Social disorder

These outcomes were measured using the National Surveys, NZ Police data for Dunedin and NZ Fire Service data for North Dunedin. The results from these data sources are described in detail in Chapters 7 (National Surveys) and 8 (Police and Fire Service data).

9.3.1. Outcome 1: alcohol consumption patterns

We used data from the 2005, 2007 and 2009 National Surveys to determine whether there had been changes in patterns of alcohol consumption among Otago students since the introduction of Campus Watch. Alcohol consumption patterns were measured using the AUDIT-C score, which uses questions about drinking frequency, usual number of drinks per occasion and binge frequency to create a score used to identify hazardous drinkers.

Between 2005 and 2009, AUDIT-C scores at Otago showed a small but significant decrease after adjustment for sex, age, residence, ethnicity and high school binge frequency, while at the control campuses there was a small but significant increase in AUDIT-C scores. This resulted in a small but significant decrease in AUDIT-C scores at Otago from 2005 to 2009, relative to the group of control campuses (Table 33, page 115). Despite these decreases, Otago students continued to have significantly higher AUDIT-C scores than students at control campuses in 2009 and mean AUDIT-C scores were well above the hazardous drinking cut-off of 4 for both Otago and the control campuses, indicating that university students are still at high risk of experiencing harms resulting from their drinking or that of their peers.
9.3.2. Outcome 2: alcohol-related harms

Analyses of the National Surveys found that between 2005 and 2009, the four-week prevalence of perpetration of aggression and of vandalism decreased significantly more at Otago compared to control campuses (Table 35, page 119; Table 36, page 121). By 2009, the odds of perpetration of aggression were significantly lower for Otago students compared to students at other campuses, even though there had been no significant difference between the groups in 2005. There was no significant difference in odds of committing vandalism between Otago and control campus students in 2009, even after adjusting for AUDIT-C scores.

Although Otago students in 2009 had significantly lower odds of being assaulted compared to those in 2005 (Table 37, page 123), when compared to the control campuses, the change was only significant for women (data not shown).

There was a significant increase in the prevalence with which Otago students reported having property damaged as a result of someone else’s drinking between 2005 and 2009, which was not evident at the control campuses (Table 38, page 125).

9.3.3. Outcome 3: crime and disorder

The trends in crime data for Dunedin city from 2005-2010 provided by the New Zealand Police show that crime rates for the Campus Watch area were substantially higher than in the rest of the city (chapter 8). While crime rates in the rest of the city were stable across the study period, the rates in the Campus Watch area fluctuated considerably.

Following the introduction of Campus Watch in 2007, crime rates in the area continued to increase for about 18 months before declining at the end of 2008 and by the end of 2010 the rate was lower than it had been prior to the introduction of Campus Watch. When we analysed the data in more detail, we found that the decrease in crime rates was fairly consistent for most types of crime, for both weekends and weekdays, and for daytime, evening and night time crime.

Fire callouts for the Campus Watch area recorded by the New Zealand Fire Service decreased immediately after Campus Watch was introduced and continued to do so from 2007-2010. This was a complete reversal of the pre-Campus Watch pattern, which showed a large increase from 2005-2006. Even after the introduction of Campus Watch, however, there
continued to be sporadic events in the Campus Watch area that resulted in large numbers of fire callouts in a very short time period (i.e. 1-2 days).

9.3.4. Summary

The results of this outcome evaluation support the hypothesis that Campus Watch would have an effect on alcohol consumption patterns, some alcohol-related harms and some types of other crime and disorder. There was a significant decrease in AUDIT-C scores at Otago between 2005 and 2009, which did not occur at the group of control campuses. Reducing the harm and disorder that continues to be associated with large-scale events may require additional event-specific strategies that include Campus Watch, the University, and the wider community.
Chapter 10. Discussion

10.1. Summary and implications of key findings

The evaluation of Campus Watch found that since the programme was implemented in early 2007, there have been significant decreases in reported student alcohol consumption, some types of alcohol-related harms, fires, and other forms of social disorder in the wider University area. The crime rate also decreased in the Campus Watch area after 18 months of the programme’s introduction for nearly all types of crime, days of the week and times of day, and continued to do so throughout the recording period (to the end of 2010). A summary of the findings of the impact and outcome phases of the evaluation are presented in Table 50. Overall the pattern of findings was consistent with those of other studies, discussed in previous chapters.

Table 50. Summary of findings from the Campus Watch evaluation, by data source

<table>
<thead>
<tr>
<th>Data source</th>
<th>Impacts</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perceptions of neighbourhood</td>
<td>Alcohol consumption</td>
</tr>
<tr>
<td>Community Surveys (2008, 2009)</td>
<td>No change</td>
<td>Not measured</td>
</tr>
<tr>
<td>Police data (2005-2010)</td>
<td>Not measured</td>
<td>Not measured</td>
</tr>
<tr>
<td>Fire service data (2005-2010)</td>
<td>Not measured</td>
<td>Not measured</td>
</tr>
</tbody>
</table>
The significant decrease in student alcohol consumption at Otago between 2005 and 2009 was a finding that was not fully expected given that the Campus Watch programme did not specifically target many known factors that have been proven to reduce alcohol consumption such as increasing the price of alcohol, regulating the physical availability of alcohol, or implementing programmes for screening, intervention and treatment of alcohol use disorders (Babor et al., 2010).

In the US, evaluations of campus-community interventions have found significant reductions in alcohol consumption among the target population. These include the large A Matter of Degree (AMOD) trial, which found a dose-response relationship between reductions in consumption and harms and the intensity with which the interventions were adopted (Weitzman et al., 2004). The Safer California Universities trial found significant reductions in the incidence and likelihood of intoxication in off-campus settings for Safer intervention universities compared to controls the last time students drank at an off-campus party (OR 0.81, 95%CI 0.68, 0.97); a bar or restaurant (OR 0.76, 95%CI 0.62, 0.94); or any setting (OR 0.80, 95%CI 0.68, 0.97) (Saltz et al., 2010). No increase in intoxication (i.e. displacement) appeared in other settings. As with the AMOD trial, a dose-response relationship between level of programme implementation and outcomes was found with the Safer trial.

Both the AMOD and the Safer interventions directly targeted the availability of alcohol, particularly to those drinkers who were legally underage, and relied on police enforcement to deter illegal activity. The mechanisms by which Campus Watch might reduce consumption, on the other hand, are less clear. The majority of students who consume alcohol do so legally, as the legal purchase age in New Zealand is 18 years, so the threat of legal action is not relevant. One possibility is that much of the alcohol consumption among students in North Dunedin is opportunistic and the harm prevention efforts of Campus Watch may reduce the incidence of impromptu parties. This would in turn reduce the opportunities for students to consume alcohol heavily.

The enforcement activities of Campus Watch may have acted as a deterrent to those planning or attending parties. Although the penalties imposed by the University Proctor may seem less serious than those imposed by a court of law, their threat may be enough to deter some students from organising large gatherings that typically result in alcohol-fuelled disorder.
After controlling for alcohol consumption patterns, the decreases in alcohol-related harms, though somewhat attenuated, remained. Regardless of whether the reduction in reported alcohol consumption was a direct result of the activities of Campus Watch, the observed reductions in harms were not merely a result of the decrease in alcohol consumption among students.

10.1.1. Possible confounding factors

It is possible that the decrease in alcohol consumption – as well as in alcohol-related harms, crime and social disorder – observed among Otago students was caused by other factors besides the Campus Watch programme. In 2007, the University introduced a Code of Student Conduct, which made students liable to the University for their behaviour, regardless of whether or not they were on campus. These behaviours included those that are “unreasonably disruptive to other members of the University or the local community” or “result in or can be reasonably expected to result in damage to property of any person” or “are otherwise unlawful” (Higham, 2006). It would be impossible to disentangle the direct effect of the Code of Conduct from the impact of Campus Watch on student behaviours, however, as the Campus Watch programme is the enforcement arm of the Code of Conduct, while the Code of Conduct gives Campus Watch its mandate to extend its activity beyond the campus boundaries.

The closure of an iconic Dunedin student pub in 2009 may also have contributed to the reduction in alcohol consumption and harms among students. This pub, purchased by the University of Otago in March 2009 and subsequently converted to office space, was notorious for its promotion of high levels of alcohol consumption, excessive noise and irresponsible promotions (Harvey, 2009). However, we think it is unlikely that the reductions in alcohol consumption and harms among students could be fully attributed to the closure of a single pub in the North Dunedin area, given the large number of other premises licensed to sell alcohol in the vicinity. An earlier of Otago students found that 43-49% of alcohol consumed by this group was not consumed on a licensed premises, indicating that a large portion of alcohol is purchased off-license (Kypri et al., 2005b).

Overall, the majority of data sources support the hypothesis that Campus Watch made a positive contribution to the North Dunedin area by reducing alcohol consumption, alcohol-related harms and social disorder, with some exceptions described below.
10.1.2. Neighbourhood perceptions and problem severity

We found no significant change in North Dunedin residents’ perceptions of their neighbourhood (i.e. social capital, informal social controls) nor in their perceived severity of problems. It is possible that levels of social capital in the neighbourhood were already relatively high, as indicated by the fact that they were not significantly different from those of South Dunedin, despite residents in North Dunedin experiencing problems more frequently. Furthermore, although there were some significant decreases in the frequency with which residents experienced certain problems, the overall decrease in frequency scores for all residents was not statistically significant. These relatively small changes may not have been sufficient to change residents’ overall perceptions of their neighbourhood.

The lack of change in perceived severity of problems among North Dunedin residents between 2008 and 2009 may have been a reflection of the fact that despite some improvements, many problems continued to occur so frequently that they would still be considered big problems. For example, in 2009, nearly three-quarters of North Dunedin residents saw broken glass at least weekly and 80% of residents felt this was a big problem. In contrast, in South Dunedin, just over a quarter of residents saw broken glass at least weekly, but nearly half of the residents felt that broken glass was a big problem in their neighbourhood.

The timing of the Community Surveys may also have contributed to a lack of significant changes in residents’ perceptions of their neighbourhood, as well as a lack of more significant decreases problem frequency. The two waves of community surveys were conducted in 2008 and 2009, so there is no baseline measure of community sentiment in either the Campus Watch area or the control site. However, the programme was introduced before the development of the evaluation and no prior survey existed that could provide baseline information about the neighbourhood, nor the magnitude and perceived severity of its problems.

10.1.3. Significant increase in prevalence of property damage

The National Surveys found that Otago students in 2009 had significantly higher odds of having their property damaged as a result of someone else’s drinking than students in 2005,
while at the control campuses, there was no significant change in odds between 2005 and 2009. This increase is in contradiction with the findings that there was a significant decrease in odds of Otago students committing vandalism between 2005 and 2009. It is possible that Otago students exposed to Campus Watch may have been more likely to report property damage because they knew that staff would deal with the problem. If this was the case, we would also expect to see an increase in informal social controls (i.e. the perception that someone would take action to deal with a problem), but Community Survey results indicate that there was no change in levels of informal social control among North Dunedin residents (ch.9, table 4). However, as described previously, the timing of the Community Surveys mean that there was no baseline measure of informal social controls, whereas the National Surveys provided a good baseline measure in 2005 for damage and vandalism.

Alternatively, the discrepancy between the two outcomes may be due to the measure itself, as it is an estimate of prevalence rather than an incidence rate. While it appears that fewer students were involved in vandalising property in 2009, a small number of students may have been continuing to cause property damage. Results from the Community Survey indicate that 28% of students reported seeing wilful damage to property at least once per week in 2009. Nonetheless, the significant increase in property damage between 2005 and 2009 remains difficult to explain.

10.1.4. Increase in Campus Watch reports of certain incidents

Campus Watch incident data showed large (>50%) increases in incidents of noise, rubbish, violence, offensive behaviour, and breaches of University regulations between 2008 and 2009. The large within and between semester variations make it difficult to ascertain whether any consistent incident trends exist, although patterns may become more apparent in the future, as more years of data make the data recording inconsistencies of the first few years less influential on overall trends.

It should be noted that there are substantial limitations to the Campus Watch Incident database due to both the nature of the data and the way in which incidents are reported. As with many sources of routinely collected data, Campus Watch incident data are highly susceptible to inconsistencies in service delivery (Langley et al., 2008; Weatherburn, 2011). The database was developed in order to record the activity of Campus Watch staff in North Dunedin, making it impossible to have a control site or a baseline measure. Despite these
limitations, some trends suggested by the Campus Watch incident data are in line with the findings from the other data sources used in this evaluation.

10.2. Methodological considerations

The specific strengths and limitations of the individual data sources used in this evaluation have been described in previous chapters. It should be noted, however, that the Campus Watch incident database in particular suffered from numerous inconsistencies, which made interpretation of the data problematic and may explain some of the perceived inconsistencies in findings compared with other data sources. It is known, for instance, that there was a concerted effort in 2009 to improve the consistency of reporting across all staff, as well as a push for staff to record every incident, as it was felt that minor incidents were not always being reported, particularly during busy periods.

The health promotion evaluation framework provided a useful way of conceptualising the programme and its objectives, as well as the ways in which these objectives could be measured. However, as Campus Watch is a highly complex intervention that aims to address a number of different health-related outcomes, the distinction between the measurement of impacts and outcomes was often blurred.

In their systematic review of Neighbourhood Watch programmes, Bennett et al. noted the following methodological limitations of evaluations of these programmes:

- Lack of appropriate control sites
- Reliance on surveys of perceptions of residents of community problems to determine effectiveness of a programme, or
- Reliance on police data, which often showed increases in problems due to increased policing
- Short time frame of evaluation (<6 months) with no plan for further follow-up to ascertain sustainability of effects (Bennett et al., 2008).

In designing our evaluation of Campus Watch, we sought to address these limitations. Where possible, we compared findings from Otago students or the Campus Watch area with those of control sites. In the National Surveys, Otago results were compared with those of 5 other university campuses in order to determine whether the observed changes in drinking patterns and related harms at Otago differed significantly from changes occurring among university
students throughout New Zealand. A comparison site in Dunedin (South Dunedin) was used for the Community Surveys and the Fire Service data, while the rest of Dunedin served as a comparison for crime data, in order to ensure that any changes noted were not a result of city-wide changes, climatic variation (fire data), or service delivery variation (crime data). By using a number of data sources we were able to compare similar measures constructed from different data sources, employ comparison sites where possible, and evaluate the intervention’s impact on a wide range of outcomes, which would not have been possible had we relied on a smaller number of data sources.

Our evaluation methods were also selected in line with the MRC guidelines for the development and evaluation of complex interventions (Craig et al., 2008), by including a process evaluation, developing a conceptual framework of how the programme might change behaviours (to make up for the lack of a theoretical basis to the programme), using large sample sizes where possible, and including a wide range of outcome measures, enabled by our use of a variety of data sources.

The MRC guidelines also stipulate using a cluster randomised design; however, as described in the background section of this thesis (Chapter 2), when compared to other university campus environments, North Dunedin is unique in its high density of near-exclusive tertiary student residents and its proximity to the city centre. While we had initially planned to compare changes in crime rates in the North Dunedin area with other campus areas, after further investigation and consultation with our contacts in the New Zealand Police, we concluded that it was not possible to find a comparable site. This was compounded by the fact that the New Zealand Police databases do not offer a reliable way of identifying tertiary students, and age is not routinely recorded.

Another strength of this evaluation is the relatively long timeframe. The systematic review of Neighbourhood Watch evaluations found that the majority of evaluations measured outcomes one year post-implementation (Bennett et al., 2008), while many of our measurements extended to at least two years post-implementation. This extended timeframe was particularly important for the police data, where crime rates did not begin to decrease in the Campus Watch area before the second half of 2008, at least 18 months following the introduction of Campus Watch.
A significant limitation of this study is that the evaluation was not designed into the programme. This prevented us from obtaining baseline measures for a number of impact and outcome measures, such as social capital and informal social controls, and anti-social behaviour and disorder that were not directly attributed to alcohol consumption. Due to the post-hoc nature of the evaluation, specific outcome measures were selected based on the availability of pre-existing data.

Response rates ranged from 50-71% for Community Surveys and 30-70% for National Surveys, which increases the possibility of non-response bias. Kypri et al. suggest that, the extent of under-estimation of hazardous drinking prevalence would be <1% when the response rate is above 66%, but becomes progressively larger as the response rate falls (Kypri et al., 2004). More recent studies comparing rates of alcohol consumption and health related behaviours of early responders and late responders suggest that the underestimation may be even more substantial as non-responders are more likely to be similar to late responders (Kypri et al., 2011b; Meiklejohn et al., 2012).
10.3. Conclusions

This evaluation has found that Campus Watch had a positive impact on the North Dunedin community, in particular for University students, by reducing alcohol consumption, some alcohol-related harms, crime rates, and nuisance fires. The flexibility of the programme enabled it to adapt to meet the needs of the University and the wider community; periodic re-evaluation is necessary in order to ensure that the programme continues to respond effectively to the changing environment, particularly in light of the impending changes to the regulation of alcohol sale and supply in the Alcohol Reform Bill currently being considered (August 2012) (Kypri et al., 2011a).

The development of effective indicators is necessary in order to continue to monitor the impact of Campus Watch on the North Dunedin community. Routinely collected data including those used in this evaluation (police crime data, fire callout data, Campus Watch incident data) are useful and readily available, but their limitations – described previously – must be acknowledged. In particular, the Campus Watch incident reporting and recording processes must be routinely audited to ensure they are consistently applied. Newer technologies may provide better solutions for recording incidents in more detail, closer to the time at which they occur. Mandatory data fields may ensure that staff provide the essential information required to measure the long-term impact of Campus Watch on the community.

Another indicator of the long-term impact of Campus Watch on the North Dunedin community may be a gradual change in the socio-demographic characteristics of its residents. While the proximity of the area to the University will always be an attraction for students, a decrease in anti-social behaviour may alter the current typical migration of more mature students (with less hazardous drinking patterns) to other Dunedin suburbs (Day & Donaldson, 2009), which would in itself alter the social environment of the neighbourhood. The broader implications of this might be a change in the expectations of students arriving at the University of Otago for the “Scarfie Experience”.

Given the current liberal alcohol environment that exists in New Zealand and many other Western countries, these types of interventions may be one of the only ways that universities can address alcohol consumption and related harms on a population level because most drinking that takes place is legal; a lot of drinking takes place in private homes or public places, rather than in licensed venues; and there is often a lack of parental or other social
controls that might otherwise limit consumption. Campus Watch has, in a sense, imposed social controls where they were lacking (Kypri et al., 2009a).

Campus Watch is not sufficient to address event-specific disorder and other strategies should be developed to work in conjunction with Campus Watch to address these problems. Given the high levels alcohol consumption and associated harms among university students in general, and Otago students in particular, as well as the general positive relationship between Campus Watch staff and students, the Campus Watch programme may be a relevant point for incorporating alcohol screening and referrals for appropriate individual-level interventions. This could be undertaken in conjunction with the services currently offered by the Student Health Clinic. For example, universal screening for risky drinking and availability of electronic screening and brief intervention (eSBI) could be offered and promoted by Campus Watch staff.

The role of Campus Watch in the overall University alcohol strategy needs to be clarified in order for staff to be aware of their place within the larger institutional plan. A communication plan encompassing all of the University's alcohol-related interventions as well as the Code of Conduct needs to integrate Campus Watch and outline its specific responsibilities.

Campus Watch staff seem to have found a balance between their enforcement roles and the provision of pastoral care and this balance seems integral to the success of the programme. Any of the impending alcohol reforms could tip the balance toward enforcement. This would run the risk of the programme becoming more of a police force than a programme which has thus far managed to be perceived by many students as genuine in its concern for student well-being and safety. A partial or universal increase in the minimum purchase age to 20 years would mean that Campus Watch staff may witness large quantities of alcohol being supplied by others without parental consent. Staff would need to advise suppliers that they were breaking the law and were in breach of the Code of Conduct.

The clarification of the role of Campus Watch within the University and the wider community is essential in ensuring that the North Dunedin area and the city of Dunedin continue to benefit from the positive changes that the programme has already produced, regardless of any changes in alcohol legislation or University policies.
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Appendix A

Methodology paper published in Injury Prevention

Reducing alcohol-related harm and social disorder in a university community: a framework for evaluation

Kimberly Cousins, Jennie L. Connor, Kypros Kypri

ABSTRACT

Background In New Zealand and other middle to high income countries, university student are at high risk of alcohol-related injury and other problems due to their typical pattern of episodic heavy drinking. In 2007, one university implemented Campus Watch, a novel and extensive programme to reduce social disorder, including alcohol-related injury, in the university area.

Objectives To quantify the effects of this complex intervention.

Setting A large public university campus and surrounding community in New Zealand.

Design A health promotion evaluation model was used, examining: (1) how the programme was developed, introduced and received by the community? (process); (2) whether the programme affected behaviour? (impact); and (3) whether the programme reduced social disorder and alcohol-related harm in particular? (outcome). The outcome phase uses a non-equivalent control group design to measure changes occurring in the Campus Watch area compared with other universities, and with a same-city control site.

Participants Programme staff, university students and other community members.

Data Interviews with university administrators and Campus Watch staff; surveys of local residents’ views; Campus Watch incident data; national surveys of university students in 2005, 2007 and 2009; police data; fire department data.

Outcome Measures Prevalence of heavy episodic drinking; number of acute alcohol-related harms; incidence of antisocial behaviour, assault and street fires.

Analysis Regression analyses will be used to examine changes in the intervention site relative to changes in the control areas.

In New Zealand, 51% of alcohol-attributable deaths and 73% of life-years lost are due to injury. The total cost of alcohol-related harm in New Zealand is over NZ$2 billion annually. As in other developed countries, young people (aged 15–29 years) are at a particularly high risk of alcohol-related harm from their alcohol consumption, as they tend to drink to intoxication. The social and economic costs of alcohol are especially evident in North Dunedin (see figure 1), where university students comprise a large portion of the population. University students drink more frequently and more hazardously than their non-student peers. A tendency to drink large amounts per occasion increases the likelihood of experiencing acute harm, such as being physically or sexually assaulted. Secondhand effects of student drinking are also common among non-drinking students and extend into surrounding neighbourhoods.

In 2006, the University of Otago in Dunedin, New Zealand, and the North Dunedin community created a working party to address the increasing social disorder in the area immediately surrounding the campus (see figure 1). Following the recommendations of the working party, the university launched the Campus Watch programme in 2007, which aims to 'maintain and improve the quality of student experience in the wider campus environment and to assist residents and businesses of North Dunedin with any concerns they may have.'

Campus Watch is primarily concerned with reducing social disorder to which alcohol-related behaviour and harms are central. The programme provides round-the-clock foot patrols of the North Dunedin and campus areas. Most of the work done by the Campus Watch teams is described as pastoral care of students who are new to living in unsupervised shared housing, as well as relationship building with residents and businesses in the area. During the day, Campus Watch patrol teams focus on building rapport with students living in the area by chatting and offering advice or following up on previous incidents. They also act as a security patrol on campus and provide directions to visitors, as their distinct uniforms make them conspicuous in the university precinct (see figure 2). After dark, the Campus Watch teams continue their rounds of the campus and surrounding neighbourhoods, with the aim of remaining a visible, approachable presence and preventing situations from getting out of hand. The Campus Watch patrols also frequently walk students home late at night and check whether intoxicated students need assistance.

The university proctor’s office manages the Campus Watch programme. Campus Watch members ‘on the beat’ liaise with headquarters, and are also in communication with the fire service and local police in order to share information about incidents, such as sightings of possibly criminal behaviour. When students are apprehended for behaving antisocially, they may be referred to the university proctor for disciplining under the University’s Code of Student Conduct.

For each incident attended by Campus Watch, a team member completes a brief incident report form, which includes basic information about the time and location of the event, the type of event, how it was notified, details of the person(s) involved and whether they had been consuming alcohol, the outcome, and any further action needed. These forms are entered into a central database, and the proctor uses the reports to deal with students who have been referred to him.

Campus Watch has similarities with Neighbourhood Watch programmes, in which residents patrol.
their neighbourhoods and report suspicious behaviour to the police. It also incorporates the local concept of Māori wardens. Māori are the indigenous people of New Zealand, and the role of the voluntary wardens includes ‘discouraging crime on the streets, assisting in keeping our youth and people safe, while being compassionate of those in need’.[12]

Campus Watch differs from these and other initiatives due to the nature of the student and campus environment in Dunedin. First, there is a very high density of students living in the area immediately surrounding the campus: there are 3300 residents per square kilometre in the university precinct shown in Figure 1 and approximately 90% of them are enrolled in tertiary education.[13] Second, 75% of university students come from outside of the Dunedin area to study,[14] and are therefore away from the typically moderating influence of parents. Finally, the university’s Code of Student Conduct gives the proctor power to discipline students for events occurring outside of the official campus boundaries.

**AIMS**

The recently updated Medical Research Council framework for complex interventions emphasises the need for carefully designed, structured evaluations.[15] By adapting a well-established health promotion framework to suit the complex Campus Watch programme, this quasi-experimental evaluation will measure specific outcomes and create an understanding of how Campus Watch contributed to any reductions in alcohol-related harm and social disorder. More specifically, the study aims to answer the following key questions: (1) how was Campus Watch developed, introduced and received by the community? (process); (2) how has Campus Watch affected behaviour?
METHODS

Design

The evaluation of Campus Watch comprises a traditional three-step health promotion evaluation model. It has been used to evaluate a variety of health promotion programmes such as community injury prevention, youth mental health awareness campaigns and community programmes for reducing youth smoking.

The framework includes three evaluation phases in order to understand how a programme has been developed and implemented (process), how it has changed over time, how it is being delivered and its acceptability within the community. This phase of evaluation is particularly important in complex interventions. Campus Watch has undergone many changes, both structural and functional, since it was introduced in 2007; its evolution has not been guided by an overarching design and modifications have occurred for reasons that have not always been well documented.

The term ‘formative evaluation’ is sometimes used to describe an investigation of the way in which an intervention was developed, and is most useful in helping to improve a programme in its initial phases. The purpose of the process evaluation is to provide insight into why the intervention may or may not be effective and to document changes in the programme delivery, rather than to influence the initial phase of the programme in any way. As we were not involved in the development of the intervention, a formative evaluation would not have been an appropriate element in our model. Instead, relevant elements of a formative evaluation are incorporated into the ‘process evaluation’ by documenting the development of the programme by regular interviews with the programme director.

Specific information on the programme’s development will be obtained from the university’s director of student services, the university provosts and Campus Watch staff. Information about modifications to the programme and the motivation for these changes will be collected prospectively during the evaluation. Results from the 2008 and 2009 North Dunedin community surveys of residents and local business owners/managers (described in the next section) will give an indication of the community’s knowledge and perceptions of Campus Watch.

Impact evaluation: community surveys and Campus Watch data

The impact evaluation will focus on the behaviours of North Dunedin residents and students to establish whether or not the programme is creating a culture of safety and reducing antisocial behaviour. The impact will be measured using surveys of randomly sampled North Dunedin residents and businesses in 2008 and again in 2009 (community surveys). Non-student residents will be oversampled to make up 50% of the residents’ sample. The survey’s aim is to elicit the views of residents and

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Figure 2 Campus Watch team members at work.

Figure 3 Evaluation model.

<table>
<thead>
<tr>
<th>Evaluation Phase</th>
<th>Data Instruments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Campus Watch</td>
<td>Introduction and development of Campus Watch</td>
</tr>
<tr>
<td>2005</td>
<td>2006</td>
</tr>
<tr>
<td>2007</td>
<td>2008</td>
</tr>
<tr>
<td>2009</td>
<td></td>
</tr>
<tr>
<td>Process</td>
<td>Interviews with key informants</td>
</tr>
<tr>
<td>How was Campus Watch developed and introduced?</td>
<td>2008 Community Surveys</td>
</tr>
<tr>
<td>How has the programme been accepted by the community?</td>
<td>2009 Community Surveys</td>
</tr>
<tr>
<td>Impact</td>
<td>Campus Watch Incident Forms</td>
</tr>
<tr>
<td>How has Campus Watch affected the behaviours and perceptions of residents?</td>
<td></td>
</tr>
<tr>
<td>Outcome</td>
<td>NZ Police Data</td>
</tr>
<tr>
<td>Has there been a reduction in alcohol-related harm?</td>
<td>2009 National Survey</td>
</tr>
<tr>
<td>Has there been a reduction in social disorder?</td>
<td>2007 National Survey</td>
</tr>
</tbody>
</table>

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Study protocol
Study protocol

The outcome evaluation will consist of two studies: one comparing students on the Dunedin campus with other New Zealand university campuses, and the other comparing North Dunedin (the student residential area around the campus) with South Dunedin (a mainly non-student residential area).

National survey: University of Otago Dunedin campus and other university campuses

Data on student alcohol consumption and its first and second-hand effects on students were collected at six university campuses in 2005 and eight university campuses in 2007, as part of the hazardous drinking project undertaken by the Injury Prevention Research Unit. In 2009, the web-based student drinking survey was replicated at the same eight university campuses that were included in 2007 (n=3300), which include the six campuses involved in 2005 (n=2550). By comparing the results from each survey, we will be able to measure changes in alcohol-related harm and disorder over time at each campus, and to see whether these changes have occurred similarly across all campuses. This will provide an indication of Campus Watch’s impact on the North Dunedin area by comparing it with the other campuses that have not implemented Campus Watch. These three cross-sectional studies provide data from before Campus Watch was introduced (2005), in the first few months of Campus Watch (2007) and in the third year of operation (2009).

For the 2009 national survey, we invited up to 860 students per campus (eight campuses in total). This was determined by a sample size estimate used for the 2005 and 2007 national surveys, which was based on previous work and assumed a hazardous drinking prevalence of 60% with a 95% CI of ±5.6%, and a response rate of 70%, estimated conservatively from pilot research. The methods are described in more detail in another publication.

With at least 415 participants per campus each year, it will be possible to estimate proportions to ±0.05 with 95% CI. It will also provide 80% power to detect relative differences between Otago and all other campuses in any given year of ±0.08 with 95% CI, and differences between any 2 years at Otago of ±0.10 with 95% CI. Multivariate logistic regression and general linear models will be used to compare proportions and continuous variables. A p value less than 0.05 will be considered statistically significant and all estimates will be presented with 95% CI.

City surveys: Dunedin campus area and South Dunedin

Data routinely collected by the New Zealand fire service and the New Zealand police regarding deliberately lit street fires (e.g., couch burning), assaults, injury and offenses that are commonly alcohol related will be analysed for North Dunedin and South Dunedin from 2005 to 2009. Changes over time in the two areas will be measured and compared. This comparison controls for variation in climatic conditions (for fires) and will be important in assessing whether any legislative, economic or other environmental factors operating in Dunedin may have had a general impact on alcohol-related harm and disorder that would not have been separable from Campus Watch effects when comparing the Dunedin campus with other campuses nationwide.

Discussion

The University of Otago and the local community are impatient to see evidence of changes in student behaviour in North Dunedin. The evidence base for non-regulatory programmes to reduce community-level alcohol-related harms and other social disorder is very limited. Accordingly, the opportunity presented by the implementation of this substantial community liaison programme for developing a research evidence base for future policy making should not be wasted. In order to ascertain how much Campus Watch is contributing to any changes in North Dunedin, a comprehensive evaluation is necessary, even if it may take considerably longer than the university and wider community would like. By using the health promotion framework described here, we expect to be able to: (1) describe how the programme was implemented, (2) determine whether it has affected behaviour, and if so, to (3) understand the mechanisms by which it produced effects.

Given the complex politics of addressing social disorder and immense resource costs, it would not have been possible to use a randomised design to evaluate Campus Watch, as campuses would not have accepted random allocation to an intervention condition (even if the costs were met by a third party). It should be noted that we, the evaluators, were not involved in the conception or implementation of Campus Watch, we have no control over the setting in which the programme operates, and we have been careful to maintain independence from the programme director and staff. We should, however, be able to measure specific outcomes using non-randomised comparison groups measured over time. Non-randomised comparison groups have been used in the evaluation of other community-based initiatives, such as the UK Neighbourhood and Street Wardens Schemes, and these designs have a long history in behavioural science.

There are a number of risks inherent in the methods we have adopted. First, the Campus Watch incident data are subject to variation in service delivery and to changes in reporting that may bias estimates of change over time. For example, the number of Campus Watch team members has changed since 2007, and on busy nights, due to workload, officers may report only the major incidents. Second, changes in the incident report forms in mid-2007 have also affected how certain incidents have been recorded in the database. While we have taken care to monitor the programme’s implementation closely and regularly and to document changes, there remains a risk that important variations in protocols could influence estimates of intervention effects.

Another risk to the evaluation is error in the New Zealand police data. The police data, like the Campus Watch data, are subject to changes in service delivery, for example, putting more police on the beat can create the impression that crime has increased simply because incidents are more likely to come to police attention. The fire data should not have the same service delivery issues given that the fire service is engaged solely in responding to incidents, in contrast to police, whose role...
Neighbourhood Watch programmes that used police crime data attribute changes specifically to the crime-prevention programmes using such measures. A systematic review of Neighbourhood Watch programmes that used police crime data found conflicting evidence as to their effectiveness in reducing social disorder and crime.34

Neighbourhood warden schemes that were evaluated in the UK used both police crime data and residents’ perceptions of safety.35 Unfortunately, there was a significant association between residents’ knowledge of a warden programme and their sense of security, which made it difficult to determine whether an increased sense of security was a result of programme awareness or a reflection of real crime reduction. We expect that this will also be an issue in the Campus Watch area, as staff are highly visible, and programme awareness would affect respondents’ perceptions of crime and disorder in the North Dunedin community surveys. By analysing both the community survey responses and the data from the police and fire service, we should be able to differentiate between perceived and actual changes in harm and disorder. While the UK warden evaluations attempted to do this, many of the non-intervention comparison groups adopted their own warden schemes, thus becoming intervention communities themselves.

It is possible that our comparison university campuses may have adopted new programmes to reduce alcohol-related harm and disorder. We are not aware of any such programmes despite regular correspondence with the universities. By including numerous comparison areas—seven university campuses and one other Dunedin area—we expect to be able to control for alternative explanations for any observed changes in North Dunedin.

The Task Force on College Drinking of the National Institute on Alcohol Abuse and Alcoholism outlined effective strategies to reduce excessive drinking by college students.36 Interventions with evidence of effectiveness for college students included individually focused brief motivational enhancement, changing alcohol expectancies and social norms clarification. Environmental interventions, including campus–community coalitions to address drinking, were found to be effective in general populations and showed promise of being effective in college populations.

Long-term interventions with a broad environmental approach are rarely targeted at university students, even though the negative impacts of student drinking on the communities surrounding campuses can be significant and long running.36–37 Toomey and colleagues38 reviewed environmental interventions to reduce alcohol-related harm among college students, and found that restrictions on where alcohol was advertised, purchased and consumed were effective, while a number of multistrategy approaches had not been well evaluated. Many of these multistrategy approaches involved campus–community partnerships, but evidence for their effectiveness was lacking.

Evaluation of the large ‘A Matter of Degree’ programme, in which campuses took an environmental approach to reduce alcohol-related harms on campus, found that campuses exposed to extensive environmental intervention had significant decreases in alcohol use, harm and second-hand effects measures compared with non-intervention campuses.39 The high environmental intervention campuses focused on changing policies on campus as well as addressing student behaviour and alcohol use off campus.

As Campus Watch is also a high intervention programme, we may be able to find similarities with the ways in which the ‘A Matter of Degree’ and other environmental interventions have reduced heavy drinking and related harm. Notably, however, Campus Watch is unique in its focus on quality of life rather than drinking behaviour per se. Campus Watch does not specifically target alcohol access or promotion, or even try to limit the amount of alcohol consumed in North Dunedin; rather, it is attempting to change what is considered acceptable behaviour in a densely populated student area with few existing social controls. There are fewer legal controls than exist in campus environments in the USA, where a drinking age of 21 years can be used to regulate student alcohol use. In New Zealand, drinking per se is not illegal at any age and purchase is legal for those aged 18 years and over. It will be of value to know whether this broad-based approach is effective in reducing alcohol-related harm and disorder and improving the quality of life of North Dunedin residents.

What is already known on this subject

- University students have a high prevalence of alcohol-related injury and other harms.
- Strategies that modify the environment tend to be more effective than individually focused interventions.

What this study adds

- We present a study protocol for a mixed method evaluation of Campus Watch, a multifaceted intervention seeking to reduce social disorder on a university campus and surrounding community in New Zealand.
Study protocol

Funding The Campus Watch evaluation is part of a PhD project that is funded by a HRC/ACC PhD career development award. Funding for the 2008 community surveys was provided by the Department of Preventive and Social Medicine, University of Otago. Funding for the 2009 community surveys and for the 2009 national survey was provided by the national discretionary grant fund of the Ministry of Health and by the Alcohol Advisory Council of New Zealand.

Competing interests None to declare.

Ethics approval This study was conducted with the approval of the University of Otago Ethics Committee.

Contributors KC, JC and KK developed the evaluation framework and methods of collecting the data, KC, JC and KK contributed to the writing of the manuscript. All authors read and approved the final manuscript.

Provenance and peer review Not commissioned; externally peer reviewed.

REFERENCES
Appendix B

Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING

BETWEEN

The Injury Prevention Research Unit (IPRU)
Dunedin School of Medicine
PO Box 913
Dunedin 9054

AND

The Division of Student Services (DSS)
University of Otago
PO Box 56
Dunedin 9054

For the objective evaluation of the
Campus Watch Initiative, 2007-2010
Memorandum of Understanding

The Division of Student Services of the University of Otago agrees to work in collaboration with the IPRU to allow the IPRU access to all data collected by the Campus Watch teams, as well as any non-confidential reports and data relating to the Campus Watch Initiative since its inception in 2007. Additional confidential data and reports relating to the Campus Watch Initiative will be available to the IPRU at the discretion of the Director of the DSS. This access is for the purpose of conducting an evaluation of the effects of the Campus Watch Initiative on reducing social disorder and harm in the community.

The DSS agrees that it will allow the IPRU to conduct its research and publish its findings independently and without interference or limitation from the DSS.

The IPRU agrees to handle all data provided by the University of Otago securely. It will not share information with any third party.

The IPRU agrees to provide progress reports of progress and preliminary findings to the Director of the DSS on a 6-monthly basis throughout the research project, as well as a summary report of its findings to the University of Otago upon completion of its evaluation.

The IPRU agrees to give the Director of the DSS and the Communications Manager (Division of Marketing & Communications, University of Otago) at least 5 working days notice before publication or presentation of any paper related to this research.

The IPRU agrees to work with the Communications Manager to handle all press releases and media inquiries regarding the evaluation of the Campus Watch Initiative.

This agreement has been entered into by the two parties in order to facilitate the evaluation of the Campus Watch Initiative. The research project will be conducted within the framework of a PhD with the aims of evaluating a community-based initiative to reduce social disorder and harm. Ethical approval for the project will be sought in accordance with the University of Otago research policy.

The University of Otago

Name: ........................................
Signature: ...................................
Position: ....................................
Date: ........................................

David M. Richardson
Director

Signature: ...................................
Position: ....................................
Date: 27/11/07

Injury Prevention Research Unit

Name: ........................................
Signature: ...................................
Position: ....................................
Date: 27/11/07

Name: ........................................
Signature: ...................................
Position: ....................................
Date: 27/11/07
Appendix C
Community Surveys – North Dunedin (2008)
Cover letter

4th May, 2008

Dear

We are writing to ask you to complete a questionnaire for a study being carried out by researchers at the Injury Prevention Research Unit of the University of Otago, to find out about your experience living in North Dunedin.

Your contribution to this study is important to us. Your address was randomly chosen from a list of North Dunedin addresses to make up a sample that is representative of all adults living in North Dunedin. The more of the sample who agree to take part, the better the study will reflect the experiences of all of the residents in your community, and the more useful the results will be.

We have attached an information sheet which explains why the study is being carried out, and what the information will be used for. Please read it carefully.

Your confidential questionnaire is also enclosed, along with a pen. Please complete the questionnaire and return it to us in the enclosed Freepost envelope.

If you do not wish to participate, we respect your decision. However, please let us know by email (kimberly.cousins@ipru.otago.ac.nz) or free telephone call (0800 436 2247), or simply return your blank or incomplete questionnaire to us, so that we do not contact you again.

If you have any questions or comments, please call us for free on 0800 436 2247 or send an email to kimberly.cousins@ipru.otago.ac.nz and we will do all we can to help.

Sincerely,

Kimberly Cousins
Project Coordinator

Jennie Connor
Senior Lecturer
Information Sheet

North Dunedin Community Survey
INFORMATION SHEET FOR PARTICIPANTS

Thank you for showing an interest in this project. Please read this information sheet before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the aim of this study?

The main aims of this study are to understand how anti-social behaviour in North Dunedin impacts on the quality of life of residents in the community, and how Campus Watch has affected the North Dunedin area. This survey is part of a larger PhD project that is evaluating the development and implementation of Campus Watch and the effects it has had on the community.

What type of participants are being sought?

We would welcome your participation if you are 18 years of age or over. Participants have been randomly selected from North Dunedin physical addresses, so that they will be residents of North Dunedin. Both men and women are included.

What will participants be asked to do?

If you decide to take part in this study, we ask that you complete the enclosed questionnaire. The questionnaire should take 15-20 minutes to complete. Answering each question is voluntary and so you may choose to leave a question unanswered if you wish.

We will organise a time and day to return to your home/flat to collect your completed questionnaire. Alternatively, you may post it back to us in the Free Post envelope we have provided for you.

Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.
Can participants change their mind and withdraw from the project?

Yes, you may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind. Please let us know by telling the researchers in person when they return to collect your questionnaire, call us for free (0800 436 2247) or email us (kimberly.cousins@ipru.otago.ac.nz) and we will remove you from our list. You can also return the blank questionnaire and we will remove you from our list.

What data or information will be collected and what use will be made of it?

The questionnaire asks for your views of the community in which you live, including any benefits or problems that you may experience from living in North Dunedin. It also asks about Campus Watch and its activity in your area. The questionnaire includes information about your living and working conditions, as well as other information about you, such as your age, gender, and ethnicity.

This data is being collected in order to measure the impact that anti-social behaviour has had on the North Dunedin community, as well as to describe any changes that may have occurred since Campus Watch began in 2007. It is part of a larger evaluation project.

The information collected is confidential and will only be accessible to study researchers. Once the information has been collected, participants’ names will be removed so that no individuals will be identifiable.

The results of the project may be published and will be available in the University of Otago Library, Dunedin, New Zealand, but every attempt will be made to preserve your anonymity.

You are most welcome to request a copy of the results of the project should you wish.

The data collected will be securely stored in such a way that only those mentioned above will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

What if participants have any questions?

If you have any questions about our project, either now or in the future, we would be happy to hear from you. You can contact:

Kimberly Cousins or Jennie Connor
Injury Prevention Research Unit
Department of Preventive and Social Medicine
University of Otago
PO Box 913, Dunedin 9054
Freephone: 0800 436 2247
Email: kimberly.cousins@ipru.otago.ac.nz

This project has been reviewed and approved by the University of Otago Human Ethics Committee [Reference number 08/001] and funded by an Accident Compensation Corporation (ACC) PhD Career Development Award.
Living In North Dunedin: A survey for residents

• Please complete the questionnaire and return it to the researchers at the pre-arranged time indicated below or return it in the postage-paid envelope provided. Mark your answers using a tick (i.e. ). If you wish to change your answer, cross out your initial answer and then tick the appropriate box.

• Your participation is important to us. By completing and returning this questionnaire, you will help us gain a better understanding of the experiences of residents in your community. If you choose not to participate, please call us for free on 0800 436 2247 OR return the blank questionnaire, so we know not to send you a reminder letter.

• Your answers are confidential and will not be linked with information that identifies you.

Thank you for your help.

Kimberly Cousins          Dr Jennie Connor
Project Coordinator       Senior Lecturer
Injury Prevention Research Unit Dept of Preventive and Social Medicine
Dunedin School of Medicine  University of Otago
PO Box 913, Dunedin 9054    PO Box 913, Dunedin 9054

Free Phone: 0800 436 2247
Email: kimberly.cousins@ipru.otago.ac.nz

Collection Date: ....................
Time: ....................
Section A: Your community

The following questions ask about your views on living in North Dunedin. Even if you have not lived in the neighbourhood for very long, we are interested in hearing about your experience living in the area.

A1. In the North Dunedin community, please indicate the extent to which you agree or disagree with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>People can be trusted in this community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People are willing to help one another</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People generally don’t get along with each other</td>
<td></td>
<td></td>
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<tr>
<td>A person would yell or swear at someone who complained about their behaviour</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>A person would push or hit someone who complained about their behaviour</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A2. Please indicate the extent to which you agree or disagree with the following statements about changes in the community:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since I have lived here, the neighbourhood has become quieter</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Since I have lived here, the neighbourhood has become tidier</td>
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</tr>
<tr>
<td>Since I have lived here, the neighbourhood has become safer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since I have lived here, there are more students than there used to be</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Since I have lived here, nothing has changed</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>In two years, the neighbourhood will be quieter than it is now</td>
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<tr>
<td>In two years, the neighbourhood will be tidier than it is now</td>
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<tr>
<td>In two years, the neighbourhood will be safer than it is now</td>
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<tr>
<td>In two years, nothing will have changed</td>
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</tbody>
</table>
A3. **How often do you see or experience the following in North Dunedin?**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>Less than once per month</th>
<th>1-3 times per month</th>
<th>Weekly</th>
<th>2-4 times per week</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive noise</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilful damage to property</td>
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<td></td>
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<tr>
<td>Rubbish</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Petty theft</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burglaries / Break-ins</td>
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</tbody>
</table>

- 4 -
### A4. How much of a problem are the following in North Dunedin?

<table>
<thead>
<tr>
<th>Issue</th>
<th>A very big problem</th>
<th>A fairly big problem</th>
<th>Not a very big problem</th>
<th>Not a problem at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive noise</td>
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<tr>
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<tr>
<td>Other (please list):</td>
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</tbody>
</table>

- 5 -
A5. Please indicate your level of agreement with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of the problems in North Dunedin are caused by students,...........</td>
<td></td>
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<tr>
<td>It is easy to blame students for the problems in North Dunedin,.........</td>
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<tr>
<td>Most people who cause problems in North Dunedin are living in the area (year-round or during term time)....</td>
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<tr>
<td>Most people who cause problems are people who don’t live in the area and see the neighbourhood as an easy target,.................................</td>
<td></td>
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<tr>
<td>Most students in the area are respectful of their neighbours and their property; it is only a few who cause problems,.................................</td>
<td></td>
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<tr>
<td>The people who choose to live in the area do so because they want to have a wild and disorderly lifestyle,.................................</td>
<td></td>
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<tr>
<td>Getting drunk and acting a bit disorderly is fun and it is normal to do it while at university/polytech,.................................</td>
<td></td>
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<tr>
<td>The university is right to get involved when students misbehave off campus,.................................</td>
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</tbody>
</table>

A6. Please indicate how likely it is that people in North Dunedin would do something if the following were occurring in the neighbourhood:

(This might include contacting noise control or the police, confronting the situation themselves, notifying Campus Watch staff, etc.)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Very likely</th>
<th>Likely</th>
<th>Unlikely</th>
<th>Very unlikely</th>
<th>I have no idea</th>
</tr>
</thead>
<tbody>
<tr>
<td>An individual or group were vandalising property,..........................</td>
<td></td>
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<tr>
<td>Someone was being assaulted,.....</td>
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<tr>
<td>A fight broke out,..................</td>
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<tr>
<td>A drunk person was behaving badly,........................................</td>
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<tr>
<td>A person was thought to be the victim of family violence,..................</td>
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<tr>
<td>There was a party where drunken people were causing trouble,.............</td>
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<tr>
<td>There was a party where the music was too loud,............................</td>
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</table>

- 6 -
Section B: Recent changes in your neighbourhood (since 2007).

This section asks you about any recent changes you may have observed since the beginning of 2007. Even if you have only recently arrived in North Dunedin, please complete this section.

B1. Have you noticed any changes in the following since the beginning of 2007?

<table>
<thead>
<tr>
<th></th>
<th>Large Increase</th>
<th>Small Increase</th>
<th>No change</th>
<th>Small Decrease</th>
<th>Large Decrease</th>
<th>I have no idea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive noise</td>
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</table>
In 2007, the University of Otago introduced the Campus Watch programme in your neighbourhood.

B2. In your opinion, what is the purpose of Campus Watch?

________________________________________________________________________
________________________________________________________________________

B3. How did you first hear about Campus Watch?

☐ I was involved in its development.
☐ I read about it in the newspaper.
☐ I heard about it when I was living in a hall of residence.
☐ I saw Campus Watch staff around the university campus.
☐ I met Campus Watch staff personally in the neighbourhood.
☐ I didn’t know anything about Campus Watch until this survey.
☐ Other: ..........................................................

B4. Have you ever encountered Campus Watch staff? Please tick all that apply.

☐ Yes, I have seen them walking around the neighbourhood.
☐ Yes, I have seen them walking around on the university campus.
☐ Yes, they have visited my home/flat.
☐ Yes, I was at a party/event and so were they.
☐ Yes, they helped me once/more than once.
☐ No, I have not seen or encountered Campus Watch staff in the area.

B5. How often do you see/encounter Campus Watch staff in the neighbourhood?

☐ At least once per day.
☐ Every weekend.
☐ More than three times per week.
☐ Weekly.
☐ One to three times per month.
☐ Monthly or less than monthly.
☐ I have never seen them in my neighbourhood.

B6. Since the start of 2008, how many times have you personally encountered Campus Watch staff (i.e. you approached them or they approached you to discuss an issue or to have a chat)?

........... times.

B7. Thinking back to the last time you encountered Campus Watch staff...

What was the reason for this encounter?

________________________________________________________________________
________________________________________________________________________
What was your general impression of Campus Watch staff at the time? *Please tick all that apply.*

- They were friendly and courteous.
- They were genuinely interested in talking to me about the issue.
- They did not take me seriously.
- They overreacted.
- They should have stayed out of the way.

**How satisfied were you with the outcome of this encounter?**

- [ ] Very satisfied
- [ ] Somewhat satisfied
- [ ] Fairly dissatisfied
- [ ] Not at all satisfied

Please explain:
________________________________________________________________________
________________________________________________________________________

B7. **What is your general opinion of Campus Watch?** *Please tick all that apply.*

- [ ] They seem to be making a difference.
- [ ] It is good that the university is finally doing something about student behaviour.
- [ ] They have been very helpful towards the students who live in the area.
- [ ] The university should stay on campus and so should Campus Watch.
- [ ] They are making things worse for students.
- [ ] They are making things worse for the whole community.
- [ ] They won’t make any difference in North Dunedin.
- [ ] It is too soon to notice any change.
- [ ] I have no opinion.
B8.  How effective, in general, is Campus Watch at helping community members by...

<table>
<thead>
<tr>
<th></th>
<th>Very effective</th>
<th>Moderately effective</th>
<th>Not particularly effective</th>
<th>Not effective at all</th>
<th>I have no idea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helping students who are new at flatting?</td>
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<tr>
<td>Keeping parties under control?</td>
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<tr>
<td>Helping business owners in the area?</td>
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<tr>
<td>Keeping an eye out for suspicious-looking people?</td>
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<tr>
<td>Walking people home late at night?</td>
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<tr>
<td>Referring problems to the proctor?</td>
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<tr>
<td>Getting the police involved where needed?</td>
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<tr>
<td>Preventing things from getting out of hand by stopping them earlier rather than later?</td>
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<tr>
<td>Listening to people's complaints?</td>
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<tr>
<td>Helping neighbours resolve problems amongst themselves?</td>
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<tr>
<td>Helping students resolve problems with landlords (or vice versa)?</td>
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<tr>
<td>Keeping the neighbourhood tidy?</td>
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<tr>
<td>Other (please list):</td>
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</table>

- 10 -
Section C: Background Information

This section asks for some background information so that we can compare your views with the experiences of others in your community. Your responses are confidential.

C1. Are you:

- [ ] Male
- [ ] Female

C2. What is your age?

……. Years

C3. Which ethnic group(s) do you belong to? Please tick all that apply.

- [ ] New Zealand European
- [ ] Niuean
- [ ] New Zealand Māori
- [ ] Chinese
- [ ] Samoan
- [ ] Indian
- [ ] Cook Island Māori
- [ ] Tongan
- [ ] Other (please state):

C4. For how long have you lived in North Dunedin?

……. Months OR ……. Years

C5. How important were the following in your decision to live in North Dunedin?

<table>
<thead>
<tr>
<th>Very important</th>
<th>Somewhat important</th>
<th>Not particularly important</th>
<th>Not important at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Proximity to workplace</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
<tr>
<td>• Proximity to university/polytech campus</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
<tr>
<td>• Proximity to town centre</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
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<tr>
<td>• Proximity to good primary/secondary schools</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
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<tr>
<td>• Affordability of rent/property</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
<tr>
<td>• Proximity to shops and other amenities</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
<tr>
<td>• Friends living in area</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
<tr>
<td>• Good social scene</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
<tr>
<td>• Good reputation</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
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<tr>
<td>• Other (please list):</td>
<td>❏</td>
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</tr>
</tbody>
</table>

………………………………………………
C6. For how long do you intend to live in North Dunedin?
- Until I find another place to live outside of North Dunedin
- Until the end of the semester
- Until the end of the year
- Until I complete my course of study
- This is my permanent home
- I don’t know

C7. Do you own your home or are you renting?
- Own (either with or without a mortgage)
- Renting
- Boarding
- Studio accommodation
- Other: ………………………

C8. With whom do you live? Please tick all that apply.
- Flatmates >>>How many flatmates? ………
- Partner
- Parents >>>How many parents? ………
- Children >>>How many children? ………
- Other (please list): ………………………… >>> How many? ………
- I live on my own

C9. Are you a student?
- Yes
- No

If yes, where do you study?
- University
- Polytech
- Other: …………………

If yes, do you study:
- Full-time
- Part-time

If yes, at what level:
- Foundation Studies
- Bachelors degree
- Certificate
- Diploma
- Postgraduate
- Other: …………………

If yes:
- 2008 is my ……… (e.g. 2nd) year of tertiary study.

Please include study at any tertiary institution in New Zealand or overseas.
C10. Are you in paid employment?

☐ Yes
☐ No

If yes, how many hours per week do you work for pay?

............ Hours

C11. Are you affiliated with the university in any way? Please tick all that apply.

☐ Yes, as a student
☐ Yes, employed as general staff
☐ Yes, employed as academic staff
☐ Yes, as a past student/graduate
☐ No

C12. Are you currently a member of any organisation, club, society, or group in your community?

☐ Yes
☐ No

If yes, please list any organisations you are a member of:

_______________________________________________________________
_______________________________________________________________

C13. Have you ever taken action in order to deal with an issue or problem in your community?

☐ Yes
☐ No

If yes, please describe:

_______________________________________________________________
_______________________________________________________________
_______________________________________________________________

If yes, how satisfied were you with the response you received?

☐ Very satisfied    ☐ Somewhat satisfied    ☐ Fairly dissatisfied    ☐ Not at all satisfied

Please describe:

_______________________________________________________________
_______________________________________________________________
Section D. Additional Comments

Thank you for taking the time to complete this questionnaire. If there is any further information you would like us to know about, or if you wish to make any comments about your neighbourhood, Campus Watch, or this survey, please do so in the space below.

_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________
_____________________________________________________________________

Please return your questionnaire to the researcher at the agreed collection time, or post it using the postage-paid envelope provided. If you have any questions about this project, you can phone us for free on 0800 436 2247 or email us at kimberly.cousins@ipru.otago.ac.nz
Appendix D

Ethical approval – 2008/2009 Community Surveys

Dr J Connor
Department of Preventive and Social Medicine
Dunedin School of Medicine

18 January 2008

Dear Dr Connor

I am writing to let you know that, at its recent meeting, the Ethics Committee considered your proposal entitled “Evaluation of a community-based initiative to reduce alcohol-related harm and social disorder: North Dunedin Community Surveys”.

As a result of that consideration, the current status of your proposal is:- Conditional Approval

For your future reference, the Ethics Committee’s reference code for this project is:- 08/001. The comments and views expressed by the Ethics Committee concerning your proposal are as follows:-

Is there a separate questionnaire for people who are running businesses? If so, please provide the Committee with a copy of the questionnaire.

On page 13 please change “preserve my anonymity” to “preserve your anonymity” in the fourth paragraph.

In the questionnaire - question A4 - would it be appropriate to include length of time in the neighbourhood as it is an important criteria for the survey but is not asked?

The Committee noted that Campus Watch indicated their support for this study.

Where the “University Library” is mentioned in the Information Sheet and Consent Form, please state “the University of Otago Library, Dunedin New Zealand”.

In order for full approval to be granted please write to me again addressing the issues raised above.
Yours sincerely,

[Signature]

Mr G K (Gary) Witte
Academic Committees, Academic Services
Tel: 479-8256
Email: gary.witte@stonebow.otago.ac.nz

c.c. Assoc. Prof. R O McGee  Head  Department of Preventive and Social Medicine
Dr Jennie Connor  
Department of Preventive & Social Medicine  
Adams Building  
University of Otago

8 July 2008

Dear Dr Connor

Re: Evaluation of a community-based initiative to reduce alcohol-related harm and social disorder: North Dunedin Community Surveys

Thank you for your letter to me regarding the amendments you would like to make to the original ethics application. You have notified the Committee about including a comparison group of participants.

Your proposal, including the amendments, is now fully approved by the Human Ethics Committee for three years. If this project has not been completed within three years from the date of this letter, re-approval must be requested. If the nature, consent, location, procedures or personnel of your approved application change, please advise me in writing. I hope all goes well for you with your upcoming research.

Yours sincerely

Gary Witte  
Manager, Academic Committees  
University of Otago

cc. Associate Professor Rob McGee (Head of Department), Preventive & Social Medicine
Appendix E

2009 National Survey
Invitation letter (postal)

<first name> <surname>
<address 1>
<address 2>
<address 3>
<address 4>

30 April 2009
Dear <first name>,

We invite you to complete a confidential 10-15 minute web survey as part of the Tertiary Student Health Project. We are doing the survey to gather information which will assist universities to put in place programmes to help students achieve academic success.

Your participation is important to us. <University name> has given its support to this research project and provided us with a list of full time students aged 17-25, from which we have drawn a random sample of approximately 1 in 30 persons. Students from six universities in New Zealand have been selected to take part. Previous studies at a New Zealand university resulted in response rates above 80%. For the results to be useful it is important that a high proportion of sampled individuals participate.

The study has the approval of the Multi-region Ethics Committee.

If you do not wish to participate, we respect your decision but please e-mail to let us know (tshp@otago.ac.nz) and we will not send you a reminder e-mail or letter.

You can complete the survey by entering the following text into the address field of your web browser.

<URL>

In the next few days we will also send you an e-mail containing a hyperlink. When you click on the link it should take you directly to the web survey.

If you have any questions or comments please send an e-mail to tshp@otago.ac.nz or call us for free on 0800 150033 and we will do all we can to help.

Sincerely,

Kimberly Cousins
Project Co-ordinator

Professor John Langley
Director

Tertiary Student Health Project
Injury Prevention Research Unit
Department of Preventive and Social Medicine, PO Box 913, Dunedin 9054, New Zealand.
Tel 0800 150033 • Email tshp@otago.ac.nz
Invitation letter (e-mail)

Dear <first name>,

On Friday we posted a letter to your term address, with a complimentary pen, inviting you to complete the 2009 Tertiary Student Health Survey on-line. Here is the site:

<URL>

Just click on it to start!

If clicking the link does not take you to the survey, you may need to copy the entire link and paste it into your web browser.

The study has the approval of the Multi-region Ethics Committee of New Zealand.

It takes 10-15 minutes to complete. If you have technical difficulties or any questions you would like to ask, please email us at tshp@otago.ac.nz or call us for free on 0800 150 033 and we will be happy to help.

Your participation is important to us. As explained in the information sheet that accompanied the letter, your name was randomly selected from a list provided by your university. Universities from all over New Zealand are participating in the study.

We will not be sharing your responses with your university or any other party. **Your responses will be confidential.**

The success of this research depends on your help. Thank you for your time and consideration.

Sincerely,

Kimberly Cousins                Professor John Langley
Project Coordinator            Director
Information Sheet

TERTIARY STUDENT HEALTH SURVEY
INFORMATION SHEET FOR PARTICIPANTS

Please read this information sheet before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the aim of the project?
The aim is to obtain information on various aspects of the health and lifestyles of tertiary students.

What type of participants are being sought?
We would welcome your participation if you are a University student aged 17-25 years.

What will participants be asked to do?
Should you agree to take part in this project, you will be asked to complete a confidential web questionnaire (described below). It generally takes 10-15 minutes to complete. Please be aware that you may decide not to take part in the project without any disadvantage to yourself of any kind.

Can participants change their mind and withdraw from the project?
You may withdraw from project at any time and without any disadvantage to yourself of any kind.

What data or information will be collected and what use will be made of it?
The focus of this particular survey is alcohol. Information will be collected on alcohol use, student alcohol use and its consequences, drinking environments, as well as some questions on the use of herbal highs (or party pills) with alcohol and on sexual relationships. Respondents’ answers will be summarised statistically and compared with data from other groups of students and young people in the wider community. Please note that we will keep respondents’ contact details securely and separately from their responses to the survey. Results of this project may be published but any data included will in no way be linked to any specific participant.

The data collected will be securely stored and only members of the project team will be able to gain access to it for the purpose of conducting the study.

What if participants have any questions?
If you have any questions about the project, either now or in future, please feel free to contact either:

Kimberly Cousins
Project Co-ordinator
Injury Prevention Research Unit
University of Otago
PO Box 913, Dunedin 9054
Freephone: 0800 150033
E-mail: tshp@otago.ac.nz

or

Brandon de Graaf
Data Manager
Injury Prevention Research Unit
University of Otago
PO Box 913, Dunedin 9054
Freephone: 0800 150033
E-mail: tshp@otago.ac.nz

This project has been reviewed and approved by the Multi-region Ethics Committee of New Zealand
This survey is part of a research project on the health of tertiary students. A random sample of students (approximately 1 in 30) has been selected from seven university campuses. Your participation is important to us. The main focus of this particular questionnaire is:

- student alcohol use and its consequences
- the environments in which alcohol is purchased and consumed

It also contains some questions on the use of herbal highs (party pills) and on sexual health.

The survey will take you approximately 10-15 minutes to complete. Even if you don’t drink alcohol, we would still like you to complete it.

The information you provide is confidential. The site is protected by secure socket layer (SSL) technology such that all data are encrypted during transmission. Your answers will be used only for the purpose of producing summary statistics.

There is space at the end for comments, and if you have any questions, you can email us at tshp@ipru.otago.ac.nz or call 0800 150033.

Approval for the study was given by the Multi-region Ethics Committee. If you do not wish to participate, we respect your decision but please e-mail and let us know (tshp@otago.ac.nz) so that we know not to send reminder e-mails.

To begin, please click the ‘Next’ button below.

Research Team
(Display photos)

Dr. Kyp Kypri    Dr. Jennie Connor    Kim Cousins    Brandon de Graaf

Next
Load unfinished survey
YOUR DEMOGRAPHIC DETAILS

What is your gender?
Radio buttons:
- Female
- Male

What is your age?
Choose one of the following answers
Radio buttons:
- 17…29

Where do you live during term time?
Radio buttons:
- Share a rented flat or house (flattting)
- Living in a residential college or hall
- Living with my parent(s) or guardian(s)
- Living in my own home (including renting)
- Boarding
- Living elsewhere

Where you live during term time is:
Radio buttons:
- less than 3 km (<30 mins walk) from the campus you attend
- between 3 and 10 km from the campus you attend
- more than 10 km from the campus you attend

Please choose the option(s) that best describes your ethnicity:
Check any that apply
Tick boxes:
- NZ European
- Maori
- Samoan
- Cook Island Maori
- Tongan
- Niuean
- Chinese
- Indian
- Prefer not to say
- Other ethnicity: (TEXT)

Please check your answers before continuing.
Next
Resume later
YOUR PAST USE OF ALCOHOL

Dynamic coding instruction: If respondent is female ‘xx’ = 4; If respondent is male ‘xx’ = 6.

In your last year of high school, how often did you have more than ‘xx’ standard drinks per drinking occasion?
Radio buttons
- Never
- Less than once per month
- Once a month
- Once every two weeks
- Once per week
- Twice per week
- Three times per week
- Four or more times per week
- Prefer not to answer

Have you had a drink containing alcohol in the last 12 months?
Radio buttons
- Yes
- No

SKIP INSTRUCTIONS: IF respondent selects "No", they go automatically to Page 13

INCLUDE STANDARD DRINKS GRAPHIC

Please check your answers before continuing.
Next
Resume later
YOUR CURRENT DRINKING PATTERN

Thank you. The next questions concern your current consumption of alcohol.

Use the definitions of Standard Drinks at the side of the page as a guide. We understand that it can be difficult to remember exactly. For these questions please give your best estimates.

On how many days in a typical 4-week period would you drink alcohol?
Drop-down menu:
- 0…28
- No answer

On average, how many drinks would you have per drinking day?
Drop-down menu:
- 0…24
- 25 - 29
- 30 or more
- No answer

Dynamic coding instruction: If respondent is female ask ‘4 or more’ question; If respondent is male skip to ‘6 or more’ question. NB Ask both males and females ‘6 or more’ question.

On how many days in a typical 4-week period would you have 4 or more standard drinks on one occasion?
Drop-down menu:
- 0…28
- No answer

On how many days in a typical 4-week period would you have 6 or more standard drinks on one occasion?
Drop-down menu:
- 0…28
- No answer

Include Standard Drinks graphic

Please check your answers before continuing.
Next
Resume later
HAVE YOU CONSUMED ALCOHOL IN THE LAST 7 DAYS

Have you consumed alcohol in the last 7 days?
Radio buttons:
- Yes
- No

Next
Resume later

SKIP INSTRUCTION: IF respondent indicates no alcohol use in last 7 days, send them to Page 8
WHERE YOU HAVE CONSUMED ALCOHOL IN THE LAST 7 DAYS

Thank you. The following question is about the locations at which you have consumed alcohol in the **last 7 days**, working back from yesterday.

*Please indicate at which of the following locations you have consumed alcohol, in the last 7 days.*

Tick boxes:
- Pub, Bar, Nightclub
- A Flat or House
- Hall of Residence
- Other locations (e.g., a restaurant, a sports club, a function, a sports ground, etc.)

Please check your answers before continuing.

*Next*

*Resume later*
Thank you. The following questions ask for more detailed information about your drinking in the last 7 days.

For each location you specified, please indicate the number of standard drinks you consumed there, and the number of hours over which the drinking lasted. You need only answer for the days on which you consumed alcohol at the location specified.

Use the definitions of Standard Drinks at the side of the page as a guide. We understand that it can be difficult to remember exactly. For these questions please give your best estimates. Thank you for being patient.

### Pub/Bar/Nightclub
For the days you drank at “a pub/bar/nightclub”, please specify the number of standard drinks you had and the number of hours over which the drinking lasted (to the nearest whole hour).

<table>
<thead>
<tr>
<th>Day</th>
<th>How many drinks?</th>
<th>How many hours?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yesterday</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Sunday, March 20, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Saturday, March 19, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Friday, March 18, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Thursday, March 17, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Wednesday, March 16, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Tuesday, March 15, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
</tbody>
</table>

### A Flat or House
For the days you drank at “a flat or house”, please specify the number of standard drinks you had and the number of hours over which the drinking lasted (to the nearest whole hour).

<table>
<thead>
<tr>
<th>Day</th>
<th>How many drinks?</th>
<th>How many hours?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yesterday</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Sunday, March 20, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
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<td>drinks</td>
<td>hours</td>
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<tr>
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<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Thursday, March 17, 2005</td>
<td>drinks</td>
<td>hours</td>
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<tr>
<td>Wednesday, March 16, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
<tr>
<td>Tuesday, March 15, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
</tbody>
</table>

### Halls of Residence
For the days you drank at “a hall of residence”, please specify the number of standard drinks you had and the number of hours over which the drinking lasted (to the nearest whole hour).

<table>
<thead>
<tr>
<th>Day</th>
<th>How many drinks?</th>
<th>How many hours?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yesterday</td>
<td>drinks</td>
<td>hours</td>
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<tr>
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<td>hours</td>
</tr>
<tr>
<td>Tuesday, March 15, 2005</td>
<td>drinks</td>
<td>hours</td>
</tr>
</tbody>
</table>
### Other Locations

For the days you drank at "these other locations, (e.g., a restaurant, a sports club, a function, a sports ground, etc.)", please specify the **number of standard drinks** you had and the **number of hours** over which the drinking lasted (to the nearest whole hour) across all of these locations.

<table>
<thead>
<tr>
<th>Day</th>
<th>How many drinks?</th>
<th>How many hours?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yesterday</td>
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<tr>
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<tr>
<td>Tuesday, March 15, 2005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Response options for drinks reads:*
- Drop down menu 1-24, then
  - 25-29
  - 30 or more
  - Prefer not to answer

**Response options for hours reads:**
- Drop down menu 1-24

Please specify at which “other locations” you consumed alcohol in the last 7 days (e.g. a restaurant, a sports club, a function, a sports ground, etc.)

### Your Weight and Height

For the purpose of estimating a blood alcohol concentration (BAC) for each of these drinking days, please give your best estimate of your weight in **kilograms** (to the nearest kilogram)

OR give your weight in pounds:

<table>
<thead>
<tr>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>kgs</td>
</tr>
</tbody>
</table>

OR

<table>
<thead>
<tr>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>lbs</td>
</tr>
</tbody>
</table>

Please give your height in **cm** or give your height in feet and inches:

<table>
<thead>
<tr>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>cms</td>
</tr>
</tbody>
</table>

OR

<table>
<thead>
<tr>
<th>Height</th>
</tr>
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<tbody>
<tr>
<td>(Feet)</td>
</tr>
</tbody>
</table>

&

<table>
<thead>
<tr>
<th>Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Inches)</td>
</tr>
</tbody>
</table>
Please check your answers before continuing.
Next
Resume later
YOUR PERCEPTION OF THE DRINKING ENVIRONMENT ON AND AROUND YOUR CAMPUS

The following statements relate to places on or around your campus where alcohol can be purchased. "Around campus" means places you can walk to from campus in less than 30 minutes.

Please indicate how much you agree or disagree with the following statements:

Radio Buttons:
- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- I don't know/not applicable

It's easy to get served in pubs on and around campus if you are under 18

Drunkenness is very common in pubs on and around campus

There are lots of underage drinkers in pubs on and around campus

Police often walk through pubs on and around campus

The police turn a blind eye to underage drinking in pubs on and around campus

The police often apprehend people who are drunk in pubs on and around campus

I usually get asked for ID when buying a drink in pubs on and around campus

There are lots of alcohol specials in pubs on and around campus

There are lots of midweek specials in pubs on and around campus

People can usually get into a pub on or around campus even if they look drunk

People can usually get served alcohol in a pub on or around campus even if they look drunk

When someone gets very drunk in a pub on or around campus management asks them to leave

Please check your answers before continuing.
YOUR PERCEPTION OF THE DRINKING ENVIRONMENT, CONTINUED

The following statements also relate to places on or around your campus where alcohol can be purchased.

Please indicate how much you agree or disagree with these statements:
Radio Buttons:
- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- I don't know/not applicable

Food is always available in pubs on and around campus

Drunkenness is very common in sports clubs on and around campus

Food is always available in sports clubs on and around campus

I usually get asked for ID when buying alcohol from a bottle shop/liquor store in the campus area

I usually get asked for ID when buying alcohol from a dairy or convenience store in the campus area

Lots of underage people purchase alcohol from supermarkets in the campus area

I usually get asked for ID when purchasing alcohol at a supermarket in the campus area

There are lots of alcohol specials in supermarkets in the campus area

Not many students get drunk at student events where alcohol is available

I see a lot of alcohol advertising on the campus I attend

I see a lot of alcohol advertising in the area surrounding the campus I attend

Please check your answers before continuing.
Next
Resume later
HAVE YOU CONSUMED ALCOHOL IN THE LAST 4 WEEKS

Have you consumed alcohol in the last 4 weeks?
Radio buttons:
- Yes
- No

Next
Resume later

SKIP INSTRUCTION: IF respondent indicates no alcohol use in last 4 weeks, send them to Page 13
Thank you. These next questions are about your recent experiences with alcohol.

**As a result of drinking alcohol**, have you experienced the following over the **last 4 weeks**:

- **No**
- **Yes**
- **Prefer not to answer**

  - A hangover
  - An emotional outburst
  - Vomiting
  - A heated argument
  - You were physically aggressive towards someone
  - A period of time that you could not remember (blackouts)
  - An inability to pay your bills as a result of spending too much money on alcohol
  - Unsafe sex
  - A sexual situation you weren't happy about **at the time**
  - A sexual encounter you **later** regretted
  - You suffered an injury which required medical attention (e.g. at a hospital, your doctor, or Student Health)
  - You drove a car after you had perhaps too much to drink to be able to drive safely
  - You were a passenger in a vehicle where the driver had perhaps too much to drink to be able to drive safely
  - You stole private or public property (e.g. sign, shopping trolley)
  - You committed an act of vandalism (e.g. damaged a parking meter, fence)
  - You were removed or banned from a pub or club
  - You were arrested

Please check your answers before continuing.

*Next*

*Resume later*
INDIVIDUAL EFFECTS OF ALCOHOL

Drinking affects the way people feel in many different ways. We would like to learn what effects drinking may have for you. When you drink, how true would you say each of these statements is for you?

*How true is it that when you drink . . .*

**Radio Buttons:**
Usually true
Sometimes true
Never true
Not applicable
Prefer not to answer

You find it easier to be open with other people?
You find it easier to talk to your present partner about your feelings or problems?
You feel less inhibited about sex?
Sexual activity is more pleasurable for you?
You feel more sexually attractive?
You become more aggressive toward other people?

Please check your answers before continuing.

*Next*
*Resume later*
EFFECTS OF OTHER STUDENTS’ DRINKING ON YOU

In the last 4 weeks, which of the following have you experienced because of other students’ drinking?

Radio buttons:
- No
- Yes
- Prefer not to answer

Been insulted or humiliated

Had a serious argument or quarrel

Been pushed, hit or otherwise assaulted

Had your property damaged

Had to "baby-sit" or take care of another student who drank too much

Found vomit in the halls or bathroom of your residence

Had your studying or sleep interrupted

Experienced an unwanted sexual advance

Been a victim of sexual assault or date rape

Been a victim of another crime on campus

Been a victim of another crime off campus

Please check your answers before continuing.

Next
Resume later
YOUR SEXUAL HEALTH

The next questions ask about your sexual relationships. Please remember that all of your responses are completely confidential.

*Have you ever had sexual intercourse?*

Radio buttons:
- Yes
- No
- Prefer not to answer

*Next*
*Resume later*

*Skip instruction: If respondent ticks “No” or “Prefer not to answer” send them to page 16.*
YOUR SEXUAL RELATIONSHIPS

The next questions concern your sexual health and experiences.

How many people have you had sexual intercourse with in your life?

Radio buttons:
- 0…9
- 10-19
- 20 or more
- Prefer not to answer

How old were you when you first had sexual intercourse?

Radio buttons:
- Younger than 14
- 14…25
- Prefer not to answer

How many people have you had sexual intercourse with in the last 12 months?

Radio buttons:
- 0…9
- 10-19
- 20 or more
- Prefer not to answer

Did you use a condom the last time you had sex?

Radio buttons:
- No
- Yes
- Prefer not to answer

Had you been drinking alcohol the last time you had sex?

Radio buttons:
- Not at all
- A little
- Quite a lot
- Prefer not to answer

Thinking about last time you had sex, which best describes you and your partner?

Radio buttons:
- We had just met for the first time
- We had met recently
- We had known each other for a while but didn’t have a steady relationship
- We had a steady relationship at the time
- We were living together or engaged or married
- Prefer not to answer

Dynamic coding instruction: If respondent is female ask ‘become pregnant’ question. If respondent is male ask ‘get someone pregnant’ question.
Have you ever become pregnant unintentionally? OR
Have you ever got someone pregnant unintentionally?

Radio buttons:
- Never
- Once
- Twice
- More than twice
- Prefer not to answer

Did this result in a termination of pregnancy (abortion)?

Radio buttons:
- Never
- Once
- Twice
- More than twice
- Don’t know Dynamic coding instruction: This option for males only
- Prefer not to answer

Please check your answers before continuing.

Next
Resume later
SEXUAL ATTRACTION

What best describes who you feel attracted to?

Radio buttons:
- Opposite sex only
- Opposite sex mainly
- Both sexes equally
- Same sex mainly
- Same sex only
- No attraction
- Prefer not to answer

Please check your answer before continuing.

Next
Resume later
HOW YOU’VE BEEN FEELING IN THE LAST 4 WEEKS

These questions concern how you’ve been feeling in the last four weeks. For each question, choose the option that best describes the amount of time you felt that way.

*In the last four weeks, about how often did you feel…*

Radio Buttons:
- None of the time
- A little of the time
- Some of the time
- Most of the time
- All of the time
- Prefer not to answer

tired out for no good reason?
nervous?
so nervous that nothing could calm you down?
hopeless?
restless or fidgety?
so restless you could not sit still?
depressed?
that everything was an effort?
so sad that nothing could cheer you up?
worthless?

Please check your answers before continuing.

*Next*
*Resume later*
YOUR USE OF HERBAL HIGHS

Herbal highs (party pills) such as Groove, Luv, and Mr Happy are legal drugs which have become popular over the past few years.

_Have you ever tried herbal high pills?_
Radio buttons:
- Yes
- No
- Prefer not to answer

Next
Resume later

Skip instruction: If respondent ticks "No" or "Prefer not to answer" send them to page 20.
HERBAL HIGHS

The next three questions are about your experiences with these pills.

In the last 12 months how often have you used herbal highs (party pills)?

Radio buttons:
- Not used in the last 12 months
- Less than once per month
- Once a month
- Once every two weeks
- Once a week
- Two or three times a week
- Four or more times a week
- Prefer not to answer

What dose of herbal high pills do you consume on a typical occasion when you use them?

Radio buttons:
- Less than the dose recommended on the packaging
- The dose recommended on the packaging
- More than the dose recommended on the packaging
- I don’t know what the dose recommended on the packaging is
- Prefer not to answer

Do you consume alcohol when you have taken herbal highs?

Radio buttons:
- No
- Yes, occasionally
- Yes, often
- Yes, always
- Prefer not to answer

Compared to a typical drinking occasion for you, how much alcohol do you typically consume when you have taken herbal highs?

Radio buttons:
- I don’t consume alcohol when I have taken herbal highs
- Less than usual
- About the same amount as usual
- More than usual
- Prefer not to answer

Please check your answers before continuing.

Next
Resume later
CAMPUS WATCH AT THE UNIVERSITY OF OTAGO

In 2007, the University of Otago introduced Campus Watch in and around the campus area. The following questions are about your experience with Campus Watch.

_Do you live in an area where Campus Watch operates?
Radio buttons:
- Yes
- No
- I don’t know

Please indicate whether or not you have seen or encountered Campus Watch staff in the following situations:
Tick boxes:
I have seen them walking around the university campus
I have seen them walking around the North Dunedin area, off campus
I was at a party/event and so were they
They have visited my home/flat
They helped me once/more than once
They have approached me to discuss something
I have seen them in some other situation
I have _never_ seen or encountered Campus Watch staff

Please check your answers before continuing.

Next
Resume later

Skip instruction: IF respondent selects ‘never seen Campus Watch’, send them to ‘Your Perceptions of Campus Watch’ (page 22).
YOUR EXPERIENCE OF CAMPUS WATCH

How often do you see/encounter Campus Watch staff?
Radio buttons:
- Every day or almost every day
- 3-5 days per week
- About once a week
- 2-3 days per month
- Monthly or less than monthly

Since the start of 2009, how many times have you personally encountered Campus Watch staff (i.e. you talked to them or they approached you to discuss an issue or to have a chat)?
Radio buttons:
- 0…9
- 10 or more

Thinking back to the last time that you talked to Campus Watch staff, how did this happen?
Radio buttons:
- I have not talked to any Campus Watch staff
- We just said hello to each other
- I asked them a question / I asked for help
- They offered to give me a ride/walk me home
- They offered some other assistance to me
- They were just checking that I was all right
- They wanted to talk to me about an event that they thought I might know something about
- I was doing something that they didn't think I should be doing
- I had a complaint about a neighbour, landlord, or someone else
- A neighbour, landlord, or someone else had complained about something they thought I was doing
- Other reason: (TEXT BOX)

The next questions ask about what your general impressions were of Campus Watch the last time that you encountered them.
Radio Buttons:
- Yes
- No
- Not applicable

Were they friendly?

Did they take you seriously?

Were they genuinely interested in talking to you about the issue, and hearing your opinion or your side of the story?

Do you think they did enough to help?

Do you think they overreacted?

Should they have got involved?
How satisfied were you with the outcome of your last encounter with Campus Watch?
Radio buttons:
- Very satisfied
- Somewhat satisfied
- Somewhat dissatisfied
- Very dissatisfied
- Not applicable

Please check your answers before continuing.
Next
Resume later
YOUR PERCEPTIONS OF CAMPUS WATCH

The following statements relate to the things that Campus Watch might do in the community.

Please indicate how effective, in general, you think Campus Watch is at helping community members by...

Radio buttons:
- Very effective
- Moderately effective
- Not effective at all
- I don’t know

Helping students who are new at flatting?
Keeping parties under control?
Keeping an eye out for suspicious looking people?
Walking people home late at night?
Referring problems to the proctor?
Getting the police involved where needed?
Preventing things from getting out of hand by stopping them earlier rather than later?
Listening to people’s complaints?
Helping neighbours resolve problems among themselves?
Helping students resolve problems with landlords (or vice versa)?
Keeping the neighbourhood tidy?
Making the neighbourhood feel safer?

Please check your answers before continuing.

Next
Resume later
YOUR PERCEPTIONS OF CAMPUS WATCH, CONTINUED

The following statements relate to your perceptions of Campus Watch.

*Please indicate how much you agree or disagree with the following statements:*

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree
- I don’t know

Campus Watch seems to be making a positive difference in North Dunedin.

It is good that the university initiated Campus Watch to do something about anti-social behaviour among some students.

On the whole Campus Watch has been a help to students who live in the area.

Campus Watch should only operate on campus.

On the whole, Campus Watch is making things worse for students.

Campus Watch is making things worse for the whole community.

It is too soon to know whether Campus Watch has made a difference one way or the other.

Please check your answers before continuing.

*Next*

*Resume later*
Thanks

Thank you for assisting with the Tertiary Student Health Survey.

We would welcome any comments here:

If you are concerned about any issues raised by this survey, please contact your Student Health Service.

The Alcohol Helpline is a confidential information, advice and referral service for people with questions about their own or someone else's drinking.
Alcohol Helpline: 0800 787 797

For general information about the effects of alcohol, visit the Alcohol Advisory Council website at www.alcohol.org.nz.

Lifeline provides free professional and confidential telephone counselling, support and information services. They deal with many kinds of personal problems including depression, loneliness and stress.

Lifeline: 09 522 2999 (within Auckland)
0800 111 777 outside Auckland

Submit
Appendix F

Ethical approval – 2009 National Survey

2 October 2008

Prof John Langley
P O Box 913
Dunedin

Dear Prof Langley

MEC/05/01/013
National Tertiary Student Health Survey

Thank you for your letter dated 27 August 2008 requesting an extension for the above named study. This information has been reviewed by the Deputy Chairperson of the Multi-region Ethics Committee who has granted approval for the extension of this study until December 2009.

The Deputy Chairperson will review the revised version of the survey for approval upon its submission to the committee.

Please do not hesitate to contact me should you have any queries.

Yours sincerely,

Anjisha Vasutavan
Multi-region Administrator
11 June 2009

Prof John Langley
Box 913
Dunedin

Dear Prof Langley

MEC/05/01/013
National Tertiary Student Health Survey

Thank you for your letter dated 19 May 2009 enclosing a final version of the web survey for the above study. This information has been reviewed and approved by the Deputy Chairperson of the Multi-Region Ethics Committees under delegated authority.

Approved Documentation:

- Tertiary Student Health Survey dated 19 May 2009

Please do not hesitate to contact me if you have any further queries.

Yours sincerely

[Signature]

Rebecca Stewart
Multi-Region Ethics Committee Administrator